# TWIN PUMP SWITCH

IPG 318 C2

C ←BUS

- **Adapts an On-Off signal to control twin pumps**
- **Automatically alternates operation of the two pumps**
- **In the event of lockout of the pump in operation, automatically switches on the other**
- **Two selectable C-Bus communication speeds, 1200 or 9600 baud**
- **230 V ~ power supply, DIN rail mounting**

CE

1. APPLICATION

Used to adapt an On-Off signal to control and automatically manage twin pumps..

2. OVERALL DIMENSIONS

115
35
45
53
50,5
21
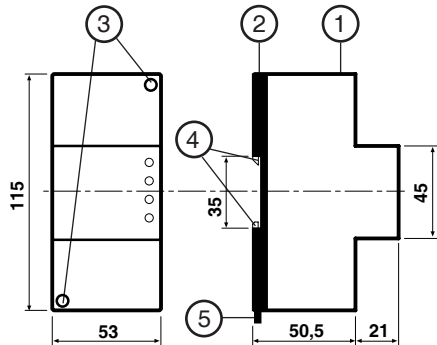
1 – Protective cover for electronic components
2 – Base with transformer, relay and terminal blocks
3 – Cover-base fastening screws
4 – DIN rail securing elements
5 – DIN rail release lever

3. FRONT PANEL

COSTER TWIN PUMP SWITCH **IPG 318**

CONTROL ALARM AUT MAN AUT-MAN
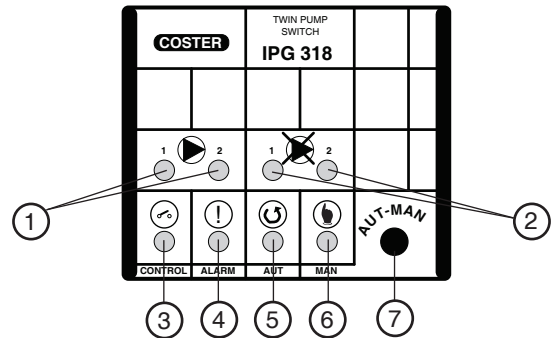
1 – Pump operation LEDs
2 – Pump lockout LEDs
3 – Control LED
4 – Alarm LED

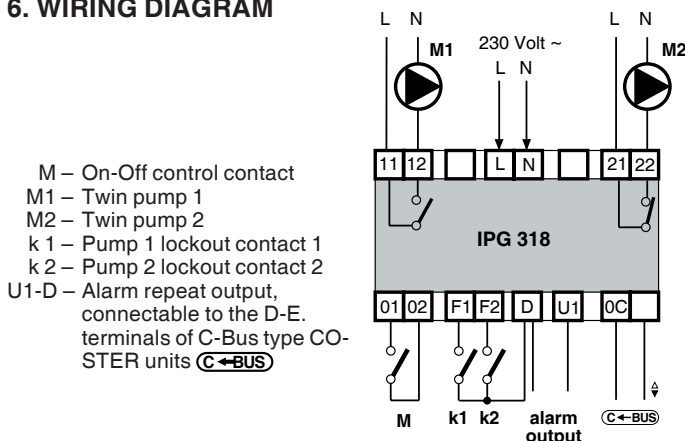5 – "Automatic" LED
6 – "Manual" LED
7 – Automatic-Manual button

4. TECHNICAL DATA

Power supply	230 V ~ ± 10%
Frequency	50 ÷ 60 Hz
Consumption	3 VA
Protection	IP40
Radio disturbances	VDE0875/0871
Vibration test	2g (DIN 40 046)
Voltage-free output contacts:	
maximum switched voltage	250 V ~
maximum switched current	5 (1) Amp
Number of days between pump switch:	
set by programmer	10 or 40
set by remote management PC	1 ... 240

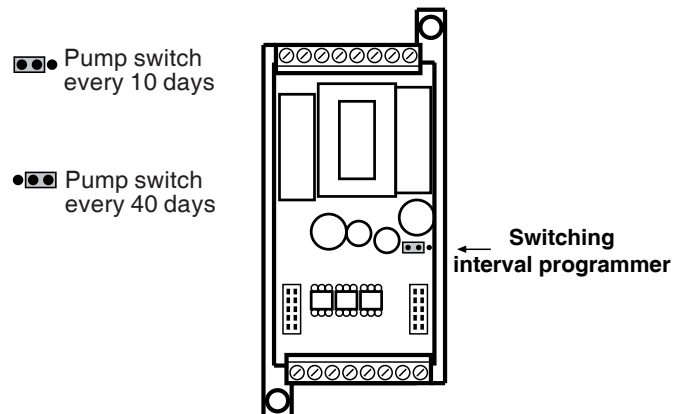|	
C-Bus speed	1200 and 9600 baud
Construction standards	CEI
Case	DIN 3E module
Mounting	on DIN 35 rail
Materials:	
base	NYLON
cover	ABS
Ambient temperature:	
operating	0 ... 45°C
storage	– 25 ... + 60°C
Ambient humidity	Class F DIN 40040
Weight	0.31 kg

5. INSTALLATION

The unit must be installed in a dry area which complies with the conditions given in 4. TECHNICAL DATA.
If sited in spaces classified as "Dangerous" it must be installed in an enclosure for electrical apparatus constructed according to the regulations for the danger class involved.
The unit can be installed on DIN rail or in a DIN modular enclosure.

