E 812

17.09.98

STEP CONTROLLER

ICM 674 Eng. C1

- **Converts a three-position modulating signal in seven On-Off instructions**
- **Power supply 24 V~ ; DIN rail mounting**

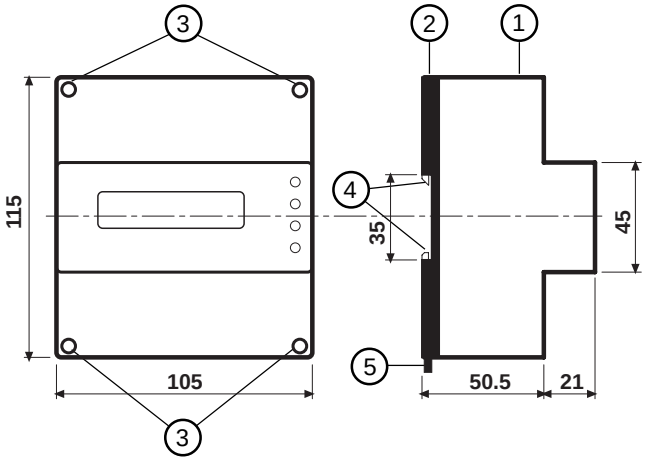
CE

1. APPLICATION

Designed for converting a three-position modulating signalling from a controller in seven On-Off instructions for sequencing electrical devices having several stages.

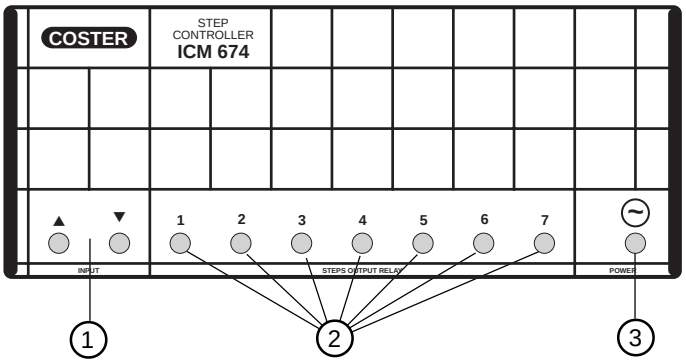
– boilers
– refrigerators
– electric resistances

2. OVERALL DIMENSIONS



1 – Protective cover for electronic components
2 – Base with transformer, relay and terminal blocks
3 – Screws for fixing cover to base
4 – DIN rail securing elements
5 – DIN rail release lever

