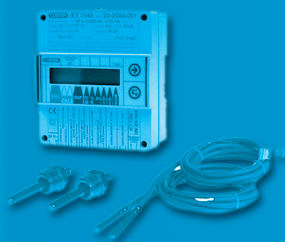


CATALOGUE



CONTROLS TEMPERATURE ENERGY



COSTER

GUARANTEE

All COSTER T.E. products are guaranteed for a period of **three years following the year of manufacture**.

In this period COSTER T.E. guarantees **to replace or repair free of charge** the defective goods, provided:

- the goods to be repaired or replaced can be recognised as COSTER T.E. products by means of their appearance or legible labels.
- the goods are still under guarantee: on all products there is the year and the week of manufacture.
- the product to be repaired or replaced is accompanied by the appropriate COSTER T.E. form, compiled according to the instructions shown on the form itself.

Any replacement of the product shall be by a new product identical to the defective one: the official COSTER T.E. product code, always shown on the product, shall determine the identity of the article.

The guarantee does **not** cover the costs of sending the goods to and from the repair workshops. Furthermore, it does **not** cover any kind of outside assistance; any work carried out at the purchaser's premises shall be debited to the purchaser in accordance with the type and amount established by COSTER T.E.'s official price list applicable at the time.

COSTER T.E. S.p.a

Website:

www.coster.info

E-mail:

ukbranch@coster.info (UK enquires)
export.dept@coster.info (All other enquires)

Customer care E-mail:

support@coster.info

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THE INTERNATIONAL CERTIFICATION NETWORK[®]

CERTIFICATE

IQNet and its partner
CISQ/IMQ-CSQ
hereby certify that the organization

COSTER TECNOLOGIE ELETTRONICHE SPA

VIA S.G.B. DE LA SALLE 4/A - 20132 MILANO (MI) Italy

Via Generale Treboldi, 190/192 - 25048 EDOLO (BS) Italy

for the following field of activities

Design, development, manufacture and sale of HVAC products and systems with comprehensive after-sales technical assistance

*Refer to quality manual for details of applications to ISO 9001:2000 requirements
has implemented and maintains a*

Quality Management System

which fulfills the requirements of the following standard

ISO 9001:2000

Issued on 2003 - 09 - 15

Registration Number: IT - 34674



Fabio Roversi
President of IQNet



Gianrenzo Prati
President of CISQ

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Suitable replacements for discontinued products

DISCONTINUED PRODUCT	AVAILABLE UNTIL	DETECTORS & ACCESSORIES	REPLACED BY	DETECTORS & ACCESSORIES	DIFFERENCES
- A -					
ACC 650	2004		NOT REPLACEABLE		
ACE 232	2003		ARE 338		
ACM 822	2003		NOT REPLACEABLE		
ARE 232	2003		ARE 338		
ARE 732	2004		ARE 338		
ASC 584	1990		DCC 602		
ATD 671	2000	CDB 517	DTU 614	CDB 100/CDB 200	DTU UMIDITY BUS
ATD 672	2000	CDB 517	DTU 644	CDB 100/CDB 200	DTU UMIDITY BUS
ATD 673	2000	CDB 517	DTU 644	CDB 100/CDB 200	DTU UMIDITY BUS
ATD 971	1997	CDB 517	DTU 614	CDB 100/CDB 200	DTU UMIDITY
ATD 972	1997	CDB 517	DTU 644	CDB 100/CDB 200	DTU UMIDITY
ATD 973	1997	CDB 517	DTU 644	CDB 100/CDB 200	DTU UMIDITY
AUD 431	1997		DTU 614		DTU TEMPERATURE
AUD 432	1997		DTU 644		DTU TEMPERATURE
AUD 631	2000	CDB 545	DTU 614	CDB 100/CDB 200	DTU TEMPERATURE
AUD 632	2000	CDB 545	DTU 644	CDB 100/CDB 200	DTU TEMPERATURE
- C -					
C 76	1980		RTE 98		
CBE	1980		RTE 98		RTE SWITCH
CBE0	1980		RTE 98		
CDZ ...	2004		CDK ...		
CFE 640	1987	SCH 100 / SIH 100 / SIH 101	RTF 314	SCH 010 / SIH 010 / SAF 010	
CFE 642	1990	SCH 100 / SIH 100 / SIH 101	RTR 628	SCH 010 / SIH 010 / SAF 010	
CFE 645	1990	SCH 100 / SIH 100 / SIH 101	RTR 628	SCH 010 / SIH 010 / SAF 010	
CK	1980		KUC ... + IEB ...		
CLA ...	1998		CLE ...		AVL 323 ADAPTOR FOR CLA WITH CLE
CLB ...	1998		CLF ...		AVL 323 ADAPTOR FOR CLB WITH CLF
CLC ...	1998		CLG ...		AVL 424 ADAPTOR FOR CLC WITH CLG
CLD ...	1998		CLH ...		AVL 424 ADAPTOR FOR CLD WITH CLH
CLP ...	2002		CLQ ...		
CLT ...	1998		NOT REPLACEABLE		
CLZ ...	1998		NOT REPLACEABLE		
CMD 910	2001		CMD 911		
CRK ...	1998		ONLY EXCHANGES		
CRT ...	1998		NOT REPLACEABLE		
CRZ ...	1998		NOT REPLACEABLE		

DISCONTINUED PRODUCT	AVAILABLE UNTIL	DETECTORS & ACCESSORIES	REPLACED BY	DETECTORS & ACCESSORIES	DIFFERENCES
CSC 304	2001		CSC 328		
CSV 304	2001		CSV 328		
CTA 93	1998	SIH 100 / SAE 100	RCS 633 - DCS 633	SIH 010 / SAE 001	
CTA 934	1998	SAC 100 / STA 100 / CAD 516	DTU 614 - DTA 624	SAB 010 / STA 010/001 / CDB 100	
CTA 935	1998	SAC 100 / STA 100 / CAD 516	DTU 614 - DTA 624	SAB 010 / STA 010 / STA 001 / CDB 100	
CTA 936	1998	SAC 100 / STA 100 / CAD 516	DTU 614 - DTA 624	SAB 010 / STA 010 / STA 001 / CDB 100	
CTA 937	1998	SAC 100 / STA 100 / CAD 516	DTU 614 - DTA 624	SAB 010 / STA 010 / STA 001 / CDB 100	
CVA ...	1980		CVH ...		
CVE ...	1991		CVH ...		
CVF ...	1991		CVF ...		
CVK 090	1980		CRK ... - ONLY EXCHANGES		
CVM ...	1993		CVH ...		
CVM 211/P	1987		CSM 438		CONTROL 2 OR 3 POINTS
CVM 211/S	1987		CSM 438		CONTROL 2 OR 3 POINTS
CVM VM	1980		CVH ...		
CVP ...	1988		CRB ... - CVC ...		
CVR ...	1980		CRB ...		
CVS ...	1991		CVH ...		
CVV 631	1980		NOT REPLACEABLE		
CVZ ...	1980		CVC ...		
- D -					
DAG 830	1980		NOT REPLACEABLE		
DAS 793	1980		NOT REPLACEABLE		
DCL 232	1998		PCB 332		
DTC 618	2003		DTC 628		
DTE 601	1998		DTE 611		
DTR 684	2001		DTR 628		
- E -					
ELZET	1990		KUC ...		
EZ-K	1990		KMC ...		
- F -					
FM 220	1998		CSE 428		
FM 220/S	1998		CSE 428/C		
FM 24	1998		CSE 424		
FM 24/S	1998		CSE 424/C		
- G -					
GSM 712	2003		GSM 713 - GSM 714		
GSM 822	2003		GSM 622		

DISCONTINUED PRODUCT	AVAILABLE UNTIL	DETECTORS & ACCESSORIES	REPLACED BY	DETECTORS & ACCESSORIES	DIFFERENCES
- I -					
ICE 67	1996		IES ...		
ICM 814	1988		ICM 674		
ICM 815	1988		ICM 674		
ICM 824	1997		ICM 674		
ICM 825	1997		ICM 674		
IEB 634	1999		IEB 734		
IEB 644	1999		IEB 744		
IEO 631	1997		NOT REPLACEABLE		
IEO 841	1997		NOT REPLACEABLE		
IES 633	1999		IES 733		
IES 643	1999		IES 743		
INT 959	1993		NOT REPLACEABLE		
- K -					
KMD ...	2001		KMF ... - KMC ...		
KUC ...	2001		KUC .../D-KUF .../D		
KUD ...	2001		KUF ... - KUC ...		
KWE ...	2001		KWP... - KWS...		
KWC ...	2002		KWS ...		
KWF ...	2002		KWP ...		
- L -					
LTD 600	1980		ULT 348		
- M -					
MAS 66	2001		MAS 6..		
MAS 77	2001		MAS 7..		
MCV 710	2000		MCV 711		
MDM 963	1966		MCT 710		
MDM 966	1966		MPD 612		
MGA 992	1995		NOT REPLACEABLE		
MPA 643	2002		MPD 612+UCO 638		
MSD	2003		NOT REPLACEABLE		
- O -					
OPD 965	1997		PLE 608		
- P -					
PAC 1000	1986		NOT REPLACEABLE		
PCB 232	1998		PCB 332		
PSC 954	1990		DCC 602		
- R -					
RAC 500	1987		CMD 911		
RAC 502	1987		CMD 911		
RAC 504	1987		CSV 328		
RBM 522	1980		CSV 328		
RC 2	1990		DCC 602		
RC 2A	1990		DCC 602		

DISCONTINUED PRODUCT	AVAILABLE UNTIL	DETECTORS & ACCESSORIES	REPLACED BY	DETECTORS & ACCESSORIES	DIFFERENCES
RC 2I	1992		DCC 602		
RC 3I	1992		DTC 648+ISC 648		
RC 4I	1992		DTC 648+ISC 648		
RC 6	1992	SIH 100	DTC 648+ISC 648	SIH 010	
RC 8	1992	SIH 100	DTC 648+ISC 648	SIH 010	
RC 10	1992	SIH 100	DTC 648+ISC 648	SIH 010	
RCC 102	1998		DCC 602		
RCC 104	1998		DTC 648+ISC 648		
RCC 114	1998		DTC 648+ISC 648		
RCC 124	1998		DTC 648+ISC 648		
RCT 919	1980		NOT REPLACEABLE		
RDP 627	2000		NOT REPLACEABLE		
RDP 826	1998		NOT REPLACEABLE		
RDP 827	1998		NOT REPLACEABLE		
REM 54	1980		NOT REPLACEABLE		
RFG 740	1996	SGA 300 / 301 SGS 300 / 301	RFG 651 / RFG 652 / RFG 653	SGC 150/250/350 SGS 150/250/350	
RFG 741	1998		RFG 361+SGC 350		
RFG 742	1996	SGA 300 / 301 SGS 300 / 301	RFG 651 / RFG 652 / RFG 653	SGC 150/250/350 SGS 150/250/350	
RFG 744	1996	SGA 300 / 301 SGS 300 / 301	RFG 651 / RFG 652 / RFG 653	SGC 150/250/350 SGS 150/250/350	
RFG 745	1998	EVG 840 / 841 / 842 / 843	RGS 148 / 248	ERA 015/020/025	
RFG 746	1996		NOT REPLACEABLE		
RFG 747	1996		NOT REPLACEABLE		
RFG 748	1991		RGS 148		
RFG 749	1994		RGS 128 / 228		
RFG 751	1998	SGC 300M / P - SGC 301	RFG 651	SGC 150/250/350 SGS 150/250/350	
RFG 752	1998	SGC 300M / P - SGC 301	RFG 652	SGC 150/250/350 SGS 150/250/350	
RFG 753	1998	SGC 300M / P - SGC 301	RFG 653	SGC 150/250/350 SGS 150/250/350	
RFG 761	1998	SGC 300M / P - SGC 301	RFG 782	SGC 300M / 301 SGR 300M / 301	
RFG 870	1991	RFG 748 + EVG 84	RGS 148	ERA 015	
RFG 871	1994	RFG 748 + EVG 841	RGS 148		
RFG 875	1988	EVG 840 / 841 / 842 / 843	RGS 148 / 248	ERA 015/020/025	
RFG 876	1988	EVG 840 / 841 / 842 / 843	RGS 148 / 248	ERA 015/020/025	
RFG 877	1988	EVG 840 / 841 / 842 / 843	RGS 148 / 248	ERA 015/020/025	

A

DISCONTINUED PRODUCT	AVAILABLE UNTIL	DETECTORS & ACCESSORIES	REPLACED BY	DETECTORS & ACCESSORIES	DIFFERENCES
RFG 878	1988	EVG 840 - 841 / 842 / 843	RGS 148 / 248	ERA 015/020/025	
RFG 945			RGS 148+SRS 158		
RFG 949	1994	SGC 300 / 301	RGS 128 / 228	SRS - SRC	
RFG 975	1994	RFG 945 + EVG 840 / 841	RGS 148 + SRS 158	ERA 015/020/025	
RFG 976	1994	RFG 945 + EVG 840 / 841	RGS 148 + SRS 158	ERA 015/020/025	
RGA 560	1987		CMD 911		
RGA 562	1987		CMD 911		
RGA 563	1987		CMD 911		
RGA 710	1987		RTS 140		
RGA 822	1987		CMD 911		
RGA 823	1987		CMD 911		
RGA 829	1987		CMD 911		
RGC ...	1998		NOT REPLACEABLE		
RGD 122 / 128	1997	SRC 158	RGS 128+SRS 158		
RGD 222 / 228	1997	SRC 158	RGS 128+SRS 158		
RGD 148 / 248	1997	EVG 841/SRC 158	RGS 148 + SRS 158 + ERA		
RGE 128 / 228	2002		RGS 128 / 228		
RGE 148 / 248	2002	ERA 020	RGS 148 / 248	ERA 015/020/025	
RGM 122 / 128	2002	SRC 158	RGS 128 / 228	SRS 158	
RGM 222 / 228	2002	SRC 158	RGS 128 / 228	SRS 158	
RGM 148 / 248	2002	ERA 015/020/025	RGS 148 / 248	ERA 015/020/025	
RIM 001	1980		RTF 314 / 318		
RMD 734	1988		RTF 314 / 318		
RMD 735	1988		RTF 314 / 318		
RMD 736	1988		RTF 314 / 318		
RMD 737	1988		RTF 314 / 318		
RMD 754	1998		RTF 314 / 318		
RMD 755	1998		RTF 314 / 318		
RMD 756	1998		RTF 314 / 318		
RPS 364	1991	SIS 100/SIS 101	RPS 638	SIH 010/SAF 010	
RPS 365	1991	SIS 100/SIS 101	RPS 638	SIH 010/SAF 010	
RPS 366	1991	SIS 100/SIS 101	RPS 638	SIH 010/SAF 010	
RPS 367	1991	SIS 100/SIS 101	RPS 638	SIH 010/SAF 010	
RPS 604	1991		RPS 638		
RPS 605	1991		RPS 638		
RPS 606	1998		RPS 638		
RPS 607	1998		RPS 638		
RTA 14.	2002		RTB ...		
RTA 325	1980		RTB 041		
RTA 72.	1988		RTA 725 / 726		
RTD 510	1987		RTE 98		

DISCONTINUED PRODUCT	AVAILABLE UNTIL	DETECTORS & ACCESSORIES	REPLACED BY	DETECTORS & ACCESSORIES	DIFFERENCES
RTD 512	1987		RTE 98		
RTE 31	1980	RTD 340	RTE 98	CDB 340	
RTE 33	1988	SAE 100/SCH 050	RTE 98	SAE 001/SCH 010	
RTE 35	1988		RTE 98		
RTE 41	1988		RTE 98		
RTE 45	1988		RTE 98		
RTE 48	1980		RTE 98		
RTE 92	1988		RTE 98		
RTE 926	1991		RTE 643		
RTE 93	1998		RTE 98		
RTE 94	1994	SAE 100 / SCH 100 / CAD 340	RTE 98	SAE 001 / SCH 010 / CDB 340	
RTE 953	1998		RTE 643		
RTE 954	1998		RTE 643		
RTE 956	1998		DTE 600		
RTE 957	1998		DTE 600		
RTE 97	2001		RTE 98		
RTG 532	1980		CMD 911		
RTM 390	1980		RTF 314 / 318		
RTM 394	1980		RTF 314 / 318		
RTM 395	1987		RTF 314 / 318		
RTM 396	1980	SIH 100	RTF 314 / 318	SIH 010	
RTM 397	1987		RTE 98		
RTM 398	1991		RTF 314 / 318		
RTM 790	1987		RTF 314 / 318		
RTM 791	1987		RTF 314 / 318		
RTM 792	1986		RTF 314 / 318		
RTM 880	1998		RTF 314 / 318		
RTM 884	1997		DTR 628		
RTR 684	2001		DTR 628		
RUR 422	1998	SUR 421	RTU 614	SUR 704	
RUR 423	1998		RTU 644		
RV 2A	1998		VF ...		
RV 2D	1998		VF ...		
RV 2K	1998		VF ...		
RV 3A	1998		VF ...		
RV 3B	1998		VF ...		
RV 3D	1998		VF ...		
RV 3F	1998	BRASS BODY	VRB ...	BODY IN BRONZE	
RV 3K	1998		VF ...		
RV 3P	1998		VRG ...		
RV 4Z	1998		VVZ ...		
- S -					
SAA 100	2001		NOT REPLACEABLE		
SAB 100	2001		NOT REPLACEABLE		

DISCONTINUED PRODUCT	AVAILABLE UNTIL	DETECTORS & ACCESSORIES	REPLACED BY	DETECTORS & ACCESSORIES	DIFFERENCES
SAC 100	1994		NOT REPLACEABLE		
SAE 100	2001		NOT REPLACEABLE		
SAF 100	2001		NOT REPLACEABLE		
SCH 100	2001		NOT REPLACEABLE		
SDA ...	1995		SAB ...		
SIH 001	2004		SAF 001		
SIH 100	2001		NOT REPLACEABLE		
SF 2000	1980		RTF 314 / 318		
SGS/24	1998		PCS 04		
SM 220	1998		CSM 438		
SM 220/SR	1998		NOT REPLACEABLE		
SM 24	1998		CSM 434		
SM 24/SR	1998		CSE 404		
SRC ...	2003		SRS ...		
STA 100	2001		NOT REPLACEABLE		
STP 001	2004		SHF 001		
SUR 012	2003		SUR 704		
SUR 051	2003		SUT 714		
SWC 102	1997		SWC 701		
SWC 103	1997		SWC701		
- T -					
TAD 93	1997		CMD 911		
TAG 796	2000		TAG 794		
TAM 92	1996		RTS 14.		
TAM 925	1995		CMD 911		
TCE	1980		RTE 98		
TCO	1980		RTE 98		
TCZ 377	1991		IEB ...		
TCZ 495	1980		IEB ...		
TDA 932	1998		RTS 14.		
TDA 933	1998		RTS 14.		
TDC 620	1980		NOT REPLACEABLE		
TED 570	1988		RPS 638		
TED 786	1998		RTP 318		
TMA 93	1998		CMD 911	CMD WITHOUT SUMMER-WINTER SWITCH	
TMT 100	1996		NOT REPLACEABLE		
TPA 90	1998		CMD 911		
TSD 61	1988		RTF 314 / 318		
TSD 76	1998		RTF 314 / 318		
TSP 65	1988		RTF 314		
TSP 785	1998		RTF 314 / 318		
TTC 780	1987		RTP 318		
- U -					

DISCONTINUED PRODUCT	AVAILABLE UNTIL	DETECTORS & ACCESSORIES	REPLACED BY	DETECTORS & ACCESSORIES	DIFFERENCES
UAA 322	2004		ULA 348		
UAM 322	2004		ULT 348		
UCZ 384	1987		UAC 328		
UMD 738	1998		NOT REPLACEABLE		
UMM 348	2004		ULT 328		
UPA 798	1990		UPA 798		
UPC 799	1990		UPC 799		
USZ 331	2003		UAC 328		
- V -					
VMV ...	2002		VRB ...		
VRA ...	1998	SEAT VALVES	HGT ...	BALL VALVES	
VRD ...	1998	SEAT VALVES	HGT ...	BALL VALVES	
VZM 2..	1993		XDG 2..		
VZM 3..	1993		XDG 3../XLG 3..		
- X -					
XDM 2..	1999		NOT REPLACEABLE		
XDM 3..	1999		NOT REPLACEABLE		
XLG 340	2004		XLG 341		
XLG 350	2004		XLG 351		
XLM 3..	1999		NOT REPLACEABLE		
- Z -					
ZDG 2..	1998		XDG 2..		
ZDG 3..	1998		XDG 3..		
ZDM 2..	1998		NOT REPLACEABLE		
ZDM 3..	1998		NOT REPLACEABLE		
ZLG 315/320/325	1998		XLG 3..		
ZLM 3..	1998		NOT REPLACEABLE		
ZLM 4..	1998		NOT REPLACEABLE		
- 2 3 4 -					
1CS76	1980		DPS 638		
2A	1993		XDG 2..		
2A VM	1980		NOT REPLACEABLE		
2A CL	1980		NOT REPLACEABLE		
3A	1993		XDG 3..		
3V CL	1980		NOT REPLACEABLE		
3-4 G / 3-4 F	2003		VSG/F ... VFG/F ...		

Description	Code	Communication	Page
AUTOMATION OF BOILERS & BURNERSI			
COMPENSATING CONTROLLER FOR SEQUENCING TWO BOILERS WITH OR WITHOUT SHUT-OFF VALVES OPTIONAL TELEMAGEMENT SEQUENCING OF TWO SINGLE-OR TWO-STAGE BOILERS WITH SHUT-OFF VALVES.	XCC 602	OPTIONAL (C ←BUS) (C ←RING)	1.5
CONTROL SYSTEM FOR SEQUENCING 3 ... 24 BOILERS WITH OR WITHOUT SHUT-OFF VALVESE SEQUENCING OF SERVERAL SINGLE- OR TWO-STAGE BOILERS WITH OR WITHOUT SHUT-OFF VALVES COMPRISING: - 1 COMPENSATING CONTROLLER FOR SEQUENCING BOILERS - 1 ... 3 RELAY CONTROL MODULES FOR SINGLE- OR TWO-STAGE BURNERS & SHUT-OFF VALVES.	DTC 648 ISC 648	(C ←BUS) (C ←RING)	1.6 1.6
COMPENSASTING OPTIMISER FOR BURNERS OF ANY TYPE INCLUDING SEQUENCING, OF SEVERAL BOILERS	XTC 638	OPTIONAL (C ←BUS) (C ←RING)	1.8
CONTROLLER FOR 1, 2-STAGE BURNERS, MODULATING OR WITH 0...10 V– INPUT	XCC 618	OPTIONAL (C ←BUS) (C ←RING)	1.9
COMPENSATING OPTIMISER FOR 1, 2-STAGE MODULATING BURNERS WITH 0...10 V– INPUT	XCC 638	OPTIONAL (C ←BUS) (C ←RING)	1.10

(C ←BUS) = communication with telemagement
 (OPTIONAL C ←BUS) = optional telemagement
 (C ←RING) = data exchange between controllers
CODE = news

1

FEATURES		MODELS				
		RTC 604	XCC 602	DTC 648 + 1 ISC 648	DTC 648 + 2 ISC 648	DTC 648 + 3 ISC 648
Controls	boilers without valves & 1-stage burners	2 ... 4	2	2 ... 8	9 ... 16	17 ... 24
	boilers with valves & 1-stage burners	–	2	2 ... 4	5 ... 8	9 ... 12
	boilers without valves & 2-stage burners	–	2	2 ... 4	5 ... 8	9 ... 12
	boilers with valves & 2-stage burners	–	2	2 ... 4	5 ... 8	9 ... 12
	heating pump	1	–	1	1	1
	DHW pump	1	–	1	1	1
Type of control	compensated	Yes	Yes	Yes	Yes	Yes
	fixed point	–	Yes	Yes	Yes	Yes
	according thermal demand (C-Ring)	–	Yes	Yes	Yes	Yes
Sensor	heating flow temperature	1	–	1	1	1
	boiler manifold temperature	–	1	1	1	1
	boiler temperature	–	2	–	–	–
	outside temperature	1	1	1	1	1
	ambient temperature	1	–	–	–	–
	DHW temperature	1	–	1	1	1
	flue gases temperature	–	2	–	–	–
	with 4 ... 20 mA output signal	–	–	1	1	1
Remote controls	modification of programme in use	Yes	–	–	–	–
	switch on by external contact	Yes	Yes	Yes	Yes	Yes
	reduce number boilers On by external contact	–	–	Yes	Yes	Yes
Programmes	24-hour	7	7	7	7	7
	7-day	2	2	2	2	2
	emergency	–	1	–	–	–
Periods with date setting	holidays	–	25	25	25	25
	special	–	1	1	1	1
	heating season	Yes	Yes	Yes	Yes	Yes
	GMT - BST	Yes	Yes	Yes	Yes	Yes
Functions	choice number of boilers to sequence	Yes	–	Yes	Yes	Yes
	boiler sequence automatic changeover	Yes	Yes	Yes	Yes	Yes
	delay closure of boiler valves	–	Yes	Yes	Yes	Yes
	burner start / stop differential temperature	–	Yes	Yes	Yes	Yes
	boiler start differential temperature	Yes	Yes	Yes	Yes	Yes
	integral time	Yes	–	Yes	Yes	Yes
	minimum burner(s) run and/or stop time	–	Yes	Yes	Yes	Yes
	correction heating curve origin (t ^o = 20°C)	Yes	Yes	Yes	Yes	Yes
	maximum & minimum limits flow temperature	Yes	Yes	Yes	Yes	Yes
	ambient authority over compensated control	Yes	–	–	–	–
	Eco Off	Yes	–	Yes	Yes	Yes
	delayed stop heating pump	Yes	–	Yes	Yes	Yes
	DHW dedicated boilers (with 3-way diverting valve)	Yes	–	Yes	Yes	Yes
	DHW priority	Yes	–	–	–	–
	antibacteria DHW	Yes	–	Yes	Yes	Yes
summer plant exercise	Yes	–	Yes	Si	Yes	
Alarms	On-Off contacts	–	5	1	1	1
	functional	–	8	5	5	5
	short or open sensor circuits	–	6	3	3	3
Transmission Data	C-Bus for telemanag'nt from local and/or remote PC	–	Yes	Yes	Yes	Yes
	C-Ring for data exchange among controllers	–	Yes	Yes	Yes	Yes

: alternative

FEATURES		MODELS		
		XCC 618	XCC 638	XTC 638
Various controls	boilers with or without valves and with any burner	1	1	1
	heating pump	1	1	1
	DHW pump	–	1	1
Boiler control	type	Secondary	Secondary	Primary
Boilers sequence	control	–	–	2...7
Controls	compensated	–	Yes	Yes
	fixed point	Yes	Yes	Yes
	according thermal demand (C-Ring)	Yes	Yes	Yes
Sensor	heating flow temperature	–	1	1
	boiler manifold temperature	–	1	1
	boiler temperature	1	–	–
	outside temperature	1	1	1
	ambient temperature	–	1	1
	flue gases temperature	1	1	1
	DHW temperature	–	1	1
	with 4 ... 20 mA output signal	–	–	–
Remote control	boiler on manual control	–	Yes	Yes
	switch on by external contact	–	–	–
	reduce number boilers On by external contact	–	–	–
Programmes	24-hour	–	4	4
	7-day	–	1	1
	emergency	–	Yes	Yes
Periods with date setting	holiday	–	–	–
	special	–	1	1
	heating season	Yes	Yes	Yes
	GMT - BST	Yes	Yes	Yes
Functions	choice number of boilers to sequence	–	–	Yes
	boiler sequence automatic changeover	–	–	Yes
	delay closure of boiler valves	Yes	Yes	Yes
	burner start / stop differential temperature	Yes	Yes	Yes
	boiler start differential temperature	Yes	Yes	Yes
	integral time	Yes	Yes	Yes
	minimum burner(s) run and/or stop time	Yes	Yes	Yes
	correction heating curve origin (t ^e = 20°C)	–	Yes	Yes
	maximum & minimum limits flow temperature	Yes	Yes	Yes
	ambient authority over compensated control	–	Yes	Yes
	Eco Off	Yes	Yes	Yes
	delayed stop heating pump	–	Yes	Yes
	DHW dedicated boilers (with 3-way diverting valve)	–	Yes	Yes
	DHW priority	–	Yes	Yes
	antibacteria DHW	–	Yes	Yes
	summer plant exercise	Yes	Yes	Yes
Alarms	On-Off contacts	1	1	1
	functional	4	7	7
	short or open sensor circuits	4	6	6
Transmission data	C-Bus for telemanag'nt from local and/or remote PC	Yes	Yes	Yes
	C-Ring for data exchange among controllers	Yes	Yes	Yes

☐ : alternative * : one for each XTC installed (up to a maximum of 7).

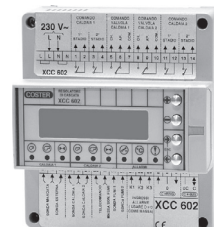
CONTROLLER FOR SEQUENCING TWO SINGLE- OR TWO-STAGE BOILERS WITH OR WITHOUT SHUT-OFF VALVES OPTIONAL TELEMAGEMENT

XCC 602

TELEMAGEMENT C-Bus: Enabled using ACB 400 accessory..

OPTIONAL
C ←BUS

C ←RING



APPLICATION

Designed for sequencing two boilers with one- or two-stage burners and shut-off valves.
Control of primary manifold temperature with temperature measurement by means of a sensor on manifold or two sensors on the boilers.
Communication with other controllers via serial C-Ring protocol..

Essential sensors: 1 temperature sensor on manifold or 2 boiler sensors

Optional sensors: 1 outside sensor..

FEATURES

- Power supply: 230V~; Consumption: 5VA; DIN 105 X 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four keys and alphanumeric display.
- Setting dates of heating season and automatic switching GMT – BST.
- Seven 24hour periods and two 7day programs.
- 25 holiday programs and one special period with dates.
- Control of zone temperature:
 - Fixed point;
 - Variable in relation to outside temperature;
 - Variable in relation to temperature requested by consumer zones.
- Sequencing: manual switching from display or timed automatic.
- Automatic inversion of sequence in event of lockout of lead boiler.
- Enabling of lag boiler according to mean temperature of zone.
- Digital control of burners and of valves with adjustable delay closure.
- Theoretical metering of burner operating hours.
- Two inputs for measurement and alarms for flue gas temperature and for lockout burners.
- Three digital alarm inputs.
- Alarms for plant faults and for open or short sensor circuit.

Code	Description	Data sheet
XCC 602	Controller for sequencing two boilers with N.C. relay lag boiler.	A 312

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensor	Data sheet
ACB 400	Plug-in for C-Bus communication.	–	–	T 433
SAE 001	Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
STF 001	Flue gases temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 710

CONTROL SYSTEM FOR 3 ... 24 BOILER SEQUENCING

The system consists of:

- 1 compensator for sequencing boilers DTC 648.
- 1, 2 or 3 relay control modules ISC 648.

Electronic devices	Boilers with isolation valves 1-stage burners	Boilers without isolation valves 1-stage burners	Boilers with isolation valves 2-stage burners	Boilers without isolation valves 2-stage burners
1 DTC 648 + 1 ISC 648	up to 4	up to 8	up to 4	up to 4
1 DTC 648 + 2 ISC 648	up to 8	up to 16	up to 8	up to 8
1 DTC 648 + 3 ISC 648	up to 12	up to 24	up to 12	up to 12

1

COMPENSATOR FOR BOILER SEQUENCING

DTC 648

C ←BUS
C ←RING



APPLICATION

In combination with 1, 2 or 3 relay control modules ISC 648, DTC 648 can sequence two or more one- or two-stage boilers, with or without shut-off valves, for the control of the primary manifold or flow temperature in a heating plant, and control the temperature of a DHW plant.

C-Bus compatible.

C-Ring compatible..

Essential accessories: 1 detector on manifold or heating flow.

Optional accessories: 1 outside detector, 1 DHW detector.

FEATURES

- Power supply: 230 V ~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four operating keys and alphanumeric display.
- Setting dates for heating season and automatic switching GMT- BST.
- Seven 24-hour programmes, two 7-day programmes, 25 holiday periods and one special period with date setting.
- Control temperature primary manifold or heating plant flow:
 - Fixed point;
 - Variable in relation to outside temperature or to temperature requested by heating zones with min. and max. flow temperature.
- Timed On-Off control of primary manifold or heating plant pump.
- Minimum and maximum limits flow temperature.
- Manual correction heating curve origin to compensate for seasonal weather changes.
- Eco Off function.
- Summer plant exercise.
- Sequence: Manual inversion from display or timed automatic.
- Control calorifier for production DHW: – On-Off control calorifier pump with timed events programmes independent of heating.
 - Antibacteria function: once a week at 70 °C for 90 minutes.
- One On-Off alarm input, one measurement input 4 ... 20 mA (with ASA 420).
- Alarms for controller fault and for short or open detector circuits.

Code		Description	Data sheet
DTC 648		Compensator for boiler sequencing.	A 410

SENSORS AND ACCESSORIES

Code		Description	Application range	Sensor	Data sheet
SIH 010		Immersion temperature sensor.	0...99 °C	NTC 10 kΩ	N 140
SIH 010		Immersion high temperature sensor.	0...99 °C	NTC 10 kΩ	N 140
SAF 001		Immersion temperature sensor	-30 ... 40 °C	NTC 1 kΩ	N 145
SAE 001		Outside temperature sensor..	-40 ... 40 °C	NTC 1 kΩ	N 120
ASA 420		Accessoy for connection active detector 4 ... 20 mA..	–	–	–

RELAY MODULE

ISC 648

APPLICATION

When connected with temperature controller DTC 648, converts the control signal of the controller in On-Off signals for sequencing two or more one- or two-stage boilers with or without shut-off valves. Up to a maximum of three ISC 648 can be used.

FEATURES

- Power supply: 230 V ~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- 4 SPDT output relays, 8 SPST output relays, max. switching voltage 250 V ~, 5 (1) A.



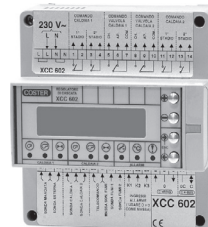
Code		Description	Data Sheet
ISC 648		Relay module	A 450

**COMPENSATING OPTIMISER FOR BURNERS
OF ANY TYPE INCLUDING SEQUENCING,
OF SEVERAL BOILERS**

XTC 638

TELEMANAGEMENT C-Bus: Enabled using ACB 460 accessory..

OPTIONAL
C ←BUS C ←RING



APPLICATION

Designed for temperature control of a normal burner or a 3-point or 0...10 V modulating burner, with normal or condensation boilers.

Using one controller for each boiler (max. 7) you can obtain a sequence of several boilers and of the shut-off valves where these exist.

Control of the criteria of setting the boiler in sequence, in order to optimise the seasonal energy production:

– wide adaptability to all types of burner and boiler..

Data exchange with other boilers and other controllers by means of C-Ring.

**Essential sensors: 1 boiler sensor, 1 single external sensor for the boiler(s),
1 sensor for manifold if there are several boilers.**

Optional sensors: 1 heating flow sensor, 1 room or flue gases sensor, 1 DHW sensor.

FEATURES

- Power supply: 230 V-; Consumption: 5 VA; Modular housing DIN 105 x 115; Protection: IP 40.
- Digital programming by means of 4 operating keys and alphanumeric display.
- Control of site:
 - Single boiler + heating with pump or with or without mixing valve + DHW.
 - Boilers in sequence (max. 7) + heating with pump and with or without mixing valve + DHW.
 - Boilers in sequence (max. 7) + C-Ring connection with other COSTER controllers + DHW
 - Compensated: according to outside temperature with desired room temperature Normal, Setback.
 - Fixed Point with desired flow temperature.
 - Minimum and maximum limits boiler and flow temperatures.
- **WARNING!** The mixing valve and the storage tank control are not available on all the configurations of boiler sequence. Always refer to the Technical Data Sheet.
- Control of modulating 3-point burner (common – increase – decrease). 0...10 V or On-Off in 1 stage or On-Of in 2 stages.
- On-Off control of boiler shut-off valve.
- On-Off control of pump (boiler, manifold, heating site).
- Timed programming with four 24hour programs and one 7day program.
- Programming with dates with one Special period and heating season.
- Automatic change GMT/BST.
- Eco Off™ function: heating off with outside temperature above desired value.
- Three On-Off inputs and two On-Off outputs for services and various automations (e.g. burner lockout).
- Three On-Off inputs and two On-Off outputs for services and various automations (e.g. burner lockout).
- One input for measuring temperature flue gases (as alternative to room temperature).
- Functional alarms for site and alarms for short or open circuit sensors.

Code	Description	Data sheet
XTC 638	Temperature controller for a modulating boiler, for several boiler in sequence and other functions.	A 612

SENSORS AND ACCESSORIES

Sigla	Description	Application range	Sensing element	Data sheet
ACB 460	Plug-in for C-Bus communication.	–	–	T 433
SAE 001	Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
STF 001	Flue gases temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 165

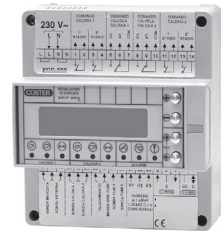
COMPENSATING OPTIMISER FOR 1, 2-STAGE MODULATING BURNERS WITH 0...10 V- INPUT

XCC 638

TELEMANAGEMENT C-Bus: Enabled by ACB 400 accessory.

OPTIONAL
C ←BUS

C ←RING



1

APPLICATION

Designed for the compensated control of winter heating in centralised sites, with power supply directly from the boiler (without mixing valve), whether condensation or not.

The burner with 1, 2 stages or modulating can be controlled by switches or by means of the 0...10 V input...

By equipping all the boilers on site with XCC 638, with a single boiler provided with XTC 638, you can set up a sophisticated sequence among the various 1, 2-stage or MODULATING BURNERS and thereby achieve the maximum SEASONAL OUTPUT.

The whole system has been especially designed also for CONDENSATION BOILERS.

Data exchange with other boilers and other controllers by means of C-Ring.

Essential sensors: 1 boiler sensor, 1 outside sensor.

Optional sensors: 1 anticondensing sensor, 1 room or flue gases sensor, 1 storage tank sensor.

FEATURES

- Power supply: 230 V~; Consumption: 5 VA; Modular enclosure DIN 105 x 115; Protection: IP 40.
- Digital programming by means of 4 operating keys and alphanumeric display.
- Control of boiler temperature at fixed point or variable in relation to outside temperature or to the demand of the various users (if the controllers are COSTER).
- Control of 1, 2-stage or modulating burner.
- Option of sequence under control of XTC 638.
- Compensated control of boiler temperature
 - all the optimum starts and stops of heating and of the site circulation pump
 - complete range of choices for room temperature,
 - 24hour and 7day clock (four 24hour programs, one 7day program)
- Control of temperature of DHW storage tank (one for each site)
 - own independent clock; 24hour, 7day (four 24hour programs, one 7day program).
 - priority and antibacterial functions
- Automatic switching GMT/BST.
- Periodic operation of summer plant exercise of valves and pumps.
- Metering of degree-days, of burner operating hours and or number of starts.
- Alarms for short and open sensor circuits and for abnormal operation of site and devices.
- C-Ring connection for local transmission of data to other COSTER controllers.
- Optional C-Bus connection for transmitting data to local PCs or remote Telemanagement PC..

XCC 638 is already provided with 0...10 V output adaptable to any generator provided with this input.

Code	Description	Data sheet
XCC 638	Optimising compensator for modulating burners.	A 620

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
ACB 400	Plug-in for C-Bus communication	–	–	T 433
SAE 001	Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
STF 001	Flue gases temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 165

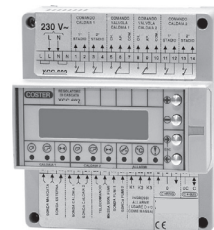
COMPENSATING OPTIMISER FOR 1, 2-STAGE MODULATING BURNERS WITH 0...10 V- INPUT

XCC 618

TELEMANAGEMENT C-Bus: Enabled by ACB 400 accessory.

OPTIONAL
C ←BUS

C ←RING



APPLICATION

Designed for the total control of burner/boiler (condensation or not).

The 1, 2-stage or modulating burner can be controlled by switches or via the 0...10 V input.

By equipping all the boilers present on site with XCC 618, and a single boiler with XTC 638, you can achieve a sophisticated sequence with 1, 2-stage or MODULATING BURNERS and so obtain the maximum SEASONAL OUTPUT. The whole system is especially suitable also for CONDENSATION BOILERS.

Data communication with other boilers and other controllers via C-Ring connection..

Essential sensors: 1 boiler sensor..

Optional sensor: 1 anticondensing sensor, 1 flue gases sensor, 1 outside sensor...

FEATURES

- Power supply: 230 V~: Consumption: 5 VA; Modular housing DIN 105 x 115; Protection: IP 40
- Digital programming by means of 4 keys and alphanumeric display.
- Control of boiler temperature at set point or according to the request of the various users via C-Ring (if the controllers are COSTER) or by a 0...10 V- signal.
- Control of a 1- or 2-stage or modulating burner.
- Option of sequence under control of XTC 638.
- Automatic change GMT/BST
- Periodic operation of summer site exercise of valves and pumpse.
- Metering of degree-days, of burner operating hours and of number of starts.
- Alarms for short or open circuits to sensors and for functional faults site and devices.
- C-Ring connection for local exchange of data with other COSTER controllers.
- Option of C-Bus connection for exchange data with local PC or remote Telemangement PC..

XCC 618 is provided with a 0...10 V output adaptable to any generator fitted with this input.

XCC 618 is also provided with a 0...10 V input for control AS POWER or AS TEMPERATURE.