6. WIRING DIAGRAM

L N **M1** 230 Volt ~ L N **M2**
L N

11 12 L N 21 22

IPG 318

01 02 F1 F2 D U1 0C

M **k1 k2** **alarm output** C ←BUS

M – On-Off control contact
M1 – Twin pump 1
M2 – Twin pump 2
k 1 – Pump 1 lockout contact 1
k 2 – Pump 2 lockout contact 2
U1-D – Alarm repeat output, connectable to the D-E. terminals of C-Bus type CO-STER units C ←BUS

7. SWITCHING INTERVAL PROGRAMMER

●●●● Pump switch every 10 days

●●●● Pump switch every 40 days

Switching interval programmer

8. WIRING

Proceed as follows :
• Separate base from cover
• Mount base on the DIN rail and make sure the fastening elements (2.4) keep it firmly in place.
• Carry out wiring as shown in the diagram above, complying with applicable regulations and using the following cable types :
    – 1,5 mm^2 for power supply and relay control outputs.
    – 1 mm^2 for input contacts.
    – 1 mm^2 for C-Bus. For restrictions on cable length see technical data sheet T 021.
• Switch on power (230 V ~) and check the voltage across terminals L and N.
• Switch off power, replace cover on base and secure it with the two screws (2.3) supplied..
It is recommended not to insert more than two cables into a single terminal of the unit. If necessary, use junction boxes

9. OPERATION

9.1 Automatic: key activates upon release of the key itself

Tap the Aut-Man key (3.7) until the Aut LED (3.5) lights up.
When control contact M is closed, IPG 318 controls the operation of one of the two pumps, M1 or M2 and automatically switches from one to the other at set intervals:
    – via the Switching Interval Programmer by located on the printed circuit on the base (10 or 40 days).
    – via remote management PC (1 ... 240 days).
When the pump in operation locks out (lockout contact k closed) IPG 318 :
    – Automatically switches on the backup pump
    – Lights the pump lockout LED (3.2)
    – Sends alarm call to the remote management PC

9.2 Manual: key activates upon release of the key itself

Tap the Aut-Man key (3.7) until the Man LED (3.6) lights up and (provided that contact M is closed) also the operation LED (3.1) of the pump that you intend to use.
In manual mode, switching is not automatic but takes place only at closure of lockout contact k.

10. ASSIGNING ADDRESS AND C-BUS COMMUNICATION SPEED

In order to communicate with remote management systems, an address must be assigned to IPG 318 (1 ... 239), and a communication speed set, selecting between 1200 and 600 baud.
• To view the existing address :
    – Keep the Aut-Man key (3.7) pressed for at least 10 seconds, until the Aut LED (3.5) starts to flash at a slow rate.
    – Release the key: the LED flashes at a faster speed, indicating that the unit is ready in this menu.
    – Fast-rate flashing ends and the LED lights up for a number of times corresponding to the existing address.
     After a few seconds, the menu is exited and normal functioning resumes
• Entering a new address :
    – Keep the Aut-Man key (3.7) pressed for at least 10 seconds, until the Aut LED (3.5) starts to flash at a slow rate.
    – As soon as the fast-rate flashing ends, press the key for a number of times corresponding to the desired new address .
    – Fast-rate flashing ends and the LED lights up for a number of times corresponding to the existing address.
    – After a few seconds, the LED lights up for a number of times corresponding to the new address assigned to the unit
• Setting the C-Bus communication speed (1200 or 9600 baud) :
    – Keep the Aut-Man key (3.7) pressed for at least 10 seconds, until the Aut LED (3.5) starts to flash at a slow rate.
    – Release the key: the LED flashes at a faster speed, indicating that the unit is ready in this menu.
    – Before the fast-rate flashing ends, press the key to select the C-Bus speed menu: this menu is identified by a fast-rate flashing of the Man LED (3.6).
    – Wait for fast-rate flashing to end, then select the desired speed using the key.
    – Aut LED = 1200 bps;   Man LED = 9600 bps
• Setting of unit address and C-Bus communication speed via PC :
In the SWC 701 program, this procedure will be available in versions higher than 0.99.2551.
Use the SWC Terminal program located in the Bin1 folder of SWC 701.
(SWC 701/Bin1/swcterminal.exe)
When the desired address is a large number (up to several hundred in large systems), entering it unit by unit and pressing the key is inconvenient, and viewing the address by counting the LED flashes is also inconvenient.
In this case a PC connected to the C-Bus may be used to assign the address and communication speed, as well as to supervise the system more easily.
    – Keep the Aut-Man key (3.7) pressed for at least 10 seconds, until the Aut LED (3.5).
    – Release the key: the LED flashes at a faster speed, indicating that the unit is ready in this menu.
    – Before the fast-rate flashing ends, press the key twice to set the address and C-Bus speed menu via PC: this menu is identified by a fast-rate flashing of both the Aut (3.5) and Man (3.6) LEDs. From this moment on, the menu will stay open for two minutes from the last communication with the PC.
    When the address has been assigned and the speed set, the PC automatically closes the menu on the unit.

Amendment to data sheet

Date	Revision No.	Page	Section	Details of amendments	Firmware version	Software versiom
25.09.07 AM	**01**	All	All	Change to version C2		

We reserve the right to make changes without notice