Code	Description	Data sheet
XCC 618	Controller for modulating burners, slaves of XTC 638	A 621

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensor	Data sheet
ACB 400	Plug-in for C-Bus communication.	–	–	T 433
SAE 001	Outside temperature detector.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
STF 001	Flue gases temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 165

Description	Code	Communication	Page
CONDENSATED CONTROLLER			
ANALOGUE COMPENSATED CONTROLLER FOR CONTROL OF MIXING VALVE OR BURNER COMPENSATED CONTROL OF 1 CENTRAL HEATING PLANT	RTE 98.		2.7
DIGITAL WEATHER WITH OPTIMUM START FUNCTION.	RTE 955		2.8
OPTIMISING COMPENSATOR			
OPTIMISING COMPENSATOR WITH AUXILIARY CONTROL OPTIONAL TELEMANAGEMENT OPTIMISING COMPENSATION ONE CENTRAL PLANT ROOM CONTROL OF ONE DHW STORAGE TANK.	XTE 600	OPTIONAL C ← BUS C ← RING	2.9
DUAL OPTIMISING COMPENSATOR OPTIONAL TELEMANAGEMENT OPTIMISING COMPENSATION OF TWO CENTRALISED PLANTS..	XTE 602	OPTIONAL C ← BUS C ← RING	2.10
OPTIMISING COMPENSATOR CENTRALISED PLANT ROOM OPTIONAL TELEMANAGEMENT OPTIMISATION OF CENTRALISED PLANT ROOM COMPRISING: 1 BOILER - 1 HEATING ZONE – 1 AUXILIARY (e.g. DHW STORAGE).	XTE 611	OPTIONAL C ← BUS C ← RING	2.11
COMPENSATING OPTIMISER FOR TEMPERATURE & FLOW SUITABLE FOR COMPENSATED CONTROL OF ONE CENTRAL HEATING SITE. OPTIMISES THE USE OF CONDENSATION BOILERS.	XTP 600	OPTIONAL C ← BUS C ← RING	2.12
COMPENSATING OPTIMISER FOR BURNERS OF ANY TYPE INCLUDING SEQUENCING, OF SEVERAL BOILERS	XTC 638	OPTIONAL C ← BUS C ← RING	2.13
COMPENSATING OPTIMISER FOR 1, 2-STAGE MODULATING BURNERS WITH 0...10 V- INPUT	XCC 638	OPTIONAL C ← BUS C ← RING	2.14
OPTIMISING COMPENSATOR WITH SEASON SWITCHING OPTIONAL TELEMANAGEMENT DESIGN FOR COMPENSATED OR FIXED POINT CONTROL, WINTER AND SUMMER, OF FLOW WATER TEMPERATURE IN A FAN COIL OR UNDERFLOOR PANELS INSTALLATION	XCS 633	PREDISPOSTO C ← BUS C ← RING	2.15
“MULTICOSTER” MULTIPLE OPTIMISING COMPENSATED SYSTEM THE SYSTEM COMPRISES 1 “MASTER” (e.g. XCC 602 or XTE 611) & 1 OR MORE “SLAVES” CONNECTED IN C-RING			
OPTIMISING COMPENSATOR “SLAVE” OPTIONAL TELEMANAGEMENT OPTIMISING COMPENSATION OF 1 CENTRALISED PLANT ROOM CONTROL OF 1 DHW STORAGE TANK..	XSE 600	OPTIONAL C ← BUS C ← RING	2.16
DUAL OPTIMISING COMPENSATOR “SLAVE” OPTIONAL TELEMANAGEMENT OPTIMISING COMPENSATION OF TWO CENTRALISED PLANT ROOMS.	XSE 602	OPTIONAL C ← BUS C ← RING	2.16
“DISTRICT HEATING” INCLUDES ALL THE COMPONENTS NECESSARY FOR A DISTRICT HEATING PLANT			
CONTROLLER FOR DISTRICT HEATING SUBSTATIONS REGOLAZIONE A PUNTO FISSO DELLA TEMPERATURA SECONDARIA DELLE SOTTOSTAZIONI DI TELERISCALDAMENTO COMPOSTA DA: 1 SCAMBIATORE CON VALVOLA MISCELATRICE SUL PRIMARIO.	DTT 318	C ← BUS	2.19
CONTROLLER FOR DISTRICT HEATING SUBSTATIONS WITH ONE HEAT EXCHANGER CONTROL OF A DISTRICT HEATING SUBSTATION COMPRISING 1 1 HEAT EXCHANGER WITH VALVE & SECONDARY CIRCUIT PUMP..	XTT 618	OPTIONAL C ← BUS C ← RING	2.19
COMPENSATING CONTROLLER FOR DISTRICT HEATING SUB-STATIONS WITH TWO HEAT EXCHANGERS.	XTT 608	OPTIONAL C ← BUS C ← RING	2.20

C ← BUS = telemanagement ^{OPTIONAL} C ← BUS = optional telemanagement C ← RING = data exchange between controllers **CODE** = news

Description	code	Communication	Page
CONTROL SYSTEM FOR ROOM TEMPERATURE "MULTIZONE" SYSTEM OF CONTROLLERS FOR AIR TREATMENT AND OTHER SERVICES FOR INDEPENDENT ZONES			
CENTRAL (MASTER) CONTROL UNIT WITH REMOTE CONTROL VIA SMS MASTER OF BUS COMMUNICATION WITH REMOTE UNITS..	MRL 608	OPTIONAL C ←BUS P ←LOC	2.16
AUXILIARY POWER SUPPLY FOR 50 ZONES FIELD AMPLIFIER TO PERMIT MANAGING MORE THAN 20 ZONES FROM MASTER..	ALC 318		2.17
AUXILIARY POWER SUPPLY FOR MULTIZONE SYSTEM WITH AMPLIFYING & GALVANIC INSULATION OF THE P-LOC BUS.	ALP 418	P ←LOC	2.17
LOCAL (SLAVE) UNIT WITH RELAY OUTPUT SLAVE UNIT FOR HEAT CONTROL. AND OTHER ZONED FUNCTIONS..	RTL 110 RTL 510	P ←LOC	2.18
LOCAL (SLAVE) UNIT WITH RELAY OUTPUT FOR CONTROL EXPANDER SLAVE UNIT FOR THERMAL CONTROL & OTHER ZONED FUNCTIONS..	RTL 111 RTL 511	P ←LOC	2.19
OUTPUTS EXPANDER FOR RTL X11 INCREASES THE NUMBER OF OUTPUTS FOR CONTROL OF ELECTRICAL DEVICES SUCH AS FANS	DEP 658		2.19
LOCAL UNIT (SLAVE) WITH RELAY OUTPUT AND 1 ...10 V- OUTPUT	RTL 120 RTL 520	P ←LOC	2.20
UNIT FOR CONTROLLING PUMPS, BURNERS, CHILLERS, ETC FOR MULTIZONE SYSTEMS	UPM 678	OPTIONAL C ←BUS P ←LOC	2.20
"COSTERZONE" MULTIZONE ROOM TEMPERATURE CONTROLLER SYSTEM THE SYSTEM, POWERED BY 24 V~, CONSIST OF UP TO 239 REMOTE ROOM TEMPERATURE CONTROLLERS CONNECTED VIA THE C-BUS INTERFACE TO A CENTRAL DISPLAY UNIT AND/OR COMPUTER			
CENTRAL DISPLAY UNIT FOR "COSTERZONE" CONTROL SYSTEMS MASTER OF BUS COMMUNICATION WITH THE REMOTE UNITS.	UMT 704	C ←BUS	2.21
PUMPS CONTROL UNIT OPTIONAL TELEMANAGEMENT CENTRAL UNIT FOR CONTROL OF PUMPS (MAX. 6) OF HEATING AND/OR COOLING : CIRCUITS IN RELATION TO THERMAL DEMAND OF THE ZONE CONNECTED.	UCP 664		2.21
ELECTRONIC ROOM TEMPERATURE CONTROLLERS FOR HEATING AND/OR CONDITIONING (2 OR 4 PIPES) PLANTS CENTRALIZZATO CONTROL OF MODULATING OR ON-OFF VALVES, FANS, PUMPS, ETC.	RTB ...		2.22
ELECTRONIC ROOM TEMPERATURE CONTROLLERS WITH ROOM OCCUPIED SERVICE DESIGNED FOR REMOTE CONTROLLED BY A FIXED OR CELLULAR TELEPHONE.	RTB .44S1		2.22
ELECTRONIC ROOM TEMPERATURE CONTROLLERS WITH TELEPHONE REMOTE CONTROL DESIGNED FOR REMOTE CONTROLLED BY A FIXED OR CELLULAR TELEPHONE.	RTB 540		2.22
ELECTRONIC ROOM TEMPERATURE CONTROLLERS FOR CONTROL OF ROOM TEMPERATURE IN HEATING AND AIR CONDITIONING PLANTS	RTB 645		2.22
SUMMER TEMPERATURE COMPENSATOR FOR RTB 645 CONTROLLER KEEPS CONSTANT TEMPERATURE DIFFERENCE BETWEEN ROOM AND OUTSIDE IN SUMMER PERIOD.	CTB 334		2.22
CHRONOTHERMOSTATS			
DIGITAL ROOM CHRONOTHERMOSTAT	CMD 911		2.23

C ←BUS = communication with telemanagement
 OPTIONAL C ←BUS = optional telemanagement
 C ←RING = data exchange between controllers
CODE= news

FEATURES		MODELS						
		RTE 982	RTE 983	X.E 600	X.E 602	XTE 611	XTP 600	XCS 633
Electronic	analogue	Yes	Yes	–	–	–	–	–
	digital	–	–	Yes	Yes	Yes	Yes	Yes
Control	modulating valve	1	1	1	2	1	1	1
	burner	1	1	–	–	1	1	–
	heating pump	1	1	2	2	1	1	1
	DHW or auxiliary circuit pump	–	–	–	–	1	1	–
Heating control.	compensated	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	fixed point	–	–	Yes	Yes	Yes	Yes	Yes
Flow control	compensated						Yes	
	fixed point						Yes	
Cooling control	compensated	–	–	–	–	–	–	Yes
	fixed point	–	–	–	–	–	–	Yes
Boiler control	fixed point	–	–	–	–	Yes	Yes	–
	Compensation according to thermal demand (via C-Ring)	–	–	–	–	Yes	Yes	–
Sensors	flow temperature	1	1	2	2	1	1	1
	outside temperature	1	1	1	1	1	1	1
	room temperature	–	–	2	2	1	1	1
	boiler temperature	–	–	–	–	1	1	–
	anticondensing boiler temperature	–	–	1	1	–	–	1
	room humidity (summer time dew point control)	–	–	–	–	–	–	1
	DHW or auxiliary circuit temperature	–	–	–	–	1	1	–
Remote controls	setpoint adjuster	1	1	–	–	–	–	–
	modification of programme in use	–	–	1	2	1	1	1
	season switching (by external contact)	–	–	–	–	–	–	Yes
Programmes	24-hour	1	–	7	7	7	7	3 + 3
	7-day	–	1	2	2	2	2	1 + 1
Periods with dates	GMT-BST	–	–	Yes	Yes	Yes	Yes	Yes
Functions	K heating curve setting	Yes	Yes	–	–	–	–	–
	design outside and flow temperature setting	–	–	Yes	Yes	Yes	Yes	Yes
	correction heating curve origin (t ^e = 20 °C)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	max & min flow temperature limits	–	–	Yes	Yes	Yes	Yes	Yes
	ambient authority over compensated control	–	–	Yes	Yes	Yes	Yes	Yes
	Eco Off	–	–	Yes	Yes	Yes	Yes	Yes
	heating pump delay Off	–	–	Yes	Yes	Yes	Yes	Yes
	anticondensing boiler (heating Off)	–	–	Yes	Yes	Yes	Yes	Yes
	DHW priority	–	–	–	–	Yes	Yes	–
	antibacterial DHW	–	–	–	–	Yes	Yes	–
	boiler differential	–	–	–	–	Yes	Yes	–
	increase temp. boiler on heating and/or DHW demand.	–	–	–	–	Yes	Yes	–
	max & min boiler temperature limits	–	–	–	–	Yes	Yes	–
Data transmission	C-Ring for data exchange among controllers	–	–	Yes	Yes	Yes	Yes	Yes
	C-Bus for telemanagement from local and/or remote PC	–	–	Yes	Yes	Yes	Yes	Yes

: alternative

COMPENSATING CONTROLLER WITH AUXILIARY OUTPUT

RTE 643

C ←RING



APPLICATION

Designed for compensated control of one heating zone and for On-Off control of a DHW calorifier. C-Ring compatible.

Essential accessories: 1 outside sensor, 1 heating flow sensor.

Optional accessories: 1 room sensor, 1 sensor auxiliary plant, 1 anticondensing sensor, 1 remote control.

FEATURES

- Power supply: 230 V ~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four operating keys and alphanumeric display.
- Automatic changeover GMT - BST.
- Seven 24-hour programmes, two 7-day programmes.
- Compensated control of heating zone:
 - Modulating control of valve by three-wire reversible actuator or On-Off burner in two stages.
 - Control heating pump in relation to timed events and thermal demand.
 - Minimum and maximum limits flow temperature.
 - Manual correction of heating curve origin to compensate for seasonal weather changes.
 - Ambient authority.
 - Eco Off.
 - Control boiler anticondensing temperature (closure heating valve).
 - Remote control for modifying timed programme in use (as alternative to input flue gases temperature and On-Off alarm).
- On-Off control temperature of auxiliary zone (eg : production DHW) or timed On-Off control:
 - On-Off control with programme timed events independent of heating.
 - DHW priority function (closure heating valve so as to give precedence to DHW production).
 - Antibacteria function : once a week at 70 °C for 90 minutes (for production DHW in storage tank).

Code	Description	Data sheet
RTE 643	Compensating controller and DHW production controller	B 222

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
SAE 001	Outside temperature sensor.	- 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
CDB 300	Remote control to modify program in use.	-	-	N 710

ANALOGUE COMPENSATOR FOR CONTROL OF VALVE OR BURNER

RTE 982 - 983

APPLICATION

For compensated control of 1 central heating plant. Suitable for all climates and any type of heat emitters, including radiating panels, radiators, convectors and unit heaters. The device is designed to control mixing or switching valves driven by electric reversible actuators, or to control the boiler burner directly.

Essential sensors: 1 outside sensor, 1 plant flow sensor.

Optional accessories: 1 remote control.

FEATURES

- Power supply: 230 V ~; Consumption: 4 VA; Case: DIN 144 x 144; Protection: IP 40.
- Voltage-free output contacts: rating: 250 V ~, 5 (1) A.
- PI control action with valve position memorisation.
- Setting of heating curve by means of K factor calculated in relation to climatic zone.
- Correction of heating curve to compensate for seasonal weather changes.
- Possibility of adjusting value of room temperature by means of remote control.
- Time switch for selecting "Normal" and "Setback" room temperature.
- Auxiliary control (plant pump) in relation to programme times.



2

Code	Description	Data sheet
RTE 982	Analogue compensator with 24-hour time switch.	B 217
RTE 983	Analogue compensator with 7-day time switch.	B 217

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
SAE 001	Outside temperature sensor.	-40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
CDB 340	Temperature setpoint adjuster	-5 ... +5 °C	-	-

DIGITAL WEATHER COMPENSATOR WITH OPTIMUM START FUNCTION

C ←RING

RTE 955

APPLICATION

For compensated control of 1 variable temperature (VT) heating circuit. Suitable for all types of heat emitters, such as panel heaters, radiators or fan convectors. The device controls the mixed water temperature in the heating circuit via proportional or on/off control. There are timed outputs for a single stage boiler and heating pump (with a programmable delay off function)..

Essential accessories: 1 outside sensor, 1 heating flow sensor, 1 ambient space sensor and 1 boiler return temperature sensor.

Optional accessories: 1 remote control.

FEATURES

- Power supply: 230 V ~; Consumption: 5 VA; Case: DIN 144 x 144; Protection: IP 40.
- Voltage-free output contacts: rating: 250 V ~, 10 (2.5) A.
- Setting of heating curve by means designed outside and flow temperatures.
- Remote override for permanent frost protection or day temperature.
- Fully adjustable Normal and Setback room temperatures.
- 2 x auxiliary control outputs (heating pump and boiler) in relation to program times.

Code	Description	Data sheet
RTE 955	Digital optimising compensator with ECO OFF	B 226

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
SAE 001	Outside temperature sensor.	-40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
CDB 340	Temperature setpoint adjuster.	-5 ... +5 °C	-	-

**OPTIMISING COMPENSATOR
OPTIONAL TELEMAGEMENT**

XTE 600

TELEMAGEMENT C-Bus: Enabled with ACB 468 accessory.

OPTIONAL
C ←BUS

C ←RING



APPLICATION

Designed for compensated control of one centralized heating plant room and for On-Off control of a calorifier for DHW production, Exchange of data with other controllers by means of C-Ring serial connection.

Essential sensors: 1 outside sensor, 1 heating flow sensor.

Optional sensors: 1 room sensor, 1 DHW sensor, 1 flue gases sensor, one 4 ... 20 mA sensor, 1 remote control.

FEATURES

- Power supply: 230V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- Entering dates of heating season and automatic switching BST - GMT.
- Seven 24hour programs, two 7day programs, 25 holiday periods and one special period with dates.
- Compensated control of heating plant room:
 - Modulating control of valve with 3-wire reversible actuator or On-Off burner in two stages.
 - Control heating pump according to times and demand for heat.
 - Optimisation switching on and off times.
 - Minimum and maximum limits flow temperature.
 - Manual correction heating curve origin (compensation intermediate seasons).
 - Automatic correction of heating curve in relation to room temperature (ambient authority).
 - Eco Off function: shutdown of plant when weather mild.
 - Control boiler anticondensing temperature (closure heating valve).
 - Summer plant exercise valve and pump.
 - Remote control for changing timed program in use (as alternative to input flue gases temperature and On-Off alarm).
- Control DHW production:
 - On-Off control DHW loading pump with timed programs independent of heating.
 - “Priority DHW” function (closure heating valve).
 - “Antibacteria” function: once a week 70° for 90 minutes.
- Three On-Off alarm inputs.
- One 4 ... 20 mA measurement input.
- One configurable input: remote control or temperature flue gases Pt 1 kΩ and On-Off alarm.
- Alarms for plant faults and for open or short sensor circuit.
- Metering degree-days.

Code	Description	Data sheet
XTE 600	Optimising compensator.	B 241

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
ACB 468	Plug-in for communication via C-Bus.	–	–	T 433
SAE 001	Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
STF 001	Flue gases temperature sensor..	0 ... 500 °C	Pt 1 kΩ	N 165
CDB 300	Remote control to modify program in use.	–	–	N 710

DUAL OPTIMISING COMPENSATOR OPTIONAL TELEMAGEMENT

XTE 602

TELEMAGEMENT C-Bus: Enabled with ACB 468 accessory.

OPTIONAL
C ←BUS

C ←RING



APPLICATION

Designed for the compensating control of two central heating sites.
Exchange of data with other controllers by means of C-Ring serial connection.

Essential sensors: 1 outside sensor, 2 heating flow sensors.

Optional sensors: 1 or 2 room sensors, 1 remote control.

FEATURES

- Power supply: 230V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- Entering dates of heating season and automatic switching GMT – BST.
- Seven 24hour programs, two 7day programs, 25 holiday periods and one special period with dates.
- Two compensated controls of plant rooms:
 - Modulating control of valves with 3-wire reversible actuator.
 - Control heating pumps according to times and demand for heat.
 - Optimisation switching on and off times.
 - Minimum and maximum limits flow temperature.
 - Manual correction heating curve origin (compensation intermediate seasons).
 - Automatic correction of heating curve in relation to room temperature (ambient authority).
 - Eco Off function: shutdown of site when weather mild
 - Control anticondensing temperature boiler (closure heating valve).
 - Summer plant exercise valves and pumps.
 - One remote control for adjusting from a distance the timed program in use (one for control 1 or 2 or for both).
- Three On-Off alarm inputs.
- Alarms for plant faults and for open or short sensor circuit.
- Metering degree-days.

Code	Description	Data sheet
XTE 602	Dual optimising compensator.	B 242

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
ACB 468	Plug-in for communication via C-Bus.	–	–	T 433
SAE 001	Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
CDB 300	Remote control to modify program in use.	–	–	N 710

OPTIMISING COMPENSATOR FOR HEATING PLANT ROOM OPTIONAL TELEMANAGEMENT

XTE 611

TELEMANAGEMENT C-Bus: Enabled with ACB 468 accessory.

OPTIONAL
C ← BUS

C ← RING



APPLICATION

Designed for control of small and medium-size heating plant rooms comprising:

- 1 single- or two-stage boiler, or double furnace (two single-stage burners).
- 1 centralised heating plant room.
- 1 calorifier for DHW.

Communications with other controllers via C-Ring serial connection.

Essential sensors: 1 outside sensor, 1 heating flow sensor, 1 boiler sensor.

Optional accessories: 1 room sensor, 1 DHW sensor, 1 or 2 flue gas sensors, 1 remote control.

FEATURES

- Power supply: 230V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- Setting dates for heating season and automatic switching between GMT – BST.
- Seven 24hour programs, two 7day programs, 25 holiday periods and one special period with dates.
- Fixed point or variable control of boiler according to max. temperature requested by heating, etc zones:
 - On-Off control of one single- or two-stage burner or 2 single-stage burners.
 - Control boiler anticondensing (closure of heating valve).
 - Theoretical metering of operating hours of the two burner stages.
- Compensated control of centralised heating plant room:
 - Modulating control of valve by 3-wire reversible actuator.
 - Control of heating pump in relation to times and demand for heat.
 - Optimisation of start and stop times.
 - Minimum and maximum limits of flow temperature.
 - Manual correction heating curve point of origin (compensation for intermediate seasons).
 - Automatic adjustment of heating curve in relation to room temperature (ambient authority).
 - Eco Off function: switching off heating zones when weather mild.
 - Remote control for changing program in use (as alternative to temperature flue gases & On-Off alarm).
- Control production of DHW:
 - On-Off control of calorifier pump by timed programs independent of heating.
 - “DHW priority” (closure heating valve).
 - Antibacteria function: once a week at 70°C for 90 minutes.
- Summer exercise function for valves and pumps.
- Three inputs On-Off alarms.
- One configurable input: remote control or flue gases temperature Pt 1kΩ and On-Off alarm.
- One configurable input: measurement 4 ... 20mA or flue gases temperature Pt 1 kΩ and On-Off alarm.
- Alarms for plant malfunctioning and for open or short sensor circuit.
- Degree-days metering.

Code	Description	Data sheet
XTE 611	Optimising compensator with N.C. relay for control boiler.	B 252

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
ACB 468	Plug-in for communication via C-Bus.	–	–	T 433
SAE 001	Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
STF 001	Flue gases temperature sensor..	0 ... 500 °C	Pt 1 kΩ	N 165
CDB 300	Remote control to modify program in use.	–	–	N 710

COSTER “TEM-PO” TEMPERATURE & FLOW

OBTAIN THE MAXIMUM SEASONAL OUTPUT FROM CONDENSATION BOILERS BY MEANS OF A COMPENSATED CONTROL WHICH MINIMISES THE RETURN TEMPERATURE

“COSTER “TEM-PO” is a new family of optimising climatic controllers which, besides programming the temperature of the heat emitters (PANELS, RADIATORS, CONVECTORS & FAN COILS), also programs the flow in the compensated mode. This dual control aims to maximise the thermal head between flow and return of the heating site:

- without compromising a comfortable temperature,
- causing the heat emitters to provide the correct thermal power,
- reducing as much as possible the return-to-site temperature..

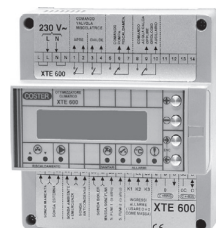
OPTIMISING COMPENSATOR OF TEMPERATURE & FLOW OPTIONAL TELEMAGEMENT

XTP 600

TELEMAGEMENT C-Bus: Enabled using ACB 468 accessory.

OPTIONAL
C ←BUS

C ←RING



APPLICATION

Designed for the compensated control of one central heating site and for the On-Off control of a water heater for the production of DHW.

Optimises the performance of condensation boilers.

Data exchange with other controllers by means of C-Ring serial connection.

Essential sensors: 1 external sensor, 1 heating flow sensor.

Optional accessories: 1 room sensor, 1 water heater sensor, 1 flue gases sensor, 1 remote control, 1 return site sensor.

FEATURES

- Power supply: 230 V~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 operating keys and alphanumeric display.
- Setting dates of heating season and automatic switching GMT – BST.
- Seven 24hour programs, two 7day programs, 25 holiday periods and one Special period with dates.
- Compensated control of heating site:
 - Modulating control valve with 3-wire reversible actuator.
 - Modulating control of variable-speed pump (compensated control of the flow)
 - On-Off control of heating pump in relation to times and thermal demand..
 - Optimisation of start and stop times.
 - Minimum and maximum limits of flow temperature.
 - Manual adjustment of origin of heating curve (compensation for intermediate seasons)..
 - Automatic adjustment of heating curve in relation to room temperature (Ambient Authority).
 - “Eco Off” function: closure of site when outside temperature mild.
 - Summer Site Exercise of valve and pump.
 - Remote control for adjusting timed program in use (as alternative to input flue gases temperature and On-Off alarm).
- Control water heater for production DHW:
 - On-Off control water heater pump by timed programs independent of heating.
 - “Priority water heater” function (closure heating valve).
 - Antibacteria function: once a week 70°C for 90 minutes.
- Three On-Off alarm inputs.
- 1 configurable input: remote control or flue gases temperature Pt 1 kΩ and On-Off alarm.
- Alarms for operation site and for short- or open- sensor circuits.
- Metering degree-days..

Code	Description	Data sheet
XTP 600	Compensating optimiser	B 243

SENSORS AND ACCESSORIES

Code	Description	Setting range	Sensing element	Data sheet
ACB 468	Plug-in for C-Bus communication.	–	–	T 433
SAE 001	Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
SAI 010	Room temperature sensor – irradiation.	0 ... 40 °C	NTC 10 kΩ	N 111
STF 001	Flue gases temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 165
CDB 300	Remote control for adjusting programs in use.	–	–	N 710

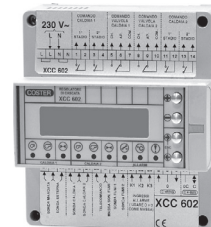
**COMPENSATING OPTIMISER FOR BURNERS
OF ANY TYPE INCLUDING SEQUENCING,
OF SEVERAL BOILERS**

XTC 638

TELEMANAGEMENT C-Bus: Enabled using ACB 460 accessory..

OPTIONAL
C ←BUS

C ←RING



APPLICATION

Designed for temperature control of a normal burner or a 3-point or 0...10 V modulating burner, with normal or condensation boilers.

Using one controller for each boiler (max. 7) you can obtain a sequence of several boilers and of the shut-off valves where these exist.

Control of the criteria of setting the boiler in sequence, in order to optimise the seasonal energy production:

– wide adaptability to all types of burner and boiler..

Data exchange with other boilers and other controllers by means of C-Ring.

**Essential sensors: 1 boiler sensor, 1 single external sensor for the boiler(s),
1 sensor for manifold if there are several boilers.**

Optional sensors: 1 heating flow sensor, 1 room or flue gases sensor, 1 DHW sensor.

FEATURES

- Power supply: 230 V-; Consumption: 5 VA; Modular housing DIN 105 x 115; Protection: IP 40.
- Digital programming by means of 4 operating keys and alphanumeric display.
- Control of site:
 - Single boiler + heating with pump or with or without mixing valve + DHW.
 - Boilers in sequence (max. 7) + heating with pump and with or without mixing valve + DHW.
 - Boilers in sequence (max. 7) + C-Ring connection with other COSTER controllers + DHW
 - Compensated: according to outside temperature with desired room temperature Normal, Setback.
 - Fixed Point with desired flow temperature.
 - Minimum and maximum limits boiler and flow temperatures.
- **WARNING!** The mixing valve and the storage tank control are not available on all the configurations of boiler sequence. Always refer to the Technical Data Sheet.
- Control of modulating 3-point burner (common – increase – decrease). 0...10 V or On-Off in 1 stage or On-Of in 2 stages.
- On-Off control of boiler shut-off valve.
- On-Off control of pump (boiler, manifold, heating site).
- Timed programming with four 24hour programs and one 7day program.
- Programming with dates with one Special period and heating season.
- Automatic change GMT/BST.
- Eco Off™ function: heating off with outside temperature above desired value.
- Three On-Off inputs and two On-Off outputs for services and various automations (e.g. burner lockout).
- Three On-Off inputs and two On-Off outputs for services and various automations (e.g. burner lockout).
- One input for measuring temperature flue gases (as alternative to room temperature).
- Functional alarms for site and alarms for short or open circuit sensors.

Code	Description	Data sheet
XTC 638	Temperature controller for a modulating boiler, for several boiler in sequence and other functions.	A 612

SENSORS AND ACCESSORIES

Sigla	Description	Application range	Sensing element	Data sheet
ACB 460	Plug-in for C-Bus communication.	–	–	T 433
SAE 001	Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
STF 001	Flue gases temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 165

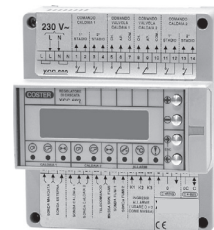
COMPENSATING OPTIMISER FOR 1, 2-STAGE MODULATING BURNERS WITH 0...10 V- INPUT

XCC 638

TELEMANAGEMENT C-Bus: Enabled by ACB 400 accessory.

OPTIONAL
C ←BUS

C ←RING



APPLICATION

Designed for the compensated control of winter heating in centralised sites, with power supply directly from the boiler (without mixing valve), whether condensation or not.

The burner with 1, 2 stages or modulating can be controlled by switches or by means of the 0...10 V input.

By equipping all the boilers on site with XCC 638, with a single boiler provided with XTC 638, you can set up a sophisticated sequence among the various 1, 2-stage or MODULATING BURNERS and thereby achieve the maximum SEASONAL OUTPUT.

The whole system has been especially designed also for CONDENSATION BOILERS.

Data exchange with other boilers and other controllers by means of C-Ring.

Essential sensors: 1 boiler sensor, 1 outside sensor.

Optional sensors: 1 anticondensing sensor, 1 room or flue gases sensor, 1 storage tank sensor.

FEATURES

- Power supply: 230 V~; Consumption: 5 VA; Modular enclosure DIN 105 x 115; Protection: IP 40.
- Digital programming by means of 4 operating keys and alphanumeric display.
- Control of boiler temperature at fixed point or variable in relation to outside temperature or to the demand of the various users (if the controllers are COSTER).
- Control of 1, 2-stage or modulating burner.
- Option of sequence under control of XTC 638.
- Compensated control of boiler temperature
 - all the optimum starts and stops of heating and of the site circulation pump
 - complete range of choices for room temperature,
 - 24hour and 7day clock (four 24hour programs, one 7day program)
- Control of temperature of DHW storage tank (one for each site)
 - own independent clock; 24hour, 7day (four 24hour programs, one 7day program).
 - priority and antibacterial functions
- Automatic switching GMT/BST.
- Periodic operation of summer plant exercise of valves and pumps.
- Metering of degree-days, of burner operating hours and or number of starts.
- Alarms for short and open sensor circuits and for abnormal operation of site and devices.
- C-Ring connection for local transmission of data to other COSTER controllers.
- Optional C-Bus connection for transmitting data to local PCs or remote Telemanagement PC..

XCC 638 is already provided with 0...10 V output adaptable to any generator provided with this input.

Code	Description	Data sheet
XCC 638	Optimising compensator for modulating burners.	A 620

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
ACB 400	Plug-in for C-Bus communication	–	–	T 433
SAE 001	Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
STF 001	Flue gases temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 165

COMPENSATING CONTROLLER WITH SEASON SWITCHING OPTIONAL TELEMAGEMENT

XCS 633

Telemagement C-Bus: Enabled with ACB 468 accessory.

OPTIONAL
C ←BUS

C ←RING



APPLICATION

For compensated or fixed point winter & summer control of flow temperature in a fan-coil or underfloor panels i
Exchange data with other Coster controllers by means of C-Ring serial connection.

Essential sensors: 1 outside sensor, 1 flow sensor.

Optional accessories: 1 room temperature or temperature & humidity sensor, 1 remote control.

FEATURES

- Power supply: 230V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four keys and alphanumeric display.
- Seven 24hour programs, two 7day programs, 25 holiday periods & one special period with dates.
- Manual or automatic season switching with dates or by external switch (as alternative to two digital alarm inputs).
- Automatic switching BST - GMT.
- Compensated or fixed point control summer and winter flow temperature:
 - Modulating control of valve by 3-wire reversible actuator or On-Off control in two stages.
 - Control of heating pump in relation to times and demand for heat.
 - Minimum & maximum limits for flow temperature.
 - Manual correction of heating curve point of origin (compensation intermediate seasons).
 - Automatic correction of heating curve in relation to room temperature (Ambient Authority).
 - Control of ambient dew-point for summer cooling plants with underfloor panels.
 - Control boiler anticondensing temperature (closure heating valve).
 - Remote control for adjusting program in use.
- Relay output for centralized season switching.
- Two On-Off alarm inputs (as alternative to external switch for season switching).
- Alarms for plant faults and for open or short sensor circuit.

Code	Description	Data sheet
XCS 633	Compensating controller with season switching.	B 232

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
ACB 468	Plug-in for communication via C-Bus..	–	–	T 433
SAE 001	Outside temperature sensor..	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010	Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SAB 010	Room temperature sensor..	0 ... 40 °C	NTC 10 kΩ	N 111
SAU 914	Relative humidity & temperature sensor.	10 ... 90 % 0 ... 40 °C	0 ... 10 V– NTC 10 kΩ	N 227
CDB 333	Remote control for adjusting program in use.	–	–	N 710

SYSTEM FOR MULTIPLE OPTIMISING COMPENSATORS "MULTICOSTER"

The system comprises one "Master" controller and one or more "Slave" controllers connected together via the C-Ring serial connection.

As "Master" any controller with C-Ring which can be configured as "Primary" can be used (e.g. XCC 602, DTC 648, XTE 611, XTE 600, XTE 602, XCS 633, XTR 628).

The slave controllers (XSE 600 and XSE 602) are automatically configured only as "Secondary" and can operate only if connected to a Master controller.

Each controller carries out independently its own functions and can be connected, via the C-Bus parallel connection, to a Telemangement system.

OPTIMISING COMPENSATOR "SLAVE" OPTIONAL TELEMAGEMENT

XSE 600

TELEMAGEMENT C-Bus: Enabled with ACB 400 accessory.

APPLICATION

Operates only if connected via C-Ring to a "PRIMARY" controller.

Suitable for compensated control of one centralised heating plant room and for the On-Off control of a DHW calorifier.

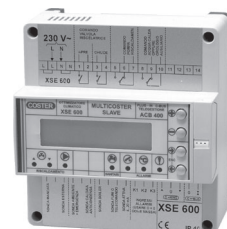
Essential sensors: 1 outside sensor, 1 flow sensor.

Optional accessories: 1 room sensor, 1 measurement 4 ... 20 mA sensor, 1 remote control.

TECHNICAL & FUNCTIONAL FEATURES SAME AS THOSE OF XTE 600.

OPTIONAL
C ← BUS

C ← RING



2

Code		Description	Data sheet
XSE 600		Optimising compensator.	A 620

DUAL OPTIMISING COMPENSATOR "SLAVE" OPTIONAL TELEMAGEMENT

XSE 602

TELEMAGEMENT C-Bus: Enabled with ACB 400 accessory.

APPLICATION

Operates only if connected via C-Ring to a "PRIMARY" controller.

Suitable for compensated control of two central heating zones.

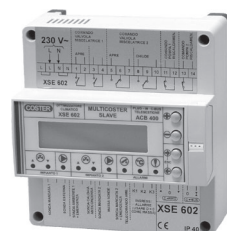
Essential sensors: 1 outside sensor, 2 flow sensors.

Optional accessories: 1 or 2 room sensors, 1 remote control.

TECHNICAL & FUNCTIONAL FEATURES SAME AS THOSE OF XTE 602.

OPTIONAL
C ← BUS

C ← RING



Code		Description	Data sheet
XSE 602		Dual optimising compensator.	A 620

SENSORS AND ACCESSORIES FOR XSE 600 AND XSE 602

Code		Description	Application range	Sensing element	Data sheet
ACB 400		Plug-in for C-Bus communication	–	–	T 433
SAE 001		Outside temperature sensor.	– 40 ... 40 °C	NTC 1 kΩ	N 120
SIH 010		Immersion temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SCH 010		Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SAB 010		Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
STF 001		Flue gases temperature sensor only for XSE 600)	0 ... 500 °C	Pt 1 kΩ	N 165
CDB 300		Remote control to modify program in use.	–	–	N 710

FEATURES		MODELS		
		DTT 318	XTT 618	XTT 608
Controls	3-wire modulating control of primary heating valve	1	1	1
	On-Off heating pump	1	1	1
	3-wire modulating control or on-off primary DHW valve	–	–	1
	3-wire modulating control DHW distribution valve	1	–	1
	storage tank pump on-off control	1	–	1
	timed on-off DHW circulation pump	–	–	1
Heating control	compensated	–	Yes	Yes
	fixed point	Yes	Yes	Yes
	systems (C-Ring)	–	Yes	Yes
DHW control	fixed point		–	Yes
Sensors	primary flow temperature (reading only)	–	1	–
	primary return temperature	1	1	1
	outside temperature	–	1	1
	heating flow temperature	1	1	1
	heating return temperature	–	1	1
	room temperature	–	–	1
	DHW storage temperature	–	–	1
	DHW distribution temperature	–	–	1
Remote control	modification of heating programme in use	–	1	1
	outside contact for program switching	1	–	1
Programs	24-hour	–	–	7
	7-day	–	–	2
	emergency	–	–	1
Periods with dates	holidays (from-to)	–	–	25
	special	–	–	1
	heating season	–	–	Yes
	GMT / BST	–	–	Yes
Functions	set default outside and flow temperature	–	Yes	Yes
	correct heating curve origin ($t^{\circ}e = 20^{\circ}C$)	–	Yes	Yes
	max. & min. flow temperature limits	–	Yes	Yes
	ambient authority over compensated controls	–	–	Yes
	optimization (system on and off)	–	–	Yes
	Eco Off based on outside temperature	–	–	Yes
	frost protection	–	–	Yes
	heating pump off delay	–	Yes	Yes
	DHW priority	–	–	Yes
	hot water antibacterial action	–	–	Yes
	summer plant exercise	–	–	Yes
TRL functions	max. primary return temperature	Yes	Yes	Yes
	max. difference between primary and secondary return temp. (peak reduction)	–	Yes	Yes
	max. primary rate or power	–	Yes	Yes
	max. valve opening	–	Yes	Yes
Alarms	On-Off contacts	–	3	2
	functional	–	5	7
	short and open sensor circuits	–	7	7
Transmission data	C-Bus for remote management from local and/or remote PC	Yes	Yes	Yes
	C-Ring for data exchange between controllers	–	Yes	Yes

: alternative

FIXED POINT CONTROLLER FOR DISTRICT HEATING

DTT 318

C ←BUS



APPLICATION

Designed for fixed point control of secondary temperature in district heating sub-stations comprising one heat exchanger with mixing valve on primary. Communication with telemanagement systems via C-Bus parallel connection.

Essential sensors: 1 sensor secondary flow.

Optional accessories: 1 sensor primary return.

FEATURES

- Power supply: 230 V~; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four operating keys and 3-figure display.
- Control secondary flow temperature at fixed point.
 - Modulating control (3-wire) or On-Off in two stages or On-Off proportional in one stage.
 - Valve opening limitation for maximum limit return temperature primary return circuit.
- Season switching by external switch.

Code	Description	Data sheet
DTT 318	Fixed point controller for district heating sub-stations.	B 282

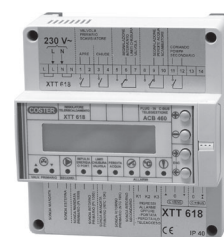
CONTROLLER FOR DISTRICT HEATING SUB-STATIONS WITH A SINGLE HEAT EXCHANGER OPTIONAL TELEMANAGEMENT

XTT 618

TELEMANAGEMENT C-Bus: Enabled with ACB 400 accessory.

OPTIONAL C ←BUS

C ←RING



APPLICATION

Suitable for the control of district heating sub-stations comprising one heat exchanger with valve and secondary circuit pump. Data communication with other controllers via C-Ring connection.

Essential sensors: 1 secondary flow sensor.

Optional accessories: 1 outside sensor, 1 primary flow sensor, 1 primary return sensor, 1 secondary return sensor.

FEATURES

- Power supply: 230V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- Control of secondary flow temperature:
 - At fixed point.
 - Compensated with correction of origin of heating curve.
 - Variable in relation to desired temp. pf heating zones (C Ring).
 - Modulating control (3-wire) of control valve of primary circuit heat exchanger.
 - Forced valve closure for:
 - Minimum opening limit.
 - Minimum flow or heat limit in primary circuit (from heat meter).
 - Limited valve opening for:
 - Maximum opening limit.
 - Maximum flow or heat limit in the primary circuit (from heat meter).
 - Maximum limit temperature return primary circuit.
 - Minimum and maximum limit of secondary flow temperature.
 - On-Off control of secondary pump in relation to demand for heat.
- Input for metering flow or energy for limits or On-Off alarm.
- Input for measuring water loss or On-Off alarm.
- Input for TeleOn or On-Off alarm.
- Alarms for plant faults and for open or short sensor circuit.
- Data recorder.

Code	Description	Data sheet
XTT 618	Controller for district heating sub-stations.	B 283
XTT 618/S1	Controller for high temperature in district heating sub-stations.	B 283

SENSORS AND ACCESSORIES FOR DTT 318 E XTT 618

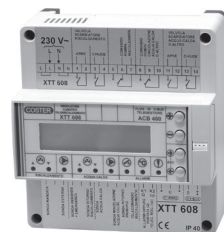
Code	Description	Application range	Sensing element	Data sheet
ACB 400	Plug-in for communicating via C-Bus.	–	–	T 433
SAE 001	Outside temperature sensor (only for XTT 618).	–40 ... 40 °C	NTC1 kΩ	N 120
SIH 010	Immersion temperature sensor (secondary flow, primary return).	0 ... 99 °C	NTC 10 kΩ	N 140
SAF 010	or cable-type (only for DTT 318).	0 ... 99 °C	NTC 10 kΩ	N 145
STH 001	Immersion temperature sensor(primary flow, primary return) (only for XTT 618).	0 ... 300 °C	Pt 1 kΩ	N 140
SHF 001	Cable-type temperature sensor (primary flow & return) (only for XTT 618).	0 ... 180 °C	Pt 1 kΩ	N 145
CDB 100	Set-point adjuster (only for DTT 318).	–20...+20°C	–	N 710

COMPENSATING CONTROLLER FOR DISTRICT HEATING SUB-STATIONS WITH TWO HEAT EXCHANGERS OPTIONAL TELEMAGEMENT

XTT 608

TELEMAGEMENT C-Bus: Enabled with ACB 460 accessory.

OPTIONAL
C ← BUS C ← RING



APPLICATION

Designed for the control of district heating substations comprising one heat exchanger Heating (modulating control) and one DHW heat exchanger (On-Off or modulating).
 Data communication with other controllers via serial C-Ring connection.

Essential sensors: 1 heating flow sensor, 1 DHW storage tank sensor.

Optional accessories: 1 outside sensor, 1 room sensor, 1 primary return sensor, 1 heating return sensor, 1 DHW distribution sensor.

FEATURES

- Power supply: 230V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- Control of heating flow temperature:
 - At fixed point with desired flow temperatures Fixed Point 1-2.
 - Compensated with desired room temp. Normal 1...5, Setback 1-2, Frosprot.
 - Variable in relation to temperature requested by heating zones (C-Ring).
- Modulating control (3-wire) of control valve of primary circuit exchanger Heating.
- Forced closure of valve for:
 - minimum opening limit.
 - minimum limit primary circuit flow.
- Valve opening limits for:
 - maximum opening limit.
 - maximum limit primary circuit return temperature.
 - maximum limit primary circuit flow.
 - maximum limit temperature difference between primary and secondary returns.
- On-Off control heating pump in relation to demand for heat.
- Timed programming with seven 24hour programs and two 7day programs.
- Functions: - optimized start and stop; Eco off; Frosprot.
- Control of temperature DHW at fixed point (storage or distribution or storage & distribution):
 - Three-wire modulating control or On-Off valve primary circuit heat exchanger DHW.
 - Timed control DHW circulation pump.
 - Timed programming with seven 24hour programs and two 7day programs.
 - Antibacteria function.
- 25 annual periods with dates and separate programming for heating and DHW.
- Summer exercise function for valves and pumps.
- Automatic switching GMT – BST and summer/winter switching.
- Metering degree-days.
- Input for measurement flow or input for On-Off alarm
- Input for program changing switch or input for On-Off alarm.
- Alarms for plant faults and for open or short sensor circuit.
- Data recorder.

Code	Description	Data Sheet
XTT 608	Optimising compensator for district heating..	B 284

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
ACB 460	Plug-in for C-Bus communication.	-	-	T 433
SAE 001	Outside temperature sensor.	-40 ... 40 °C	NTC 1 k	N 120
SIH 010	Immersion temperature sensor (heating flow & return, DHW storage & distribution).	0 ... 99 °C	NTC 10 kΩ	N 140
SHF 001	Immersion temperature sensor (primary return).	0 ... 180 °C	Pt 1 kΩ	N 145
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
CDB 300	Remote control for changing program in use.	-	-	N 710

CONTROL SYSTEM FOR ROOM TEMPERATURE "MULTIZONE"

SYSTEM OF CONTROLLERS FOR AIR TREATMENT AND OTHER SERVICES FOR INDEPENDENT ZONES..

- Control of room temperature for heating and/or conditioning of several zones
Each zone is controlled for temperature by a local unit which communicates with a central unit for further functions
- Option of controlling many types of local thermal units.
- Three service inputs for each local unit
Each local unit is provided with three service inputs (electronic or mechanical switches) which can be dedicated to any function, such as :
 - Alarm or call for help
 - Occupation or not of the room to control special conditioning programs (e.g.: presence or not of persons)
 - Special requirements for the zone with special programs (e.g. windows open)
 - Centralised electric control by a zone switch (e.g. lights in a common corridor)
 - General alarm (e.g. flooding of zone, gas escape)
- Personalised functions for each local unit
Each local unit can be personalised independently to adapt it to the user requirements (e.g. choice of programs)
- MASTER centralised unit
The centralised unit can control up to 239 remote units:
 - choice of functions to assign to each remote unit
 - control of common site devices
 - control of common site devices
 - contact with and supervision of all the 239 units
 - powering of up to 20 units; over this number an external power supply is used
 - dialogue with PC and/or modem

2

CENTRAL (MASTER) CONTROL UNIT WITH REMOTE CONTROL VIA SMS

MRL 608

TELEMANAGEMENT C-Bus: Activated using ACB 400 accessory.

P ← LOC

OPTIONAL
C ← BUS



APPLICATION

- MRL 608 is the central unit of the MULTIZONE system.
- Controls up to 239 local units type RTL 110/510, RTL 111/511 and RTL 120/520
- On its own powers up to 20 local units (RTL 120/520 use a dedicated power supply)
- For over 20 units power supply ALC 318 is required for every further 50 units
- Controls all the functions to harmonise the zone units:
 - communication with Bus P-Loc up to a maximum of 239 zones
 - transmission exact time to local clock so as to put all the zones in step
 - transmission of outside temperature to be used and read by zones
 - remote control of all the functions of the zones
 - reception and centralising of all the alarms of the zones
 - remote configuration of all the zones
 - capacity of dialogue at levels single zone, groups of zones or all the zones.
 - centralised control of common electric and/or thermal organs of the site
 - communicates to the individual zone whether it must provide heating or conditioning
 - dialogue with modem or PC via C-Bus using accessory Plug-in C-Bus ACB 400
 - dialogue with local PC via Test Plug-in ACX 232
- Manages communication via "SMS" with the zones for :
 - Sending to an enabled cellular phone the zone status (alarm or other) up to a maximum of 48 zones
 - Remote control via SMS of the operating programs for the zone (timed or other programs) up to a maximum of 239 zones
 - Remote control via SMS of the operating programs for groups of zones (timed or other programs) up to a maximum of 9 groups
- Power supply 230 V~; mounting on DIN 6 unit rail

Code		Description	Data sheet
MRL 608		System Master.	B 551

ACCESSORY FOR TELEMANAGEMENT

Code		Description	Data sheet
ACB 400		Plug-in for C-Bus communication.	–

AUXILIARY POWER SUPPLY FOR MULTIZONE SYSTEM

ALC 318

APPLICATION

When there are more than 20 zones it is necessary to use an external power supply, since the Master MRL 608 can power only up to a maximum of 20.

This auxiliary power supply can power:

- 50 zones with local units RTL 110, RTL 510, RTL 111, RTL 511, RTL 120, RTL 520..



Code	Description	Data sheet
ALC 318	Auxiliary power supply for 50 zones	B 554

AUXILIARY POWER SUPPLY FOR MULTIZONE SYSTEM WITH AMPLIFICATION & GALVANIC INSULATION FROM P-LOC BUS

ALP 418

P ←LOC

APPLICATION

When there are more than 20 zones it is necessary to use an external power supply since the Master MRL 608 can power only up to a maximum of 20.

The ALP 418 power supply can supply power to :

- 50 zones with local units RTL 110, RTL 510, RTL 111, RTL 511, RTL 120, RTL 520.

ALP 418 is also able to amplify and insulate galvanically the communication Bus P-Loc between Master MRL 608 and the local units.

The galvanic insulation is a security measure when the sites are very large, with long communication lines and so exposed to errors or short-circuits.



Code	Description	Data sheet
ALP 418	Auxiliary power supply for 50 zones. With amplification and galvanic insulation of Bus P-Loc	B 555

LOCAL UNIT (SLAVE) WITH RELAY OUTPUT

RTL 110 - 510

P ←LOC



APPLICATION

- RTL x10 is the unit (SLAVE) for the control of heating and other functions in a single zone. This unit can be housed in a standard built-in 503 enclosure or mounted on the wall. It is compatible with the switchboards and plates commonly on sale.
- receives power from the Master or from an auxiliary power supply
- controls the local thermal unit by the control of:
 - On-Off zone valve with 230 V~ motor
 - On-Off zone valve with 24 V~ (or other voltages) motor
 - zone valve with 24 V~ (or other voltages) thermal motor
 - zone circulation pump
 - zone burner or small boiler
 - On-Off control of a fan-coil fan (manual choice of speed)
 - any other device controllable by three-point relay.
- Room sensor (internal or external)
- complete configuration of the limits and method of use permitted to user
- three On-Off inputs to program as required
- large display with simplified readout for less expert users
- three operational push-button switches with “intuitive” use, again for the less expert users
- ability to function in event of breakdown of centralised conversation

Code	Description	Data sheet
RTL 110	Local unit with relay output – flush mounting	B 552
RTL 510	Local unit with relay output – wall-mounting (standard white colour)	B 552

SPECIAL VERSION

Sigla	Description	Data sheet
RTL 510/AG	Local unit with relay output, wall-mounting; enclosure silver finish	–
RTL 510/AL	Local unit with relay output, wall-mounting; enclosure aluminium finish	–
RTL 510/B	Local unit with relay output, wall-mounting; enclosure black finish	–
RTL 510/GY	Local unit with relay output, wall-mounting; enclosure grey finish	–

ACCESSORIES

Code	Description	Data sheet
ASA 2418	Cable for powering RTL110 & RTL 510 directly with 24 V~	B 552

FOR SPECIAL VERSIONS MINIMUM BATCH 10 PIECES

FOR AVAILABILITY & DELIVERY TIMES ASK COMMERCIAL NETWORK

TO VIEW THE VARIOUS COLOURS VISIT OUR INTERNET SITE www.coster.eu

LOCAL UNIT (SLAVE) FOR CONTROL EXPANDER

RTL 111 - RTL 511

P ←LOC



APPLICATION

- RTL 111 has all the features of RTL X10 except that instead of having a relay output it has the capacity to control an expander unit (DEP 658) which permits the control of more complex thermal units:
 - zone fan-coil with On-Off valve and three-speed fan
 - zone fan-coil with modulating valve and three-speed fan
 - simple local unit for air treatment with a battery and fan
- All the functions are similar to those of RTL X10 but with the addition of :
 - local control of maximum or desired speed of fan

Code	Description	Data sheet
RTL 111	Local unit for control of built-in expander	B 553
RTL 511	Local unit for control of wall-mounted expander.	B 553

SPECIAL VERSION

Code	Description	Data sheet
RTL 511/AG	Local unit for control of wall-mounted expander; enclosure silver fi nish	–
RTL 511/AL	Local unit for control of wall-mounted expander; enclosure aluminium fi nish	–
RTL 511/B	Local unit for control of wall-mounted expander; enclosure black fi nish	–
RTL 511/GY	Local unit for control of wall-mounted expander; enclosure grey fi nish	–

FOR SPECIAL VERSIONS MINIMUM BATCH 10 PIECES

FOR AVAILABILITY & DELIVERY TIMES ASK COMMERCIAL NETWORK

TO VIEW THE VARIOUS COLOURS VISIT OUR INTERNET SITE www.coster.eu

OUTPUTS EXPANDER FOR RTL 111 - RTL 511

DEP 658

APPLICATION

- The main functions are:
 - dialogue with local unit via a dedicated Bus
 - can power its local unit
 - has On-Off or modulating output for control of valve or other
 - control fan at up to three speeds
 - provided with test for local connections



Code	Description	Scheda tecnica
DEP 658	Outputs expander for RTL 111-511.	B 553

LOCAL UNIT (SLAVE) WITH RELAY OUTPUT AND 1 ...10 V- OUTPUT

RTL 120 - RTL 520

P ←LOC



APPLICATION

- RTL 120 is the unit (SLAVE) for heating control and other functions of the single zone. This unit can be housed in a standard 503 built-in enclosure.
- It is compatible with switchboard frames and plates readily available on the market
 - receives power from the auxiliary power supply ALC 318 or ALP 418
 - controls the local thermal unit by the control of: :
 - On-Off zone valve with 230 V~ motor and modulation unit with 0 ...10V- input
 - On-Off zone valve with 24 V~ motor, or other voltages and modulation unit with 0 ...10V- input
 - zone valve with 24 V~ thermal motor, or other voltages and modulation unit with 0 ...10V- input
 - zone circulation pump with fixed or variable number of revolutions
 - burner or small zone boiler with 0... 10 V- input as POWER or TEMPERATURE
 - On-Off control of the valve and of the fan of a fan-coil with 0...10 V- input
- Any other device controllable with three-contacts relay and with 0 ...10V- input
 - internal room sensor or external sensor
 - complete configuration of the limits and of mode of use permitted to user
 - three On-Off inputs to be programmed as required
 - large display with simplified readout for less expert users
 - three push-button switches with “intuitive” use, again for less-expert users
- Ability to function in event of breakdown of centralised communication

Code	Description	Data sheet
RTL 120	Built-in local unit with 0...10 V- relay output	B 556
RTL 520	Wall-mounted local unit with 0...10 V- relay output	B 556

SPECIAL VERSION

Code	Description	Data sheet
RTL 520/AG	Wall-mounted local unit with 0...10 V- relay output; enclosure silver finish	–
RTL 520/AL	Wall-mounted local unit with 0...10 V- relay output; enclosure aluminium finish	–
RTL 520/B	Wall-mounted local unit with 0...10 V- relay output; enclosure black finish	–
RTL 520/GY	Wall-mounted local unit with 0...10 V- relay output; enclosure grey finish	–

ACCESSORY

Code	Description	Data sheet
ASA 2418	Cable for powering RTL120 & RTL 520 directly with 24 V~	B 556

**FOR SPECIAL VERSIONS MINIMUM BATCH 10 PIECES
FOR AVAILABILITY & DELIVERY TIMES ASK COMMERCIAL NETWORK
TO VIEW THE VARIOUS COLOURS VISIT OUR INTERNET SITE www.coster.eu**

UNIT FOR CONTROLLING PUMPS, BURNERS, CHILLERS, ETC FOR MULTIZONE SYSTEMS

UPM 678

TELEMANAGEMENT C-Bus: Enabled using ACB 400 accessory.

**OPTIONAL
C ←BUS**

P ←LOC



APPLICATION

- Central unit for control of pumps, burners, chillers or other devices according to thermal and/or refrigerating load of the various zones.
- Several units can be connected on the same P-Loc line in order to serve any number of end uses
- 7 relay outputs controlled according to the thermal or refrigeration load of the zones
- Seven 0...10V analogue outputs according to thermal or refrigeration load of the zones
- Can serve up to 239 zones
- Communication with the zones and the Master MRL 608: Bus P-Loc (local Bus between Master and zones)
- Communication with modem or local PC:
 - dialogue with modem or PC via C-Bus using accessory Plug-in C-Bus ACB 400.
 - dialogue with local PC via Plug-in Test ACX 232
- Power supply 230 V~; installation on DIN 6 rail

Code	Description	Data sheet
UPM 678	Central unit for controlling pumps or other devices for MULTIZONE system .	B 557

ACCESSORY FOR TELEMANAGEMENT

Code	Description	Data sheet
ACB 400	Plug-in for C-Bus communication	–

MULTIPLE HEATING ZONE ROOM TEMPERATURE CONTROL SYSTEM

"COSTERZONE"

This system, powered by 24 V~, permits connecting up to 239 remote ambient temperature controllers to a central display unit and/or to a computer, by means of the CosterBus interface. The system comprises:

- 1 or more 230/24 V ~ transformers to power the system.
- 1 room temperature controller for each zone.
- 1 central display unit

CENTRAL DISPLAY UNIT FOR "COSTERZONE" CONTROL SYSTEMS

UMT 704

C ←BUS



APPLICATION

"Costerzone" control supervisor for:

- Displaying temperature values measured by room sensors.
- Modifying settings and operating programmes for each single controller.
- Controlling the remote RTB ... units by DTMF signals from digital telephones.

FEATURES

- Power supply: 24 V~; Consumption: 10 VA; Case: DIN 144 x 144; Protection: IP 40.
- 1 CosterBus output for connection to remote controllers (max 239).
- 1 RS232 output for connection with a computer or modem.
- 1 C-Bus output for connection with a central bus or modem.
- 1 Relay output for external alarm and 2 relay outputs for On-Off controls in relation to thermal demands.

Code		Description	Data sheet
UMT 704		Central display unit for "Costerzone" control system.	B 510

ACCESSORIES

Code		Description	RS232 inputs	C-Bus inputs	Data sheet
MPF 612		Panel-mounting modem with DTMF.	1	1	T 325

PUMP CONTROL UNIT

UCP 664

APPLICATION

Central control unit for heating and/or cooling circuit pumps (max 6), in relation to thermal demand of the zones concerned.

Several units may be connected to the same C-Bus interface.



FEATURES

- Power supply: 24 V~; Consumption: 10 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- 1 CosterBus output for connection to remote controllers.
- 6 relay outputs for control pumps.

Code		Description	Data sheet
UCP 664		Pump control unit.	B 515

ROOM TEMPERATURE CONTROLLERS

RTB ...

APPLICATION

Room temperature controllers for heating/cooling coils or for zone heating, supplied with an NTC 10 kΩ internal sensing element. Designed for On-Off control of fans and zone valves or for modulating control of reversible control valves with 3-wire electric control.

Individual or centralised season switching.

C-Bus compatible.

RTB 040 can be used as a time switch for 24-hour or 7-day programming.

RTB 540 is provided with a display for modifying programme in use and desired temperature.

Optional sensors: 1 room temperature sensor for fan coils or air duct.

FEATURES

- Power supply: 24 V ~; Consumption: 4 VA; Protection: IP 30.
- Setting range: - From central unit: 0 ... 40 °C; - From local setpoint adjuster: ± 5 (± 15) °C.
- On-Off output: Voltage-free contacts: rating 250 V ~, 5 (3) A.
P control action; Proportional Band: ± 1 °C (adjustable from central unit).
- Modulating outputs: Triac type 24 V ~, rating 300 mA (7W).
PI control action; Proportional Band: ± 1 °C (adjustable from central unit).
Control of actuators with run time: 100 seconds (adjustable from central unit).

RTB ...



RTB 540



RTB 645



Code	Control outputs	Setpoint adjuster	Data sheet
RTB 040	1 On-Off hot or cold (fan or 2-3 wire valve).	–	B 520
RTB 140	1 On-Off hot or cold (fan or 2-3 wire valve).	± 15 °C	B 520
RTB 540	1 On-Off hot or cold (fan or 2-3 wire valve).	± 15 °C	B 522
RTB 044	4 On-Off hot or cold (3 fan speeds plus 2-3 wire valve).	–	B 521
RTB 044S1	As RTB 044 with room occupied service (without sensor control).	± 15 °C	B 521
RTB 144	4 On-Off hot or cold (3 fan speeds plus 2-3 wire valve).	± 15 °C	B 521
RTB 144S1	As RTB 144 with room occupied service (without sensor control).	± 15 °C	B 521
RTB 041	1 modulating hot or cold (3-wire valve) + 1 On-Off (fan).	–	B 520
RTB 141	1 modulating hot or cold (3-wire valve) + 1 On-Off (fan).	± 15 °C	B 520
RTB 042	2 modulating hot and cold (2 3-wire valve).	–	B 520
RTB 142	2 modulating hot and cold (2 3-wire valve).	± 15 °C	B 520
RTB 045	4 simultaneous On-Off hot or cold (4 2-wire valves).	–	B 520
RTB 145	4 simultaneous On-Off hot or cold (4 2-wire valves).	± 15 °C	B 520
RTB 645	3 On-Off hot or cold (3 fan speeds). + 2 modulating hot and cold (2 3-wire valve).	± 15 °C	B 523

SUMMER TEMPERATURE COMPENSATOR FOR RTB 645 CONTROLLERS

CTB 334

APPLICATION

Maintains a constant difference between room and outside temperatures in the summer period.

FEATURES

- Power supply: 24 V ~; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Can compensate up to maximum 30 RTB 645 controllers connected in parallel.



Code	Description	Data sheet
CTB 334	Summer temperature compensator for RTB 645 controllers.	B 524

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
SAB 210	Room temperature sensor with +1 hour key.	0 ... 40 °C	NTC 10 kΩ	N 111
SAA 010	Industrial type temperature sensor (used as outside temperature sensor. Only for CTB 334)	0 ... 100 °C	NTC 10 kΩ	N 115
SCB 110	Room temperature sensor with setpoint adjuster.	0 ... 40 °C –5 ... +5 °C	NTC 10 kΩ –	N 111
SCB 210	Room temperature sensor with +1 hour key and setpoint adjuster.	0 ... 40 °C –5 ... +5 °C	NTC 10 kΩ –	N 111
STT 010	Temperature sensor for fan coils.	0 ... 40 °C	NTC 10 kΩ	N 155
STA 010	Air duct temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 150
AIC 240	Inverts status of window switch.	–	–	D 615



DIGITAL OPTIMISING ROOM CHRONOTHERMOSTATS

CMD 911

APPLICATION

Electronic room temperature controller for On-Off proportional control of: burners, gas boilers, zone valves, pumps, etc. Internal temperature sensing element.



FEATURES

- Power supply: three 1.5 V – alkaline batteries; battery life one year; Protection: IP 30; Dimensions 90 x 175 x 32 mm.
- Voltage-free contacts: rating 250 V~, 5 (1) A.
- Setting range: 0 ... 40°C; P control action; Proportional Band: ±0.5 °C; Half-load cycle: 20 min.

Code	Description	Programmes	Data sheet
CMD 911	7-day digital room chronothermostat.	Four 24-hour & one 7-day	B 320

Description	Code	Communication	Page
COMPACT DHW MIXERS			
ELECTRONIC MIXERS FOR DHW COMPACT UNIT FOR FIXED-POINT TEMPERATURE CONTROL IN DHW DISTRIBUTION CIRCUITS.	MAS ...		3.2
ELECTRONIC MIXERS FOR DHW WITH ANTILEGIONNAIRE FUNCTION COMPACT UNITS FOR CONTROL OF TEMPERATURE AT FIXED POINT IN DHW DISTRIBUTION CIRCUITS. THE ANTILEGIONNAIRE FUNCTION COMES INTO OPERATION ONCE A WEEK (ADJUSTABLE DAY & TIME).	MAS .../AL		3.2

C ←BUS = communication via telemanagement
 PREDISPOSTO **C ←BUS** = optional telemanagement
 C ←RING = data exchange between controllers

ELECTRONIC MIXING VALVES FOR DHW

MAS 6.. - 7..

APPLICATION

Compact units for maintaining a constant temperature in DHW distribution circuits. Consist of: a three-port ball valve, a reversible electric actuator with an electronic controller and a temperature detector with an NTC 10 kΩ sensing element incorporated in the valve.



FEATURES

- Power supply: 230 V~; Protection: IP 55; Consumption: MAS 6.. = 6 VA; MAS 7.. = 9 VA.
- Working pressure and maximum differential: 6 bar.
- Proportional band: ± 5 ... ± 20 °C.

Code	DN		Flow rate l/min. ⁽¹⁾	Kvs ⁽²⁾ m ³ /h	Setting range	Data sheet
	inches	mm.				
MAS 615	1/2"	15	40	2.5	30 ... 70 °C	C 511
MAS 620	3/4"	20	70	5	30 ... 70 °C	C 511
MAS 625	1"	25	130	9	30 ... 70 °C	C 511
MAS 632	1 1/4"	32	180	13.5	30 ... 70 °C	C 511
MAS 740	1 1/2"	40	270	19.2	30 ... 70 °C	C 511
MAS 750	2"	50	390	28.9	30 ... 70 °C	C 511

(1) – Flow rate based on 4 bar average pressure and pressure drop of about 20%.

(2) – Flow rate coefficient: flow in m³ with valve open and pressure drop of 100 kPa.

ELECTRONIC MIXERS FOR DHW WITH ANTILEGIONNAIRE FUNCTION

MAS 6.. - 7.. / AL

APPLICATION

Compact units for control of temperature at fixed point in DHW distribution circuits, provided with recycle pump.

The Antilegionnaire function comes into operation once a week (adjustable day and time).

Increases the temperature of the distribution circuit (valve completely open) for a period of time proportional to the temperature itself: high temperature (> 65 °C) = short period (30 min.); low temperature (< 55 °C) = long period (7 hours).

Comprises : three-port ball valve, a reversible electric actuator with electronic controller and a temperature detector with an NTC 10 kΩ sensing element incorporated in the valve.



FEATURES

- Power supply: 230 V~; Protection: IP 55; Consumption: MAS 6.. = 6 VA; MAS 7.. = 9 VA.
- Working pressure and maximum differential: 6 bar.
- Proportional band: ± 5 ... ± 20 °C.











Code	DN		Flow rate l/min. ⁽¹⁾	Kvs ⁽²⁾ m ³ /h	Setting range	Data sheet
	inches	mm.				
MAS 615/AL	1/2"	15	40	2.5	30 ... 70 °C	C 512
MAS 620/AL	3/4"	20	70	5	30 ... 70 °C	C 512
MAS 625/AL	1"	25	130	9	30 ... 70 °C	C 512
MAS 632/AL	1 1/4"	32	180	13.5	30 ... 70 °C	C 512
MAS 740/AL	1 1/2"	40	270	19.2	30 ... 70 °C	C 512
MAS 750/AL	2"	50	390	28.9	30 ... 70 °C	C 512

(1) – Flow rate based on 4 bar average pressure and pressure drop of about 20%.

(2) – Flow rate coefficient: flow in m³ with valve open and pressure drop of 100 kPa.

Description	Code	Communication	Page
DEVICES FOR VARIOUS USES			
UNIT FOR PROGRAMMING CONTROLS AND RECORDING MEASUREMENTS, ALARMS & STATUS 5 ON-OFF CONTROLS WITH TIMED PROGRAMMES & INDEPENDENT ANNUAL PERIODS. 7 INPUTS FOR MEASUREMENTS OR ON-OFF ALARMS	DAM 675	C ←BUS	4.3
MULTIPLE UNIT FOR LOGICAL & TIMED PROGRAMMING OF ELECTRICAL OR HEATING PLANTS 6 ON-OFF CONTROLS WITH TIMED PROGRAMMING & LOGIC FUNCTIONS (PLC).	PLE 608	C ←BUS	4.3
PROGRAMMING UNIT FOR PLANTS & BOILER ON-OFF CONTROL OF 5 HEATING PLANTS WITH TIMED PROGRAMMING OR WITH TEMP. CONTROL & CONTROL BOILER ACCORDING CALL FROM HEATING ZONE.	UPT 678	C ←BUS C ←RING	4.4
TIMED PROGRAMMER WITH 2 OUTPUTS & 2 ALARM INPUTS OPTIONAL TELEMAGEMENT FOR ON-OFF CONTROL OF TWO ELECTRICAL DEVICESRE DUE SEGNALEZIONI & RECEIVING TWO ALARM SIGNALS.	XCO 428	OPTIONAL C ←BUS RS 232	4.4
MINI TELEMAGEMENT KIT INCLUDING GSM MODEM (SINGLE PACKAGE) TELEMAGEMENT RS232: ALREADY ENABLED BY THE KIT TELEMAGEMENT C-BUS: CAN BE ENABLED WITH ACB 400 ACCESSORY.	XCO 428 + GSM 713	OPTIONAL C ←BUS RS 232	4.4
TWIN PUMP STEP CONTROLLER ADAPTS THE ON-OFF PUMP SIGNAL FROM A CONTROLLER TO CONTROL TWIN PUMPS.	IPG 318	C ←BUS	4.5
SEQUENCER FOR 5 PUMPS OR ELECTRIC LOADS DESIGNED FOR SEQUENCING MAX. 5 PUMPS BY AN ON-OFF OR 0 ... 10 V-, MAX. 5 ELECTRIC LOADS ACCORDING TO TOTAL ENERGY CONSUMPTION.	IPG 658		4.5
UNIVERSAL TIMER CONVERTS AN ON-OFF CONTROL INTO A TIMED OUTPUT (DELAY, START-STOP, OSCILLATOR, PULSED)	TMP 318		4.6
SIGNAL SELECTOR 0 ... 10 V- SELECTS THE MINIMUM, ARITHMETIC MEAN & MAXIMUM VALUES FROM 2 ... 6 SIGNALS (0 ... 10 V-) COMING FROM ACTIVE DETECTORS.	CSA 344		4.6
CONVERTOR OF 0 ... 10 V- OR 4 ... 20 mA SIGNALS OR TEMPERATURE MEASUREMENT INTO RELAYS CONTROLS CONVERTS ONE 0 ... 10 V- OR 4 ... 20 mA OR SIGNAL OR TEMPERATURE INTO 3-WIRE MODULATING OR MINIMUM & MAXIMUM LIMIT INSTRUCTION.	CSV 328	C ←BUS	4.8
CONVERTOR OF 3-WIRE OR 0 ... 10 V- OR 4 ... 20 mA IN TWO 0 ... 10 V- SIGNALS CONVERTS ONE 3-WIRE MODULATING OR ONE 0 ... 10 V- OR 4 ... 20 mA SIGNAL INTO TWO 0 ... 10 V- SIGNALS WITH VARIOUS DEGREES OF AMPLIFICATION.	CSC 328	C ←BUS	4.8
CONVERTOR OF ACTIVE & PASSIVE TEMPERATURE DETECTORS CONVERTS TEMPERATURE MEASUREMENTS OF 1 ACTIVE 0 ... 10 V- OR 4 ... 20 mA ACTIVE DETECTOR OR 1 PASSIVE DETECTOR (NTC 1 KΩ OR NTC 10 KΩ) INTO 2 MEASUREMENTS OF PASSIVE DETECTORS (NTC 1 KΩ OR NTC 10 KΩ). PERMITS CONNECTING 1 DETECTOR TO SERVAL DEVICES.	CAP 328		4.8

C ←BUS = telemanagement
 ^{OPTIONAL} C ←BUS = optional telemanagement
 C ←RING = data exchange between controllers
 CODE = news

Description	Code	Communication	Page
C-RING ACCESSORIES			
C-RING AMPLIFIER AMPLIFIER THE C-RING SIGNAL AND PERMITS INCREASING THE DISTANCE BETWEEN THE CONTROLLERS CONNECTED.	PCR 308		4.6
C-RING TEMPERATURE STEP CONTROLLER CONVERTS A THRESHOLD (CAN BE SET FROM 0 TO 80°C IN 5°C STEPS) OF THE DESIRED ZONES FLOW TEMPERATURE COMING FROM C-RING INTO A SINGLE SPDT RELAY CONTROL 5(1) A AND IN ONE 0...10V- OUTPUT..	LCR 348		4.7
CONNECTOR IN C-RING OF VARIOUS COMMANDS FOR CONTROLLING ONE OR MORE BOILERS.	OCR 34.		4.7
CONTROLLERS FOR VARIOUS USES			
UNIVERSAL CONTROLLER CONTROL OF TEMPERATUREZ AT FIXED POINT (NTC 10 KΩ) OR SIZE (PRESSURE, LEVEL, UMIDITY, ETC.) MEASURED BY A 0 ... 10 - ACTIVE DETECTOR 3-WIRE MODULATING CONTROL OR ON-OFF IN 2 STAGES OR 0 ... 10 V-	DRU 41.		4.13
UNIVERSAL CONTROLLER CONTROL OF TEMPERATURE AT FIXED POINT (NTC 10 KΩ O NTC 1 KΩ O PT 1 KΩ) OR SIZE (PRESSURE, LEVEL, HUMIDITY, ETC.) MEASURED BY A 0 ... 10 V- OR 4 ... 20 MA ACTIVE DETECTOR 3-WIRE MODULATING CONTROL IN 2... 4 STEPS	DRU 61.		4.13
TELEMANAGED DIFFERENTIAL CONTROLLER OF TWO TEMPERATURES OR TWO 0 ... 10 V- SIGNALS	DDM 328		4.9
TELEMANAGED MODULATING OR TWO-STAGE ON-OFF TEMPERATURE CONTROLLERI	DTF 31.		4.10
MODULATING TEMPERATURE CONTROLLER OR ON-OFF IN 2 STAGES WITHOUT C-BUS	RTF 31.		4.10
TEMPERATURE CONTROLLER WITH TIMED PROGRAMMING OPTIONAL TELEMANAGEMENT DISTRIBUTION DHW & CALORIFIER STORAGE ROOM WITH OR WITHOUT FLOW LIMITS SWIMMING POOL WATER WITH OR WITHOUR FLOW LIMITS FLOW UNDERFLOOR PANELS & FAN COILS HORTICULTURAL BEDS WITH FLOW LIMITS.	XTR 628	 	4.11
CONTROLLER FOR SOLAR PANELS			
CONTROLLER FOR SOLAR PANEL INSTALLATIONS AUTOMATION SOLAR PANEL PLANTS WITH MAX. 3 STORAGE TANKS: - ON-OFF CONTROL INTEGRATION CIRCUIT - MODULATING CONTROL DHW DISTRIBUTION TEMPERATURE.	DPS 638	 	4.12
UNIVERSAL CONTROLLER CONTROL OF TEMPERATURE AT FIXED POINT (NTC 10 KΩ OR NTC 1 KΩ O PT1 KΩ) OR SIZE (PRESSURE, LEVEL, HUMIDITY, ETC.) MEASURED BY A 0 ... 10 V- OR 4 ... 20 MA ACTIVE DETECTOR 3-WIRE MODULATING CONTROL IN 2 ... 4 STEPS.	RPS 638		4.12

 = telemanagement  = optional telemanagement  = data exchange between controllers

UNIT FOR PROGRAMMING CONTROLS AND RECORDING MEASUREMENTS, ALARMS & STATUS

DAM 675

C ←BUS



APPLICATION

On-Off control of five digital outputs with timed programmes or with independent dates. Permits acquiring signals of measurements with alarm potential and On-Off signals of alarms or status or metering. C-Bus compatible.

FEATURES

- Power supply: 230 V ~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four operational keys and alphanumeric display.
- Setting with dates of heating season and automatic switching GMT - BST.
- Seven 24-hour programmes, five 7-day programmes, 30 annual periods and one special period with setting of dates.
- 2 SPDT relay outputs and 3 SPST outputs for programmed On-Off controls.
- 1 relay output for local signalling of alarm status.
- 3 On-Off inputs for alarms, status or metering.
- 7 inputs of measurements with alarm potential (Pt 1 kΩ, NTC 1 kΩ, NTC 10 kΩ, 4 ... 20 mA or 0 ... 10 V-) or 7 On-Off inputs for alarm or status.
- Degree days metering.

Code	Description	Data sheet
DAM 675	Unit for programming controls and measurements, alarms and status.	D 510

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
STF 001	Flue gases temperature detector.	0 ... 500 °C	Pt 1 kΩ	N 165
STH 001	Immersion high temperature detector.	0 ... 300 °C	Pt 1 kΩ	N 140
SIH 010	Immersion water temperature detector.	0 ... 99 °C	NTC 10 kΩ	N 140
SAE 001	Outside temperature detector.	-40 ... 40 °C	NTC 1 kΩ	N 120
SAB 010	Room temperature detector.	0 ... 40 °C	NTC 10 kΩ	N 111
ASA 420	Accessory for connection active detector 4 ... 20 mA.	-	-	-
ASA 010	Accessory for connection active detector 0 ... 10 V-.	-	-	-

MULTIPLE UNIT FOR LOGICAL & TIMED PROGRAMMING OF ELECTRICAL OR HEATING PLANTS

PLE 608

C ←BUS



APPLICATION

Suitable for On-Off control of six electric devices with timed programming and in relation to digital inputs. C-Bus compatible.

FEATURES

- Power supply: 230 V ~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four operational keys and alphanumeric display.
- Six On-Off control outputs with alarm status option.
- Independent programming for each output with seven 24-hour programmes, two 7-day programmes and one special period with date setting.
- 12 digital inputs for acquisition of status to be processed by logic algorithms for generation of control outputs; eight of these may be utilised as alarm inputs.
- Inputs and outputs events logger.

Code	Description	Data sheet
PLE 608	Unit for programming controls and acquisition measurements, alarms, status.	D 515

4

PROGRAMMING UNIT FOR PLANTS & BOILER

UPT 678

C ←BUS

C ←RING



APPLICATION

Designed for:

- On-Off control of five heating and/or DHW zones by timed events programme.
- as above but with addition of temperature control.
- control boiler according to heat demand from heating/DHW zones.

C-Bus compatible
C-Ring compatible.

FEATURES

- Power supply: 230 V ~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four operating keys and alphanumeric display.
- Setting with dates of heating season and automatic switching GMT-BST.
- Five On-Off outputs for heating, etc plants
- Independent programming for each output with seven 24-hour programmes, two 7-day programmes, 15 annual periods and one special period with date setting.
- One On-Off output for control boiler.
- Three On-Off inputs for alarm or status.

Code	Description	Data sheet
UPT 678	Programming unit for heating zones and boiler.	D 511

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
SIH 010	Immersion water temperature detector.	0 ... 99 °C	NTC 10 kΩ	N 140
SAE 001	Outside temperature detector.	-40 ... 40 °C	NTC 1 kΩ	N 120
SAB 010	Room temperature detector.	0 ... 40 °C	NTC 10 kΩ	N 111

**PROGRAMMER WITH 2 OUTPUTS & 2 ALARM INPUTS
OPTIONAL TELEMANAGEMENT WITH SMS COMMUNICATION**

XCO 428

OPTIONAL
C ←BUS

RS 232

TELEMANAGEMENT C-Bus: Enabled with ACB 400 accessory.



APPLICATION

For On-Off control of two electrical devices with timed programming and local remote controls and remote controls with timed programming and two alarm signals

FEATURES

- Power supply: 230V~; Consumption: 3VA; DIN 71 x 116 modular enclosure; Protection: IP 40.
- Two relay outputs with 5(1)A SPDT switches.
- Two On-Off switches.
- Two inputs for remote extension switches.
- Two programmable inputs for changing program or signalling alarm.
- Programmable via SMS

Code	Description	Data sheet
XCO 428	Time programmer with two outputs and two alarm inputs.	D 512

ACCESSORY FOR TELEMANAGEMENT

Code	Description	Data sheet
ACB 400	Plug-in for communication via C-Bus	T 433

KIT OF MINI TELEMANAGEMENT INCLUDING TIMED PROGRAM

XCO 428 + GSM 713 (SINGLE PACKAGE)

OPTIONAL
C ←BUS

RS 232

TELEMANAGEMENT RS 232: already enabled by kit.

TELEMANAGEMENT C-Bus: Can be enabled using ACB 400 accessory.



Code	Description	Data sheet
XCO 428+GSM	Mini kit for Telemanagement via RS 232, including Modem GSM. (page 10.4).	—

TWIN PUMP STEP CONTROLLER

IPG 318

C ←BUS



APPLICATION

Adapts the On-Off pump signal from a controller to control twin pumps.
Automatically alternates the operation of the two pumps every week or every month.
Automatically inserts the lag pump in case of a lockout in the lead pump.
C-Bus compatible.

FEATURES

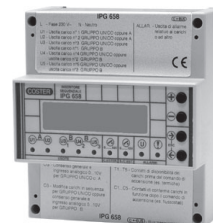
- Power supply: 230 V ~; Consumption: 2 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.

Code	Description	Data sheet
IPG 318	Changeover controller for twin pumps.	D 610

SEQUENCER FOR 5 PUMPS OR ELECTRIC LOADS

IPG 658

C ←BUS



APPLICATION

Designed for:

- Sequencing max 5 pumps by an On-Off or 0 ... 10 V– control signal with timed rotation of the pumps used and automatic replacement of faulty ones.
- Sequency max 5 electric loads according to total energy consumption (0 ... 10 V– control). Option of increasing number of loads controlled by using several IPG 658 and multiplying the control signal by means of CSC 328 convertors.

Communication by telemanagement system using parallel C-Bus connection.

FEATURES

- Power supply: 230 V~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 operating keys and 3-figure display.
- 5 On-Off relay outputs to control pumps or electric loads.
- 1 On-Off relay output for signalling alarm.
- 1 input for On-Off or 0 ... 10 V– control signal.
- 2 On-Off inputs for each output used for acquisition lockout and confirmation operation.
The inputs regarding possible unused outputs can be used to signal alarms or status.

Code	Description	Data sheet
IPG 658	Sequencer for max 5 pumps or electric charges.	D 614

4

UNIVERSAL TIMER

TMP 318

APPLICATION

Permits converting an On-Off input switch to a timed, oscillating or pulsed On-Off output switch.

FEATURES

- Power supply: 230 V~; Consumption: 2VA; DIN 53 x 115 modular enclosure; Protection: IP 40.



Code	Description	Data sheet
TMP 318	Universal timer for an On-Off control.	D 620

0 ... 10 V- SIGNALS SELECTOR

CSA 344

APPLICATION

Selects the minimum, arithmetic mean and maximum values from 2 ... 6 signals 0 ... 10 V- coming from active detectors (humidity, pressure, temperature) or from progressive controls.

FEATURES

- Power supply: 24 V~; Consumption: 3VA; DIN 53 x 115 modular enclosure; Protection: IP 40.



Code	Description	Data sheet
CSA 344	Selector of minimum, arithmetic mean & maximum values of 0 ... 10 V- active signals.	D 655

C-RING AMPLIFIER

PCR 308



APPLICATION

Amplifies the C-Ring signal and permits increasing the distance between the controllers connected. One PCR 308 required for each group of controllers.

FEATURES

- Power supply: 230 V ~; Consumption: 4 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.



Code	Description	Data sheet
PCR 308	Low-power C-Ring amplifier.	T 424

C-RING TEMPERATURE STEP CONTROLLER

LCR 348

C ←RING



APPLICATION

Converts a threshold (can be set from 0 to 80°C in 5°C steps) of the desired zones flow temperature coming from C-Ring into a single SPDT relay control 5(1) A and in one 0 ... 10V- output.

FEATURES

- Power supply: 230 V~; Consumption: 3VA; DIN 53 x 115 modular container; Protection: IP 40.

Code	Description	Data sheet
LCR 348	C-Ring threshold temperature step controller.	D 661

CONNECTOR IN C-RING OF VARIOUS COMMANDS FOR CONTROLLING ONE OR MORE BOILERS

OCR 34.

C ←RING



APPLICATION

Connects in C-Ring to control the temperature required by the boiler(s):

- a temperature measured by a standard sensor
- a 0... 10V– input which can be set with any scale
- a remote control type CBD 100
- a general-use switch

FEATURES

- Power supply: 230 V~/24 V~; Consumption: 3 VA; DIN 53 x 115 modular housing; Protection: IP 40.
- Output relay switch:
 - maximum applicable voltage 250 V~
 - maximum switching current 5 (1) A

Code	Description	Power supply	Data sheet
OCR 348	Connector to C-Ring of various commands for controlling one or more boilers	230 V~	D 662
OCR 344	Connector to C-Ring of various commands for controlling one or more boilers	24 V~	D 662

4

GENERAL ACCESSORIES FOR ELECTRIC CONNECTIONS



Code	Description	Data sheet
ASA 241	Connector for converting a switch powered by 24 V~ or 12 V– in an optoisolator control.	D 615
ASA 248	Connector for converting a switch powered by 230 V~ in an optoisolator control.	D 615
ACT 248	Connector for converting a power supply of 24 V~ to 230 V~ - 10 W.	D 615
ACR 245	Connector for converting a power supply of 24 V~ to 1 SPTD switch max. 5 (1) A.	D 615
ACR 242	Connector for converting a power supply of 24 V~ to 2 SPTD switches max. 1 A (24 V~).	D 615
AIC 240	Connector for invert the state of a generic contact.	D 615
FTR 101	Universal filter for 24 ... 230 Volt~ switches or inputs.	D 615

CONVERTOR OF 0 ... 10V~ OR 4 ... 20 mA SIGNALS OR TEMPERATURE MEASUREMENT INTO RELAY CONTROLS

CSV 328

C ←BUS



APPLICATION

The device is designed to convert one 0 ... 10V~ or 4 ... 20 mA or temperature measurement (NTC 1 kΩ or NTC 10 kΩ) signal into a 3-wire modulating control or 2-stage On-Off control or max-min limit On-Off control. C-Bus compatible.

FEATURES

- Power supply: 230 V~; Consumption: 2VA; DIN 53 x 115 modular enclosure; Protection: IP 40.

Code	Description	Data sheet
CSV 328	Converter of 0 ... 10 V~ or 4 ... 20 mA or temperature measurement signal to relay controls.	D 652

CONVERTOR OF 3-WIRE OR 0 ... 10 V~ OR 4 ... 20 mA IN TWO 0 ... 10 V~ SIGNALS

CSC 328

C ←BUS



APPLICATION

The device is designed to transform one 3-wire modulating signal or one 0 ... 10 V~ or 4 ... 20 mA signal into two 0 ... 10 V~ signals. C-Bus compatible.

FEATURES

- Power supply: 230 V~; Consumption: 2 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.

Code	Description	Data sheet
CSC 328	Converter of 3-wire 0 ... 10 V~ or 4 ... 20 mA signal to two 0 ... 10 V~ signals.	D 653

ACTIVE AND PASSIVE TEMPERATURE DETECTOR CONVERTER

CAP 328

APPLICATION

The device is designed to convert the temperature measurement of one 0 ... 10 V~ or 4 ... 20 mA active detector or one NTC 1 KΩ or NTC 10 KΩ passive detector into two NTC 1 KΩ or NTC 10 KΩ passive detector measurements. Each measurement output can be used in parallel on several controllers (up to 5) whose measurement inputs have the same features.



FEATURES

- Power supply: 230 V~; Consumption: 2 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.

Code	Description	Data sheet
CAP 328	Active and passive temperature detector.	D 654

Temperature measurement	Groups of controllers with identical measurement features
NTC 1 kΩ - Outside (-30 ... 40 °C)	<p>Check on CAP 328 Technical Data Sheet (D 654)</p>
NTC 10 kΩ - Room (0 ... 40 °C)	
NTC 10 kΩ - Discharge air (0 ... 60 °C)	
NTC 10 kΩ - Water (0 ... 100 °C)	

DIFFERENTIAL CONTROLLER FOR TWO TEMPERATURES OR TWO 0 ... 10 V– SIGNALS

DDM 328

C ←BUS



APPLICATION

Suitable for (example):

- Control diffusers according to flow/room temperature differential.
- Control dampers according to outside/room humidity differential.
- Control pump according to flow/room temperature differential.

Communication with telemanagement systems via C-Bus parallel connection.

Essential detectors: two NTC 10 kΩ temperature detectors or two 0 ... 10 V– detectors.

FEATURES

- Power supply: 230 V~; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 operating keys and three-figure display.
- Modulating control (three-wire) or On-Off in two stages or On-Off for minimum and maximum limits.
- Progressive 0 ... 10 V– control.

Code	Description	Data sheet
DDM 328	Controller for differential between two temperatures or two 0 ... 10 V– signals.	D 156

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing elem. or signal	Data sheet
SIH 010	Immersion temperature detector.	0 ... 99 °C	NTC 10 kΩ	N 140
SAB 010	Room temperature detector.	0 ... 40 °C	NTC 10 kΩ	N 111
STA 010	Air duct temperature detector.	0 ... 99 °C	NTC 10 kΩ	N 150
SUR 704	Relative humidity detector.	10 ... 90 %	0 ... 10 V–	N 221
SUT 714	Relative humidity and temperature detector.	10 ... 90 %	0 ... 10 V–	N 222
SAU 914	Relative humidity & temperature sensor.	20 ... 80 % 0 ... 40 °C	0 ... 10 V– NTC 10 kΩ	N 227 –

4

MODULATING OR TWO-STAGE ON-OFF TEMPERATURE CONTROLLER

DTF 31.

C ←BUS



APPLICATION

Suitable for PI control of a fixed-point temperature with possible minimum and maximum flow limits. 3-point modulating control or on-off in 2 stages.

Telemanagement control via parallel C-Bus connection.

Essential detectors: 1 detector for primary control.

Optional accessories: 1 detector for limit control, 1 setpoint adjuster.

FEATURES

- Power supply: 24V ~ or 230 V ~; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP40.
- Digital programming by means of 4 operating keys and 3-digit numeric display.
- Modulating control of valve by 3-wire reversible actuator or On-Off in 2 stages.
- Minimum and maximum limits flow temperature.
- Season switching by external switch.

Code	Description	Power supply	Data sheet
DTF 314 DTF 318	Modulating temperature controller. Modulating temperature controller.	24 V~ 230 V~	D 155 D 155

MODULATING TEMPERATURE CONTROLLER OR ON-OFF IN 2 STAGES

RTF 31.

NB : Features identical to those of DTF 31.

Not C-Bus compatible.



Code	Description	Power supply	Data sheet
RTF 314 RTF 318	Modulating temperature controller. Modulating temperature controller.	24 V~ 230 V~	D 151 D 151

DETECTORS AND ACCESSORIES FOR DTF 31.. AND RTF 31..

Code	Description	Application range	Sensing element	Data sheet
SIH 010	Immersion water temperature detector.	0 ... 99 °C	NTC 10 kΩ	N 140
SIR 010	Immersion water temperature detector (quick sensing).	0 ... 99 °C	NTC 10 kΩ	N 140
SAB 010	Room temperature detector.	0 ... 40 °C	NTC 10 kΩ	N 111
STA 010	Air duct temperature detector.	0 ... 99 °C	NTC 10 kΩ	N 150
CDB 100	Setpoint adjuster with incorporated sensor.	-5 ... +5 °C	NTC 10 kΩ	N 710

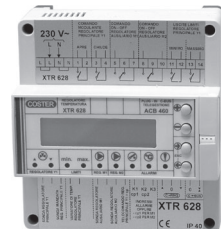
**TEMPERATURE CONTROLLER WITH TIMED PROGRAMMING
OPTIONAL TELEMAGEMENT**

XTR 628

TELEMAGEMENT C-Bus: Enabled with ACB 460 accessory.

OPTIONAL
C ←BUS

C ←RING



APPLICATION

Suitable for temperature control:

- DHW & storage calorifier.
- Swimming pool water with or without flow limits.
- Flow underfloor panels and fan-coils.
- Greenhouse beds with flow limits.
- Room with or without flow limits for heating zones with radiators, panels, hot air generators.

Data communication with other controllers via C-Ring connection.

Essential sensors: 1, 2 or 3 temperature sensors.

Optional accessories: 1 flow temperature sensor, 1 set-point adjuster.

FEATURES

- Power supply: 230V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- 1 primary temperature control with:
 - Control of temperature with one primary sensor or with one primary sensor and one flow sensor (minimum & maximum limits).
 - Modulating 3-wire control of valve or On-Off in 1 or 2 stages Proportional/Integral or differential.
- 2 On-Off temperature or timed controls with:
 - Control temperature with one sensor.
 - On-Off PI or differential control.
- Autonomous timed programming for the three controls with seven 24hour programs, two 7day programs and 2 5 annual periods with dates.
- Autonomous functions usable by the three types of control:
 - Priority and control anticondensing boiler.
 - Antibacteria.
- Automatic switching GMT – BST.
- 1 input for changing programs primary control.
- 2 inputs for changing programs On-Off control or On-Off alarm inputs.
- 1 On-Off alarm input.
- Alarms for plant faults and for open or short sensor circuit.

Code	Description	Data sheet
XTR 628	Temperature controller.	D 212

SONDE E ACCESSORI

Code	Description	Application range	Sensing element	Data sheet
ACB 460	Plug-in for C-Bus communication.			–
SIH 010	Immersion temperature sensor (Normal).	0 ... 99 °C	NTC 10 kΩ	N 140
SIR 010	Immersion temperature sensor (Rapid).	0 ... 99 °C	NTC 10 kΩ	N 140
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
STA 010	Air duct temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 150
CDB 100	Setpoint adjuster with incorporated sensor.	–5 ... +5 °C	NTC 10 kΩ	N 710

CONTROLLER FOR SOLAR PANEL INSTALLATIONS

DPS 638

C ←BUS

C ←RING



APPLICATION

Designed for automation of solar panel installations with a maximum of three storage tanks with On-Off control of integration circuit and modulating control of DHW distribution circuit.

C-Bus compatible.

C-Ring compatible.

Essential detectors: 1 solar panel temperature detector; from 1 to 3 storage tank detectors.

Optional detectors: 1 integration temperature detector, 1 DHW temperature detector.

FEATURES

- Power supply: 230 V ~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four operating keys and alphanumeric display.
- Setting dates of heating season and automatic switching GMT - BST.
- Seven 24-hour programmes, two 7-day programmes, 25 holiday periods and one special period with date setting.
- Management of heat exchange between solar panels and storage tanks (max. three) in relation to temperature differential with control panels circuit pump and automatic switching between three storage tanks.
- Control of integration circuit temperature by programmed events On-Off control and antibacterial function.
- Regulation of temperature by modulating three-wire control of DHW distribution temperature or of minimum solar panels temperature.
- 3 On-Off inputs for alarms or status.
- Alarm functioning of plant and alarms for closed or open detector circuits.

Code	Description	Data sheet
DPS 638	Temperature controller for solar panel installations.	D 310

CONTROLLER FOR SOLAR PANEL INSTALLATIONS

RPS 638

C ←RING



Technical and functional features same as DPS 638.

Not C-Bus compatible.

Code	Description	Data sheet
RPS 638	Temperature controller for solar panel installations.	D 315

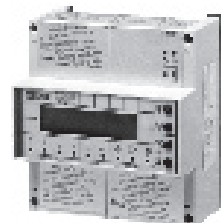
DETECTORS AND ACCESSORIES FOR RPS 638 AND DPS 638

Code	Description	Application range	Sensing element	Data sheet
SIH 010	Immersion detector (1/2" x 80 mm).	0 ... 99 °C	NTC 10 kΩ	N 140
SAF 010	Cable-type detector.	0 ... 99 °C	NTC 10 kΩ	N 145
SHF 001	Cable-type temperature detector with 3-metre cable.	0 ... 180 °C	Pt 1 kΩ	N 145
GIS 090	Cable-type detector pocket (1/2" x 90 mm).	—	—	N 145
GIS 160	Cable-type detector pocket (1/2" x 160 mm).	—	—	N 145
GIS 500	Cable-type detector pocket (1/2" x 500 mm).	—	—	N 145

UNIVERSAL CONTROLLER

DRU 614 - 618

C ←BUS



APPLICATION

Suitable for control of at fixed point of a temperature measured by a thermistor-type detector (NTC 10 kΩ or NTC 1 kΩ or PT 1kΩ) or of another variable (pressure, level, etc.) measured by a detector with 0 ... 10 V– or 4 ... 20 mA output signals.

C-Bus compatible.

Essential detectors: 1 thermistor type or voltage/current type.

Optional detectors: 1 setpoint adjuster.

FEATURES

- Power supply: 24 V ~ (DRU 614), 230 V ~ (DRU 618); Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four operating keys and alphanumeric display.
- Control at fixed point:
 - Three-wire modulating control or On-Off control in sequence of 2, 3 or 4 stages.
 - Two On-Off controls in relation to two adjustable thresholds of output signal or of measurement range.
 - Adjustment of set point by means of remote control.
- One On-Off alarm input.
- Two configurable inputs : remote control for inversion of control action or On-Off alarms.
- Alarms for operational controller fault for short or open detector circuits.

Code	Description	Data sheet
DRU 614	Universal controller. Power supply 24 V~.	D 410
DRU 618	Universal controller. Power supply 230 V~	D 410

UNIVERSAL CONTROLLER

DRU 414 - 418

C ←BUS



4

APPLICATION

Suitable for control at fixed point of a temperature measured by a thermistor-type detector NTC 10 kΩ or of another variable (humidity, pressure, level, etc.) measured by a detector with 0 ... 10 V– output signals.

C-Bus compatible.

Essential detectors: 1 thermistor or voltage type.

Optional detectors: 1 setpoint adjuster.

FEATURES

- Power supply: 24 V ~ (DRU 414), 230 V ~ (DRU 418); Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four operating keys and 3-figure numerical display.
- Three-wire modulating control or two-stage On-Off or 0 ... 10 V control signal.

Code	Description	Data sheet
DRU 414	Universal controller. Power supply 24 V~.	D 412
DRU 418	Universal controller. Power supply 230 V~	D 412

DETECTORS AND ACCESSORIES FOR DRU 41. AND DRU 61.

Code	Description	Application range	Sensor or signal	Data sheet
SIH 010	Immersion temperature detector.	0 ... 99 °C	NTC 10 kΩ	N 140
SAF 001	Cable-type temperature detector (only for DRU 614).	–40 ... 40°C	NTC 1 kΩ	N 145
STH 001	Immersion water temp. detector (only for DRU 614).	0 ... 300 °C	PT 1 kΩ	N 140
SAB 010	Room temperature detector.	0 ... 40 °C	NTC 10 kΩ	N 111
SUR 704	Relative humidity detector.	10 ... 90 %	0 ... 10 V–	N 221
SUT 714	Relative humidity and temperature detector.	10 ... 90 %	0 ... 10 V–	N 222
SAU 914	Relative humidity.	20 ... 80 %	0 ... 10 V–	N 227
	& temperature sensor.	0 ... 40 °C	NTC 10 kΩ	
SPW 101	Absolute pressure detector for liquids or steam.	0 ... 1 bar	0 ... 10 V–	N 410
SPW 102	Absolute pressure detector for liquids or steam.	0 ... 2,5 bar	0 ... 10 V–	N 410
SPW 106	Absolute pressure detector for liquids or steam.	0 ... 5 bar	0 ... 10 V–	N 410
SPW 116	Absolute pressure detector for liquids or steam.	0 ... 16 bar	0 ... 10 V–	N 410
SDW 101	Differential pressure detector for liquids or steam.	0 ... 1 bar	0 ... 10 V–	N 420
SDW 102	Differential pressure detector for liquids or steam.	0 ... 2,5 bar	0 ... 10 V–	N 420
SDW 106	Differential pressure detector for liquids or steam.	0 ... 6 bar	0 ... 10 V–	N 420
SDA 701	Differential pressure detector for air.	0 ... 1 mbar	0 ... 10 V–	N 430
SDA 703	Differential pressure detector for air.	0 ... 3 mbar	0 ... 10 V–	N 430
SDA 705	Differential pressure detector for air.	0 ... 5 mbar	0 ... 10 V–	N 430
SDA 730	Differential pressure detector for air.	0 ... 30mbar	0 ... 10 V–	N 430
CDB 100	Setpoint adjuster with incorporated sensor.	–5 ... +5 °C	NTC 10 kΩ	N 710

100 kPa = 10 mWG = 1 bar

Description	Code	Communication	Page
CONTROLLERS			
TEMP. CONTROLLER FOR TWO-BATTERY AIR-HANDLING UNIT OPTIONAL TELEMAGEMENT CONTROL OF TEMPERATURE ROOM AND/OR DISCHARGE AIR.	XTA 624	OPTIONAL C ←BUS	5.2
TEMPERATURE & HUMIDITY CONTROLLER FOR FAN COILS OPTIONAL TELEMAGEMENT WINTER & SUMMER CONTROL OF TEMPERATURE & HUMIDITY OF ROOM AND/OR DISCHARGE AIR.	XTU 618	OPTIONAL C ←BUS	5.3
TEMPERATURE & HUMIDITY CONTROLLER FOR ONE-BATTERY AIR-HANDLING UNIT OPTIONAL TELEMAGEMENT CONTROL OF TEMPERATURE & HUMIDITY OF ROOM AND/OR DISCHARGE AIR & OPTIMISATION OF DAMPERS.	XTU 614	OPTIONAL C ←BUS	5.4
TEMPERATURE & HUMIDITY CONTROLLER FOR TWO-BATTERY AIR-HANDLING UNIT OPTIONAL TELEMAGEMENT CONTROL OF TEMPERATURE & HUMIDITY OF ROOM AND/OR OF DISCHARGE AIR & OPTIMISATION OF DAMPERS.	XTU 644	OPTIONAL C ←BUS	5.5
PAIR OF TEMPERATURE & HUMIDITY CONTROLLERS FOR A 3 THREE- BATTERY AIR-HANDLING UNIT OPTIONAL TELEMAGEMENT (SINGLE PACKAGE) TELEMAGEMENT C-BUS: ENABLED BY 2 ACB 460 ACCESSORIES.	XTU 614 + XTU 644	OPTIONAL C ←BUS	5.5
AIR QUALITY CONTROLLER CONTROL PERCENTAGE OF OUTSIDE AIR RELEASED IN ROOM IN RELATION TO AIR QUALITY MONITORED BY 1 OR MORE DETECTORS..	RQA 410		5.6
AMBIENT AIR QUALITY DETECTOR AIR DUCT QUALITY DETECTOR TRANSMIT TO RQA 410 CONTROLLER THE AIR POLLUTION LEVEL.	SQC 954 SQS 954		5.6
ACCESSORIES FOR AIR CONDITIONING			
SEQUENCE CONTROLLERS CONVERTS A 3-WIRE MODULATING SIGNAL IN ON-OFF INSTRUCTIONS FOR SEQUENCING ELECTRIC DEVICES IN SEVERAL STAGES (MAX. 7).	ICM 674		5.6
ELECTROMECHANICAL ROOM HUMIDOSTAT	UPA 798		5.7
ELECTROMECHANICAL AIR DUCT HUMIDOSTAT	UPC 799		5.7
ELECTROMECHANICAL FROST PROTECTION THERMOSTAT FROST PROTECTION OF BATTERIES AND DHW.	TAG 797		5.7
DIFFERENTIAL PRESSURE SWITCH FOR SIGNALLING DIRTY FILTERS OR OPERATION OF FANS	PDF 795		5.7
DAMPER ACTUATORS	CSL - CSN CSS - CSG		5.8
DAMPER ACTUATORS WITH SPRING RETURN	CFT - CFL CFA ...		5.8

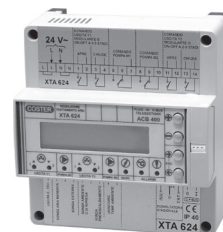
C ←BUS = communication with telemagement ^{OPTIONAL}**C ←BUS** = optional telemagement **C ←RING** = data exchange between controller

**TEMPERATURE CONTROLLER FOR 2-BATTERY AIR-HANDLING UNIT
OPTIONAL TELEMAGEMENT**

XTA 624

TELEMAGEMENT C-Bus: Enabled with ACB 400 accessory.

OPTIONAL
C ←BUS



APPLICATION

Designed for the control of ambient temperature and/or of the discharge air in air-handling units comprising:

- 1 or 2 heating and/or cooling battery units.
- 1 air mixing unit or 1 heat regenerator.

Essential sensors: 1 room or air duct temperature sensor.

**Optional accessories: 1 flow temperature sensor, 1 pre-heating temperature sensor
1 outside temperature sensor, 1 set-point adjuster.**

FEATURES

- Power supply: 24V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- Two 3-wire modulating outputs or On-Off in two stages (2 equal loads) or three stages (2 unequal loads) configurable for:
 - control of room temperature according to the heating and cooling values requested with summer outside compensation, minimum and maximum limits of flow in order to avoid current of cold air.
 - control of flow temperature in relation to values requested by heating and by cooling with, if required, winter and summer compensation.
 - control of fixed point pre-heating temperature.
- One progressive 0...10 V- output configurable for:
 - control of air mixing in comparison with room – outside temperature (free cooling).
 - control of heat regenerator in relation to room – outside temperature.
- Manual or automatic season switching of the controller functions.
- Adjustment of temperature setting by means of remote control.
- Alarms for plant faults and for open or short sensor circuit.

Code	Description	Data sheet
XTA 624	Temperature controller for two-battery air-handling units.	E 136

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
ACB 400 STA 010	Plug-in for C-Bus communication. Air duct temperature sensor (extract, discharge, condensation).	– 0 ... 60 °C	– NTC 10 kΩ	T433 N 150
SAB 010 STA 001	Room temperature sensor. Air duct temperature sensor (external).	0 ... 40 °C –40 ... 40 °C	NTC 10 kΩ NTC 1 kΩ	N 111 N 150
SAE 001	External temperature sensor.	–40 ... 40 °C	NTC 1 kΩ	N 120
CDB 100	Temperature setpoint adjuster with incorporated sensor.	– 5 ... +5 °C	NTC 10 kΩ	N 710

**TEMPERATURE & HUMIDITY CONTROLLER FOR FAN COILS
OPTIONAL TELEMAGEMENT**

XTU 618

TELEMAGEMENT C-Bus: Enabled with ACB 460 accessory.

OPTIONAL
C ← BUS



APPLICATION

Designed for winter and summer control of the control of room temperature and humidity and/or discharge air in fan coil zones.

Essential sensors: 1 room or air duct temperature sensor.

**Optional accessories: 1 flow temperature sensor, 1 outside temperature sensor
1 room or air-duct humidity sensor, 1 battery frost protection sensor,
1 set-point adjuster, 1 remote control.**

FEATURES

- Power supply: 24V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- Timed programming: 24hour and 7day.
- Programming with dates: 25 holiday periods; winter season; summer season.
- Automatic switching GMT – BST.
- Winter and summer control of room temperature or of discharge air by:
 - three-wire modulating control or On-Off in two stages.
 - winter and summer minimum and maximum limits of discharge air temperature.
 - maximum temperature differential between winter discharge air and room to avoid stratification of warm air.
 - maximum temperature differential between summer discharge air and room so as to avoid condensation in the discharge air duct.
- Winter control of room humidity or of discharge air by On-Off control of humidifying unit.
- Control zone fan and pump by timed program in use.
- Three-wire On-Off control for season switching primary circuit.
- Season switching:
 - manual from display.
 - by remote control (manual change-over switch or from other devices).
 - automatic in relation to season.
 - automatic in relation to outside temperature.
- Control Frospot temperature battery.
- Remote adjustment temperature setting.
- Remote control for changing timed events programme in use.
- One On-Off input for signalling status or alarm.
- Alarms for plant faults and for open or short sensor circuit.

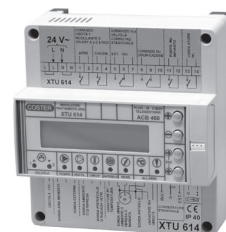
Code	Description	Data sheet
XTU 618	Temperature & humidity controller for fan coils.	E 113

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing elem. or signal	Data sheet
ACB 460	Plug-in for C-Bus communication.	–	–	T 433
STA 010	Air duct temperature detector (extract or discharge air).	0 ... 60 °C	NTC 10 kΩ	N 150
SAB 010	Room temperature detector.	0 ... 40 °C	NTC 10 kΩ	N 111
STA 001	Air duct temperature detector (outside).	–40 ... 40 °C	NTC 1 kΩ	N 150
SAE 001	Outside temperature detector.	–40 ... 40 °C	NTC 1 kΩ	N 120
SAF 010	Cable-type frost protection temperature detector.	0 ... 40 °C	NTC 10 kΩ	N 145
SUR 704	Relative humidity detector.	10 ... 90 %	0 ... 10 V–	N 221
SAU 914	Relative humidity & temperature sensor.	20 ... 80 % 0 ... 40 °C	0 ... 10 V– NTC 10 kΩ	N 227 –
CDB 100	Temperature setpoint adjuster with incorporated sensor.	–5 ... +5 °C	NTC 10 kΩ	N 710
CDB 333	Remote control for modification of programme in use.	–	–	N 710

TEMPERATURE & HUMIDITY CONTROLLER FOR ONE-BATTERY AIR-HANDLING UNITS
OPTIONAL TELEMAGEMENT

OPTIONAL
C ← BUS



XTU 614

TELEMAGEMENT C-Bus: Enabled with ACB 460 accessory.

APPLICATION

For control of room temperature and humidity and/or discharge air in air-handling units comprising:

- 1 battery for heating and/or cooling or pre-heating.
- 1 On-Off humidification battery.
- 1 air mixing unit or 1 heat regenerator.

Essential sensors: 1 room or air duct temperature sensor.

Optional sensors: 1 flow or pre-heating temperature sensor, 1 window dew-point sensor, 1 battery Frosprot sensor, 1 temperature set-point adjuster, 1 humidity set-point adjuster.

FEATURES

- Power supply: 24V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- Timed programming: 24hour and 7day.
- Programming with dates: 25 holiday periods; winter season; summer season.
- Automatic switching GMT – BST.
- One 3-wire modulating output or On-Off in 2 stages (2 equal loads) or in 3 stages (2 unequal loads) configurable for:
 - control of winter & summer room temperature with, if required, summer outside compensation, minimum. & maximum limits of flow in order to avoid cold air currents, stratification of hot air and condensing in the air ducts.
 - control of flow temperature at fixed point with, if required, winter & summer compensation.
 - control of pre-heating temperature at a variable value in relation to room temperature & humidity.
- 1 On-Off output for control humidifying unit for control of relative humidity at fixed point.
- 1 progressive 0...10 V- output configurable for:
 - control of mixture outside air in relation to comparison room - outside temperatures.
 - control outside air for control of room dehumidification with compensation for windows dew point.
 - control of heat regenerator in relation to comparison room – outside temperatures.
- Two On-Off outputs for control of fan and pump according to timed program in use.
- Control Frosprot temperature battery.
- Manual or automatic season switching of controller functions and of On-Off 3-wire season switch.
- Variation of temperature & humidity set points by means of remote control.
- Alarms for plant faults and for open or short sensor circuit.

Code	Description	Data sheet
XTU 614	Temperature & humidity controller for 1 battery air-handling unit.	E 134

SENSORS AND ACCESSORES

Code	Description	Application range	Sensing elem. or signal	Data sheet
ACB 460	Plug-in for C-Bus communication.	-	-	T 433
STA 010	Air duct temperature detector (extract, discharge, dew point).	0 ... 60 °C	NTC 10 kΩ	N 150
SAB 010	Room temperature detector.	0 ... 40 °C	NTC 10 kΩ	N 111
STA 001	Air duct temperature detector (outside air).	-40 ... 40 °C	NTC 1 kΩ	N 150
SAE 001	Outside temperature detector.	-40 ... 40 °C	NTC 1 kΩ	N 120
SAF 010	Cable-type temperature detector (frost protection).	0 ... 40 °C	NTC 10 kΩ	N 145
STV 010	Window glass dew point detector.	0 ... 40 °C	NTC 10 kΩ	N 160
SUR 704	Relative humidity detector.	10 ... 90 %	0 ... 10 V-	N 221
SUT 714	Relative humidity and temperature detector.	10 ... 90 %	0 ... 10 V-	N 222
SAU 914	Relative humidity & temperature sensor.	20 ... 80 %	0 ... 10 V-	N 227
CDB 100	Temperature setpoint adjuster with incorporated sensor.	0 ... 40 °C	NTC 10 kΩ	-
CDB 200	Humidity setpoint adjuster.	-5 ... +5 °C	NTC 10 kΩ	N 710
		-10 ... +10 %	-	N 710

**TEMPERATURE & HUMIDITY CONTROLLER FOR 2-BATTERY AIR-HANDLING UNITS
OPTIONAL TELEMAGEMENT**

OPTIONAL
C ← BUS



XTU 644

TELEMAGEMENT C-Bus: Enabled with ACB 460 accessory.

APPLICATION

For control of temperature and humidity of room and/or discharge air in air-handling units comprising:

- 1 or 2 batteries for heating and/or cooling.
- 1 modulating or On-Off humidification battery.
- 1 air mixing unit or 1 heat regenerator.

Essential sensors: 1 room or air duct temperature sensor.

Optional sensors: 1 flow temperature sensor, 1 pre-heating temperature sensor, 1 outside temperature sensor, 1 room or air duct humidity sensor, 1 outside humidity sensor, 1 window dew-point sensor, 1 temperature set-point adjuster, 1 humidity set-point adjuster.

FEATURES

- Power supply: 24V~; Consumption: 5VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of 4 keys and alphanumeric display.
- Three outputs: 3-wire modulating or On-Off in two stages (2 equal loads) or in three stages (2 unequal loads) configurable for:
 - control of room temperature in relation to heating and cooling values requested with, if required, summer outside compensation, minimum and maximum limits of flow in order to avoid cold air currents, stratification of warm air and condensing in the air ducts.
 - control of flow temperature in relation to heating and cooling values requested with, if required, winter and summer compensation.
 - control of pre-heating temperature at a value variable in relation to room temperature and humidity.
 - control of room relative humidity in relation to humidification & dehumidification values requested.
- One progressive 0...10V- output configurable for:
 - control of air mixture in relation to room-outside temperature (free cooling) or an enthalpic comparison.
 - control of outside air for controlling room dehumidification with compensation for window dew point.
 - control of heat regenerator in relation comparison room – outside temperatures.
- Manual or automatic season switching of the controller functions and of the three-wire On-Off season control.
- Variation of temperature & humidity set points by means of remote control.
- Alarms for plant faults and for open or short sensor circuit.

Code	Description	Data sheet
XTU 644	Temperature & humidity controller for 2-battery air-handling unit.	E 135

SENSORS AND ACCESSORIES

Code	Description	Application range	Sensing elem or signal	Data sheet
ACB 460	Plug-in for C-Bus communication.	-	-	T 433
STA 010	Air duct temperature detector (extract, discharge, dew point).	0 ... 60 °C	NTC 10 kΩ	N 150
SAB 010	Room temperature detector.	0 ... 40 °C	NTC 10 kΩ	N 111
STA 001	Air duct temperature detector (outside air).	-40 ... 40 °C	NTC 1 kΩ	N 150
SAE 001	Outside temperature detector.	-40 ... 40 °C	NTC 1 kΩ	N 120
STV 010	Window glass dew point detector.	0 ... 40 °C	NTC 10 kΩ	N 160
SUR 704	Relative humidity detector.	10 ... 90 %	0 ... 10 V-	N 221
SUT 714	Relative humidity and temperature detector.	10 ... 90 %	0 ... 10 V-	N 222
SAU 914	Relative humidity & temperature sensor.	20 ... 80 %	0 ... 10 V-	N 227
CDB 100	Temperature setpoint adjuster with incorporated sensor.	0 ... 40 °C	NTC 10 kΩ	-
CDB 200	Humidity setpoint adjuster.	-5 ... +5 °C	NTC 10 kΩ	N 710
		-10 ... +10 %	-	N 710

PAIR OF TEMPERATURE & HUMIDITY CONTROLLERS 3-BATTERY FOR AIR-HANDLING UNITS OPTIONAL TELEMAGEMENT

XTU 614 + XTU 644 (SINGLE PACKAGE)

TELEMAGEMENT C-Bus: Enabled with ACB 460 accessory.

OPTIONAL
C ← BUS



Code	Description	Data sheet
XTU 614+644 ACB 460	Two temperature & humidity controllers (1 XTU 614 + 1 XTU 644) for 3-battery air-handling unit. Plug-in for communication via C-Bus (use two plugs, one per controller).	- T 433

AIR QUALITY CONTROLLER RQA 410

APPLICATION

Controls the percentage of outside air entering the premises in relation to the quality of air monitored by one or more SQC 954 sensors. Controls, with a progressive 0 ... 10 V – signal, the outside air damper and/or, by means of a relay, the switching on or increased speed of a fan. Supplied with potentiometers for minimum % outside air and air quality set point.

THE UNIT CANNOT BE USED FOR SAFETY SYSTEMS.

Essential detectors: 1 or more room air duct air quality detectors.

FEATURES

- Power supply: 24 V~; Consumption: 5 VA; Wall-mounting case 130 x 80 x 35; Protection: IP 30.
- 2 setting potentiometers: - Minimum opening % outside air; - Air quality value requested.



Code	Description	Output 0 ... 10 V–	Relay output	Data sheet
RQA 410	Air quality controller.	1	1	E 310

AIR QUALITY DETECTORS SQC 954 - SQS 954

APPLICATION

Monitor the room air pollution level and transfer to the RQA 410 controller a signal proportional to the pollution value.

THE UNIT CANNOT BE USED FOR SAFETY SYSTEMS.

FEATURES

- Power supply: 24 V ~; Consumption: 5 VA; Wall-mounting case 130 x 80 x 37; Protection: IP 42.



Code	Description	Data sheet
SQC 954 SQS 954	Room air quality detector. Air quality detector for air duct.	E 310 E 310

SEQUENCE CONTROLLERS ICM 674

APPLICATION

Converts a 3-wire modulating signal to On-Off instructions for sequencing electrical devices having several stages: burners, resistances, refrigerators, humidifiers.

FEATURES

- Power supply: 24 V~; Consumption: 1 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Input: 3-wire 24 V~ modulating signal (neutral, opens, closes).
- 7 voltage-free SPDT output contacts: rating 250 V ~, 5 (1) A.



Code	Description	Data sheet
ICM 674	7-step sequencer.	E 812

ELECTROMECHANICAL ROOM HUMIDISTAT

UPA 798

APPLICATION

On-Off switching of humidification or dehumidification units. Wall mounting.

FEATURES

- Sensing element in synthetic fibre; Protection: IP 20; SPDT output: rating: 250 V ~, 10 (3) A.



Code	Description	Setting range	Δ H%	Data sheet
UPA 798	On-Off room humidistat.	30 ... 100 %	4%	-

AIR DUCT ELECTROMECHANICAL HUMIDISTAT

UPC 799

APPLICATION

On-Off switching of humidification or dehumidification units. Mounted in air duct.

FEATURES

- Sensing element in synthetic fibre; Protection: IP 65; SPDT output: rating: 250 V ~, 15 (8) A.



Code	Description	Setting range	Δ H%	Data sheet
UPC 799	On-Off air duct humidistat.	35 ... 100 %	5%	-

ELECTROMECHANICAL FROST PROTECTION THERMOSTAT

TAG 797

APPLICATION

For frost protection of water battery heater units.

FEATURES

- Protection: IP 54; Voltage-free SPDT output: rating: 250 V ~, 15 (8) A.



5

Code	Description	Setting range	Max Temp	Δt	Data sheet
TAG 797	Electromech. frost protection thermostat.	- 10 ... + 12 °C	150 °C	1 °C	E 710

DIFFERENTIAL PRESSURE SWITCH

PDF 795

APPLICATION

For signalling state of cleanliness of filtering units or of operation of fans.

FEATURES

- Protection: IP 54; Voltage-free SPDT output: rating: 250 V ~, 1,5 (0,4) A.



Code	Description	Setting range	Δp	Max p	Data sheet
PDF 795	Differential pressure switch.	50 ... 500 Pa	20 Pa ±15%	5 k Pa	E 730

DAMPER ACTUATORS

CSL ... - CSN ... - CSS ... - CSG ...

APPLICATION

Actuators suitable for operating dampers in air handling sites.
Rotary movement with 90° rotation angle. Mounted directly on damper rod.

FEATURES

• Power supply: 230 V~ or 24 V~/–; Protection: IP 54.



Code	Power supply V~ (VA)	Control	Auxiliary contacts	Dampers m ²	Torque N/m	Run sec.	Data sheet
CSL 138	230 V~ (4)	2 or 3 points	No	1	5	150	E 921
CSL 138/C	230 V~ (4)	2 or 3 points	1	1	5	150	E 921
CSL 134	24 V~/– (2)	2 or 3 points	No	1	5	150	E 921
CSL 134/C	24 V~/– (2)	2 or 3 points	1	1	5	150	E 921
CSL 104	24 V~/– (2)	2 ... 10 V–	No	1	5	150	E 921
CSN 238	230 V~ (6)	2 or 3 points	No	2	10	150	E 922
CSN 238/C	230 V~ (6)	2 or 3 points	1	2	10	150	E 922
CSN 234	24 V~/– (4)	2 or 3 points	No	2	10	150	E 922
CSN 234/C	24 V~/– (4)	2 or 3 points	1	2	10	150	E 922
CSN 204	24 V~/– (4)	2 ... 10 V–	No	2	10	150	E 922
CSS 438	230 V~ (6)	2 or 3 points	No	4	20	150	E 931
CSS 438/C	230 V~ (6)	2 or 3 points	1	4	20	150	E 931
CSS 434	24 V~/– (4)	2 or 3 points	No	4	20	150	E 931
CSS 434/C	24 V~/– (4)	2 or 3 points	1	4	20	150	E 931
CSS 404	24 V~/– (4)	2 ... 10 V–	No	4	20	150	E 931
CSG 838	230 V~ (8)	2 or 3 points	No	8	40	150	E 940
CSG 838/C	230 V~ (8)	2 or 3 points	1	8	40	150	E 940
CSG 834	24 V~/– (7)	2 or 3 points	No	8	40	150	E 940
CSG 834/C	24 V~/– (7)	2 or 3 points	1	8	40	150	E 940
CSG 804	24 V~/– (7)	2 ... 10 V–	No	8	40	150	E 940

DAMPER ACTUATORS WITH SPRING RETURN

CFT ... - CFL ... - CFA ...

APPLICATION

Actuators suitable for operating dampers in air handling sites.
Rotary movement with 90° rotation angle. Mounted directly on damper rod.
Spring return in absence of power.




FEATURES

• Power supply: 230 V~ or 24 V~/–; Protection: CFT ...IP42; CFL .../CF ...: IP 54.



Code	Power supply V~ (VA)	Control	Auxiliary contacts	Dampers m ²	Torque N/m	Run sec.	Emerg. sec.	Data sheet
CFT 028	230 V~ (5)	2 points	No	0.4	2	75	25	E 951
CFT 028/C	230 V~ (5)	2 points	1	0.4	2	75	25	E 951
CFT 024	24 V~/– (5)	2 points	No	0.4	2	75	25	E 951
CFT 024/C	24 V~/– (5)	v	1	0.4	2	75	25	E 951
CFT 004	24 V~/– (4)	2 ... 10 V–	No	0.4	2	150	25	E 951
CFL 128	230 V~ (7)	2 points	No	0.8	4	75	20	E 952
CFL 128/C	230 V~ (7)	2 points	1	0.8	4	75	20	E 952
CFL 124	24 V~/– (7)	2 points	No	0.8	4	75	20	E 952
CFL 124/C	24 V~/– (7)	2 points	1	0.8	4	75	20	E 952
CFL 134	24 V~/– (5)	2 or 3 points	No	0.8	4	150	20	E 952
CFL 104	24 V~/– (5)	2 ... 10 V–	No	0.8	4	150	20	E 952
CFA 328	230 V~ (11)	2 points	No	3	15	150	16	E 953
CFA 328/C	230 V~ (11)	2 points	2	3	15	150	16	E 953
CFA 324	24 V~/– (10)	2 points	No	3	15	150	16	E 953
CFA 324/C	24 V~/– (10)	2 points	2	3	15	150	16	E 953
CFA 304	24 V~/– (10)	2 ... 10 V–	No	3	15	150	16	E 953
CFA 304/C	24 V~/– (10)	2 ... 10 V–	2	3	15	150	16	E 953

ACCESSORIES FOR DAMPER ACTUATORS

Code		Description	Pictures
FCS 123 FCS 223		End-of-run auxiliary with 1 SPDT switch 3 (0.5) A, 250 V~ for CS ... actuators. End-of-run auxiliary with 2 SPDT switches 3 (0.5) A 250 V~ for CS ... actuators.	
PCS 104		Positioner 0 ... 100% for damper actuators 0 ... 10V- (max. 10 actuators).	
KH 8 AH-25 AH-20 AH-GMA KG 10 AH-TF KH-LF KH-AF ZG-NMA ZG-SMA ZG-GMA ZG-TF1 ZG-LF1 ZG-AF		Universal lever for damper shafts (if round 10 ... 18 mm; if square 10 ... 14 mm). Lever for actuators CSN.... Lever for actuators CSS.... Lever for actuators CSG.... Ball joint for connection (use rods with max. diameter 10 mm). Lever for actuators CFT.... Lever for actuators CFL.... Lever for actuators CFA.... Kit for mounting actuators on the flat CSN.... Kit for mounting actuators on the flat CSS.... Kit for mounting actuators on the flat CSG.... Kit for mounting actuators on the flat CFT.... Kit for mounting actuators on the flat CFL.... Kit for mounting actuators on the flat CFA....	

Accessories required for coupling actuators to dampers.

- 1 actuator for 1 damper: - direct installation on damper shaft – no accessories required.
- remote mounting: 1 AH..., 1 KH8, 2 KG 10 & 1 rod ⁽¹⁾.
- 1 actuator for 2 dampers: - direct installation on shaft of a damper: 1 AH..., 1 KH8, 2 KG 10 & 1 rod ⁽¹⁾.
- remote installation: 1 AH..., 2 KH8, 3 KG 10 & 2 rods ⁽¹⁾.
- 1 actuator for 3 dampers: - direct installation on shaft of a damper: 1 AH..., 2 KH8, 3 KG 10 & 2 rods ⁽¹⁾.
- remote installation : 1 AH..., 3 KH8, 4 KG 10 and 3 rods⁽¹⁾.

(1) Connection rods between universal joints: 8 -10 mm rod generally available at ironmongers.

Description	Code	Communication	Page
GAS DETECTOR			
MICROPROCESSOR-BASED DOMESTIC GAS DETECTORS WITH RELAY OUTPUT SUPPLIED WITH INTERNAL METHANE OR LPG DETECTOR	RGS .2.		6.2
MICROPROCESSOR-BASED DOMESTIC GAS DETECTORS WITH NORMALLY-OPEN VALVE & MANUAL RESET SUPPLIED WITH INTERNAL METHANE OR LPG DETECTOR	RGS .4.		6.2
GAS SENSOR FOR RGS ... GAS DETECTORS RIVELATORI RGS MEASURE THE GAS CONCENTRATION & SEND VALUE TO DETECTOR.	SRS ...		6.2
DOMESTIC GAS DETECTORS WITH BACK-UP BATTERY MONOXIDE DETECTOR WITH RELAY OUTPUT INCLUDES INTERNAL SELECTIVE CO SENSOR.	RGS 328		6.3
DOMESTIC GAS DETECTORS WITH BACK-UP BATTERY INCLUDING NORMALLY-CLOSED VALVE WITH MANUAL RESET INCLUDE INTERNAL METHANE OR LPG SENSOR AND BACK-UP BATTERY (LAST ABOUT ONE HOUR).	RGH ...		6.3
GAS DETECTORS IN DIN 6 UNITS MONITOR THE GAS CONCENTRATION WITH 1, 2 OR 3 EXTERNAL SENSORS	RFG 65.		6.4
GAS DETECTORS IN DIN 3 UNITS MONITOR THE GAS CONCENTRATION WITH 1 EXTERNAL SENSORS.	RFG 361		6.4
GAS DETECTION SENSORS FOR RFG 65. & RFG 361 RILEVANO LA CONCENTRAZIONE DI GAS ED INVIANO IL VALORE AL RIVELATORE.	SRD - SRS		6.4
GAS DETECTOR WITH PREALARM 144 X 144 PANEL MOUNTING MONITOR THE GAS CONCENTRATION BY 1 OR 2 EXTERNAL SENSORS.	RFG 782		6.5
GAS MONITORING SENSORS FOR RFG 100 MONITOR THE GAS CONCENTRATION & SEND VALUE TO DETECTOR.	SGC - SGR		6.5
ACCESSORIES FOR GAS DETECTION PLANTS			
BACK-UP BATTERIES FOR GAS DETECTION SYSTEMS USED TO POWER 12 V- GAS SAFETY SYSTEMS ALSO IN EVENT OF MAINS SUPPLY FAILURE.			
STABILIZED (STANDBY) POWER BACK-UP UNITS UNITS FOR KEEPING BATTERIES CHARGED.	AL ...		6.6
WEATHERPROOF BATTERIES LONG-LIFE LEAD-SEALED RECHARGEABLE BATTERIES.	ACC ...		
REMOTE AUDIBLE ALARM REMOTE VISUAL ALARM REMOTE AUDIBLE AND VISUAL ALARM	SAS 880 SAL 881 CSL 882		6.6
GAS SOLENOID VALVES & ACCESSORIES			
NORMALLY-CLOSED BRASS GAS SOLENOID VALVES THREADED DN 1/2", GASTEC CERTIFICATE	GNC 815/OTN		6.7
ENORMALLY-CLOSED BRASS GAS SOLENOID VALVES WITH MANUAL RESET THREADED DN 1/2" - 3/4" - 1".	GRC .../OT		6.7
NORMALLY-CLOSED GAS SOLENOID VALVES ALUMINIUM BODY, THREADED DN 1/2" ... 2", FLANGED DN 65 ... 100.	GNC ...		6.8
NORMALLY-CLOSED GAS SOLENOID VALVES WITH MANUAL RESET ALUMINIUM BODY, THREADED DN 1/2" ... 2", FLANGED DN 65 ... 100.	GRC ...		6.9

SELECTIVE MICROPROCESSOR-BASED DOMESTIC GAS DETECTORS WITH RELAY OUTPUT

RGS 128 - 228

APPLICATION

Electronic digital detectors fitted with internal methane or LPG internal sensing element. Option of connecting 1 or 2 methane, LPG or CO outside sensors. Signals pre-alarm, alarm and fault in sensing element.

Complies with CEI EN 50194 and CEI EN 50244 regulations.

Optional sensors: 1 or 2 methane detecting sensors (SRS 158), LPG (SRS 258), CO (SRS 358).

FEATURES

- Power supply: 230 V~; Consumption: 2 VA;
- Domestic-type enclosure 130 x 80 x 37 mm; Protection: IP 20; Wall-mounting.
- Voltage-free SPDT relay output, rating max. 250 V~, 5 (1) A.

Code	Internal sensor	Alarm threshold	Pre-alarm threshold	Data shee
RGS 128	methane	0,80 %	0,50 %	G 221
RGS 228	LPG	0,35 %	0,20 %	G 221



SELECTIVE MICROPROCESSOR-BASED DOMESTIC GAS DETECTORS WITH N.O. VALVES AND MANUAL RESET

RGS 148 - 248

APPLICATION

Electronic digital detectors fitted with internal methane or LPG internal sensing element. Option of connecting 1 or 2 methane, LPG or CO outside sensors. Signals pre-alarm, alarm and fault in sensing element.

Complies with CEI EN 50194 and CEI EN 50244 regulations.

Optional sensors: 1 or 2 methane detecting sensors (SRS 158), LPG (SRS 258), CO (SRS 358).

FEATURES

- Power supply: 230 V~; Consumption: 2 VA;
- Domestic-type enclosure 130 x 80 x 37 mm; Protection: IP 20; Wall-mounting.
- Low-voltage (about 20 V~) pulsed output for ERA valve (supplied) N.O. with manual reset.

Code	Internal sensor	Alarm threshold	Pre-alarm threshold	Valve supplied			Flow ⁽¹⁾	Data sheet
				Code	DN	Max. press		
RGS 148.15	methane	0.80 %	0.50 %	ERA 015	1/2"	200 mbar	1.5 m³/h	G 226
RGS 148.20	methane	0.80 %	0.50 %	ERA 020	3/4"	200 mbar	2.3 m³/h	G 226
RGS 148.25	methane	0.80 %	0.50 %	ERA 025	1"	200 mbar	3.5 m³/h	G 226
RGS 248.15	LPG	0.35 %	0.20 %	ERA 015	1/2"	200 mbar	0.9 m³/h	G 226
RGS 248.20	LPG	0.35 %	0.20 %	ERA 020	3/4"	200 mbar	1.4 m³/h	G 226
RGS 248.25	LPG	0.35 %	0.20 %	ERA 025	1"	200 mbar	2.2 m³/h	G 226

(1) Flow with pressure drop of 1 mbar (10 mmWG).



DOMESTIC GAS DETECTING FOR RGS ...

SRS ...

APPLICATION

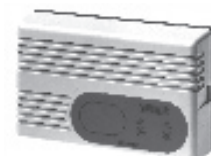
Monitor the concentration of gas present in the air and send a signal to the RGS ... electronic detector.

Conform to CEI EN 50194 and CEI EN 50244 standards.

FEATURES

- Power supply: 230 V~; Consumption: 2 VA.
- Domestic-type enclosure: 130 x 80 x 37 mm; Protection: IP 20; Wall-mounting;
- Output signal: 0,5 ... 5 V~

Code	Description	Length connections		Data sheet
		4 x 1 mm ²	4 x 1.5 mm ²	
SRS 158	Selective sensor for detecting methane.	50 mt.	75 mt.	G 420
SRS 258	Selective sensor for detecting LPG	50 mt.	75 mt.	G 420
SRS 358	Selective sensor for detecting CO	50 mt.	75 mt.	G 420



MICROPROCESSOR-BASED DOMESTIC SELECTIVE CARBON MONOXIDE DETECTOR WITH RELAY OUTPUT



RGS 328

APPLICATION

Digital electronic detector **supplied with internal selective CO sensor**.
Pre-alarm, alarm and sensor fault signals.
Conform to CEI EN 50194 and CEI EN 50244 standards.

FEATURES

- Power supply: 230 V ~; Consumption: 2 VA;
- Domestic-type enclosure: 130 x 80 x 37 mm; Protection: IP 20; Wall-mounting;
- Alarm threshold in relation to CO concentration and time gas persists.
- SPDT voltage-free output relay: maximum switching 250 V~, 5 (1) A.

Code	Description	Data sheet
RGS 328	Selective detector for carbon monoxide.	G 227

DOMESTIC GAS DETECTORS WITH BACKUP BATTERY AND N.C. MANUALLY-RESET VALVE



RGH ...

APPLICATION

Gas detectors for domestic use supplied **with internal methane or LPG sensor**, battery backup having an autonomy of about one hour, and N.C. gas valve ERC 3.. with manual reset.
Monitor the concentration of gas in the air and, when this exceeds the threshold value, cuts off the 3 V – power supply to the valve. Indicates by means of LEDs and internal buzzer the states of pre-alarm, alarm and sensor fault.
Complies with CEI EN 50194 and CEI EN 50244 regulations.

FEATURES

- Power supply: 230 V~; Consumption: 2 VA;
- Domestic-type enclosure: 130 x 80 x 37 mm; Protection: IP 20; Wall-mounting;
- 3 V – output for N.C. ERC valve (supplied) with manual reset.
- ERC valves: Protection: IP 55.

Code	Internal sensor	Alarm threshold	Valve supplied			Flow rate ⁽¹⁾	Data sheet
			Code	DN	Max. press.		
RGH 138.15	methane	0,80 %	ERC 315	1/2"	500 mbar	1.5 m ³ /h	G 310
RGH 138.20	methane	0,80 %	ERC 320	3/4"	500 mbar	2.3 m ³ /h	G 310
RGH 138.25	methane	0,80 %	ERC 325	1"	500 mbar	3.5 m ³ /h	G 310
RGH 238.15	LPG	0,35 %	ERC 315	1/2"	500 mbar	0.9 m ³ /h	G 310
RGH 238.20	LPG	0,35 %	ERC 320	3/4"	500 mbar	1.4 m ³ /h	G 310
RGH 238.25	LPG	0,35 %	ERC 325	1"	500 mbar	2.2 m ³ /h	G 310

ACCESSORIES

Code	Description	Back-up period	Data sheet
ALH 835 ABE 301	Auxiliary power supply for RGH ... gas detectors with power backup. Emergency power supply for ERC ... valves.	5 hours 20 hours	G 310 –

(1) Flow with pressure drop of 1 mbar (10 mmWG)

GAS DETECTORS IN DIN 6 MODULE CASE

RFG 651 - 652 - 653

APPLICATION

Monitor, by means of remote sensors, the concentration of gas in the air, and, when this exceeds the threshold level, activate the operational relay and the external alarms.

Complies with CEI EN 50194 and CEI EN 50244 regulations.

Essential sensors: 1, 2 or 3 sensors for methane, LPG and carbon monoxide.

FEATURES

- Power supply: 230 V ~ or 12 V –; Consumption: 6 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Adjustable alarm threshold: methane = 0.5 ... 1.25 %; propane = 0.22 ... 0.56 %; CO = 0.02 ... 0.05 %.
- Pre-alarm (63 %)alarm and fault sensors alarm.
- Voltage-free SPDT output; rating 250 V ~, 5 (1) A for control N.O. or N.C. valves.



Code	Description	Data sheet
RFG 651	Gas detector for one remote sensor.	G 512
RFG 652	Gas detector for two remote sensors.	G 512
RFG 653	Gas detector for three remote sensors.	G 512

GAS DETECTORS IN DIN 3 MODULE CASE

RFG 361

APPLICATION

Monitor, by means of a remote sensor, the concentration of gas in the air, and, when this exceeds the threshold level, activate the operational relay.

Complies with CEI EN 50194 and CEI EN 50244 regulations.

Essential sensors: 1 sensor for methane, LPG, carbon monoxide.

FEATURES

- Power supply: 230 V ~; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Adjustable alarm threshold: methane = 0.5 ... 1.25 %; propane = 0.22 ... 0.56 %; CO = 0.02 ... 0.05 %.
- Pre-alarm threshold about 63 % of alarm threshold.
- Voltage-free SPDT output; rating 250 V ~, 5 (1) A for control N.O. or N.C. valves.



Code	Description	Data sheet
RFG 361	Gas detector for one remote sensor.	G 521

GAS SENSORS FOR RFG 651/2/3 AND RFG 361

SRD ... - SRS ...

APPLICATION

Monitor the concentration of combustible gas or carbon monoxide in the air and activate a voltage output to the electronic detector. Housing in plastic material. Wall mounting.

Complies with CEI EN 50194 and CEI EN 50244 regulations.

FEATURES

- Power supply: 12 V– (from the detector); Consumption: 150 mA; Output signal: 0 ... 5 V–.



Code	Gas	Case	Protect.	Connection length		Data sheet
				3 x 1 mm ²	3 x 1.5 mm ²	
SRD 150	methane	Domestic (80 x 80 x 35 mm)	IP 20	50 m	75 m	–
SRD 250	LPG	Domestic (80 x 80 x 35 mm)	IP 20	50 m	75 m	–
SRD 350	CO	Domestic (80 x 80 x 35 mm)	IP 20	50 m	75 m	–
SRS 150	methane	Commercial (80 x 80 x 42 mm)	IP 44	50 m	75 m	–
SRS 250	LPG	Commercial (80 x 80 x 42 mm)	IP 44	50 m	75 m	–
SRS 350	CO	Commercial (80 x 80 x 42 mm)	IP 44	50 m	75 m	–

GAS DETECTOR 144 x 144 WITH PRE-ALARM FOR PANEL MOUNTING

RFG 782

APPLICATION

Monitors, by means of one or two remote sensors, the concentration of gas in the air. When this concentration exceeds the 1st threshold, the detector activates the pre-alarm relay and when the concentration exceeds the 2nd threshold it activates the operational relay and the external alarms. Complies with CEI EN 50194 and CEI EN 50244 regulations.

Essential sensors : 1 or 2 sensors for methane, LPG, carbon monoxide.



FEATURES

- Power supply: 230 V ~ or 12 V –; Consumption: 6 VA; Case: DIN 144 x 144; Protection: IP 40.
- Adjustable pre-alarm and alarm thresholds: methane = 0.25 ... 0.8 %; LPG = 0.06 ... 0.35 %; CO = 0.005 ... 0.05 %.
- Signals pre-alarm, alarm and fault in sensors.
- Voltage-free SPDT outputs: rating: 250 V~, 10 (2.5) A for control of N.O. or N.C. valves.

Code	Description	Data sheet
RFG 782	Gas leak detector with pre-alarm for 1 or 2 remote sensors.	G 610

GAS SENSORS FOR RFG 782

SGC 3.. - SGR 3..

APPLICATION

Monitor inflammable gas or carbon monoxide concentration in the air and process a voltage output to the electronic detector RFG 782. Housing in plastic material. Wall mounting.

Complies with CEI EN 50194 and CEI EN 50244 regulations.



FEATURES

- Power supply: 12 V– (from the detector); Consumption: 150 mA; Output signal: 0 ... 5 V–.

Code	Gas	Case	Protect.	Connection length		Data sheet
				3 x 1 mm ²	3 x 1.5 mm ²	
SGC 300/M	methane	Domestic (90 x 65 x 42 mm)	IP 20	50 m	75 m	–
SGC 300/P	LPG	Domestic (90 x 65 x 42 mm)	IP 20	50 m	75 m	–
SGC 301	CO	Domestic (90 x 65 x 42 mm)	IP 20	50 m	75 m	–
SGR 300/M	methane	Commercial (80 x 80 x 42 mm)	IP 44	50 m	75 m	–
SGR 300/P	LPG	Commercial (80 x 80 x 42 mm)	IP 44	50 m	75 m	–
SGR 301	CO	Commercial (80 x 80 x 42 mm)	IP 44	50 m	75 m	–

BACK-UP POWER UNITS FOR GAS SAFETY SYSTEMS

For supplying 12 V– to gas safety systems in event of mains failure.

Consists of:

- 1 Stabilized (standby) back-up power unit.
- 1 Weatherproof battery.

STABILIZED (STANDBY) POWER BACK-UP UNITS

ALI 310 - ALP 1..

APPLICATION

Stabilized back-up units for keeping batteries charged.



Code	Power VA	Input V ~	Output		Dimensions L x P x H mm.	Weight Kg
			V ~	A		
ALI 310	24	230	13.8	3	140 x 120 x 42	0.5
ALP 114	84	230	13.5	10	200 x 240 x 110	6.7
ALP 120	180	230	13.5	20	200 x 275 x 130	7.5

WEATHERPROOF BATTERIES

ACC ...

APPLICATION

Long-life lead-sealed rechargeable batteries. Withstand demanding operating conditions such as overloading and very low discharge. Do not require any maintenance.



Code	Power VA	Voltage V –	Rating A/h	Dimensions L x P x H mm.	Weight Kg
ACC 019	22	12	2.3	178 x 34 x 65	0.9
ACC 060	72	12	7.0	151 x 64.5 x 97.5	2.5
ACC 150	180	12	17	181 x 76 x 167	6
ACC 240	288	12	24	175 x 166 x 125	8.1
ACC 400	480	12	40	197 x 165 x 170	14

METHOD OF CHOOSING POWER SUPPLY IN RELATION TO SYSTEM TO BE ENERGISED

- Calculate the total power absorbed P_t in VA by the system which has to be energised by adding together all the consumptions of the single components of the system: detectors P_r , sensors P_s (only SRS 158-258, SRC 358), valves P_v , external alarms P_a . Power consumption by sensors SGC ..., SGR ... must not be added since this is already included in that of the detectors which energise them.

$P_t = P_r + P_s + P_v + P_a$. The power of the power unit must be greater than or equal to P_t .

- By multiplying the power absorbed, P_t , by the number of hours h for which it is necessary to keep the system running efficiently without mains supply, the power effectively necessary, P_e , is obtained.

$P_e = P_t \times h$. The power of the battery must not be less than P_e . If a single battery is not sufficient, use two or more batteries in parallel.



GENERAL ACCESSORIES FOR GAS DETECTION SYSTEMS

Code	Description	Power supply	Consumption	Protection
SAS 880	Remote audible alarm.	230 V~	10 VA	IP 22
SAL 881	Remote visual alarm.	230 V~	4 VA	IP 54
CSL 882	Remote audible and visual alarm.	230 V~	10 VA	IP 30

N.C. GAS SOLENOID VALVES

GNC 815 / OTN



APPLICATION

Without power they are closed, when powered they are open.
Approved Class A Group 2: GASTEC PIN: 63AQ1350, October 1999.

FEATURES

- Constructed to EN standard; Protection: IP 54. Brass body.
- Working temperature: – 15 ... + 60 °C; Mounted with coil axis within 90° of vertical.

Code	DN	Power supply		P. max ⁽¹⁾ mbar	Flow rate m ³ /h ⁽²⁾		Data sheet
		V	W		0.5 mbar	1 mbar	
GNC 815/OTN	1/2"	230 V~	22	200	0.7	1	G 912

N.C. GAS SOLENOID VALVES WITH MANUAL RE-SET

GRC ... / OT



APPLICATION

Without power they are closed; they have to be re-opened manually and remain open when powered.

FEATURES

- Brass body; Protection: IP 54.
- Working temperature: – 15 ... + 60 °C; Mounted with coil axis within 90° of vertical.

Code	DN	Power supply		P. max ⁽¹⁾ mbar	Flow rate m ³ /h ⁽²⁾		Data sheet
		V	W		0.5 mbar	1 mbar	
GRC 815/OT	1/2"	230 V~	8	500	0.7	1	G 922
GRC 415/OT	1/2"	24 V~	22	500	0.7	1	G 922
GRC 215/OT	1/2"	12 V–	22	500	0.7	1	G 922
GRC 820/OT	3/4"	230 V~	8	500	1.4	2	G 922
GRC 420/OT	3/4"	24 V~	22	500	1.4	2	G 922
GRC 220/OT	3/4"	12 V–	22	500	1.4	2	G 922
GRC 825/OT	1"	230 V~	8	500	3	4.3	G 922
GRC 425/OT	1"	24 V~	22	500	3	4.3	G 922
GRC 225/OT	1"	12 V–	22	500	3	4.3	G 922

(1) – Maximum working pressure.

(2) – Flow of methane with pressure drop of 0.5 mbar (5mmWG) and 1 mbar (10 mmWG).

100 mbar = 10 kPa = 1.000 mm.WG

N.C. GAS SOLENOID VALVES

GNC ...

APPLICATION

Without power they are closed; when powered they are open.
Approved Class A Group 2: GASTEC PIN: 63AQ1350, October 1995.



FEATURES

- Constructed to EN standards; Protection: IP 54; Aluminium body.
- Working temperature: - 15 ... 60 °C; Mounted with coil axis within 90° of vertical.

Code	DN	Power supply		P.max ⁽¹⁾ mbar	Flow rate m ³ /h ⁽²⁾		Data sheet
		V	W		0.5 mbar	1 mbar	
SCREWED							
GNC 815	1/2"	230 V~	20	200	2.8	4	G 911
GNC 415	1/2"	24 V~/–	16	200	2.8	4	G 911
GNC 215	1/2"	12 V~/–	25	200	2.8	4	G 911
GNC 820	3/4"	230 V~	45	360	5.5	8	G 911
GNC 420	3/4"	24 V~/–	30	200	5.5	8	G 911
GNC 220	3/4"	12 V~/–	30	200	5.5	8	G 911
GNC 825	1"	230 V~	45	360	8.3	13	G 911
GNC 425	1"	24 V~/–	30	200	8.3	13	G 911
GNC 225	1"	12 V~/–	30	200	8.3	13	G 911
GNC 832	1"1/4	230 V~	20/80 ⁽³⁾	360	14	20	G 911
GNC 432	1"1/4	24 V~/–	65	200	14	20	G 911
GNC 232	1"1/4	12 V~/–	65	200	14	20	G 911
GNC 840	1"1/2	230 V~	20/80 ⁽³⁾	360	19	28	G 911
GNC 440	1"1/2	24 V~/–	65	200	19	28	G 911
GNC 240	1"1/2	12 V~/–	65	200	19	28	G 911
GNC 850	2"	230 V~	20/80 ⁽³⁾	360	27	40	G 911
GNC 450	2"	24 V~/–	65	130	27	40	G 911
GNC 250	2"	12 V~/–	65	130	27	40	G 911
FLANGED							
GNC 865	65 (4 holes)	230 V~	45/185 ⁽³⁾	200	55	80	G 911
GNC 465	65 (4 holes)	24 V~/–	15/185 ⁽³⁾	200	55	80	G 911
GNC 880	80 (8 holes)	230 V~	45/185 ⁽³⁾	200	73	100	G 911
GNC 480	80 (8 holes)	24 V~/–	15/185 ⁽³⁾	200	73	100	G 911
GNC 8100	100 (8 holes)	230 V~	70/290 ⁽³⁾	200	110	160	G 911
GNC 4100*	100 (8 holes)	24 V~/–	20/200 ⁽³⁾	200	110	160	G 911

(1) – Maximum working pressure.

(2) – Flow of methane with pressure drop of 0.5 mbar (5mmWG) and 1 mbar (10 mmWG) 100 mbar = 10 kPa = 1.000 mm.WG

(3) – Power absorbed by startup

* – Approved in class "B"

N.C. GAS SOLENOID VALVES WITH MANUAL RE-SET

GRC ...

APPLICATION

Without power they are closed; they have to be re-opened manually and remain open when powered.

FEATURES

- Constructed to DIN standards; Protection: IP 54; Aluminium body.
- Working temperature: - 15 ... + 60 °C; Mounted with coil axis within 90° of vertical.



Code	DN	Power supply		P.max ⁽¹⁾ mbar	Flow rate m ³ /h ⁽²⁾		Data sheet
		V	W		0.5 mbar	1 mbar	
SCREWED							
GRC 815	1/2"	230 V~	25	500	2.8	4	G 921
GRC 415	1/2"	24 V~/-	25	500	2.8	4	G 921
GRC 215	1/2"	12 V~/-	12	500	2.8	4	G 921
GRC 820	3/4"	230 V~	25	500	5.5	8	G 921
GRC 420	3/4"	24 V~/-	25	500	5.5	8	G 921
GRC 220	3/4"	12 V~/-	12	500	5.5	8	G 921
GRC 825	1"	230 V~	25	500	8.4	12	G 921
GRC 425	1"	24 V~/-	25	500	8.4	12	G 921
GRC 225	1"	12 V~/-	12	500	8.4	12	G 921
GRC 832	1"1/4	230 V~	25	500	14	20	G 921
GRC 432	1"1/4	24 V~/-	25	500	14	20	G 921
GRC 232	1"1/4	12 V~/-	12	500	14	20	G 921
GRC 840	1"1/2	230 V~	25	500	19	27	G 921
GRC 440	1"1/2	24 V~/-	25	500	19	27	G 921
GRC 240	1"1/2	12 V~/-	12	500	19	27	G 921
GRC 850	2"	230 V~	25	500	28	40	G 921
GRC 450	2"	24 V~/-	25	500	28	40	G 921
GRC 250	2"	12 V~/-	12	500	28	40	G 921
FLANGED							
GRC 865	65 (4 holes)	230 V~	25	500	55	80	G 921
GRC 465	65 (4 holes)	24 V~/-	25	500	55	80	G 921
GRC 265	65 (4 holes)	12 V~/-	25	500	55	80	G 921
GRC 880	80 (8 holes)	230 V~	25	500	70	100	G 921
GRC 480	80 (8 holes)	24 V~/-	25	500	70	100	G 921
GRC 280	80 (8 holes)	12 V~/-	25	500	70	100	G 921
GRC 8100	100 (8 holes)	230 V~	45	500	110	155	G 921
GRC 4100	100 (8 holes)	24 V~/-	45	500	110	155	G 921
GRC 2100	100 (8 holes)	12 V~/-	45	500	110	155	G 921

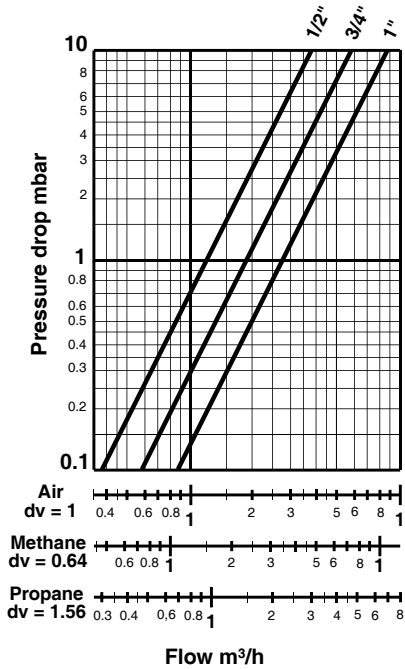
(1) – Maximum working pressure.

(2) – Flow of methane with pressure drop of 0.5 mbar (5mmWG) and 1 mbar (10 mmWG). 100 mbar = 10 kPa = 1.000 mm.WG

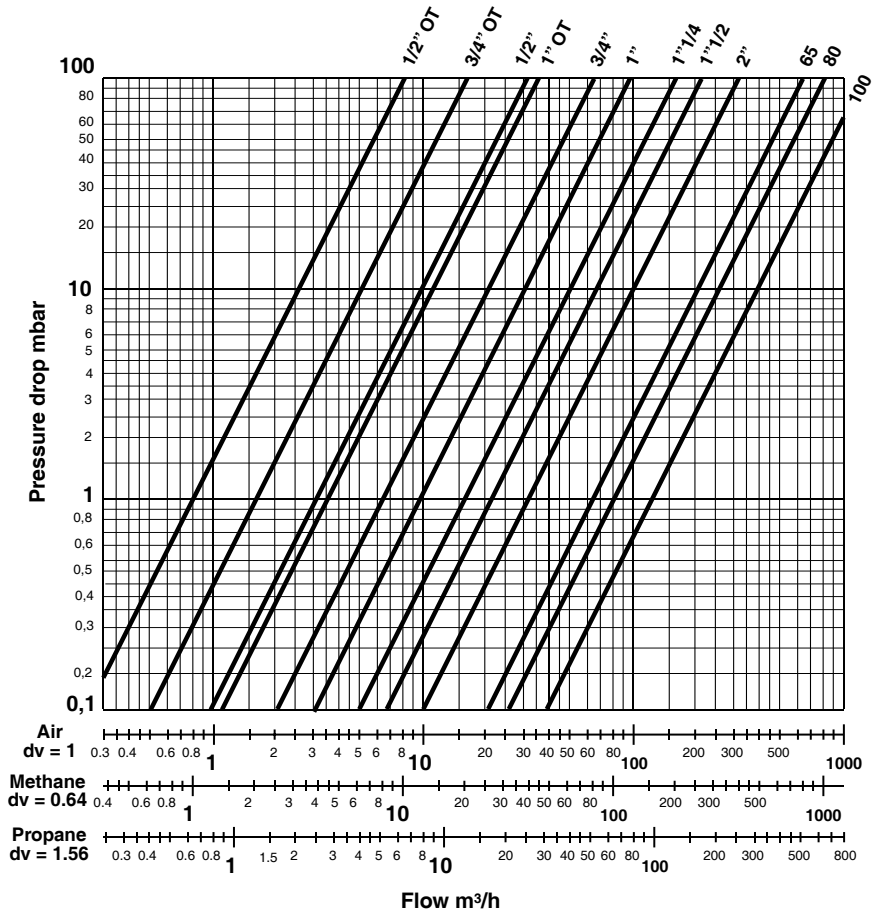
FEATURES OF GAS SOLENOID VALVES

Model	Operation	Advantages	Disadvantages
Normally closed GNC	Without power closes. With power opens.	Ideal for boiler plants. In event gas leak, detector switches off power to valve. Power returns only with manual re-set of detector. In event mains supply failure valve closes; when power returns valve re-opens automatically.	Not recommended for kitchens without thermo-couple. In event failure of mains power, valve closes and flame goes out; when power returns valve re-opens and gas escapes causing a dangerous situation.
Normally closed with manual re-set GRC - ERC	Without power closes. With power opens only by manual action.	Maximum safety for all uses.	At each failure of mains supply, valve closes. When power returns valve has to be re-opened manually. Not suitable for kitchens because, if no power, user tends to re-open valve with mechanical aids. On return of power, safety system no longer functions.
Normally open with manual re-set GRA - ERA	With power closes. Without power opens only by manual action.	In kitchen permits using gas even in event lack of mains supply. In boiler plant, in event failure of mains power, valve remains open and burners safety system operates. On return of power, unnecessary manual operation to re-start plant.	In event lack of mains power, valve remains open and gas safety system remains active only if powered by back-up battery. At present these are not subject to approval.

**PRESSURE DROP
ERA ..., ERC ...**



**PRESSURE DROP
GNC ..., GRC ..., GRA ...**



100 mbar = 10 kPa = 1.000 mm.WG

Description	Code	Communication	Page
DEGREE-DAYS METERING UNIT			
DEGREE-DAYS METERING UNIT	XGG 618	OPTIONAL C ←BUS	7.3
“ENERGICOSTER” MULTIZONE SYSTEM OF METERING THERMAL & REFRIGERATION ENERGY & DHW CONSUMPTION			
THE SYSTEM COMPRISES: - 1 UMC 734 CENTRAL DISPLAY UNIT, WITH C-BUS. - 1 IET 7.. ELECTRONIC INTEGRATOR, WITH C-BUS, FOR EACH METERING UNIT. - 1 VOLUMETRIC METER WITH PULSE TRANSMITTER KU ..., KM ..., KW ... FOR EACH METERING UNIT.			
VISUAL DISPLAY UNIT FOR METERING SYSTEMS MASTER OF C-BUS COMMUNICATION WITH THE REMOTE UNITS PERMITS SEEING ON ALPHANUMERIC DISPLAY ALL THE DATA MONITORED BY THE REMOTE METERING UNITS IEB ... (MAX. 239).	UMC 73.	C ←BUS	7.4
TELEMANAGED ELECTRONIC ENERGY INTEGRATORS WITH C-BUS POWER SUPPLY: 230 V~ OR 24 V~, SUPPLIED WITH FLOW & RETURN DETECTORS.	IET 7..	C ←BUS	7.5
VOLUMETRIC TURBINE-DRIVEN METERS WITH PULSE TRANSMITTER			
METER THE QUANTITY OF WATER IN CIRCULATION IN THE PLANT. SUPPLIED WITH PULSE TRANSMITTERS WITH REED CONTACT			
VOLUMETRIC TURBINE METERS WITH MULTIPLE JETS AND PULSE TRANSMITTER	KMF KMS		7.7
SINGLE-JET VOLUMETRIC METERS WITH PULSE TRANSMITTER FOR WATER 30 - 90 °C, THREADED PN 16, DN 1/2" ... 1"1/4, Qn 1.5 ... 5 m³/h.	KUF KUC		7.8
WOLTMANN VOLUMETRIC TURBINE METERS WITH PULSE TRANSMITTERS FOR WATER 30 – 120 °C, FLANGED PN 16, DN 50 ... 200, Qn 15 ... 250 m³/h.	KWP KWS		7.8
THERMSHARE SYSTEM			
THIS SYSTEM PERMITS INDEPENDENT HEATING AND DHW CONTROL WITH CENTRALISED SYSTEMS AND ALLOCATING THE COSTS OF HEATING AND HOT AND COLD DOMESTIC WATER TO INDIVIDUAL APPARTMENTS			
PROGRAM FOR ALLOCATING SERVICE CHARGES APPLICATION SOFTWARE FOR ALLOCATING HEATING AND ALL OTHER SERVICE CHARGES.	SWC 501		7.6
RADIATOR VALVES CONTROL UNIT 1 UNIT FOR EACH APPARTMENT	ICS 6..		7.6
HEAT METERING UNIT 1 UNIT EVERY 14 APPARTMENTS.	UCR 668	C ←BUS	7.7
CONSUMPTION METERING UNIT 1 UNIT EVERY 16 METERING UNITS; SUITABLE FOR OTHER CONSUMER METRING.	UCA 668	C ←BUS	7.7
PULSE COUNTER UNIT 1 UNIT EVERY 2 METERING UNITS	UCI 328	C ←BUS	7.7
MULTIPLE-JET VOLUMETRIC TURBINE METERS WITH PULSE TRANSMITTERS FOR WATER 30 – 90 - 120 °C, THREADED PN 16, DN 1/2" ... 2", Qn 1,5 ... 15 m³/h.	KMF KMS		7.8
SINGLE-JET VOLUMETRIC METERS WITH PULSE TRANSMITTER FOR WATER 30 - 90 °C, THREADED PN 16, DN 1/2" ... 1"1/4, Qn 1.5 ... 5 m³/h.	KUF KUC		7.9
WOLTMANN VOLUMETRIC TURBINE METERS WITH PULSE TRANSMITTERS FOR WATER 30 – 120 °C, FLANGED PN 16, DN 50 ... 200, QN 15 ... 250 m³/h.	KWP KWS		7.9

C ←BUS = communication with telemanagement OPTIONAL **C ←BUS** = optional telemanagement **C ←RING** = data exchange between controllers

EXAMPLES OF CONSUMPTION METERING PLANTS

Plants	Products required	page
<p>Centralised with horizontal distribution (zoned)</p> <ul style="list-style-type: none"> • Thermal energy metering by “ENERGICOSTER” system. 	<p>For each apartment:</p> <ul style="list-style-type: none"> - 1 zone valve HGM ... or HMM ... - 1 actuator CDK 064 or CDK 068 - 1 chronothermostat - 1 integrator IEB 7.. - 1 volumetric meter KUC ..., KMR ... <p>For plant:</p> <ul style="list-style-type: none"> - 1 central display unit UMC 734 	<p>8.3</p> <p>8.3</p> <p>2.23</p> <p>7.5</p> <p>7.9</p> <p>7.5</p>
	<ul style="list-style-type: none"> • Thermal energy metering and DHW consumption. 	<p>For each apartment:</p> <ul style="list-style-type: none"> - 1 zone valve HGM ... or HMM ... - 1 actuator CDK 064 or CDK 068 - 1 chronothermostat CMD 91 - 1 Integrator - 1 volumetric flow meter KUC, KMC (heating) - 1 volumetric flow meter KUC ..., KMR ... (DHW) <p>For plant:</p> <ul style="list-style-type: none"> - 1 central display unit UMC 734
<p>Centralised with vertical distribution (riser based)</p> <ul style="list-style-type: none"> • Allocation heating charges using “THERMSHARE” system. 	<p>For each radiator:</p> <ul style="list-style-type: none"> - 1 HGT ... radiator valve - 1 actuator CDR 061 <p>For each apartment:</p> <ul style="list-style-type: none"> - 1 control unit ICS 618/628 - 1 chronothermostat <p>Every 14 apartments:</p> <ul style="list-style-type: none"> - 1 metering unit UCR 668 	<p>8.2</p> <p>8.2</p> <p>7.6</p> <p>2.23</p> <p>7.7</p>
	<ul style="list-style-type: none"> • Metering of DHW hot and cold water consumption by “THERMOSHARE” system. 	<p>For each apartment:</p> <ul style="list-style-type: none"> - 1 volumetric meter KUC (hot water) - 1 volumetric meter KUF (cold water) <p>Every 14 flow meterings:</p> <ul style="list-style-type: none"> - 1 metering unit UCA 668
<p>District heating sustations</p> <ul style="list-style-type: none"> • District heating network for hot water (max. 100°C) with volumetric turbine-édriven. 	<p>For each substation:</p> <ul style="list-style-type: none"> - 1 integrator - 1 volumetric meter KMS, KWS 	<p>7.5</p> <p>7.9.10</p>

**DEGREE-DAYS METERING UNIT
OPTIONAL TELEMANAGEMENT**

OPTIONAL
C ←BUS



XGG 618

TELEMANAGEMENT C-Bus: Enabled using ACB 460 accessory.

APPLICATION

Meters winter degree-days in each individual building and permits:

- calculating heating costs.
- keeping under control the overall efficiency of the plants.
- program fuel requirements.

Essential sensors: 1 outside sensor for metering degree-days.

FEATURES

- Power supply: 230 V~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Digital programming by means of four keys and alphanumeric display.
- Automatic switching GMT - BST.
- Accuracy: Better than required by regulation EN 1434, Class 2.
- Metering:
 - standard degree-days: difference between mean daily (24 hour) outside temperature and the reference room temperature of 20°C.
 - room degree-days: difference between the mean daily (24hour) outside temperature and a room temperature which can be set. Metering enabled by external control.
 - hours of operation: hours devices switched on (presence of power).
- Data logger: One daily recording of all counts; max. 366 recordings; display with dates.

Code	Description	Data sheet
XGG 618	Degree-days metering unit.	H 111

ACCESSORIES

Code	Description	Campo di impiego	Sensore	Data sheet
ACB 460 SGG 001	Plug-in for communication via C-Bus. Outside temperature sensor for measuring degree-days.	- - 50 ... 40 °C	- Pt 1 kΩ	T 433 N 121

**MULTIZONE SYSTEM FOR METERING HEAT AND COLD ENERGY
AND DHW CONSUMPTION**

"ENERGICOSTER"

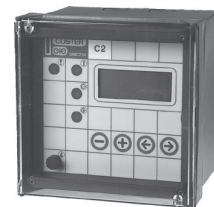
The system comprises:

- 1 visual display unit **UMC 734** with C-Bus
- 1 electronic integrator **IEB 7..** or **IET 7..** with C-Bus complete with flow and return sensors for each metering unit
- 1 volumetric hour run meter with pulse transmitter **KU ...**, **KM ...**, **KW ...**, **KS ...** for each metering unit.

**VISUAL DISPLAY UNIT
FOR METERING SYSTEMS**

UMC 73.

C ←BUS



APPLICATION

Supervisor for Bus communication with remote units. Permits viewing on alphanumeric display all the data monitored by the remote metering units IEB ... and IET 7.. (max. 239).

Communication with Telemangement systems via parallel C-Bus connection..

FEATURES

- Power supply: 230 or 24 V~; Consumption: 10 VA; Case 144 x 144; Protection: IP 40.

Code	Description	Data sheet
UMC 734 UMC 738	Central display unit for metering systems 24 Volt ~. Central display unit for metering systems 230 Volt ~.	H 310 H 310

ELECTRONIC ENERGY INTEGRATORS

IET 7..

C ←BUS



APPLICATION

MMeters and records the quantity of thermal and cold energy in relation to the volume of water circulating at the site, measured by means of a volumetric meter with pulse transmitter of any type, and by the temperature difference between flow and return measured by the two detectors supplied (separate pockets).

Separate heat and cold metering with automatic switching.

Measures and records the hot and cold water consumptions metered by the volumetric meters with pulse transmitters (IET 7383 / 7343).

Forwarding by means of two outputs the measurement of thermal/cold energy and the metering of the relative flow (IET 7183 / 7143).

Communication with Telemangement systems by means of C-Bus parallel connection.

Essential accessories: 1 pair pockets or 1 pair pocket holder connectors.

FEATURES

- Power supply: 230 V~ or 24 V~; Consumption: 0,5 VA.
- Watertight container 105 x 115; Protection: IP 54; Mounting on DIN rail on wall or on insulated pipe.
- Flow and return detectors: Pt 1.000; Measurement range TB: 0 ... 150 °C; NTD differential: 0 ... 99 °C.
- Measurement flow: - Reed pulse transmitter.
- Burst pulse transmitter.

Code		Power supply	Metering energy and flow			Pulse transmitter		Data sheet
			Heat / Cool	H ₂ O Hot	H ₂ O Cold	Energy	Flow	
IET 7383		230 V~	MW/h + m ³	m ³	m ³	-	-	H 354
IET 7343		24 V~	MW/h + m ³	m ³	m ³	-	-	H 354
IET 7183		230 V~	MW/h + m ³	-	-	Yes	Yes	H 355
IET 7143		24 V~	MW/h + m ³	-	-	Yes	Yes	H 355

ACCESSORIES

Code	Description	Unions	Pipework DN	Depth + thread	Overall dimensions
GIS 045	Pair of brass pockets for sensor.	1/2"	65 ... 100	45+15 mm	-
GIS 025	Pair of brass pockets for sensor.	1/2"	1"1/4 ... 2"	25+15 mm	-
ART 015	Pair of T connectors with pair of sensors.	1/2"	1/2"	-	56 mm
ART 020	Pair of T connectors with pair of sensors.	3/4"	3/4"	-	56 mm
ART 025	Pair of T connectors with pair of sensors.	1"	1"	-	62 mm

For pipework larger than DN 100 use pairs of pockets GIS of other sizes such as accessories of SAF ... sensors on page 9.4

**The cables of the sensors cannot be lengthened by more than 10 meters (as required by the standards).
NB: For the sensor cables , each additional meter to the three-meter standard costs €5 per meter.**

THE METROLOGICAL STANDARDS OF THE IET... INTEGRATORS MEET THE REQUIREMENTS OF THE STANDARDS: UNI EN 1434-4, CEI EN 55014-1, CEI EN 55014-2, CEI EN 60730-1

The test results are :

INSTITUTE OF RESEARCH & TESTING M. MASINI S.r.l. : number 2262-2006 Version. 01 dated 04/07/2007
: number 4209-2005 dated 29/11/2005
: number 4210-2005 dated 29/11/2005
TESEO S.P.A.C.E. : number 07116 dated 01/06/2007
: number 07117 dated 01/06/2007
: number 07118 dated 01/06/2007

**INDEPENDENT HEATING/DHW CONTROL WITH CENTRALISED SYSTEMS
METERING OF HEATING AND DHW CONSUMPTION
PROGRAMME FOR COST ALLOCATION IN APARTMENT BLOCKS
"THERMSHARE"**

The system consists of:

- 1 room thermostat or chronothermostat with voltage-free On-Off output switch for each apartment or zone.
- 1 **ICS 618** or **ICS 628** control unit for zone valves or radiators for each apartment or zone.
- 1 **UCR 668** heat metering unit for each group of 14 apartments 4 (or zones).
- 1 **HGT** valve with **CDR 061** actuator for each radiator.
- 1 **KU ...**, **KM ...** volumetric meter with pulse transmitter for each water input (hot or cold).
- 1 **UCA 668** water metering unit for each group of 14 volumetric meters.

The system can be complemented by the **SWC 501** programme for allocating service charges.

**PROGRAMME FOR ALLOCATION OF WATER/HEATING CHARGES
IN APARTMENT BLOCKS**

SWC 501

APPLICATION

Application software for allocating service charges in apartment blocks. It utilises the data from the multizone energy metering system and/or the heating allocation system.

FEATURES

- Supplied on CD.
- Minimum recommended: Microsoft (TM) Windows 98SE, PC Pentium III 800 Mhz, RAM 256 HD, 500 HD free.

Code		Description	Data sheet
SWC 501	free of charge	Programme for allocation of service charges in apartment blocks.	–

RADIATOR VALVES CONTROL UNIT

ICS 618 - 628

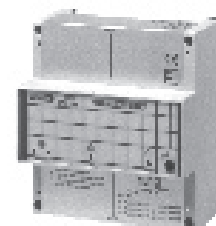
APPLICATION

Convert the on-off signal coming from a room thermostat into an On-Off command for a zone valve with a 3-wire actuator or into a 24V ~ command for control of radiator valves with a 1-wire + earth actuator.

Output signal for connection to heat metering counting unit UCR 668.

FEATURES

- Power supply 230 V ~ / 24 V ~; Consumption 4 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.



Code		Description	Power supply	Data sheet
ICS 618 ICS 628		Radiators control unit (max. 15). Radiators control unit (max. 15).	24 V~ Use ALA 848 230 V~	H 510 H 510

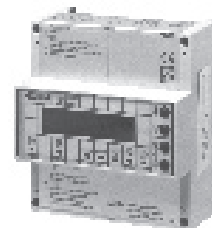
ACCESSORIES

Code		Description	Max. use	8 unit DIN case
ALA 848		Power supply transformer 230 / 24 V~, 50 VA.	7 ICS 618	190 x 94

HEATING METERING UNIT

UCR 668

C ←BUS



APPLICATION

Meters operating times of zoned heating plants.
Communication with Telemangement systems via C-Bus parallel connection.

FEATURES

- Power supply: 230 V~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Metering of actual hours and hours compensated in relation to of total and seasonal flow temperature of 14 plants.
- On-Off control of plant pump in relation to demand from zones.
- Control opening valve for compensated control by manual control.
- Memorisation of time and date of start and end of fault state in each unit of local control.
- Control of external signalling of fault state in the local control units.
- Alarm for short or open detector circuits and for irregular operation of plant.
- Simulation of operation for testing electrical connections when commissioning.

Code	Description	Data sheet
UCR 668	Metering unit for heating for 14 zones.	H 410

ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
SIH 010	Immersion detector with brass pocket.	0 ... 99 °C	NTC 10 kΩ	N 140

WATER CONSUMPTION METERING UNIT

UCA 668

C ←BUS



APPLICATION

Measures consumption metered by meters with pulse transmitters.
Communication with Telemangement systems via C-Bus parallel connection.

FEATURES

- Power supply: 230 V~; Consumption: 5 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Total and seasonal metering of consumption from 16 flow meters.
- Alarm for irregular functioning of device.
- Testing of electrical connections at commissioning.

Code	Description	Data sheet
UCA 668	Water consumption metering unit.	H 420

PULSE COUNT UNIT

UCI 328

C ←BUS



APPLICATION

Acquires and sums the pulse coming from two emitters (volumetric meters, integrators, etc.).
Communication with Telemangement systems via C-Bus parallel connection.

FEATURES

- Power supply: 230 V~; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Two inputs for pulse count.

Code	Description	Data sheet
UCI 328	Pulse count unit.	H 421

7

VOLUMETRIC METERS WITH PULSE TRANSMITTERS

Measure the quantity of water in circulation in the plant. Complete with pulse transmitters with reed contact. Connected to electronic integrators permit energy metering. They must be installed on the return pipe with, upstream, a filter for collecting impurities. Their size must be in relation to the nominal flow Q_n and not according to the diameter of the pipework. Manufactured in accordance with current regulations.

VOLUMETRIC TURBINE METERS WITH MULTIPLE JETS AND PULSE TRANSMITTERS

KMF ... - KMS ...

APPLICATION

Volumetric turbine meter with multiple jet for use in combination with IEB ... and IET ... integrators for metering thermal and/or cooling energy or for metering consumption of hot or cold water..

FEATURES

- PN 16. Includes male threaded unions; KMF 50CF, KMS 50CF are flanged.
- KMS ..., KMS U..., KMS D... are approved for class A; KMF approved for cold water (CEE 75/33)
- Other non-specified meters have not been officially approved
- Includes reed pulse transmitter, Connection cable 2 x 0.5 mm 2 x 2 m, Protection : IP68.



Code	DN	Lenght. ⁽¹⁾ mm.	Q _n m ³ /h	Q _{max} m ³ /h	Q _t l/h	Q _{min} l/h	Kvs m ³ /h	Δp Q _n kPa	Pulse transmitter			Data sheet	
									pul/l (K)	pul/m ³	l/pul		
Tmax 30°C horizontal													
KMF 15D	1/2"	165	1.5	3	120	30	4.5	10.5	0.1	100	10	H 621	
KMF 20D	3/4"	190	2.5	5	200	50	6.7	14.5	0.1	100	10	H 621	
KMF 25C	1"	260	3.5	7	280	70	7.2	23	0.01	10	100	H 621	
KMF 32C	1"1/4	260	5	12	400	100	12.8	24	0.01	10	100	H 621	
KMF 40C	1"1/2	300	10	20	800	200	22	21	0.01	10	100	H 621	
KMF 50C	2"	300	15	30	3,000	450	30.5	22	0.01	10	100	H 621	
Tmax 120°C horizontal													
KMS 15D	1/2"	165	1.5	3	150	30	3	10.5	0.1	100	10	H 622	
KMS 20D	3/4"	190	2.5	5	250	50	5	14.5	0.1	100	10	H 622	
KMS 25C	1"	260	3.5	7	280	65	7	23	0.01	10	100	H 622	
KMS 32C	1"1/4	260	6	12	480	90	12	24	0.01	10	100	H 622	
KMS 40C	1"1/2	300	10	20	1,000	160	20	21	0.01	10	100	H 622	
KMS 50C	2"	270	15	30	1,200	200	30	22	0.01	10	100	H 622	
KMS 50CF⁽²⁾	50 mm.	270	15	30	1,200	200	30	22	0.01	10	100	H 622	
Tmax 120°C vertical up													
KMS U15D	3/4"	105	1.5	3	150	30	3	10.5	0.1	100	10	H 622	
KMS U20D	3/4"	105	2.5	5	250	50	5	14.5	0.1	100	10	H 622	
KMS U25C	1"	150	3.5	7	280	65	7	23	0.01	10	100	H 622	
KMS U32C	1"1/4	150	6	12	480	90	12	24	0.01	10	100	H 622	
KMS U40C	1"1/2	150	10	20	1,000	160	20	21	0.01	10	100	H 622	
Tmax 120°C vertical down													
KMS D15D	3/4"	105	1.5	3	150	30	3	10.5	0.1	100	10	H 622	
KMS D20D	3/4"	105	2.5	5	250	50	5	14.5	0.1	100	10	H 622	
KMS D25C	1"	150	3.5	7	280	65	7	23	0.01	10	100	H 622	
KMS D32C	1"1/4	150	6	12	480	90	12	24	0.01	10	100	H 622	
KMS D40C	1"1/2	150	10	20	1,000	160	20	21	0.01	10	100	H 622	

(1) – Length without unions.

(2) – PN 16 flanged connections.

Q_n – Nominal flow: Maximum continuous flow measurable by the meter.

Q_{max} – Maximum temporary flow bearable by the meter.

Q_t – Transition flow: minimum limit with error less than ±3%.

Q_{min} – Minimum flow limit: minimum limit with error less than ±5%.

Kvs – Flow coefficient: Flow in m³/h with pressure drop of 100 kPa = 10 mWG = 1 bar.

Δp Q_n – Pressure drop at nominal flow Q_n.

**FOR APPLICATION ON DISTRICT HEATING SITES,
THE USE OF MECHANICAL VOLUMETRIC METERS IS NOT RECOMENDED**

SINGLE-JET VOLUMETRIC METERS WITH PULSE TRANSMITTER

KUF ... - KUC ...



APPLICATION

Volumetric turbine meter with multiple jet for use in combination with IEB ... and IET ... integrators for metering thermal and/or refrigeration energy or for metering consumption of hot or cold water.

FEATURES

- PN 16. Includes male threaded unions.
- Mounting: Horizontal in Class B, Vertical in Classe A.
- Includes reed pulse transmitter; Connection cable 2 x 0.5 mm² x 2 m; Protection: IP 68.

Code	DN	Length ⁽¹⁾ mm.	Qn m ³ /h	Qmax m ³ /h	Qt l/h	Qmin l/h	Kvs m ³ /h	Δp Qn kPa	Pulse transmitter			Data sheet	
									pul/l (K)	pul/m ³	l/pul		
Tmax 30 °C													
KUF 15D ⁽²⁾	1/2"	110	1.5	3	120	30	3	24	0.1	100	10	H 611	
KUF 20D ⁽²⁾	3/4"	130	2.5	5	200	50	6	17	0.1	100	10	H 611	
KUF 25C ⁽²⁾	1"	160	3.5	7	280	70	7	25	0.01	10	100	H 611	
KUF 32C	1"1/4"	160	5	10	400	100	10	25	0.01	10	100	H 611	
Tmax 90 °C													
KUC 15D ⁽³⁾	1/2"	110	1.5	3	120	30	3	24	0.1	100	10	H 611	
KUC 20D ⁽³⁾	3/4"	130	2.5	5	200	50	6	17	0.1	100	10	H 611	
KUC 25C	1"	160	3.5	7	280	70	7	25	0.01	10	100	H 611	
KUC 32C	1"1/4"	160	5	10	400	100	10	25	0.01	10	100	H 611	

VOLUMETRIC WOLTMANN TURBINE METERS WITH PULSE TRANSMITTERS

KWP ... - KWS ...



APPLICATION

Volumetric Woltmann turbine meter suitable for use with IEB ... and IET ... integrators for metering thermal and/or refrigeration energy or for metering consumption of hot or cold water.

FEATURES

- PN 16 flanged unions.
- Approved EEC 75/33 in Class B; Horizontal or vertical mounting.
- Include reed pulse transmitter; Connection cable 2 x 0.5 mm² x 3 m; Protection: IP 68.

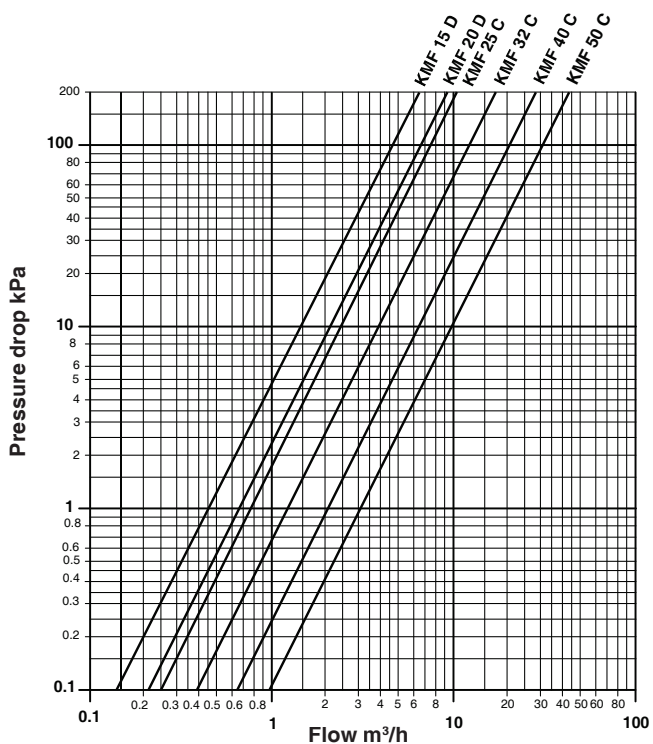
Code	DN	Length ⁽¹⁾ mm.	Qn m ³ /h	Qmax m ³ /h	Qt m ³ /h	Qmin m ³ /h	Kvs m ³ /h	Δp Qn kPa	Pulse transmitter			Data sheet
									i/l (K)	pul/m ³	l/pul	
Tmax 30 °C												
KWP 50M ⁽²⁾	50	200	15	30	3	0.45	112	1.8	0.001	1	1,000	H 632
KWP 65M ⁽²⁾	65	200	25	50	5	0.75	145	1.5	0.001	1	1,000	H 632
KWP 80M ⁽²⁾	80	225	40	80	8	1.2	205	1.2	0.001	1	1,000	H 632
KWP 100M ⁽²⁾	100	250	60	120	12	1.8	365	2.3	0.001	1	1,000	H 632
KWP 125M ⁽²⁾	125	250	100	200	20	3.0	335	9.1	0.001	1	1,000	H 632
KWP 150M ⁽²⁾	150	300	150	300	30	4.5	980	2.4	0.001	1	1,000	H 632
KWP 200M ⁽²⁾	200	350	250	500	50	7.5	1,800	2.1	0.001	1	1,000	H 632
Tmax 120 °C												
KWS 50M ⁽³⁾	50	200	15	30	2.4	0.6	150	1.0	0.001	1	1,000	H 632
KWS 65M ⁽³⁾	65	200	25	30	4	1.0	145	3.0	0.001	1	1,000	H 632
KWS 80M ⁽³⁾	80	225	32	45	8	1.0	320	1.0	0.001	1	1,000	H 632
KWS 100M ⁽³⁾	100	250	60	180	9	4.1	300	4.1	0.001	1	1,000	H 632
KWS 125M ⁽³⁾	125	250	100	250	15	2.7	610	2.7	0.001	1	1,000	H 632
KWS 150M ⁽³⁾	150	300	150	350	22.5	2.4	1,000	2.4	0.001	1	1,000	H 632
KWS 200M ⁽³⁾	200	350	250	600	37.5	1.7	2,000	1.7	0.001	1	1,000	H 632

- (1) – Length flange to flange.
 (2) – Approved for cold water (EEC 75/33).
 (3) – Approved for hot water (EEC 79/830)
 Qn – Nominal flow: Maximum continuous flow measurable by the meter.
 Qmax – Maximum temporary flow bearable by the meter.
 Qt – Transition flow: minimum limit with error less than ±2%.
 Qmin – Minimum flow limit: minimum limit with error less than ±5%.
 Kvs – Flow coefficient: Flow in m³/h with pressure drop of 100 kPa = 10 mWG = 1 bar.
 Δp Qn – Pressure drop at nominal flow Qn.

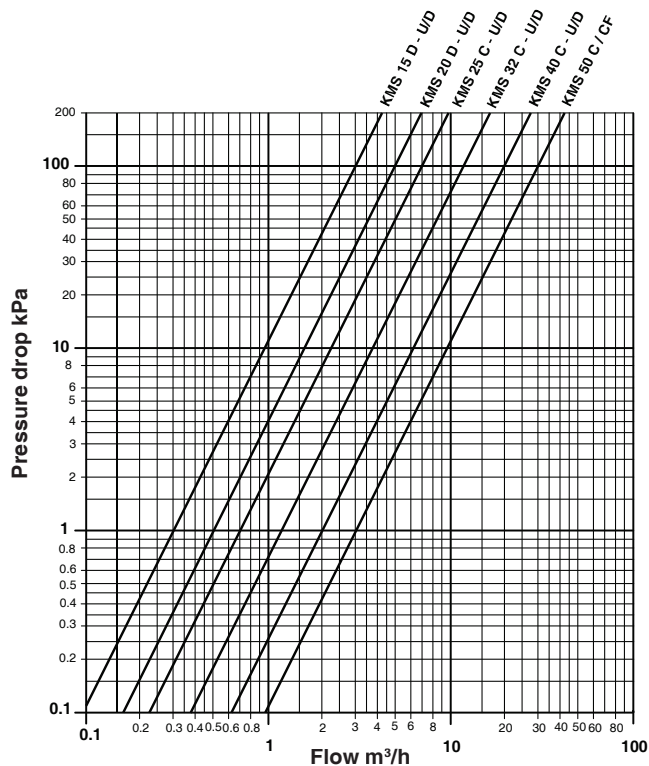
**FOR APPLICATION ON DISTRICT HEATING SITES,
 THE USE OF MECHANICAL VOLUMETRIC METERS IS NOT RECOMENDED**

PRESSURE DROP IN VOLUMETRIC TURBINE-DRIVEN METERS WITH PULSE TRANSMITTER

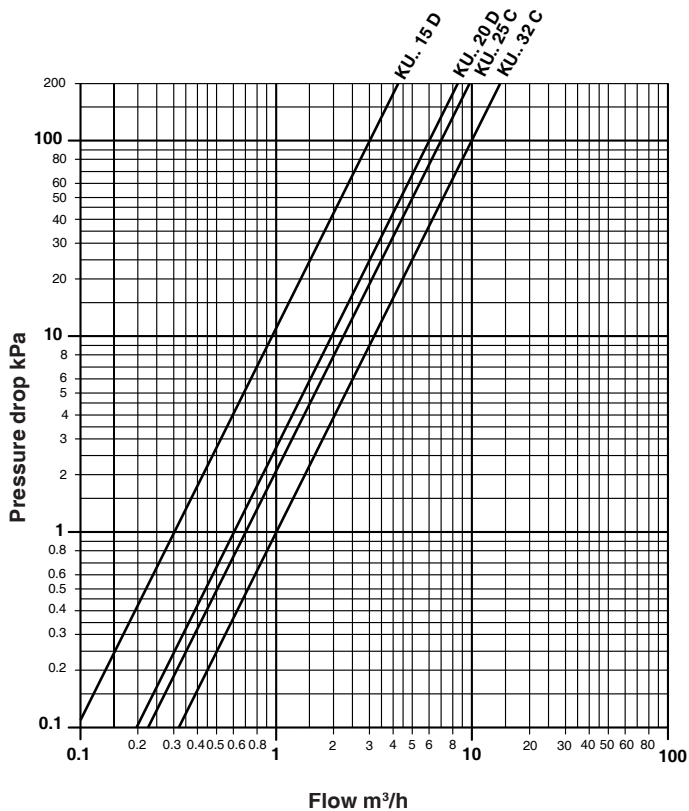
MULTIPLE-JET KMF...



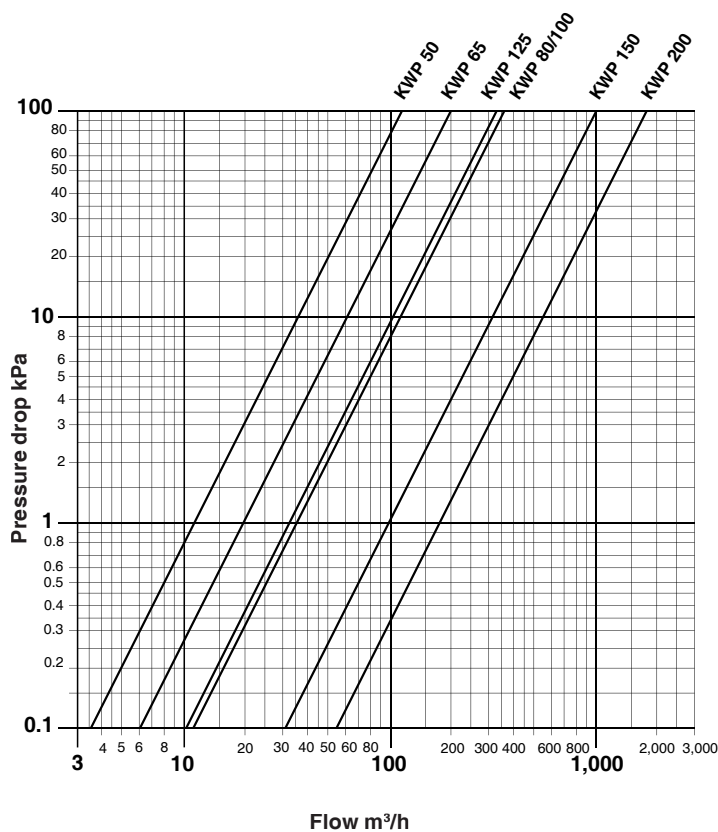
MULTIPLE-JET KMS ...



SINGLE-JET KU...

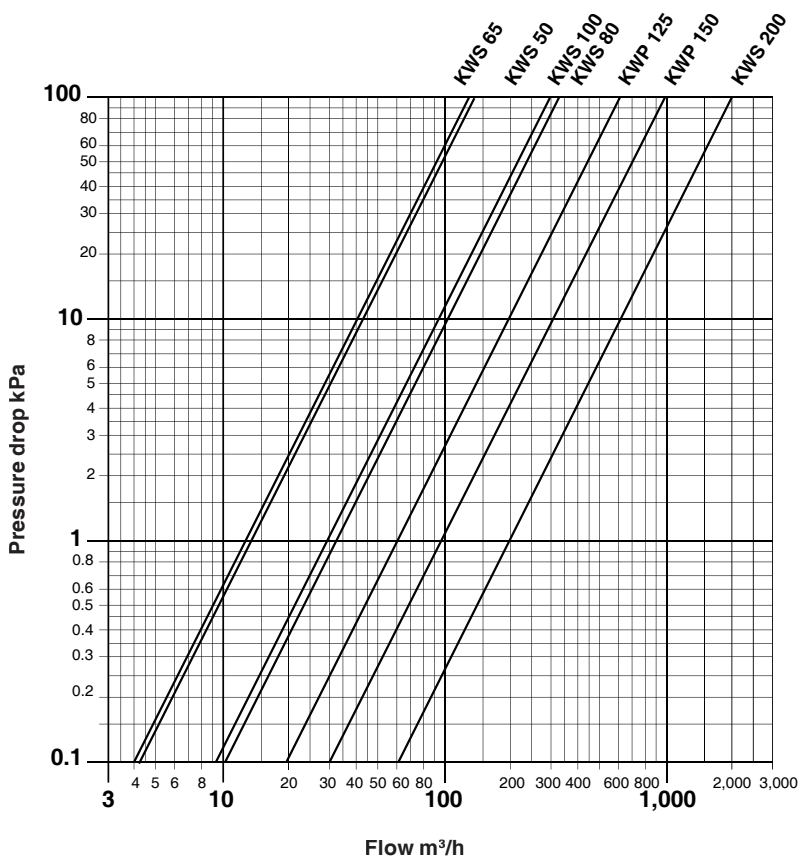


WOLTMANN KWP ...

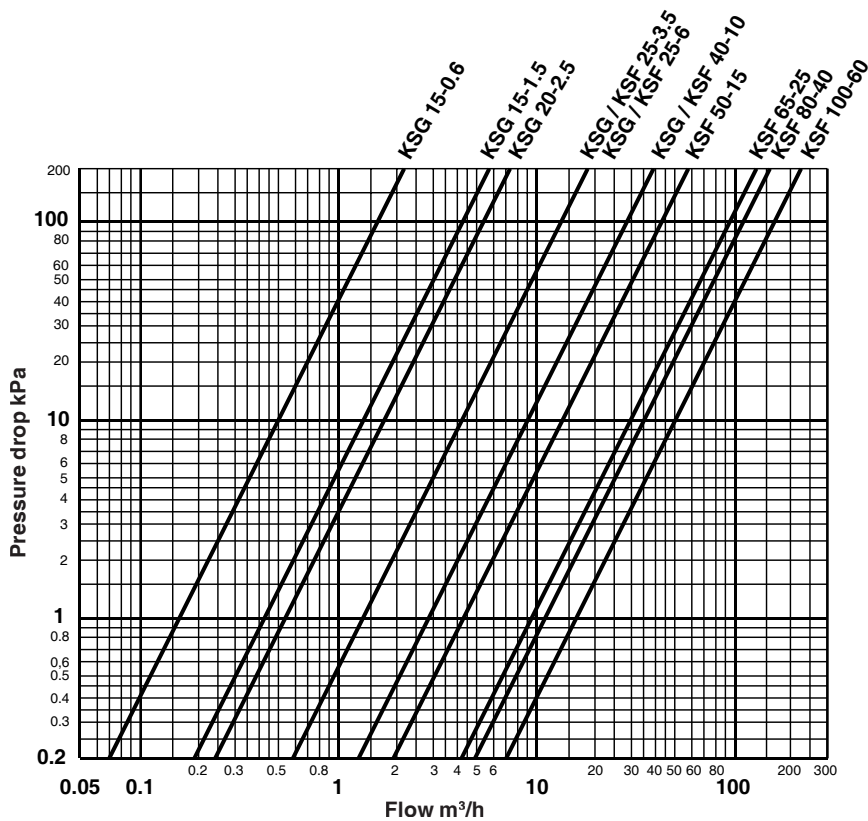


100 kPa = 10 mWG = 1 bar

KWS ... WOLTMANN



PRESSURE DROP IN ULTRASOUND STATIC VOLUMETRIC METERS KS ...



100 kPa = 10 mWG = 1 bar

Description	Code	Communication	Page
VALVES FOR RADIATORS FOR ZONES			
2-PORT RADIATOR BALL VALVES PN 10 (5 ... 90 °C) BY PASS OR THROUGHPORT, 3/8" ... 1".	HGT ...		8.2
ACTUATOR FOR HGT ... VALVES POWER SUPPLY 24 V~, 3-WIRE CONTROL WITH I WIRE + HEART.	CDR 06.		8.2
2, 3 AND 4-PORT BALL ZONE VALVES PN 10 (5 ... 90 °C) THREADED DN 3/8"-1".	HMM ... HGM ...		8.3
V2, 3 AND 4-PORT CERAMIC DISK CONTROL VALVES PN 10 (1 ... 95 °C) HOT/COLD FAN-COIL CONTROL..	VDM ...		8.3
REVERSIBLE 90° ROTARY ACTUATORS FOR HGM ... - HMM ... - VDM ... VALVES POWER SUPPLY 230 - 24 - 12 V~, 3-WIRE CONTROL.	CDK 06. CDK 03.		8.3
BALL VALVES			
2-PORT THREADED BALL VALVES FEMALE PN 6 (-15 ... +120 °C) HOT/COLD ZONED PLANTS. SOLAR, DHW, ETC. THREADED DN 1/2" ... 1"1/4	XDG 2..		8.4
2-PORT THREADED BALL VALVES FEMALE (-15 ... +120 °C) TIGHT SHUT-OFF HOT/COLD PLANTS. THREADED DN 1/2" ... 4"	YDG 2..		8.4
3-PORT SCREWED FEMALE BALL VALVES PN 6 (-15 ... +120 °C) HOT/COLD ZONED PLANTS. SOLAR, DHW, ETC. THREADED DN 1/2" ... 2".	XLG 3..		8.5
3-PORT SCREWED FEMALE BALL VALVES PN 6 (-15 ... +120 °C) HOT/COLD ZONED PLANTS. SOLAR, DHW, ETC. THREADED DN 1/2" ... 2".	XDG 3..		8.5
2-PORT FLANGED BALL VALVES PN 16 (-15 ... 120 °C) TIGHT SHUT-OFF HOT/COLD PLANTS.. FLANGED DN 40 ... 200	2S ...		8.6
BUTTERFLY & SLIPPER VALVES			
3 -AND 4-PORT SLIPPER & BUTTERFLY VALVES PN 6 (10 ... 110 °C) FOR HEATING PLANTS, DN 15 ... 150.	VSG-F VFG-F		8.7
V2-PORT BUTTERFLY VALVES PN 6 (10 ... 110 °C) SHUT-OFF IN PLANTS WHERE TIGHT CLOSURE NOT REQUIRED, DN 50...200	2F ...		8.8
ROTARY 90° ACTUATORS FOR BALL, BUTTERFLY & SLIPPER VALVES			
REVERSIBLE 90° ROTARY ACTUATORS FOR HGM ... - HMM ... - VDM ... VALVES POWER SUPPLY 230 - 24 - 12 V~, 3-WIRE CONTROL.	CDK 06. CDK 03.		8.3
REVERSIBLE 90° ROTARY ACTUATOR FOR 2-WAY FLANGED BALL VALVES 2S DN 150 – 200 POWER SUPPLY 230 ~, 3-WIRE CONTROL, TORQUE 800 Nm	CVS 808		8.4
ROTARY 90° REVERSIBLE ACTUATOR FOR BALL VALVES (PRE-WIRED) POWER SUPPLY 230 - 24 V~, 3-WIRE CONTROL, TORQUE 6 Nm.	CRB 09.		8.9
ROTARY 90° REVERSIBLE ACTUATOR FOR XDG ... - YDG ... - 2S ... - 2F ... VALVES (MAX. DN 1"1/4) POWER SUPPLY 230 - 24 V~, 3-WIRE CONTROL.	CVC ...		8.9
ROTARY 90° REVERSIBLE ACTUATOR WITH MANUAL RELEASE POWER SUPPLY 230 - 24 V~, 3-WIRE CONTROL, TORQUE 15 Nm.	CVH ...		8.10
ROTARY 90° REVERSIBLE ACTUATOR FOR BALL, BATTERFLY, & SLIPPER VALVES WITH MANUAL RELEASE POWER SUPPLY 230 - 24 V~, 3-WIRE CONTROL, TORQUE 120 Nm.	CVF...		8.10

2-PORT RADIATOR BALL VALVES PN 10 (5 ... 90 °C)

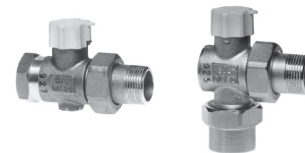
HGT ...

APPLICATION

Rotary ball valves designed for On-Off or modulating control of radiators.

FEATURES

- Body and ball in chromed brass.



Code	DN body	Kvs ⁽¹⁾ m ³ /h	Connections		Radiator union	Suitable actuator CDR 06.		Data sheet
			entry	outlet		bar ⁽²⁾	s ⁽³⁾	
throughport			female	rafit	male			
HGT 110	3/8"	5,4	3/8"	1/2"	3/8"	1.2	60	M 811
HGT 115	1/2"	6	1/2"	3/4"	1/2"	1.2	60	M 811
HGT 120	3/4"	11	3/4"	1"	3/4"	1.2	60	M 811
HGT 125	1"	25,7	1"	1"1/4"	1"	1.2	60	M 811
by pass								
HGT 210	3/8"	2,4	3/8"	1/2"	3/8"	1.2	60	M 811
HGT 215	1/2"	2,6	1/2"	3/4"	1/2"	1.2	60	M 811
HGT 220	3/4"	5	3/4"	1"	3/4"	1.2	60	M 811
HGT 225	1"	11,7	1"	1"1/4"	1"	1.2	60	M 811

(1) : Kvs = Flow coefficient: Flow in m³/h with valve open and pressure drop of 100 kPa.

100 kPa = 10 mWG = 1 bar

(2) : bar = Maximum pressure differential (Δp max) permitted by actuator.

(3) : s = Time (seconds) necessary for actuator to make the complete valve run.

**REVERSIBLE 90° ROTARY ACTUATOR FOR
HGT ... / HGM ... / HMM ... / VDM ... VALVES**

CDR 06.

APPLICATION

Reversible rotary actuator with rotation angle fixed at 90°.

FEATURES

- Power supply: 24 V~; Protection: IP 54 for CDR 064; IP 30 for CDR 061.



Code	Power supply V~ (VA)	Control	Time s	Normal Torque kg/cm.(Nm)	Starting Torque kg/cm. (Nm)	Data sheet
CDR 064	24 (1)	3 wire	60	15 (1.5)	30 (3)	M 322
CDR 061	24 (1)	1 wire+earth	60	15 (1.5)	30 (3)	M 323

2-, 3- AND 4- PORT ZONE BALL VALVES PN 10 (5 ... 90 °C)

HGM ... - HMM ...

APPLICATION

Rotary ball valves for shut-off in zoned installations.
Suitable for mounting on modular manifolds.

FEATURES

• Body and ball in chromed brass; supplied with male connections for flat unions; **HMM 4.. : with adjustable**



Code	DN body	Kvs ⁽¹⁾		Connections		Suitable actuator CDK 06. - CDR 06.		Data sheet	
		thr-port	by-pass			bar ⁽²⁾	s ⁽³⁾		
2-port			m ³ /h	m ³ /h	female	male			
HGM 210	3/8"	5.4	–	–	3/8"	3/8"	6	60	M 812
HGM 215	1/2"	6	–	–	1/2"	1/2"	6	60	M 812
HGM 220	3/4"	11	–	–	3/4"	3/4"	6	60	M 812
HGM 225	1"	25.7	–	–	1"	1"	6	60	M 812
2-port					male	male			
HMM 210	3/8"	5.4	–	–	3/8"	3/8"	6	60	M 812
HMM 215	1/2"	6	–	–	1/2"	1/2"	6	60	M 812
HMM 220	3/4"	11	–	–	3/4"	3/4"	6	60	M 812
HMM 225	1"	25.7	–	–	1"	1"	6	60	M 812
3-port					3 males				
HMM 320	3/4"	11	3	3	3/4"		6	60	M 813
HMM 325	1"	25.7	6.5	6.5	1"		6	60	M 813
4-port					4 males				
HMM 410	3/8"	5.4	1.3	1.3	3/8"		6	60	M 814
HMM 415	1/2"	6	1.5	1.5	1/2"		6	60	M 814
HMM 420	3/4"	11	3	3	3/4"		6	60	M 814
HMM 425	1"	25.7	6.5	6.5	1"		6	60	M 814

2-, 3- AND 4-PORT PN 10 CERAMIC DISK CONTROL VALVES (1 ... 95°C)

VDM ...

APPLICATION

Designed for hot/cold fan coil regulation.

FEATURES

• Brass body; ceramic disk shutter; threaded male connections for flat unions.



Code	DN body	Kvs ⁽¹⁾		Connections		Suitable actuator CDK 06. - CDR 06.		Data sheet	
		thr-port	by-pass			bar ⁽²⁾	s ⁽³⁾		
2-port			m ³ /h	m ³ /h					
VDM 210	3/8"	1.6	–	–	2 males 3/8"		6	60	M 821
VDM 215	1/2"	1.8	–	–	2 males 1/2"		6	60	M 821
3-port					throughport	by pass			
VDM 310	3/8"	1.6	1.1	1.1	male 3/8"	female 1/2"	6	60	M 822
VDM 315	1/2"	1.8	1.2	1.2	male 1/2"	female 1/2"	6	60	M 822
4-port									
VDM 410	3/8"	1.6	1.1	1.1	4 males 3/8"		6	60	M 823
VDM 415	1/2"	1.8	1.2	1.2	4 males 1/2"		6	60	M 823

ROTARY REVERSIBLE 90° ACTUATORS FOR HGM - HMM - VDM VALVES

CDK 06. - CDK 03.

APPLICATION

Rotary reversible actuator with fixed 90° rotation angle. Three-wire electric control (Common, Opens, Closes).



FEATURES

• Power supply: 230 - 24 - 12 V~; Protection: IP 53; Run time: 60 s.
• Supplied with auxiliary end-of-run with SPDT switch, intervention at 50% of run.

Code	Power supply V~ (VA)	Control	Run time (s)	Nominal Torque kg/cm. (Nm)	Starting Torque kg/cm. (Nm)	Data sheet
CDK 068	230 (4)	3 punti	60	15 (1,5)	30 (3)	M 324
CDK 064	24 (1)	3 punti	60	15 (1,5)	30 (3)	M 324
CDK 062	12 (4)	3 punti	60	15 (1,5)	30 (3)	M 325
CDK 038	230 (4)	3 punti	30	10 (1)	20 (2)	M 324
CDK 034	24 (1)	3 punti	30	10 (1)	20 (2)	M 324
CDK 032	12 (4)	3 punti	30	10 (1)	20 (2)	M 325

(1) : Kvs = Flow coefficient: Flow in m³/h with valve open and pressure drop of 100 kPa.

100 kPa = 10 mWG = 1 bar

(2) : bar = Maximum pressure differential (Δp max) permitted by actuator.

(3) : s = Time (seconds) necessary for actuator to make the whole valve run.

2-PORT FEMALE THREADED PN 6 BALL VALVES (–15 ... +120 °C)

XDG 2..

APPLICATION

Suitable for zoned systems, solar plants, DHW production, refrigerated water production, etc.

FEATURES

- Body and ball in chromed brass; Seals in Teflon and Viton.
- Fluid temperature: +5 ... +120 °C (with CRB ..., CVC ... and CVH ...); up to –15 °C (with CVC .../T and CVH .../T).



Code	DN	Kvs ⁽¹⁾ m ³ /h	Suitable actuators		Data sheet
			CRB ... - CVC ...	CVH ...	
			bar ⁽²⁾		
XDG 215	1/2"	16.3	6	6	M 912
XDG 220	3/4"	29.5	6	6	M 912
XDG 225	1"	43	6	6	M 912
XDG 232	1"1/4	89	6	6	M 912

2-PORT THREADED FEMALE BALL VALVES (–15 ... +120 °C)

YDG 2..

APPLICATION

For plants with cold, hot or superheated water (max. 120 °C).

FEATURES

- Brass body and ball; Seals in Teflon and Viton. Complete with actuator linkage kit.
- Fluid temperature: +5 ... +120 °C (with CRB ..., CVC ... and CVH ...); up to –15 °C (with CVC .../T and CVH .../T).



Code	DN	PN	Kvs ⁽¹⁾ m ³ /h	Suitable actuators			Data sheet
				CRB ... - CVC ...	CVH ...	CVF ...	
				bar ⁽²⁾			
YDG 215	1/2"	40	16.3	10	10	–	M 913
YDG 220	3/4"	40	29.5	10	10	–	M 913
YDG 225	1"	40	43	10	10	–	M 913
YDG 232	1"1/4	40	89	10	10	–	M 913
YDG 240	1"1/2	40	230	–	10	–	M 913
YDG 250	2"	40	265	–	10	–	M 913
YDG 265	2"1/2	25	540	–	10	–	M 913
YDG 280	3"	16	873	–	–	10	M 913
YDG 2100	4"	16	1.390	–	–	10	M 913

(1) : Kvs – Flow coefficient: Flow in m³/h with valve open and pressure drop of 100 kPa.

(2) : bar = Maximum pressure differential (Δp max) permitted by actuator.

100 kPa = 10 mWG = 1 bar

3-PORT SCREWED FEMALE BALL VALVES PN 6 (–15 ... +120 °C)

XLG 3..



APPLICATION

Designed for zoned, solar, DHW production, chilled water, etc plants.

FEATURES

- Chromed brass body and ball; Teflon and Viton seals.
- Fluid temperature: +5 ... +120 °C (with CRB ..., CVC ... & CVH ...); down to –15 °C (with CVC .../T & CVH .../T).

Code	DN	Kvs ⁽¹⁾ m ³ /h	Suitable actuators			Data sheet		
			CRB ... - CVC ...	CVH 11.	CVH 63./21./05.			
			thr-port	by-pass	bar ⁽²⁾	bar ⁽²⁾	bar ⁽²⁾	
XLG 315	1/2"	16.3	1.5	6	6	6	M 916	
XLG 320	3/4"	29.5	1.8	6	6	6	M 916	
XLG 325	1"	43	3.9	6	6	6	M 916	
XLG 332	1"1/4	89	7.9	6	6	6	M 916	
XLG 341	1"1/2	160	14.8	–	6	6	M 916	
XLG 351	2"	265	24.5	–	–	6	M 916	

3-PORT SCREWED FEMALE BALL VALVES PN 6 (–15 ... +120 °C)

XDG 3..



APPLICATION

Designed for zoned, solar, DHW production, chilled water, etc plants.

FEATURES

- Chromed brass body and ball; Teflon and Viton seals.
- Fluid temperature: +5 ... +120 °C (with CRB ..., CVC ... & CVH ...); down to –15 °C (with CVC .../T & CVH .../T).

Code	DN	Kvs ⁽¹⁾ m ³ /h	Suitable actuators			Data sheet	
			CRB ... - CVC ...	CVH 11.	CVH 63./21./05.		
				bar ⁽²⁾	bar ⁽²⁾	bar ⁽²⁾	
XDG 315	1/2"	3.9	6	6	6	M 918	
XDG 320	3/4"	7.9	6	6	6	M 918	
XDG 325	1"	13	6	6	6	M 918	
XDG 332	1"1/4	20.7	6	6	6	M 918	
XDG 340	1"1/2	38.7	–	6	6	M 918	
XDG 350	2"	54	–	–	6	M 918	

(1) : Kvs – Flow coefficient: Flow in m³/h with valve open and pressure drop of 100 kPa.

100 kPa = 10 mWG = 1 bar

(2) : bar = Maximum pressure differential (Δp max) permitted by actuator.

2-PORT FLANGED BALL VALVES PN 16 (-15 ... +120 °C)

2S ...

APPLICATION

For shut-off in installations where a tight closure is necessary:
boilers in sequence, shut-off in secondary circuits.

FEATURES

- Body in cast iron; Ball in chromed brass; Seals in Teflon and Viton.
- Complete with actuator linkage kit.
- Fluid temperature: +5 ... +120 °C (with CVH ...); up to -15 °C (with CVH ... /T and CVF ...).



Code	DN mm.	Kvs ⁽¹⁾ m ³ /h	Suitable actuators			Data sheet
			CVH 63. / 21.	CVF ...	CVS 808	
		bar ⁽²⁾	bar ⁽²⁾	bar ⁽²⁾		
2S DN 40	40	230	6	-	-	M 921
2S DN 50	50	265	6	-	-	M 921
2S DN 65	65	540	6	-	-	M 921
2S DN 80	80	873	-	6	-	M 921
2S DN 100	100	1,390	-	6	-	M 921
2S DN 100S	100	1,390	-	-	10	M 921
2S DN 125	125	1,707	-	-	10	M 921
2S DN 150	150	2,024	-	-	10	M 921
2S DN 200	200	2,720	-	-	10	M 921

(1) : Kvs – Flow coefficient: Flow in m³/h with valve open and pressure drop of 100 kPa.

(2) : bar = Maximum pressure differential (Δp max) permitted by actuator.

100 kPa = 10 mWG = 1 bar

REVERSIBLE ROTARY ACTUATOR 90° FOR 2S DN 150 – 200 BALL VALVES

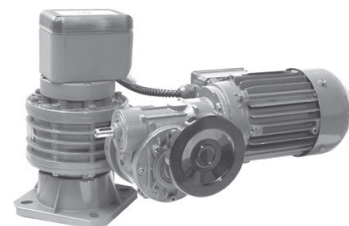
CVS 808

APPLICATION

Actuator for large rotary valves.
Reversible with rotation angle fixed at 90°.
3-wire electric control (Common, Opens, Closes).

FEATURES

- Power supply: 230 V~; Protection: IP 55; Run time: 55 seconds.
- Auxiliary SPDT switch: Flow 250 V~; 5 (1)A.
- Direct attachment to Coster ball valves 2S DN 150 & DN 200.



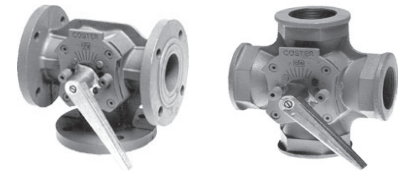
Code	Power supply V~ (W)	Run time sec	Normal torque kg/cm. (Nm)	Starting torque kg/cm. (Nm)	Valves 2S DN	Data sheet
CVS 808	230 (150)	55	8,000 (800)	8,000 (800)	150 - 200	M 141

3- AND 4-PORT SLIPPER & BUTTERFLY VALVES PN 6 (10 ... 110 °C)

VSG ... - VSF ... - VFG ...

APPLICATION

Used as mixing or diverting valves to control temperature of circulating water in heating plants.



FEATURES

- Body and rotor in GG25 cast iron; spindle in stainless steel.
- Connections: DN 3/4" ... 2" threaded female; DN 40 ... 150 flanged.
- Rotation angle 90°; Linear control; Let by ≤ 1.5 % Kvs.

Code	DN	Kvs ⁽¹⁾ m ³ /h	Rotor ⁽³⁾	Length ⁽⁴⁾ mm.	Suitable actuators			Data sheet
					CVC ...	CVH ...	CVF ...	
3-port thre.d	inches				bar ⁽²⁾	bar ⁽²⁾	bar ⁽²⁾	
VSG 320	3/4"	13	slipper	130	0.3	0.5	–	M 931
VSG 325	1"	13	slipper	130	0.3	0.5	–	M 931
VSG 332	1"1/4	19	slipper	142	0.2	0.5	–	M 931
VSG 340	1"1/2	29	slipper	160	0.2	0.5	–	M 931
VSG 350	2"	57	slipper	190	0.2	0.5	–	M 931
VFG 320	3/4"	13	slipper	130	0.3	0.5	–	M 931
VFG 325	1"	13	slipper	130	0.3	0.5	–	M 931
VFG 332	1"1/4	19	slipper	142	0.2	0.5	–	M 931
VFG 340	1"1/2	29	slipper	160	0.2	0.5	–	M 931
VFG 350	2"	57	slipper	190	0.2	0.5	–	M 931
3-port flanged	mm.							
VSF 340	40	29	slipper	180	0.2	0.5	–	M 931
VSF 350	50	57	slipper	200	0.2	0.5	–	M 931
VSF 365	65	81	slipper	230	–	0.4	–	M 931
VSF 380	80	170	slipper	250	–	0.4	–	M 931
VSF 3100	100	240	slipper	280	–	0.3	0.5 ⁽⁵⁾	M 931
VSF 3125	125	470	slipper	300	–	–	0.5	M 931
VSF 3150	150	700	slipper	350	–	–	0.5	M 931
4-port thre.d	inches							
VFG 420	3/4"	13	butterfly	130	0.3	0.5	–	M 931
VFG 425	1"	13	butterfly	130	0.3	0.5	–	M 931
VFG 432	1"1/4	19	butterfly	142	0.2	0.5	–	M 931
VFG 440	1"1/2	29	butterfly	160	0.2	0.5	–	M 931
VFG 450	2"	57	butterfly	190	0.2	0.5	–	M 931

(1) : Kvs – Flow coefficient: Flow in m³/h with valve open and pressure drop of 100 kPa.

100 kPa = 10 mWG = 1 bar

(2) : bar = Maximum pressure differential (Δp max) permitted by actuator.

(3) : Type of rotor. For 3-port valves: slipper = left or right lateral port always open; butterfly = central port always open.

(4) : Length flange to flange.

(5) : Coupling possible only with AVF 171 linkage.

2-PORT BUTTERFLY VALVES PN 6 (10 ... 110 °C)

2F ...

APPLICATION

As shut-off valves with 2-position control, in systems where tight shut-off is not necessary: - boilers in sequence; - shut-off in secondary circuits.



FEATURES

- PN 6 flanged connections; Working temperature: 10 ... 110 °; Rotation angle 90°.
- Cast iron body; Brass butterfly with ring seal in Teflon; Stainless steel spindle.

Code	DN	Kvs ⁽¹⁾ m ³ /h	Suitable actuators		Data sheet
			CVC ...	CVH ...	
			bar ⁽²⁾		
2F DN 50	50	100	1.5	3	M 920
2F DN 65	65	160	1.5	3	M 920
2F DN 80	80	280	–	3	M 920
2F DN 100	100	450	–	3	M 920
2F DN 125	125	700	–	2	M 920
2F DN 150	150	1.200	–	2	M 920
2F DN 175	175	1.800	–	2	M 920
2F DN 200	200	2.300	–	2	M 920

(1) : Kvs – Flow coefficient: Flow in m³/h with valve open and pressure drop of 100 kPa.

100 kPa = 10 mWG = 1 bar

(2) : bar = Maximum pressure differential (Δp max) permitted by actuator.

FLANGES WITH NECK FOR FLANGED VALVES PN 6

AFC ...

APPLICATION

- PN 6 UNI 2280.
- Packs containing 1 flange and including seals, bolts, nuts and washers.



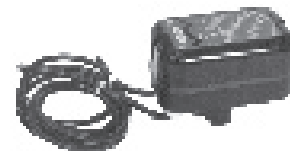
Code	Seal		Bolts (2-port)		Including: Bolts (3-and 4-port)		Nuts		Washers	
	No.	mm	No.	mm	No.	mm	No.	mm	No.	mm
AFC 040	1	85 x 45 x 2	0	–	4	12 M x 55	4	12 M	8	ø 12
AFC 050	1	95 x 57 x 2	2	12 M x 80	4	12 M x 55	4	12 M	8	ø 12
AFC 065	1	115 x 76 x 2	2	12 M x 80	4	12 M x 55	4	12 M	8	ø 12
AFC 080	1	132 x 89 x 2	2	16 M x 100	4	16 M x 60	4	16 M	8	ø 16
AFC 100	1	152 x 108 x 2	2	16 M x 100	4	16 M x 60	4	16 M	8	ø 16
AFC 125	1	182 x 133 x 2	4	16 M x 120	8	16 M x 60	8	16 M	16	ø 16
AFC 150	1	207 x 159 x 2	4	16 M x 120	8	16 M x 60	8	16 M	16	ø 16
AFC 175	1	230 x 185 x 3	8	16 M x 140	–	–	8	16 M	16	ø 16
AFC 200	1	255 x 210 x 3	8	16 M x 140	–	–	8	16 M	16	ø 16

REVERSIBLE 90° ROTARY ACTUATOR (PRE-WIRED)

CRB ...

APPLICATION

Actuator for rotary ball valves. Reversible with rotation angle fixed at 90°. 3-wire electrical control (Common, Opens, Closes).



FEATURES

- Power supply: 230 - 24 V ~; Protection: IP 54; Run time: 90 seconds.
- Two SPDT auxiliary microswitches at extremities of run: rating: 250 V, ~ 5 (1) A.
- Direct linkage with all Coster rotary valves.

Code	Power supply V~ (VA)	Run time s	Nominal torque kg/cm. (Nm)	Starting torque kg/cm. (Nm)	Valves (up to DN) XDG / XLG / YDG	Data sheet
CRB 098	230 (4,5)	90	60 (6)	90 (9)	1"1/4	M 116
CRB 094	24 (4,5)	90	60 (6)	90 (9)	1"1/4	M 116

SPECIAL MODELS

Code	Description
CRB 098/S2	Including relay for On-Off control with two wires (only 230 V ~).

REVERSIBLE 90° ROTARY ACTUATOR WITH CONNECTION TO TERMINAL BLOCK

CVC ...

APPLICATION

Actuator for rotary slipper and ball valves. Reversible with rotation angle fixed at 90°. Three-wire electric control (Common, Opens, Closes).



FEATURES

- Power supply: 230 - 24 V ~; Protection: IP 55; Run times: 180 - 90 - 30 - 15 seconds.
- Two SPDT auxiliary microswitches at extremities of run: rating: 250 V ~, 5 (1) A.
- Direct linkage with all Coster rotary valves.

Code	Power V~ (VA)	Run time sec	Nominal torque kg/cm. (Nm)	Starting torque kg/cm. (Nm)	Valves (up to DN)			Data sheet
					mixing VSG / VFG / VSF	butterfly 2F	ball XDG/XLG/YDG	
CVC 188	230 (2,5)	180	60 (6)	90 (9)	50	65	1"1/4	M 110
CVC 184	24 (2,5)	180	60 (6)	90 (9)	50	65	1"1/4	M 110
CVC 098	230 (4,5)	90	60 (6)	90 (9)	50	65	1"1/4	M 110
CVC 094	24 (4,5)	90	60 (6)	90 (9)	50	65	1"1/4	M 110
CVC 038	230 (5)	30	60 (6)	90 (9)	50	65	1"1/4	M 110
CVC 034	24 (5)	30	60 (6)	90 (9)	50	65	1"1/4	M 110
CVC 018	230 (7)	15	60 (6)	90 (9)	50	-	1"1/4	M 110
CVC 014	24 (7)	15	60 (6)	90 (9)	50	-	1"1/4	M 110

SPECIAL MODELS

Code	Description
CVC ... / T CVC ... / T/S1 CVC ..8 / S2	With 6 W internal heater for applications with fluid temperature down to - 15 °C (without auxiliary micro) Including 2 W internal heater for applications with fluid temperature down to - 15 °C (with auxiliary micro) Including relay for On-Off control with two wires (only 230 V ~).

ACCESSORIES FOR CRB ... AND CVC ...

Code	Description
SMP 750 SMP 760 AVA 101	Manual release, for VSG/VFG/VSF/VFF mizing valves, for 2F butterfly and XDG/YDG ball valves. Manual release for YDG 2.. valves up to 1"1/4.
AVS 102	Linkage for: Honeywell-Mut 2 (Controlli, Caleffi, Sara); Zentra ; Buche (Cazzaniga, Sauter, Ari-Fasoli, Chibro-Muller, Vilb up to 2", Mastermann); Landis & Gyr (Lazzari, Tonon, Casem); Stark (Besser, Errevi, Interme, Ari-Fasoli). Special linkage kits with unperforated plate for: Viessman (Lazzari, Tonon, Casem); Wema Warmetchnik (Billman, Mixette, Thermia, Firix, Esbe); Vilb (Termoregler); Besser .
AVS 103 AVS 104 AVS 105	Linkage for screwed old model Honeywell-Mut 3 (Controlli, Caleffi, Sara). Linkage for Landis & Gyr SN3-SN4. Linkage for Centra DR-ZR.

REVERSIBLE 90° ROTARY ACTUATOR WITH MANUAL RELEASE

CVH ...

APPLICATION

Actuator for rotary slipper and ball valves. Reversible with rotation angle fixed at 90°. 3-wire electrical control (Common, Opens, Closes). Manual release is built-in.



FEATURES

- Power supply: 230 - 24 V ~; Protection: IP 54; Run time: 630 - 210 - 105 - 52 seconds.
- Adjustable SPDT auxiliary switch: rating 250 V, 5 (1) A; may be fitted on all the Coster rotary valves.
- Direct linkage to all Coster rotary valves.

Code	Power V~ (VA)	Run time s	Nominal torque kg/cm. (Nm)	Starting torque kg/cm. (Nm)	Valves (up to DN)					Data sheet
					mixing VSG / VFG / VSF	butterfly 2F	ball XDG/XLG	ball YDG 2	ball 2S	
CVH 638	230 (4,5)	630	150 (15)	200 (20)	100	200	2"	2"1/2	65	M 121
CVH 634	24 (4,5)	630	150 (15)	200 (20)	100	200	2"	2"1/2	65	M 121
CVH 218	230 (4,5)	210	150 (15)	200 (20)	100	200	2"	2"1/2	65	M 121
CVH 214	24 (4,5)	210	150 (15)	200 (20)	100	200	2"	2"1/2	65	M 121
CVH 118	230 (4,5)	105	150 (15)	200 (20)	100	200	1"1/2	2"1/2	-	M 121
CVH 114	24 (4,5)	105	150 (15)	200 (20)	100	200	1"1/2	2"1/2	-	M 121
CVH 058	230 (5)	52	150 (15)	200 (20)	100	200	2"	2"1/2	-	M 121
CVH 054	24 (5)	52	150 (15)	200 (20)	100	200	2"	2"1/2	-	M 121

SPECIAL VERSION

Code	Description
CVH ... / T	Includes 2W internal heater for application with flow down to -15 °C.

REVERSIBLE 90° ROTARY ACTUATOR FOR VALVES DN 100 ... 150

CVF ...

APPLICATION

Actuator for large sized rotary valves. Reversible with rotation angle fixed at 90°. 3-wire electrical control (Common, Opens, Closes). Manual release is built-in.



FEATURES

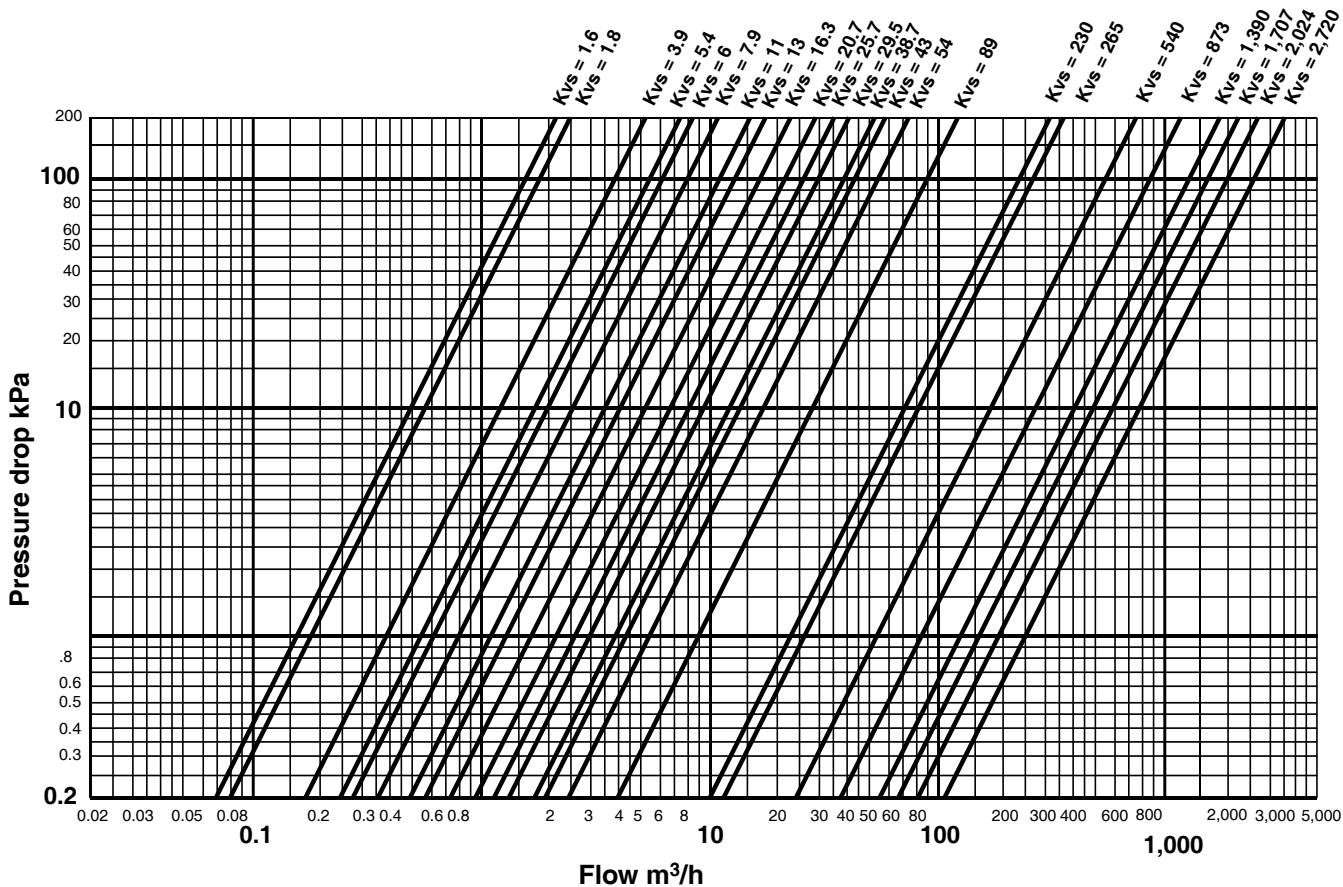
- Power supply: 230 - 24 V ~; Protection: IP 54; Run time: 450 - 150 seconds.
- Auxiliary SPDT switch: rating 250 V, 5 (1) A; may be fitted on all the Coster rotary valves.
- Direct linkage to Coster rotary valves.
- Linkage for Coster VFF 3100 / VFF 4100 use AVF 171.

Code	Power V~ (VA)	Run time s	Nominal torque kg/cm. (Nm)	Starting torque kg/cm. (Nm)	Valves (up to DN)			Data sheet
					mixing VSF	ball 2S ...	ball YDG 2..	
CVF 458	230 (6)	450	1,200 (120)	1,200 (120)	100 ... 150	80 / 100	3" - 4"	M 140
CVF 454	24 (6)	450	1,200 (120)	1,200 (120)	100 ... 150	80 / 100	3" - 4"	M 140
CVF 158	230 (7)	150	1,000 (100)	1,000 (100)	100 ... 150	80 / 100	3" - 4"	M 140
CVF 154	24 (7)	150	1,000 (100)	1,000 (100)	100 ... 150	80 / 100	3" - 4"	M 140

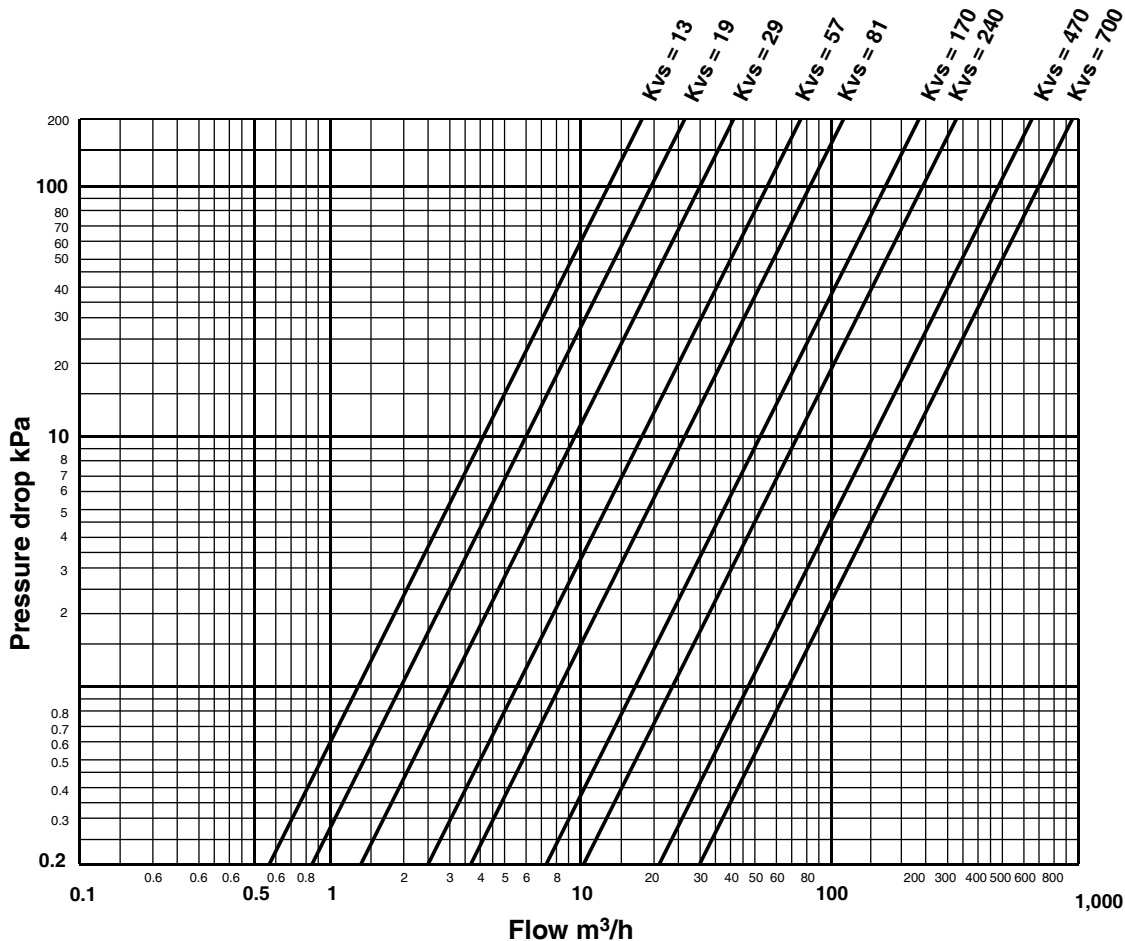
ACCESSORIES FOR CVH ... AND CVF ...

Code	Description
AVA 101	Linkage for: Honeywell-Mut 2 (Controlli, Caleffi, Sara); Zentra ;
AVS 102	Buche (Cazzaniga, Sauter, Ari-Fasoli, Chibro-Muller, Vilbup to a 2", Mastermann); Landis & Gyr (Lazzari, Tonon, Casem); Stark (Besser, Errevi, Interme, Ari - Fasoli). Special linkage kits with unperforated plate for: Viessman (Lazzari, Tonon, Casem); Wema ;
AVS 103	Warmeteknik (Billman, Mixette, Thermia, Firix, Esbe); Vilb (Termoregler); Besser .
AVS 104	Linkage for Honeywell-Mut 3 screwed old model (Controlli, Caleffi, Sara).
AVS 105	Linkage for Landis & Gyr SN3-SN4.
AVF 171	Linkage for Centra DR-ZR.
AVF 172	CVF linkage for Coster VFF 3100 / VFF 4100.
	CVF linkage for Honeywell-Mut 2 flanged (Controlli, Caleffi, Sara); Jucker ; Zentra ; Landis & Gyr (Lazzari, Tonon, Casem); Stark (Besser, Errevi, Interme, Ari fasoli); Buche (Cazzaniga, Sauter, Ari-Fasoli, Chibro-Muller, Vilb up to 2", Mastermann).

PRESSURE DROP IN BALL VALVES AND CERAMIC DISC VALVES



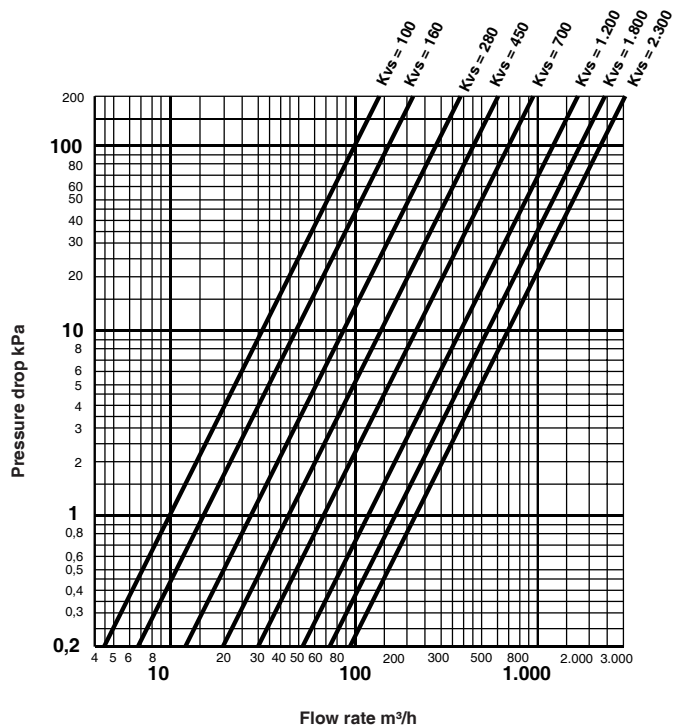
PRESSURE DROP IN SLIPPER VALVES



Kvs = Flow coefficient: Flow in m³/h with valve open and pressure drop of 100kPa

100 kPa = 10mWG = 1 bar

PRESSURE DROP IN BATTERFLY VALVES



Description	Code	Communication	Page
"COSTERWIRELESS" WIRELESS TEMPERATURE SENSORS			
ROOM TEMPERATURE SENSORS	SAR 010		9.2
WIRELESS EXTERNAL SENSOR	SER 001		9.2
UNIVERSAL WIRELESS RECEIVER	URX 918		9.2
UNIVERSAL WIRELESS REPEATER	UTR 908		9.2
TEMPERATURE & HUMIDTY SENSORS			
ROOM TEMPERATURE SENSORS INDUSTRIAL-TYPE ROOM TEMPERATURE SENSORS	SAB - SCB SAA		9.3
IRRADIATED TEMPERATURE SENSOR	SAI ... SCI ...		9.3
OUTSIDE TEMPERATURE SENSOR	SAE 001		9.3
OUTSIDE TEMPERATURE SENSOR WITH METERING DEGREE-DAYS NTC 1 kΩ	SGE 001		9.3
OUTSIDE TEMPERATURE SENSOR WITH METERING DEGREE-DAY Pt 1 KΩ	SGG 001		9.3
IMMERSION TEMPERATURE SENSOR S	SIH - STH SIR ...		9.4
CABLE-TYPE TEMPERATURE SENSOR	SAF - SHF		9.4
SURFACE TEMPERATURE SENSOR	SCH 010		9.5
FAN-COILS AIR TEMPERATURE SENSOR	STT 010		9.5
AIR DUCT TEMPERATURE SENSOR S	STA ...		9.5
GLAZED SURFACES TEMPERATURE SENSOR	STV 010		9.5
FLUE GASES TEMPERATURE SENSOR	STF 001		9.5
RELATIVE HUMIDITY SENSOR S FOR AIR DUCTS	SUR 704		9.6
RELATIVE HUMIDITY & TEMPERATURE SENSOR FOR AIR DUCTS	SUT 714		9.6
ROOM TEMPERATURE & RELATIVE HUMIDITY SENSOR	SAU 914		9.6
ROOM TEMPERATURE & RELATIVE HUMIDITY SENSOR	SAU 724		9.6
SENSORS FOR PRESSURE, LEVELS & WATER LOSS			
SACTIVE PRESSURE SENSORS FOR LIQUIDS & VAPOURS	SPW ...		9.7
ACTIVE DIFFERENTIAL PRESSURE SENSORS FOR LIQUIDS	SDW ...		9.7
ACTIVE DIFFERENTIAL PRESSURE SENSORS FOR AIR	SDA ...		9.7
REMOTE CONTROLS & VARIOUS ACCESSORIES			
REMOTE CONTROLS PERMIT MODIFYING THE DESIRED PHYSICAL VALUES CONTROLLED OR CHANGING THE PROGRAMMES IN USE.	CDB ...		9.8
ACCESSORY FOR MOUNTING ON FACE OF DIN MODULAR CONTAINERS PERMITS MOUNTING DIN 6 UNIT OR 3 UNIT MODULAR DEVICES IN FRONT OF CABINET IN REPLACEMENT OF 144 x 144 TYPE.	ACD 655		9.8

“COSTERWIRELESS” UNIVERSAL REPEATER

SONDA AMBIENTE WIRELESS

SAR 010

APPLICATION

Measures and transmits the room temperature by means of an NTC sensing element without the need for electric cabling..

FEATURES

- Range of use 0 ... 40 °C; Protection: IP 30; Power supply: lithium battery (life at least 7 years).



Code	Description	Sensing element	Data sheet
SAR 010	COSTERWIRELESS room sensor	NTC 10 kΩ	N 310

EXTERNAL WIRELESS SENSOR

SER 001

APPLICATION

Receives temperature measurements from several sensors (up to 16) of the same type.

FEATURES

- Range of use: – 50 ... + 50°C; Protection: IP 55; Power supply: lithium battery (life at least 7 years).



Code	Description	Sensing element	Data sheet
SER 001	COSTERWIRELESS outside sensor	NTC 1 kΩ	N 320

UNIVERSAL WIRELESS RECEIVER

URX 918

C ←BUS

APPLICATION

Receives temperature measurements from several sensors (up to 16) of the same type..

FEATURES

- Calculates the minimum, mean and maximum values of the temperatures received
- Provided with an output compatible with all the sensor inputs of COSTER controllers
- Records all the measurements on a powerful Data Logger
- Telemangement by means of the incorporated C-Bus
- Protection: IP 40; Power supply: 230 V~ ± 10%; Consumption: 1 VA.



Code	Description	Data sheet
URX 918	COSTERWIRELESS universal receiver	N 351
URX 918/S1	COSTERWIRELESS universal receiver with external antenna	N 351

ACCESSORIES

Code	Description	Data sheet
ASA 050	Temperature measurements corrector (5 Volt power supply adaptor)	N 351

UNIVERSAL WIRELESS REPEATER

UTR 908

APPLICATION

Receives and repeats all the signals from any COSTER transmitter.

FEATURES

- Re-transmits the same signals amplified.
- Doubles the distance between transmitter & receiver.
- Provided with anti-interference logic for complex systems
- Protection: IP 40; Power supply: 230 V~ ± 10%; Consumption: 1V.



Code	Description	Data sheet
UTR 908	COSTERWIRELESS universal repeater	N 350

ROOM TEMPERATURE SENSORS

SAB ... - SCB ...

APPLICATION

Monitor room temperature by means of a NTC sensor.

FEATURES

• Operating range: 0 ... 40 °C; Protection: IP 30.



Code	Description	Sensing element	Data sheet
SAB 010	In wall mounting case 80 x 80 x 32.	NTC 10 kΩ	N 111
SAB 020	With double sensor in wall mounting case 80 x 80 x 32.	NTC 20 kΩ	N 111
SAB 011	With internal setting in wall mounting case 80 x 80 x 32.	NTC 10 kΩ	N 111
SAB 210	With key + 1 hour in wall mounting case 80 x 80 x 32.	NTC 10 kΩ	N 111
SCB 110	With adjuster (-5 ... +5 °C) in wall mounting case 80 x 80 x 32.	NTC 10 kΩ	N 111
SCB 210	With adjuster and key + 1 hour in wall mounting case 80 x 80 x 32.	NTC 10 kΩ	N 111
SAI 010	Irradiated sensor in 80 x 80 x 26 housing for wall mounting	NTC 10 kΩ	N 111
SCI 110	Irradiated sensor + adjuster, in 80 x 80 x 32 housing for wall	NTC 10 kΩ	N 111

INDUSTRIAL-TYPE TEMPERATURE SENSORS

SAA ...

APPLICATION

Monitor room temperature by means of a NTC sensor. Wall mounting.

FEATURES

• Case in shockproof plastic material: 45 x 80 x 35 mm.; Protection: IP 54; Cable entry gland: PG 11.



Code	Description	Application range	Sensing element	Data sheet
SAA 010	Industrial type temperature sensor.	0 ... 100 °C	NTC 10 kΩ	N 115
SAA 001	Industrial type temperature sensor.	-40 ... 40 °C	NTC 1 kΩ	N 115

OUTSIDE TEMPERATURE SENSOR

SAE 001

APPLICATION

Monitors room temperature by means of a NTC sensor. Wall mounting.

FEATURES

• Case in shockproof plastic material: 45 x 80 x 35 mm.; Protection: IP 54; Cable entry gland: PG 11.



Code	Description	Application range	Sensing element	Data sheet
SAE 001	Outside temperature sensor.	-40 ... 40 °C	NTC 1 kΩ	N 120

OUTSIDE TEMPERATURE SENSORS FOR METERING DEGREE-DAYS WITH ANTI-RADIATION THERMAL SCREEN

SGE 001 - SGG 001

APPLICATION

Measurements of outside temperature for metering degree-days. Not influenced by thermal conditions of wall on which installed. Wall mounting with spacer.

FEATURES

• Shock-proof plastic enclosure; Protection: IP 54; Cable entry gland: PG 11.



Code	Description	Range	Sensing element	Data sheet
SGE 001	Outside temperature sensor for measurement degree-days. Compatible with all compensating controllers.	-40 ... 40 °C	NTC 1 kΩ	N 121
SGG 001	Outside temp. sensor for measuring degree-days (XGG 618).	-50 ... 40 °C	Pt 1 kΩ	N 121

IMMERSION TEMPERATURE SENSORS (WITHOUT POCKET)

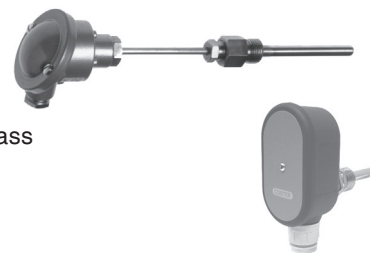
SIH 010 - STH 001 - SIR 010

APPLICATION

Measure the temperature of the circulating fluid in a pipe by means of a sensor housed in a brass sheath immersed in a threaded pocket insert in the pipe.

FEATURES

- Shock-proof plastic case: 45 x 80 x 35; Protection: IP54; Cable entry gland: PG11.
- Brass or stainless steel well: 1/2" x 80 mm (*); Sensor pocket: Ø 7 x 68 mm.
- (*) Length shown includes 15 mm threading.



Code	Description	Application range	Sensing element	Data sheet
SIH 010	Immersion sensor with brass pocket.	0 ... 100 °C	NTC 10 kΩ	N 140
SIH 010/Sta. steel	Immersion sensor with stain. steel pocket.	0 ... 100 °C	NTC 10 kΩ	N 140
SIR 010	Direct immersion rapid sensor.	0 ... 100 °C	NTC 10 kΩ	N 140
STH 001	Immersion sensor with stain. steel pocket.	0 ... 300 °C	Pt 1 kΩ	N 140

ACCESSORIES

Code	Description	Data sheet
APV 100	Accessory for adapting to old Coster pockets.	–

CABLE-TYPE TEMPERATURE SENSOR (WITHOUT POCKET)

SAF ... - SHF ...

APPLICATION

Measures the temperature by means of an NTC sensing element protected by a brass sheath and connected directly to a bipolar cable.

THESE SENSORS MUST BE FITTED WITH TYPE GIS ... POCKETS AND WITH TYPE ACM 103 TERMINAL BLOCK.

FEATURES

- Standard connecting cable: 2 x 0.5 mm² x 1.5 m.



Code	Description	Application range	Sensing element	Data sheet
SAF 010	Cable-type temperature sensor.	0 ... 100 °C	NTC 10 kΩ	N 145
SAF 110	Duble cable-type temperature sensor (2 sensors-4 wires).	0 ... 100 °C	2 NTC10 kΩ	N 145
SAF 001	Cable-type temperature sensor.	-40 ... 40 °C	NTC 1 kΩ	N 145
SHF 001	Cable-type temperature sensor with 3-metre cable.	0 ... 180 °C	Pt 1 kΩ	N 145

SPECIAL VERSIONS

Code	Description
–	ALL THE CABLE TYPE TEMPERATURE SensorS (EXCEPT SHF 001) HAVE A STANDARD CABLE LENGTH OF 1.5 METRES. FOR LONGER CABLES (UP TO 10 METRES) THE EXTRA CHARGE.

ACCESSORIES

Code	Description	Data sheet
GIS 090	Brass pocket 1/2" x 90 mm (*) including grommet.	N 145
GIS 090/Sta. steel	Stainless steel pocket 1/2" x 90 mm (*) including grommet.	N 145
GIS 160	Brass pocket 1/2" x 160 mm (*) including grommet.	N 145
GIS 160/Sta. steel	Stainless steel pocket 1/2" x 160 mm (*) including grommet.	N 145
GIS 500	Brass pocket 1/2" x 500 mm (*) including grommet.	N 145
GIS 500/Sta. steel	Stainless steel pocket 1/2" x 500 mm (*) including grommet. (*) Length shown includes 15 mm threading.	N 145
APS 150	Extension pocket (15 cm) for fluid temperature > 130 °C.	–
ACM 103	Housing terminal block and adapter for old-type Coster pockets.	–

SURFACE TEMPERATURE SENSOR

SCH 010

APPLICATION

Measures the temperature in a pipe with a NTC sensing element housed in a brass plate fixed in contact with the pipe.

FEATURES

- Shock-proof plastic case: 45 x 80 x 32 mm.; Protection: IP 54; Cable entry gland: PG 11.



Code	Description	Application range	Sensing element	Data sheet
SCH 010	Surface temperature sensor.	0 ... 100 °C	NTC 10 kΩ	N 130

TEMPERATURE SENSORS FOR HEATING/COOLING COILS

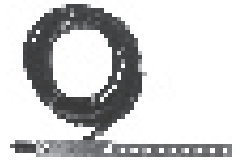
STT 010

APPLICATION

Monitors temperature of the air intake of fan coils by means of a NTC sensor directly connected with a dual pole cable. For easy mounting a flexible support is provided.

FEATURES

- Connecting cable: 2 x 0.5 mm² x 1.5 m.



Code	Description	Application range	Sensing element	Data sheet
STT 010	Temperature sensor for fan-coil.	0 ... 40 °C	NTC 10 kΩ	N 155

TEMPERATURE SENSORS FOR AIR DUCTS

STA ...

APPLICATION

Monitors the air temperature in ventilation ducts by means of a NTC sensor housed in a brass sheath. For easy mounting a connecting flange is provided.

FEATURES

- Case in shockproof plastic material: 45 x 80 x 35 mm; Protection: IP 54; Cable duct: PG 11;
- Adjustable deep sensor sheath: ø 9 x 20 ... 130 mm.



Code	Description	Application range	Sensing element	Data sheet
STA 010	Temperature sensor for air ducts.	0 ... 100 °C	NTC 10 kΩ	N 150
STA 001	Temperature sensor for air ducts.	-40 ... 40°C	NTC 1 kΩ	N 150

GLAZED SURFACES TEMPERATURE SENSOR

STV 010

APPLICATION

Monitors the temperature of glazed surfaces for calculation of the Dew Point, by means of a NTC-sensor housed in a plastic case to be stuck directly on the glass.

FEATURES

- Connecting cable: 2 x 0.5 mm² x 1.5 m.



Code	Description	Application range	Sensing element	Data sheet
STV 010	Glazed surfaces temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 160

FLUE GAS TEMPERATURE SENSOR

STF 001

APPLICATION

Monitors the temperature of the boiler flue gases by a Pt sensor housed in a sheath for installation in the stack. For easy mounting a loose connecting flange is provided.

FEATURES

- Connecting cable: 2 x 0.5 mm² x 1.5 m.



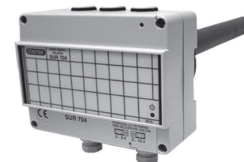
Code	Description	Application range	Sensing element	Data sheet
STF 001	Flue gas temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 165

RELATIVE HUMIDITY SENSOR FOR AIR DUCTS

SUR 704

APPLICATION

Measures the relative humidity in air ducts by means of a capacitive sensor. The sensing element is housed in a PVC sheath and the electronic circuit with the terminal blocks in a water-proof container. Installation is simplified by the use of a separate fixing flange.



FEATURES

- Power supply: 24 V~ (2.5 VA) or 12 V– (15 mA).
- Enclosure in shockproof plastic: 83 x 105 x 46 mm; Pocket \varnothing 30,5 x 270 mm; Protection: IP 55; Cable entry gland: PG 7.
- Relative humidity output signal: 0 ... 10 V– or 0 ... 5 V–.

Code	Description	Humidity range	Humidity accuracy	Data sheet
SUR 704	Relative humidity sensor.	10 ... 90 %RH	2.5 %RH	N 221

RELATIVE HUMIDITY & TEMPERATURE SENSOR FOR AIR DUCTS

SUT 714

APPLICATION

Measures the relative humidity by means of an integrated sensor and the temperature by means of an NTC 10 k Ω sensing element. The sensing elements are housed in a PVC sheath and the electronic circuit with the terminal blocks in a water-proof container. Installation is simplified by the use of a separate fixing flange.



FEATURES

- Power supply: 24 V~ (2.5 VA) or 12 V– (15 mA).
- Enclosure in shockproof plastic: 83 x 105 x 46 mm; Pocket: \varnothing 30,5 x 270 mm; Protection: IP 55; Cable entry gland: PG 7.
- Relative humidity output signal: 0 ... 10 V– or 0 ... 5 V–.

Code	Description	Humidity range	Humidity accuracy	Temperature range	Data sheet
SUT 714	Relative humidity and temperature sensor.	10 ... 90 %RH	1.5 %RH	0 ... 60 °C	N 222

ROOM TEMPERATURE & RELATIVE HUMIDITY SENSOR

SAU 914

APPLICATION

Measures room temperature and relative humidity by means of a NTC 10 k Ω temperature sensing element and a capacitive humidity sensing element. Domestic-type enclosure for wall mounting.



FEATURES

- Plastic enclosure: 130 x 80 x 37 mm; Protection: IP 42.
- Humidity output signal: 1 ... 10 V–.

Code	Description	Humidity range	Humidity accuracy	Temperature range	Data sheet
SAU 914	Temperature & relative humidity sensor.	10 ... 90 %	2.5 %	0 ... 40 °C	N 227

ROOM TEMPERATURE & RELATIVE HUMIDITY SENSOR

SAU 724

APPLICATION

Measures room temperature and relative humidity by means of a NTC 10 k Ω temperature sensing element and by an integrated humidity sensing element. Waterproof enclosure for wall mounting.



FEATURES

- Plastic enclosure: 85 x 105 x 48 mm; Protection: IP 55.
- Humidity output signal: 0 ... 10 V–.

Code	Description	Humidity range	Humidity accuracy	Temperature range	Data sheet
SAU 724	Temperature & relative humidity sensor.	10 ... 90 %	1.5 %	0 ... 40 °C	N 228

PRESSURE TRANSMITTER FOR LIQUIDS AND STEAM

SPW ...

APPLICATION

Measures the pressure, by means of a ceramic sensor, in hot water or cold water or steam plants.



FEATURES

- Pipe connection: male 1/2"; When the fluid temperature is higher than 80 °C a spiral spacer has to be used.
- Protection: IP 65; Output signal: 0 ... 10 V–.

Code	Description	Application range	Max. pressure	Data sheet
SPW 101	Pressure transmitter for liquids and steam.	0 ... 1 bar	2 bar	N 410
SPW 102	Pressure transmitter for liquids and steam.	0 ... 2.5 bar	5 bar	N 410
SPW 106	Pressure transmitter for liquids and steam.	0 ... 6 bar	12 bar	N 410
SPW 116	Pressure transmitter for liquids and steam.	0 ... 16 bar	32 bar	N 410

DIFFERENTIAL PRESSURE TRANSMITTER FOR LIQUIDS

SDW ...

APPLICATION

Measures the differential pressure, by means of a ceramic sensor, in hot or cold water plants.



FEATURES

- Piping connection: two 1/8" screwed female; When the fluid temperature is higher than 80 °C a spiral spacer has to be used.
- Protection: IP 65; Output signal: 0 ... 10 V–.

Code	Description	Application range	Max. pressure	Data sheet
SDW 101	Differential pressure transmitter for liquids.	0 ... 1 bar	5 bar	N 420
SDW 102	Differential pressure transmitter for liquids.	0 ... 2.5 bar	12 bar	N 420
SDW 106	Differential pressure transmitter for liquids.	0 ... 6 bar	12 bar	N 420

DIFFERENTIAL PRESSURE TRANSMITTER FOR AIR

SDA ...

APPLICATION

Measures the differential pressure, by means of a diaphragm sensor, in air handling installations.



FEATURES

- Connection to air: 2 hose fittings ø 6 mm; Protection: IP 54; Dimensions: 105 x 83 x 46 mm.
- Output signal: 0 ... 10 V–.

Code	Description	Application range	Max. pressure	Data sheet
SDA 701	Differential pressure transmitter for air.	0 ... 1 mbar	220 mbar	N 430
SDA 703	Differential pressure transmitter for air.	0 ... 3 mbar	220 mbar	N 430
SDA 705	Differential pressure transmitter for air.	0 ... 5 mbar	220 mbar	N 430
SDA 730	Differential pressure transmitter for air.	0 ... 30 mbar	220 mbar	N 430

REMOTE CONTROLS

CDB ...

APPLICATION

Resetting units for physical values control and change of programme in use.

FEATURES

- Case in shockproof plastic material: 80 x 80 x 26 mm. Wall mounting.



Code	Description	Compatible controllers	Application range	Data sheet
CDB 100	Temperature setpoint adjuster with NTC 10 kΩ room sensor.	DRU 314 / 614; DTF / RTF 31; DTT 318; RTB 645; XTU 614 / 618; XTU 644; XTU 664 XTA 624; XTR 628;	-5 ... +5 °C	N 710
CDB 200	Humidity setpoint adjuster NTC 10 kΩ room sensor.	XTU 614; XTU 644; XTU 664.	-10 ... +10 %	N 710
CDB 300	Change of programme in use.	RTC 604; RTE 643; XTP 600. XTT 608; XTE 611; XTE 600 / 602; XSE 600 / 602.	-	N 710
CDB 300/S1	Change of programme in use with NTC 10 kΩ room sensor	RTC 604; RTE 643; XTP 600. XTT 608; XTE 611; XTE 600 / 602; XSE 600 / 602.	-	N 710
CDB 301	Change of programme (DIN 3 units).	RTC 604; RTE 643; XTP 600. XTT 608; XTE 611; XTE 600 / 602; XSE 600 / 602.	-	N 711
CDB 333	Change of programme in use.	XCS 633; XSS 633; XTU 618.	-	N 710
CDB 340	Temperature setpoint adjuster.	RTE 98.	-5 ... +5 °C	N 710

HOUSINGS FOR DIN MODULAR EQUIPMENT

ACD 655

APPLICATION

It allows the mounting of DIN modular equipment with either 6 or 3 units on the front panel, in replacement of 144 x 144 equipment.

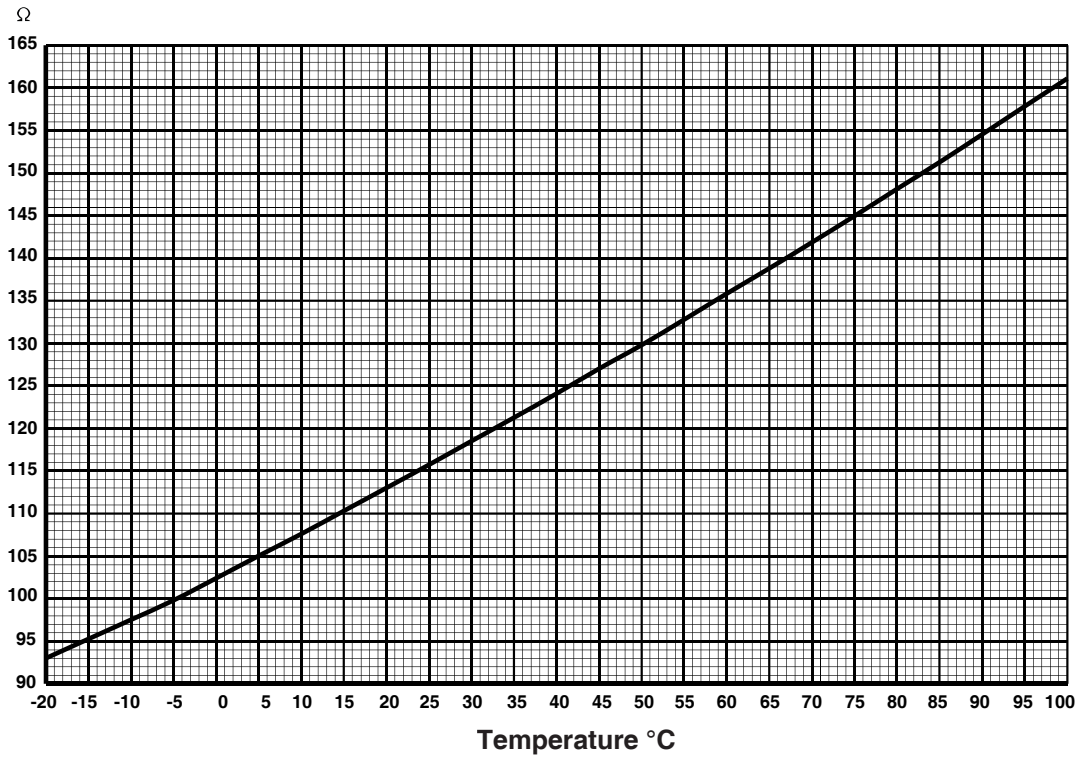
FEATURES

- Hollow size: 138 x 138 m.



Code	Description	No. of devices		Data sheet
		6 units	3 units	
ACD 655	Accessory for fascia mounting.	1	1 or 2	-

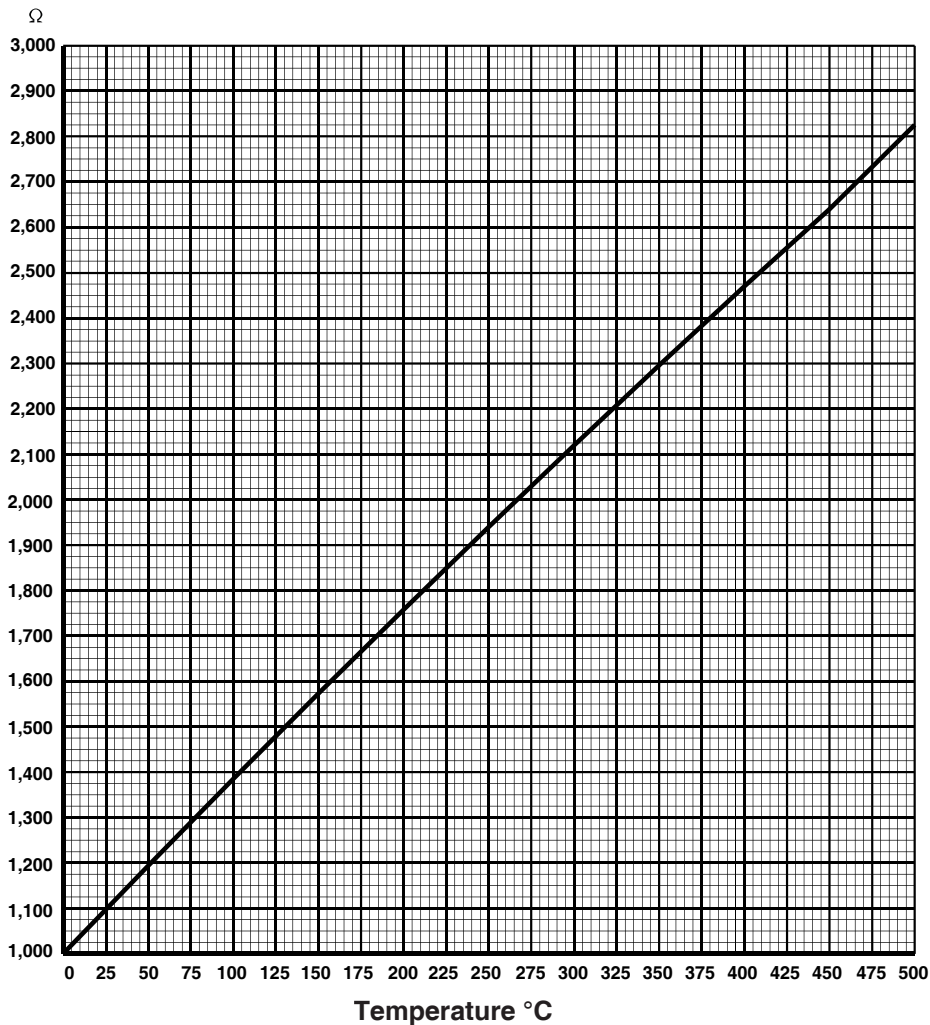
**TEMPERATURE - RESISTANCE DIAGRAM FOR Ni 100 Ω SENSORS
IS NOT LONGER MANUFACTUR**



CODE:

- SAA 100
- SAB 100
- SAC 100
- SAE 100
- SAF 100
- SCH 100
- SIH 100
- STA 100

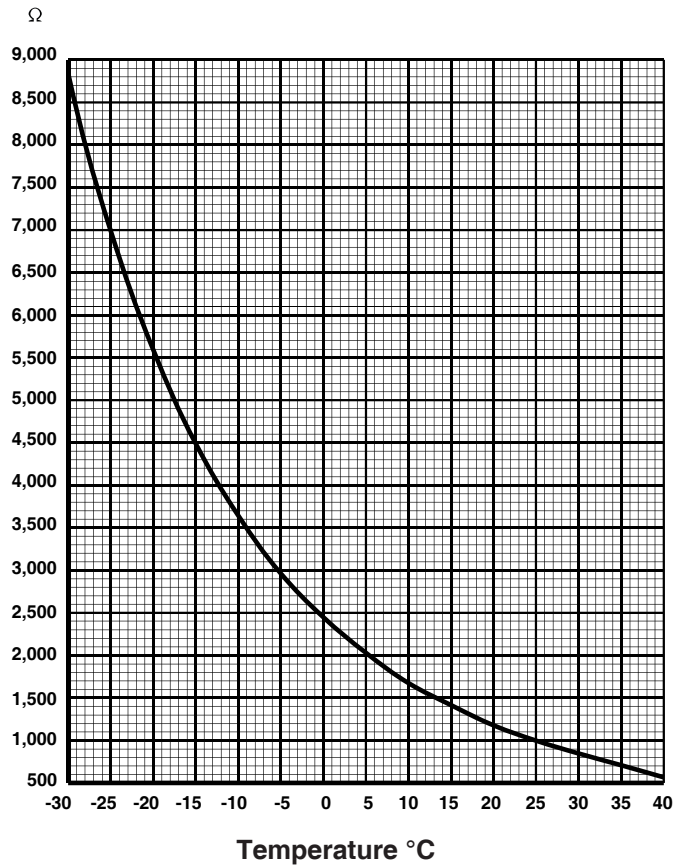
TEMPERATURE - RESISTANCE DIAGRAM FOR Pt 1 k Ω SENSORS



CODE:

- SGG 001
- SHF 001
- STF 001
- STH 001

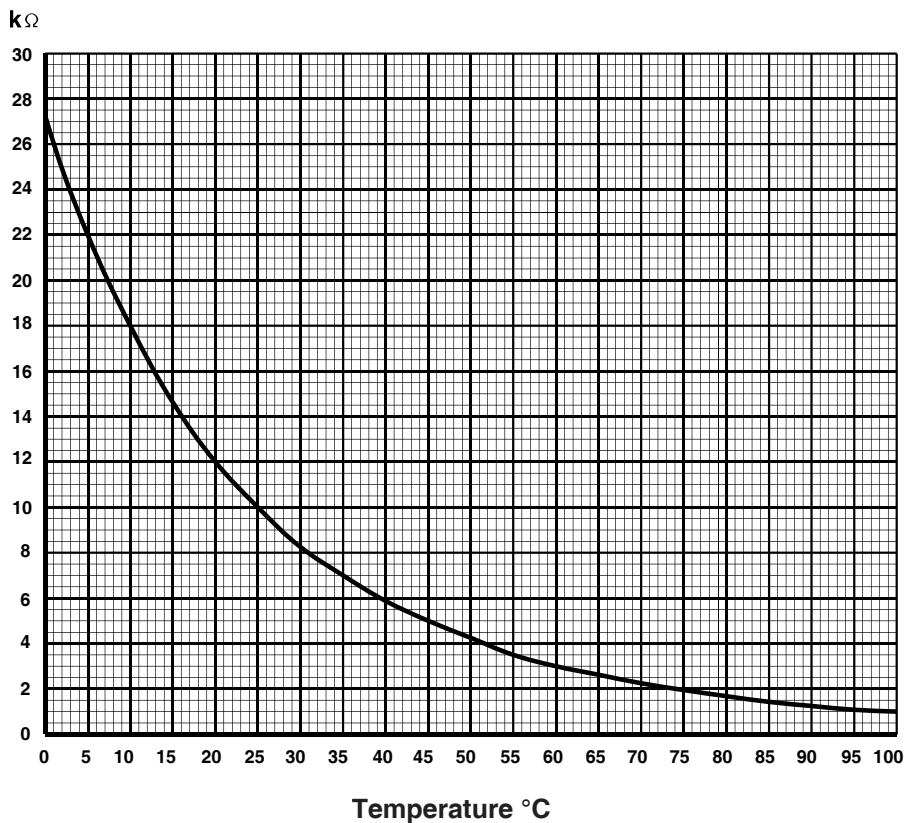
TEMPERATURE - RESISTANCE DIAGRAM FOR NTC 1 kΩ SENSORS



CODE:

- SAA 001
- SAE 001
- SAF 001
- SGE 001
- STA 001

TEMPERATURE - RESISTANCE DIAGRAM FOR NTC 10 kΩ SENSORS



CODE:

- SAA 010
- SAB 010
- SAB 011
- SAB 210
- SAF 010
- SAF 110
- SAU 012
- SCB 110
- SCB 210
- SCH 010
- SHF 010
- SIH 010
- SIR 010
- STA 010
- STT 010
- STV 010

Description	Code	Communication	Page
<p align="center">"TELECOSTER" TELEMANAGEMENT SYSTEM FOR BOILER PLANTS"</p> <p align="center">THE SYSTEM PERMITS TELEMANGING, FROM A CENTRAL COMPUTER, ALL THE CONTROL DEVICES IN THE PLANTS AND FACILITATES THE PROVISION OF A COMFORTABLE TEMPERATURE & HUMIDITY IN ALL THE OFFICES AND/OR DWELLINGS CONCERNED. ALL ALARMS ARE ACQUIRED AND LOGGED AND CAN BE FORWARDED VOCALLY TO CELLULAR TELEPHONES ON THE MONITORE ARE DISPLAYED ALL IMPORTANT VALUES E.G. TEMPERATURE, GAS OIL LEVEL, PLANT PRESSURE, ETC.</p>			
<p>TELEMANAGEMENT SOFTWARE APPLICATION SOFTWARE FOR MANAGING COMMUNICATIONS BETWEEN THE CENTRAL COMPUTER AND THE BOILER PLANTS CONNECTED VIA MODEM - TELEPHONE LINE OR DIRECTLY.</p>	SWC 701		10.4
<p align="center">MODEM ANALOGUE LINES, GSM & UNITS FOR ETHERNET</p>			
<p>CENTRAL DESKTOP MODEM: WITH VOCAL FORWARDING CONNECTS CENTRAL COMPUTER TO ANALOGUE TELEPHONE LINE.</p>	MCV 712	(RS 232)	10.4
<p>GSM CENTRAL OR REMOTE MODEM CONNECTS DIRECTLY THE CENTRAL TELEMANAGEMENT COMPUTER TO THE GSM TELEPHONE LINE OR, BY MEANS OF AN RS 232 / C-BUS CONVERTOR, THE REMOTE COSTER DEVICES WITH C-BUS AND/OR RS 232.</p>	GSM 713	(RS 232)	10.4
<p>MINI TELEMANAGEMENT KIT INCLUDING GSM MODEM (SINGLE PACKAGE) TELEMANAGEMENT RS232: ALREADY ENABLED BY THE KIT. TELEMANAGEMENT C-BUS: CAN BE ENABLED WITH ACB 400 ACCESSORY.</p>	XCO 428 + GSM 713	<small>OPTIONAL</small> (C ←BUS) (RS 232)	10.5
<p>GSM DESKTOP MODEM FOR USB CONNECTION CONNECTS THE CENTRAL COMPUTER, VIA USB CABLE, TO GSM TELEPHONE LINE.</p>	GSM 714	(RS 232)	10.6
<p>REMOTE GSM DUAL BAND MODEM CONNECTS COSTER REMOTE DEVICES WITH C-BUS AND/OR RS 232 TO TE GSM (900/1, 800 MHz).</p>	GSM 622	(C ←BUS) (RS 232)	10.6
<p>REMOTE PANEL-MOUNTING MODEM CONNECTS COSTER REMOTE DEVICES BY C-BUS AND/OR RS 232 TO A DEDICATED ANALOGUE TELEPHONE LINE.</p>	MPD 412	(C ←BUS) (RS 232)	10.7
<p align="center">AMPLIFIER & CONVERTORS FOR C-BUS</p>			
<p>MEDIUM-POWER C-BUS AMPLIFIER & INTERFACE CONVERTOR AMPLIFIES C-BUS SIGNAL (MAX. 239 DEVICES IN MAX. IN 7 Km LINE).</p>	PCB 332	(C ←BUS) (RS 232)	10.8
<p>HIGH-POWER C-BUS AMPLIFIER & INTERFACE CONVERTOR AMPLIFIES C-BUS SIGNAL (MAX. 239 DEVICES IN MAX. IN 7 Km LINE).</p>	PCB 432	(C ←BUS) (RS 232)	10.8
<p>CONVERTOR C-BUS - "SLAVE" TO RS 232 (3 DIN ENCLOSURE) A UNIT MOUNTED, ON 3 DIN ENCLOSURE, WHICH PERMITS CONNECTION OF ANY DEVICE WITH C-BUS TO A MODEM OR A PC..</p>	ACB 332	(C ←BUS) (RS 232)	10.14
<p>ETHERNET - C-BUS CONVERTOR CONNECTS COSTER REMOTE DEVICES WITH C-BUS TO ETHERNET NETWORK</p>	ARE 338	(C ←BUS)	10.6
<p>RADIO MODEM WIRELESS BLUETOOTH CONVERTS C-BUS TO BLUETOOTH MODE & PERMITS EXTENDING THE C-BUS NETWORK VIA RADIO.</p>	CBR 118	(C ←BUS)	10.8
<p>CONVERTOR CABLE C-BUS - "SLAVE" TO RS 232 FOR PC) A UNIT, ATTACHED TO A CABLE, WHICH PERMITS CONNECTING ANY DEVICE WITH C-BUS TO A PC (NOT TO A MODEM).</p>	ACB 232	(C ←BUS) (RS 232)	10.13
<p>CONVERTOR CABLE C-BUS - "SLAVE" TO RS 232 FOR MODEM A UNIT, ATTACHED TO A CABLE, WHICH PERMITS CONNECTION TO ANY DEVICE WITH C-BUS AND WITH AN AUXILIARY POWER OUTPUT (e.g. UCO 318), TO A MODEM WITH SUITABLE ACCESSORY CONNECTORS CAN BE USED ALSO FOR PC.</p>	ACB 232/S1	(C ←BUS) (M-BUS RS 232)	10.13
<p>CONVERTOR M-BUS - "SLAVE" TO C-BUS (3 DIN ENCLOSURE) A UNIT THAT PERMITS CONNECTING M-BUS OUTPUT OF COMMONEST TYPES OF COMMERCIAL HEAT METERS TO C-BUS. MAKES DEVICE COMPATIBLE WITH COSTER TELEMANAGEMENT SYSTEM.</p>	CMC 328	(C ←BUS) (RS 232)	10.14
<p>CONVERTOR RS 232 - "SLAVE" TO C-BUS (3 DIN ENCLOSURE) A UNIT THAT PERMITS CONNECTING ANY DEVICE WITH RS 232 OUTPUT TO C-BUS. CAN BE USED BOTH FOR PC AND FOR MODEM, PROVIDED DEVICE IN QUESTION IS ALREADY INCLUDED IN COSTER TELEMANAGEMENT PROGRAM.</p>	CCB 332	(C ←BUS) (RS 232)	10.14
<p>(C ←BUS)= communication with telemanagement <small>OPTIONAL</small> (C ←BUS) = optional telemanagement (C ←RING)= data exchange between controllers</p>			

Description	Code	Communication	Page
UNIT FOR ALARMS, STATUS, COUNTS & TEMPERATURES			
UNIT FOR LOGGING ALARMS, STATUS AND COUNTS PERMITS ACQUIRING & LOGGING 8 SIGNALS OF ALARM, STATUS OR COUNT OF TIMES & NUMBER OF PULSES.	UAC 32.	(C ←BUS)	10.9
HEAT METERING UNIT 1 UNIT EVERY 14 APPARTMENTS.	UCR 668	(C ←BUS)	7.14
CONSUMPTION METERING UNIT 1 UNIT EVERY 16 METERS; CAN METER OTHER TIPES OF CONSUMPTION.	UCA 668	(C ←BUS)	7.14
PULSE COUNTER UNIT 1 UNIT EVERY 2 METERS.	UCI 328	(C ←BUS)	7.14
DEGREE-DAYS METERING UNIT OPTIONAL TELEMAGEMENT METERING WINTER DEGREE-DAYS FOR EACH INDIVIDUAL BUILDING: CALCULATES HEATING COSTS; MONITORS GLOBAL EFFICIENCY OF SITES PROGRAMS FUEL SUPPLIES.	XGG 618	PREDISPOSTO (C ←BUS)	7.3
UNIT FOR ACQUISITION WATER & FLUE GAS TEMPERATURES PERMITS ACQUIRING 2 TEMPERATURE READINGS & 2 FLUE GASES TEMPERATURE READINGS WITH MINIMUM & MAXIMUM THRESHOLDS TO SEND ALARM TO TELEMAGEMENT SYSTEM.	UAF 322	(C ←BUS)	10.9
UNIT FOR MEASUREMENT, ALARM & RECORDING FLUE GAS TEMPERATURES PERMITS RECORDING FOUR TEMPERATURE MEASUREMENTS (0 ... 500 °C), WITH MINIMUM AND MAXIMUM THRESHOLDS AND SENDING ALARMS TO TELEMAGEMENT SYSTEMS VIA C-BUS CONNECTION.	UBF 348	(C ←BUS)	10.9
UNIT FOR MEASURING & RECORDING 0...5 V-, 0...10 V-, 4...20 mA SIGNAL AND TRIGGERNG ALARMS CONVERT AN ANALOGUE SIGNAL 0 ... 5 V-, 0 ... 10 V-, 4 ... 20 mA INTO A MEASUREMENT OF PHYSICAL MAGNITUDE.	UML 318	(C ←BUS)	10.10
TEMPERATURE RECORDING UNIT PERMITS RECORDING FOUR MINIMUM AND MAXIMUM TEMPERATURE THRESHOLDS FOR SENDING ALARMS TO TELEMAGEMENT SYSTEM.	ULT 3.. ULT 348/S1	(C ←BUS)	10.11
ACTIVE SIGNALS MEMORIZATION UNIT PERMITS RECORDING 4 ACTIVE SIGNAL WITH MINIMUM & MAXIMUM THRESHOLD TO SEND ALARMS TO TELEMAGEMENT SYSTEM.	ULA 348	(C ←BUS)	10.11
TIMED PROGRAMMER WITH TWO OUTPUTS & ALARM INPUTS OPTIONAL TELEMAGEMENT FOR ON-OFF CONTROL OF TWO ELECTRICAL DEVICES & RECEIVING TWO ALARM SIGNALS.	XCO 428	OPTIONAL (C ←BUS) RS 232	4.10

(C ←BUS) = communication with telemanagement ^{OPTIONAL} (C ←BUS) = optional telemanagement (C ←RING) = data exchange between controllers

Description	Code	Communication	Page
ACCESSORIES			
3-CORE CABLE WITH DB MALE RS 232 (FOR MODEM) A 0.5 m CABLE THAT HAS AT ONE END 3 WIRES FOR CONNECTION TO AN RS 232 TERMINAL, AND AT THE OTHER A DB 9 MALE CONNECTOR FOR DIRECTLY CONNECTION TO A MODEM, WITH SUITABLE ACCESSORY CONNECTORS CAN ALSO BE USED FOR A PC.	ACS 232	(RS 232)	10.13
TEST PLUG-IN FOR DIN WITH SLOT FOR COMMUNICATION BUS A PLUG-IN WHICH IS INSERTED IN THE SLOT OF DEVICES ENABLED FOR PLUG-IN COMMUNICATION (E.G. XGG 618). THE PLUG-IN TEST OUTPUT IS A DB 9 FEMALE CONNECTOR WHICH CAN BE CONNECTED DIRECTLY TO A PC USING A STANDARD CABLE FOR DB 9 OR USB SOCKET. WITH SUITABLE ACCESSORY CONNECTORS CAN ALSO BE USED FOR MODEM.	ACX 232	(RS 232)	10.15
PLUG-IN C-BUS FOR SERIES F ... DEVICES INSERTED IN SOCKET AT REAR OF DEVICES OF THE SERIES F ... (144X 96), PERMIT TELEMAGEMENT VIA C-BUS OF THE SAME.	ACB 144	(C ←BUS)	10.15
TEST CABLE FOR CONVERTING RJ PLUG TO RS 232 FOR PC OR MODEM. INSERTED IN RJ SOCKET ON FACIA OF SERIES F... (144 x 96) DEVICES PERMITS REMOTE OR LOCAL TELEMAGEMENT WITH A PC OR MODEM.	RJS 232	(RS 232)	10.15
PLUG-IN C-BUS FOR SERIES X ... DEVICES INSERTED IN THE SLOT OF SERIES X ... DEVICES PERMITS TELEMAGEMENT VIA C-BUS OF THE SAME.	ACB 4..	(C ←BUS)	10.15
TESTER CABLE WITH ROUND SOCKET A CABLR THAT IS CONNECTED WITH ROUND SOCKET ON FRONT PANEL. CAN TEST THE TELEPHONE LINE, THE ETHERNET LINE AND THE C-BUS LINE. CAN BE CONNECTED ONLY TO A PC.	TCB 908	(RS 232)	10.16
GALVANIC INSULATOR FOR RS 232 LINES (3 DIN ENCLOSURE) A UNIT THAT IS INSERTED BETWEEN TWO RS 232 SOCKETS TO INSULATE GALVANICALLY THE UPSTREAM ZONE FROM THE DOWNSTREAM ZONE. THE OUTPUTS ARE TERMINALS AND SO PRS 332 CAN BE USED FOR EITHER PC OR MODEM.	PRS 332	(RS 232)	10.16
GALVANIC INSULATING CABLE FOR RS 232 LINES A UNIT WHICH IS INSERTED BETWEEN TWO RS 232 SOCKETS IN ORDER TO INSULATE GALVANICALLY THE UPSTREAM ZONE FROM THE DOWNSTREAM ZONE. THE UNIT CAN BE USED ONLY TOWARDS THE PC AND NOT TOWARDS THE MODEM.	PRS 232	(RS 232)	10.16
CABLE & CONNECTOR KIT FOR RS 232 A KIT COMPRISING CABLES, CONNECTORS & ADAPTORS FOR CONVERTING AN RS 232 OUTPUT FROM MODEM TO PC AND VICE VERSA (WHERE THIS FEASIBLE)A.	KIT RS 232		10.16
POWER BACK-UP FOR MODEM PERMITS TELEMANGED SITES TO SEND ALARM SIGNAL FOR LACK OF POWER..	ALM 688		10.8
AERIAL EXTENSION CABLE	APA 812 C1		10.4/6

(C ←BUS) = communication with telemagement ^{OPTIONAL}(C ←BUS) = optional telemagement (C ←RING) = data exchange between controllers

TELEMANAGEMENT OF PLANTS FOR AMBIENTAL COMFORT "TELECOSTER"

With this system, from a central computer, you can:

- Telemanage (remote control) all the control equipment running the boiler plants in the buildings concerned.
- Receive and log alarm situation and forward the alarms in voice mode to cellular phones.
- See displayed the following values: temperature, fuel level, plant pressure, etc.

The system comprises:

- 1 Desk Modem MCT 710, MCV 711 or GSM 714 for connecting central computer to telephone line.
- 1 Panel-mounted modem MPD 612, MPF 612, GSM 713 or GSM 622 for connecting each remote unit to the telephone line.
- From 1 to 239 C-Bus compatible devices for each remote unit.

TELEMANAGEMENT SOFTWARE

SWC 701

APPLICATION

Application software for managing communication between the central computer and the remote boiler plants linked by modem and telephone line.

FEATURES

- Supplied on CD.
- Minimum recommended: Microsoft (TM) Windows 98SE, PC Pentium III 800 Mhz, RAM 256 HD, 500 HD free.



Code	Description	Data sheet
SWC 701 SWC 701 NM	Telemanagement programs via protocols RS 232 and C-Bus. Read-only program via protocols RS 232 and C-Bus.	- -

CENTRAL DESKTOP MODEM

MCV 712

RS 232

APPLICATION

Connects central computer to the analogue telephone line.
Permits voice forwarding of alarm calls and connection with outlying GSM modems..

FEATURES

- Power supply: 230 V~; Consumption: 5 VA; Desktop enclosure; Protection: IP 40..



Code	Description	Data sheet
MCV 712	Desktop modem with voice forwarding. Permits connection with GSM modem.	T 323

ACCESSORIES

Code	Description	Data sheet
WDM 318	Modem protector in DIN 53 x 115 enclosure.	T 351

GSM CENTRAL OR REMOTE MODEM

GSM 713

RS 232

APPLICATION

Connects directly the central telemanagement computer to the GSM telephone line or, by means of an RS 232 / C-Bus convertor, the remote Coster devices with C-Bus and/or RS 232.

Supplied with: 230V~/12V- power supply; ACS 232 cable for modem; RF Dual Band antenna;
Linkage for mounting on wall or on DIN rail.



FEATURES

- Power supply: 230 V~; Protection: IP 40.
- Transmission speed: - 1,200 bps.

Code	Description	Data sheet
GSM 713	GSM central modem (telemanagement PC) or remote (plant sites).	T 332

ACCESSORIES

Code	Description	Data sheet
ACB 332 PCB 332 APA 812 c1	RS 232 / C-Bus low-power convertor for connection to C-Bus line. RS 232 / C-Bus medium-power convertor for connection to C-Bus line. Cable (4 metres) for antenna extension for GSM713 c1.	T 423 T 422 -

KIT OF MINI TELEMAGEMENT INCLUDING TIMED PROGRAM

XCO 428 + GSM 713 (SINGLE PACKAGE)

OPTIONAL
C ← BUS

RS 232



TELEMAGEMENT RS 232: already enabled by kit.

TELEMAGEMENT C-Bus: Enabled with ACB 400 accessory.

Code	Description	Data sheet
XCO 428+GSM	Mini kit for Telemagement via RS 232, including program. timer with two outputs. (Page 4.9).	—

GSM DESKTOP MODEM FOR USB CONNECTION

GSM 714

RS 232



APPLICATION

Connects the central computer, via USB cable, to GSM telephone line.
RF Dual Band antenna incorporated.
Supplied with USB cable and CD ROM with driver for Windows(©).

FEATURES

- Power supply: via USB port; Protection: IP 40.
- Transmission speed: 9,600 bps.

Code	Description	Data sheet
GSM 714	Central GSM modem (Telemagement PC) with USB interface.	T 335

REMOTE GSM DUAL BAND MODEM

GSM 622

C ← BUS

RS 232



APPLICATION

Connects Coster remote devices with C-Bus and/or RS 232 to the GSM (900/1,800 MHz).
Communicates with central modems MCV 711 or GSM 713 or GSM 714.
Supplied with RF Dual Band antenna.

FEATURES

- Power supply: 230 V~; Consumption: 11 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Transmission speed on line: 2,400 ... 14,400 bps in non-transparent mode.

Code	Description	Inputs RS 232	Inputs C-Bus	Data sheet
GSM 622	Remote GSM Dual Band modem.	1	1	T 334

ACCESSORIES

Code	Description	Data sheet
TCB 908	Tester for connections and telephone call-up. RS 232 cable with male DB 9. Back-up power supply. Cable (4 metres) for antenna extension for GSM 622 c1.	—
ACS 232		—
ALM 688		T 350
APA 812 c1		—

ETHERNET / C-BUS CONVERTOR

ARE 338

C ← BUS



APPLICATION

Connects Coster remote units with C-Bus to Ethernet network.

FEATURES

- Power supply: 230 V~; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Transmission speed: 1,200 bps.

Code	Description	Data sheet
ARE 338	Ethernet / C-Bus convertor.	T 336

ACCESSORIES

Code	Description	Data sheet
TCB 908	Tester for connections and telephone call-up.	—

10

**REMOTE PANEL-MOUNTING MODEM WITHOUT DISCRIMINATOR
WITH CONFIGURABLE TRANSMISSION SPEED**

C ←BUS

RS 232



MPD 412

APPLICATION

For connecting Coster remote devices with C-Bus and/or RS 232 to the analogue telephone line. Configurable transmission speed (default: 1200 bauds).

FEATURES

- Power supply: 230 V~; Consumption: 3 VA; Modular enclosure: DIN 71 x 116; Protection: IP 40.
- Data transmission speed: configurable as required.

Code	Description	RS 232 Inputs	C-Bus Inputs	Data sheet
MPD 412	Panel-mounting modem.	1	1	T 337

ACCESSORIES

Code	Description	Data sheet
ACX 232	Test plug-in to connect PC or modem to series X... devices. RS 232 cable with male DB 9. Backup power supply. Modem protector in DIN 53 x 115 enclosure.	T 432
ACS 232		T 440
ALM 688		T 350
WDM 318		T 351

BACKUP POWER SUPPLY FOR MODEM

ALM 688

APPLICATION

Power supply backup for permit telemanaged plants to send alarm in event of power failure. It can be used with:

- 1 MPD 612 or MPF 612 or GSM 622 modem and a C-Bus device with On-Off alarm.



FEATURES

- Power supply: 230 V~; Consumption: 3 VA; DIN 105 x 115 modular enclosure; Protection: IP 40.
- Can power two C-Bus devices for about 15 minutes.
- 1 On-Off output for power failure alarm.

Code	Description	Data sheet
ALM 688	Backup power supply for modem.	T 350

HIGH-POWER AMPLIFIER & C-BUS CONVERTOR

PCB 432

C ←BUS

RS 232



APPLICATION

Amplifies C-Bus and permits connecting following to C-Bus line:

- 1 local PC for Telemangement;
- 1 COSTER modem
- 1 commercial-type modem with RS 232 input;
- Devices with RS 232 communication system..

FEATURES

- Power supply: 230 V~; Consumption: 5 VA; Modular enclosure DIN 71 x 116; Protection: IP 40.

Code	Description	Data sheet
PCB 432	Hight-power C-Bus amplifier and convertor. Speeds up to 9600 baud.	T 428

MEDIUM-POWER C-BUS AMPLIFIER AND INTERFACE CONVERTOR

PCB 332

C ←BUS

RS 232



APPLICATION

Amplifies signal (max. 130 devices distributed over 5 km of 1.5 mm² line) and permits connecting to the C-Bus line:

- 1 local telemangement PC.
- 1 MCV 711 modem with voice mode.
- 1 non-Coster modem with RS 232 input.
- Electronic devices with RS 232 interface.

FEATURES

- Power supply: 230 V ~; Consumption: 4 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Supplied with 9-pole female plug.

Code	Description	Data sheet
PCB 332	Medium-power C-Bus amplifier and convertor.	T 422

RADIO MODEM WIRELESS BLUETOOTH

CBR 118

C ←BUS



APPLICATION

Converts C-Bus to Bluetooth mode and permits extending the C-Bus network via radio.
Can only be used in pairs.

FEATURES

- Power supply: 230 V~; Consumption: 3 VA; Wall-mounting enclosure 89 x 129 x 58; Protection: IP 54.
- Coverage: 100 metres without obstacles; Transmission speed: 1,200 bps.

Code	Description	Data sheet
CBR 118	Couple of Radio Modem Wireless Bluetooth.	T 336

TEMPERATURES ACQUISITION UNIT FOR WATER & FLUE GASES

UAF 322

C ←BUS



APPLICATION

Permits acquisition of two 0...99 °C temperature measurements and two 0...500°C flue gases temperatures, with minimum and maximum thresholds, for sending alarm signal to Telemangement systems by means of C-Bus parallel connection.

FEATURES

- Power supply: 230 V~; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Two NTC 10 kΩ (0... 99°C) measurement inputs. Two Pt1 kΩ (0...500°C) inputs.
- One output for signalling alarm (to connect to a C-Bus device).

Code	Description	Data sheet
UAF 322	Unit for acquisition water and flue gas temperatures.	T 251

ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
SAA 010	Air-tight room temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 115
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SIH 010	Immersion temperature sensor with brass pocket..	0 ... 99 °C	NTC 10 kΩ	N 140
SIH 010/Sta. steel	Immersion temperature sensor with inoxidizable pocket.	0 ... 99 °C	NTC 10 kΩ	N 140
SIR 010	Rapid-response sensor for direct immersion.	0 ... 99 °C	NTC 10 kΩ	N 140
SAF 010	Cable-type temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 145
STA 010	Air ducts temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 150
STF 001	Flue gas temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 165

MEASUREMENT, ALARM & FLUE GAS RECORDER (ALARM FOR LOCKOUT FOR 4 BURNERS)

UBF 348

C ←BUS



APPLICATION

Permits recording four temperature measurements (0 ... 500 °C), with minimum and maximum thresholds and sending alarms to telemangement systems via C-Bus connection.

Option of deactivating alarms by means of one or two external switches (as alternative to same number of sensors).

FEATURES

- Power supply: 230 V~; Consumption: 2 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Four measurement inputs: Pt 1 kΩ (0 ... 500 °C).
- Adjustable recording interval: 5 ... 240 minutes.

Code	Description	Data sheet
UBF 348	Measurement, alarm & recording unit for flue gasees temperatures.	T 256

ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
STF 001	Flue gas temperature sensor.	0 ... 500 °C	Pt 1 kΩ	N 165

ALARMS, STATUS & COUNTS RECORDING UNIT

UAC 32.

C ←BUS



APPLICATION

Allows acquiring eight On-Off signals of alarm, status or time counts and number of pulses. C-Bus compatible.

FEATURES

- Power supply: 230 V~ / 24 V~-; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Eight On-Off inputs for voltage-free contacts.

Code	Description	Power	Data sheet
UAC 328	Unit for acquisition and logging alarms, status and counts.	230 V~	T 221
UAC 324	Unit for acquisition and logging alarms, status and counts.	24 V~	T 221

UNIT FOR MEASUREMENT, ALARM & RECORDING

0 ... 5 V-, 0 ... 10 V-, 4 ... 20 mA SIGNALS

UML 318

C ←BUS



APPLICATION

Convert an analogue signal 0 ... 5 V- o 0 ... 10 V- o 4 ... 20 mA into a measurement of physical magnitude. In conjunction with a liquid level pressure sensor it is possible to:

- Power the sensor (12 V-).
- Calibrate the measurement range off the physical magnitude and display the actual measurement.
- Set two limit values (Min. and Max.) for control of two relays.
- Record 400 measurements at the pre-set intervals (5 min ... 24 hours).
- Telemange via C-Bus connection.

FEATURES

- Power supply: 230 V~-; Consumption: 2 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- One input for analogue signal 0 ... 5 V- or 0 ... 10 V- or 4 ... 20 mA.
- Two relay outputs for signalling alarm.

Code	Description	Data sheet
UML 318	Unit for measurement & recording signals 0 ... 5 V- or 0 ... 10 V- or 4 ... 20 mA, and triggering alarms.	T 258

TEMPERATURE RECORDING UNIT

ULT 3..

C ←BUS



APPLICATION

Permits recording four temperature measurements with minimum and maximum threshold for sending alarms to telemanagement systems via C-Bus.

FEATURES

- Power supply: 230 V~; Consumption: 2 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- Four measurement inputs.
- Adjustable recording interval: 5 ... 240 min.

Code	Description	Suitable sensors			Data sheet
		NTC 10 kΩ 0 ... 99 °C	NTC 10 kΩ 0 ... 40 °C	NTC 1 kΩ -40 ... 40 °C	
ULT 328	Temperature recording unit.	2	1	1	T 257
ULT 348	Temperature recording unit.	4	–	–	T 257
ULT 348/S1	Temperature recording unit for 4 room sensors using in air-handling units	–	4	–	T 257/S1

SENSORS & ACCESSORIES

Code	Description	Application range	Sensing element	Data sheet
SAA 010	Waterproof room sensor.	0 ... 99 °C	NTC 10 kΩ	N 115
SAA 001	Waterproof room sensor..	-40...+40°C	NTC 1 kΩ	N 115
SAE 001	Outside temperature sensor.	-40...+40°C	NTC 1 kΩ	N 120
SCH 010	Surface temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 130
SIH 010	Immersion temperature sensor with brass pocket.	0 ... 99 °C	NTC 10 kΩ	N 140
SIH 010/Sta, steel	Immersion temperature sensor with stainless steel pocket.	0 ... 99 °C	NTC 10 kΩ	N 140
SIR 010	Direct immersion rapid-action temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 140
SAF 010	Cable-type temperature sensor.	0 ... 99 °C	NTC 10 kΩ	N 145
SAF 001	Cable-type temperature sensor.	-40...+40°C	NTC 1 kΩ	N 145
STA 010	Temperature sensor for air ducts.	0 ... 99 °C	NTC 10 kΩ	N 150
STA 001	Temperature sensor for air ducts.	-40...+40°C	NTC 1 kΩ	N 150
SAB 010	Room temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 111
SAB 210	Room temperature sensor with + 1 hour button.	0 ... 40 °C	NTC 10 kΩ	N 111
SCB 110	Room temperature sensor, with set-point adjuster.	0 ... 40 °C	NTC 10 kΩ	N 111
SCB 210	Room temperature sensor with + 1 hour button, and set-point adjuster.	-5 ... +5 °C	–	–
STT 010	Temperature sensor for heating/cooling coils.	0 ... 40 °C	NTC 10 kΩ	N 155
STV 010	Window temperature sensor.	0 ... 40 °C	NTC 10 kΩ	N 160

SIGNALS RECORDING UNIT

ULA 348

C ←BUS



APPLICATION

Permits recording 4 active signals with minimum and maximum thresholds for sending alarms to telemanagement systems via C-Bus interface.

FEATURES

- Power supply: 230 V~; Consumption: 3 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.
- 4 active signals inputs: two 4 ... 20 mA signals, two 0 ... 10 V– signals.
- Adjustable internal between recordings: 5 ... 240 min.

Code	Description	Data sheet
ULA 348	Active signals logging unit.	T 254

THREE-CORE CABLE WITH MALE DB 9 RS 232 (FOR MODEM)

ACS 232

RS 232



APPLICATION

A 0.5 metre cable which at one end has 3 wires for connection to an RS 232 terminal, and at the other a DB 9 male connector.
For connecting directly to a modem. With suitable accessory (KIT RS 232) connectors can be used also for PC.

Code	Description	Data sheet
ACS 232	Three-core cable for RS 232 for modem. Length 0.5 m.	-

LOW-POWER CONVERTOR C-BUS TO RS 232 FOR PC OR MODEM

ACB 332

C ←BUS

RS 232



APPLICATION

Permits connecting a C-Bus line to a modem or a PC.
The C-Bus output is of "Master" type; can be connected to a maximum of a 50 Coster C-Bus devices.

FEATURES

- Power supply: 230 V~; Consumption: 4 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.

Code	Description	Data sheet
ACB 332	RS 232 / C-Bus signal convertor.	T 423

LOW-POWER RS 232 / C-BUS CONVERTOR CABLE FOR PC ONLY

ACB 232

C ←BUS

RS 232



APPLICATION

Permits connecting a C-Bus line to a PC (not to a modem).
The C-Bus output is of the "Master" type; it can be connected to a maximum of 10 Coster devices fitted with C-Bus.

FEATURES

- Supplied with a 9-pole female plug; Number of C-Bus devices with can be connected: max 10.

Code	Description	Data sheet
ACB 232	RS 232 / C-Bus convertor cable powered by PC.	-

LOW-POWER RS 232 / C-BUS CONVERTOR CABLE FOR MODEM OR PC

ACB 232/S1

C ←BUS

RS 232



APPLICATION

Permits connecting a C-Bus line to a modem.

At least one of the devices on the C-Bus line must be equipped with a 12 V- power back-up (e.g. UCO 318), otherwise an external power supply will be required.

The C-Bus output is of the "Master" type; it can be connected to a maximum of 10 Coster devices fitted with C-Bus.
With suitable connectors can be used also for a PC.

FEATURES

- Supplied with a 9-pole female plug; Number of C-Bus devices with can be connected: max 10.

Code	Description	Data sheet
ACB 232/S1	Convertor cable RS 232 / C-Bus powered by a Coster device.	-

CONVERTOR FROM RS 232 ON ANY DEVICE TO C-BUS

CCB 332

C ← BUS

RS 232



APPLICATION

Converts an RS 232 serial signal from any device to be telemanaged to a C-Bus "Slave" input.
Permits connecting a device with RS 232 data communication to C-Bus line.

WARNING: in order to connect any NON-COSTER device to COSTER Telemangement programs it is necessary to have details of the communication protocol.

The possibility of establishing communication depends on the characteristics of the device in question and must be examined case by case.

FEATURES

- Power supply: 230 V~; Consumption: 4 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.

Code	Description	Data sheet
CCB 332	RS 232 / C-Bus convertor.	T 427

NON TRANSPARENT CONVERTOR FROM M-BUS TO C-BUS "SLAVE"

CMC 328

C ← BUS

M-BUS



APPLICATION

Converts M-Bus output of a non-Coster heat meter to a C-Bus "Slave" output.

Mode: 1,200 Baud. "NON-TRANSPARENT".

Permits connecting: - an M-Bus line (of a non-Coster device) to a C.Bus line with, if present, a local PC.

FEATURES

- Power supply: 230 V~; Consumption: 4 VA; DIN 53 x 115 modular enclosure; Protection: IP 40.

Code	Description	Inputs			Outputs		Data sheet
		RS 232	C-Bus	M-Bus	C-Bus	M-Bus	
CMC 328	M-Bus / C-Bus "Slave" convertor.	1	1	1	1	1	T 425

ACCESSORIES

Code	Description	Data sheet
ACB 232/S1 ACS 232	Convertor cable RS 232 / C-Bus powered by a Coster device. RS 232 cable with male DB 9.	— —

TEST PLUG-IN FOR DIN WITH SLOT FOR COMMUNICATION BUS (TYPE X ... UNIT)

ACX 232

RS 232



APPLICATION

Permits connecting temporarily a PC or a modem to a Coster device of the X ... series.

FEATURES

- Inserted into the slot of any device of the X ... series, provides an RS 232 output with a 9 pole connector, to connect by means of a standard 9-pole-9-pole cable or a 9-pole-USB, to a local PC.
- By means of the PC you can communicate with the controllers for programming or control.
- Using suitable accessories a modem also can be connected.

Code	Description	Data sheet
ACX 232	Plug-in test for connecting PC or modem to devices of series X ...	-

PLUG-IN C-BUS FOR SERIES F ... CONTROLLERS

ACB 144

C ←BUS



APPLICATION

When inserted in appropriate socket at rear of controllers of series F... (144 x 96), permit Telemangement via C-Bus of these controllers.

Code	Description	Data sheet
ACB 144	Plug-in for communication via C-Bus.	-

PLUG-IN C-BUS FOR SERIES X ... DEVICES

ACB 4..

C ←BUS



APPLICATION

Inserted in the appropriate communication slot of series X ... controllers enable Telemangement via the C-Bus of these controllers.

Code	Description	Products	Data sheet
ACB 400	Plug-in for communication via C-Bus.	XCC 602 - XCO 428 - XCC 618 - XCC 638 XPI 438 - XSE 600 - XSE 602 - XTA 624 XTT 618 - MRL 608.	T 433
ACB 460	Plug-in for communication via C-Bus.	XGG 618 - XTC 638 - XTR 628 - XTT 608 XTU 614 -XTU 618 - XTU 644	T 433
ACB 468	Plug-in for communication via C-Bus.	XCS 633 - XTE 600 - XTE 602 - XTE 611 - XTP 600.	T 433

TEST CABLE CONVERTOR RJ 6 POLES/RS232 FOR PC OR MODEM

RJS 232

RS 232



APPLICATION

Permits connection of any device fitted with RJ6 pole socket to a PC or modem equipped with RS232 input (e.g. devices type F ... (144 x 96).

Permits temporary Telemangement using the GSM 713 modem for temporary controls.

FEATURES

- Power via RJ plug.

Code	Description	Data sheet
RJS 232	Cable converts RJ 6 poles to RS232 for PC or modem.	-

CABLE TESTER WITH ROUND SOCKET

TCB 908

RS 232



APPLICATION

Permits complete testing of a C-Bus communication line to:

- An analogue or GSM telephone line.
- An Ethernet network.
- The C-Bus network towards the devices.

Can be used only with a PC.

Fitted with a round plug compatible with modems: GSM 622, MPD 612, MPF 612 and with ARE 338 Ethernet convertor.

FEATURES

- Supplied with 9-pole female socket, suitable for a PC.

Code	Description	Data sheet
TCB 908	Tester for connections and telephone call-up or Ethernet.	-

CABLES & CONNECTORS KIT FOR RS 232

KIT RS 232

RS 232



FEATURES

A kit comprising a number of accessories (cables and connectors) which, together with the various C-Bus and RS 232 devices permit a wide possibility of interconnections between various elements and devices.

Each kit comprises:

- A standard cable with DB 9 connectors, male at one end and female at the other;
- A cable for converting RS 232 and USB, including an installation CD;
- A "Gender Changer" male/male for converting a DB 9 socket from female to male;
- A "Gender Changer" female/female for converting DB 9 socket from male to female;
- A "Null modem" connector for converting a DB 9 socket from PC to modem and vice versa;
- A connector adapter between DB 9 and DB 25, for commercial modems fitted with DB 25 socket.

Code	Description	Data sheet
KIT RS 332	Accessories kit for PC.	-

GENERAL TERMS AND CONDITIONS

THE BUYER'S ATTENTION IS IN PARTICULAR DRAWN TO THE PROVISIONS OF CONDITION 10.4

1. INTERPRETATION

- 1.1 In these conditions the following words have the following meanings:
Buyer: the person(s), firm or company who purchases the Goods from the Company;
Company: Coster Tecnologie Elettroniche S.p.A;
Contract: any contract between the Company and the Buyer for the sale and purchase of the Goods, incorporating these Conditions;
Delivery Point: the place where delivery of the Goods is to take place under condition 4;
Goods: any goods agreed in the Contract to be supplied to the Buyer by the Company (including any part or parts of them).
- 1.2 In these conditions references to any statute or statutory provision shall, unless the context otherwise requires, be construed as a reference to that statute or statutory provision as from time to time amended, consolidated, modified, extended, reenacted or replaced.
- 1.3 In these conditions references to the masculine include the feminine and the neuter and to the singular include the plural and vice versa as the context admits or requires.
- 1.4 In these conditions headings will not affect the construction of these conditions.

2. APPLICATION OF TERMS

- 2.1 Subject to any variation under condition 2.3 the Contract will be on these conditions to the exclusion of all other terms and conditions (including any terms or conditions which the Buyer purports to apply under any purchase order, confirmation of order, specification or other document).
- 2.2 No terms or conditions endorsed upon, delivered with or contained in the Buyer's purchase order, confirmation of order, specification or other document will form part of the Contract simply as a result of such document being referred to in the Contract.
- 2.3 These conditions apply to all the Company's sales and any variation to these conditions and any representations about the Goods shall have no effect unless expressly agreed in writing by the Company. Nothing in this condition will exclude or limit the company's liability for fraudulent misrepresentation.
- 2.4 Each order for Goods by the Buyer from the Company shall be deemed to be an offer by the Buyer to purchase Goods subject to these conditions.
- 2.5 No order placed by the Buyer shall be deemed to be accepted by the Company until a written acknowledgement of order is issued by the Company or (if earlier) the Company delivers the Goods to the Buyer.
- 2.6 The Buyer must ensure that the terms of its order and any applicable specification are complete and accurate.
- 2.7 Any quotation is given on the basis that no contract will come into existence until the Company despatches an acknowledgment of order to the Buyer. [Any quotation is valid for a period of [30] days only from its date, provided that the Company has not previously withdrawn it].
- 2.8 All invoices will be issued using the following sales conditions and No contestation will be accepted later than 30 days from the date of invoice.

3. DESCRIPTION

- 3.1 The description of the Goods shall be as set out in the Company's quotation.
- 3.2 All drawings, descriptive matter, specifications and advertising issued by the Company and any descriptions or illustrations contained in the Company's catalogues or brochures are issued or published for the sole purpose of giving an approximate idea of the Goods described in them. They will not form part of this Contract.

4. DELIVERY

- 4.1 Unless otherwise agreed in writing by the Company, delivery of the Goods shall take place at the Company's place of business.
- 4.2 Any dates specified by the Company for delivery of the Goods are intended to be an estimate and time for delivery shall not be made of the essence by notice. If no dates are so specified, delivery will be within a reasonable time.
- 4.3 Subject to the other provisions of these conditions the Company will not be liable for any direct, indirect or consequential loss (all three of which terms include, without limitation, loss of profits, loss of business, depletion of goodwill and like loss), costs, damages, charges or expenses caused directly or indirectly by any delay in the delivery of the Goods (even if caused by the Company's negligence).
- 4.4 If for any reason the Buyer will not accept delivery of any of the Goods when they are ready for delivery, or the Company is unable to deliver the Goods on time because the Buyer has not provided appropriate instructions, documents, licences or authorisations:
- (a) risk in the Goods will pass to the Buyer (including for loss or damage caused by the Company's negligence);
 - (b) the Goods will be deemed to have been delivered; and
 - (c) the Company may store the Goods until delivery whereupon the Buyer will be liable for all related costs and expenses (including, without limitation, storage and insurance).
- 4.5 The Buyer will provide at its expense at the Delivery Point adequate and appropriate equipment and manual labour for loading the Goods.
- 4.6 If the Company delivers to the Buyer a quantity of Goods of up to [5]% more or less than the quantity accepted by the Company the Buyer shall not be entitled to object to or reject the Goods or any of them by reason of the surplus or shortfall and shall pay for such goods at the pro rata Contract rate.

5. NON-DELIVERY AND RETURNS OF GOODS

- 5.1 The quantity of any consignment of Goods as recorded by the Company upon despatch from the Company's place of business shall be conclusive evidence of the quantity received by the Buyer on delivery unless the Buyer can provide conclusive evidence proving the contrary.
- 5.2 The Company shall not be liable for any non-delivery of Goods (even if caused by the Company's negligence) unless written notice is given to the Company within 8 days of the date when the Goods would in the ordinary course of events have been received.
- 5.3 Any liability of the Company for non-delivery of the Goods shall be limited to replacing the Goods within a reasonable time or issuing a credit note at the pro rata Contract rate against any invoice raised for such Goods.
- 5.4 COSTER T.E. cannot accept any return of goods without previous authorization sent to our sales department.

6. RISK/TITLE

- 6.1 The Goods are at the risk of the Buyer from the time of delivery.
- 6.2 Ownership of the Goods shall not pass to the Buyer until the Company has received in full (in cash or cleared funds) all sums due to it in respect of:
- (a) the Goods; and
 - (b) all other sums which are or which become due to the Company from the Buyer on any account.
- 6.3 Until ownership of the Goods has passed to the Buyer, the Buyer must:
- (a) hold the Goods on a fiduciary basis as the Company's bailee;
 - (b) store the Goods (at no cost to the Company) separately from all other goods of the Buyer or any third party in such a way that they remain readily identifiable as the Company's property;
 - (c) not destroy, deface or obscure any identifying mark or packaging on or relating to the Goods;
 - (d) maintain the Goods in satisfactory condition and keep them insured on the Company's behalf for their full price against all risks to the reasonable satisfaction of the Company. On request the Buyer shall produce the policy of insurance to the Company; and
 - (e) hold the proceeds of the insurance referred to in condition 6.3(d) on trust for the Company and not mix them with any other money, nor pay the proceeds into an overdrawn bank account.
- 6.4 The Buyer may resell the Goods before ownership has passed to it solely on the following conditions:
- (a) any sale shall be effected in the ordinary course of the Buyer's business at full market value; and
 - (b) any such sale shall be a sale of the Company's property on the Buyer's own behalf and the Buyer shall deal as principal when making such a sale.
- 6.5 The Buyer's right to possession of the Goods shall terminate immediately if:
- (a) the Buyer has a bankruptcy order made against him or makes an arrangement or composition with his creditors, or (being a body corporate) convenes a meeting of creditors (whether formal or informal), or enters into liquidation (whether voluntary or compulsory) except a solvent voluntary liquidation for the purpose only of reconstruction or amalgamation, or has a receiver and/or manager, administrator or administrative receiver appointed of its undertaking or any part thereof, or a resolution is passed or a petition presented to any court for the winding up of the Buyer or for the granting of an administration order in respect of the Buyer, or any proceedings are commenced relating to the insolvency or possible insolvency of the Buyer; or
 - (b) the Buyer suffers or allows any execution, whether legal or equitable, to be levied on his/its property or obtained against him/it, or fails to observe/perform any of his/its obligations under the Contract or any other contract between the Company and the Buyer, or is unable to pay its debts as they fall due or the Buyer ceases to trade; or
 - (c) the Buyer encumbers or in any way charges any of the Goods.
- 6.6 The Company shall be entitled to recover payment for the Goods notwithstanding that ownership of any of the Goods has not passed from the Company.
- 6.7 The Buyer grants the Company, its agents and employees an irrevocable licence at any time to enter any premises where the Goods are or may be stored in order to inspect them, or, where the Buyer's right to possession has terminated, to recover them.

7. PRICE

- 7.1 Unless otherwise agreed by the Company in writing the price for the Goods shall be the price set out in the Company's price list published on the date of delivery or deemed delivery.
- 7.2 The price for the Goods shall be exclusive of any value added tax and all costs or charges in relation to loading, unloading, carriage and insurance all of which amounts the Buyer will pay in addition when it is due to pay for the Goods.

8. PAYMENT

- 8.1 Payment of the price for the Goods is due within 30 days of the date of the invoice raised by the Company in respect of the Goods.
- 8.2 Time for payment shall be of the essence.
- 8.3 No payment shall be deemed to have been received until the Company has received cleared funds.
- 8.4 All payments payable to the Company under the Contract shall become due immediately upon termination of this Contract despite any other provision.
- 8.5 The Buyer shall make all payments due under the Contract without any deduction whether by way of set-off, counterclaim, discount, abatement or otherwise.
- 8.6 If the Buyer fails to pay the Company any sum due pursuant to the Contract the Buyer will be liable to pay interest to the Company on such sum from the due date for payment at the base lending rate from time to time of Barclays Bank plc, accruing on a daily basis until payment is made, whether before or after any judgment.

9. QUALITY

- 9.1 Where Goods:
- (a) are manufactured by the Company; and
 - (b) were manufactured after 31 December 1991 the Company warrants that (subject to the other provisions of these conditions) upon delivery, and for a period of 36 months from the date of delivery, the Goods will be of satisfactory quality
- 9.2 The Company shall not be liable for a breach of the warranty in condition 9.1 unless:
- (a) the Buyer gives written notice of the defect to the Company, and (if the defect is as a result of damage in transit) to the carrier, within 8 days of the time when the Buyer discovers or ought to have discovered the defect; and
 - (b) the Company is given a reasonable opportunity after receiving the notice of examining such Goods and the Buyer (if asked to do so by the Company) returns such Goods to the Company's place of business at the Buyer's cost for the examination to take place there.
- 9.3 The Company shall not be liable for a breach of the warranty in condition 9.1 if:
- (a) the Buyer is in default of its payment obligations under condition 8; or
 - (b) the Buyer makes any further use of such Goods after giving such notice; or
 - (c) the defect arises because the Buyer failed to follow the Company's oral or written instructions as to the storage, installation, commissioning, use or maintenance of the Goods or (if there are none) good trade practice; or
 - (d) the Buyer alters or repairs or otherwise tampers with such Goods without the written consent of the Company.
- 9.4 Subject to conditions 9.2 and 9.3, if any of the Goods do not conform with the warranty in condition 9.1 the Company shall at its option repair or replace such Goods (or the defective part) or refund the price of such Goods at the pro rata Contract rate provided that, if the Company so requests, the Buyer shall, at the Buyer's expense, return the Goods or the part of such Goods which is defective to the Company:

- 9.5 If the Company complies with condition 9.4 it shall have no further liability for a breach of the warranty in condition 9.1 in respect of such Goods.
- 9.6 Any Goods replaced will belong to the Company and any repaired or replacement Goods will be guaranteed on these terms for the unexpired portion of the 36 month period.
- 9.7 The guarantee is strictly limited to products manufactured by COSTER T.E. and does not cover the operation of the plant as a whole.

10. LIMITATION OF LIABILITY

- 10.1 Subject to condition 9, the following provisions set out the entire financial liability of the Company (including any liability for the acts or omissions of its employees, agents and sub-contractors) to the Buyer in respect of:
- (a) any breach of these conditions; and
- (b) any representation, statement or tortious act or omission including negligence arising under or in connection with the Contract.
- 10.2 All warranties, conditions and other terms implied by statute or common law other than those relating to the right to sell the Goods are, to the fullest extent permitted by law, excluded from the Contract.
- 10.3 Nothing in these conditions excludes or limits the liability of the Company for death or personal injury caused by the Company's negligence or fraudulent misrepresentation.
- 10.4 Subject to conditions 10.2 and 10.3, the Company shall be under no liability to Buyer for any damages or losses, direct or indirect, resulting from defects in design, materials or workmanship, or from delays in delivery. Company shall have no liability for any indirect or consequential losses, damages or expenses suffered by Buyer, however caused.

11. ASSIGNMENT

- 11.1 The Buyer shall not be entitled to assign the Contract or any part of it without the prior written consent of the Company.
- 11.2 The Company may assign the Contract or any part of it to any person, firm or company.

12. FORCE MAJEURE

The Company reserves the right to defer the date of delivery or to cancel the Contract or reduce the volume of the Goods ordered by the Buyer (without liability to the Buyer) if it is prevented from or delayed in the carrying on of its business due to circumstances beyond the reasonable control of the Company including, without limitation, acts of God, governmental actions, war or national emergency, acts of terrorism, protests, riot, civil commotion, fire, explosion, flood, epidemic, lockouts, strikes or other labour disputes (whether or not relating to either party's workforce), or restraints or delays affecting carriers or inability or delay in obtaining supplies of adequate or suitable materials.

13. NOTICES

Any notice required under these conditions shall be deemed to have been given if delivered by hand or sent by prepaid first class post, facsimile or electronic mail (confirmed by telephone and followed by notice by post) to the party concerned at its last known address, and deemed to have been received on the date of despatch, if delivered by hand or sent by facsimile or electronic mail, and on the third day after posting, if sent by post.

14. GENERAL

- 14.1 Each right or remedy of the Company under the Contract is without prejudice to any other right or remedy of the Company whether under the Contract or not.
- 14.2 If any provision of the Contract is found by any court, tribunal or administrative body of competent jurisdiction to be wholly or partly illegal, invalid, void, voidable, unenforceable or unreasonable it shall to the extent of such illegality, invalidity, voidness, voidability, unenforceability or unreasonableness be deemed severable and the remaining provisions of the Contract and the remainder of such provision shall continue in full force and effect.
- 14.3 Failure or delay by the Company in enforcing or partially enforcing any provision of the Contract will not be construed as a waiver of any of its rights under the Contract.
- 14.4 Any waiver by the Company of any breach of, or any default under, any provision of the Contract by the Buyer will not be deemed a waiver of any subsequent breach or default and will in no way affect the other terms of the Contract.
- 14.5 The parties to this Contract do not intend that any term of this Contract will be enforceable by any person that is not a party to it.
- 14.6 The formation, existence, construction, performance, validity and all aspects of the Contract shall be governed by Italian law and the parties submit to the exclusive jurisdiction of the Italian courts whereas for COSTER T.E. UK Branch the formation, existence, construction, performance, validity and all aspects of the Contract shall be governed by English law and the parties submit to the exclusive jurisdiction of the English courts.



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