3. FACIA

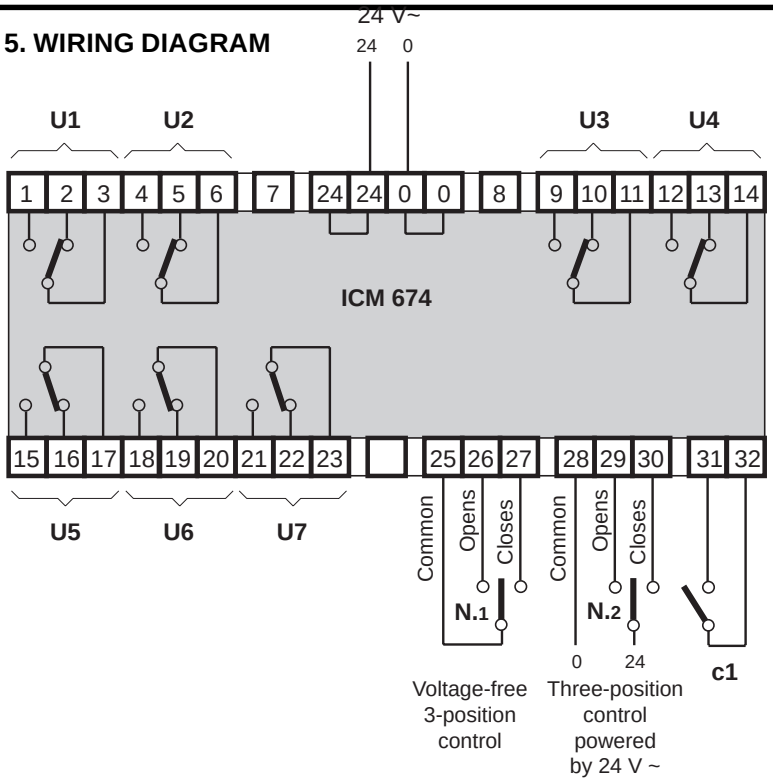


Warning LEDS :
1 - Opens-Closes input signal
2 - Output relay
3 - Power supply

4. TECHNICAL DATA

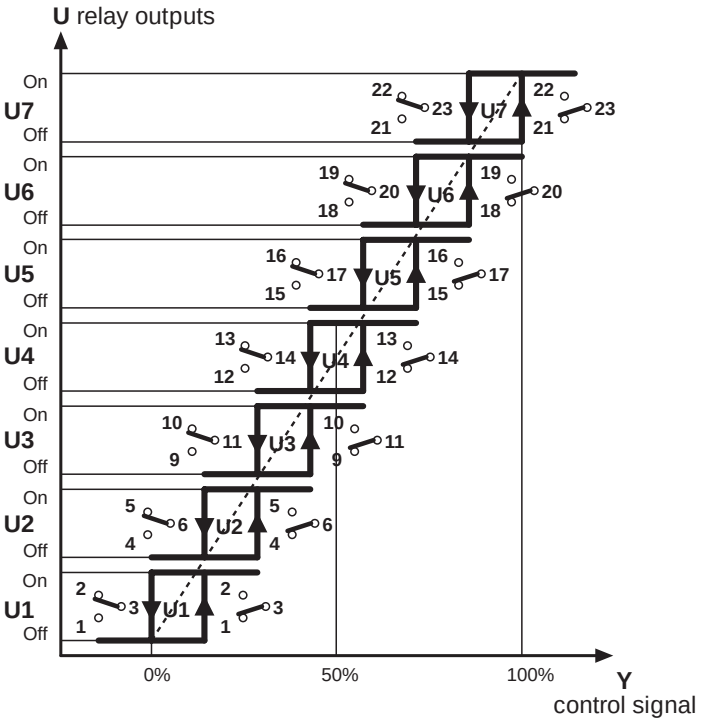
Power supplly	24 V~ ± 10%	Construction standards	Italian Electrotechnical Comm. (CEI)
Frequency	50 ... 60 Hz	Case	DIN 6E module
Consumption	5 VA	Installation	DIN 35 rail
Protection	IP40	Materials:	
Radio disturbances	VDE0875/0871	- base	NYLON
Vibration test	with 2g (DIN 40 046)	- cover	ABS
Voltage-free contacts:		Ambient temperature:	
- maximum switching voltage	250 V~	- operation	0 ... 45 °C
- maximum switching current	5 (1) A	- storage	– 25 ... + 60 °C
Total run time	150...170 seconds	Ambient humidity	Class F DIN 40040
		Weight	1.0 kg

5. WIRING DIAGRAM



Warning !
The controller meet be configured with
ACTUATOR RUN TIME = 150…170 seconds

U 1…7 – Relay outputs
N.1 – Voltage-free relay control contacts (as alternative to N.2)
N.2 – Relay control contacts powered by 24V~ (as alternative to N.1)
c1 – Remote Off (c1 closed = relay outputs de-energised)



Control signal Y = 0% : all relays de-energised, LEDs Off
U1 = contacts 1-3 open, 2-3 closes
U2 = contacts 4-6 open, 5-6 closed
U3 = contacts 9-11 open, 10-11 closed
U4 = contacts12-14 open, 13-14 closed
U5 = contacts 15-17 open, 16-17 closed
U6 = contacts18-20 open, 19-20 closed
U7 = contacts 21-23 open, 22-23 closed

Control signal Y = 100% : all relays energised, LEDs On
U1 = contacts 1-3 closed, 2-3 open
U2 = contacts 4-6 closed, 5-6 open
U3 = contacts 9-11 closed, 10-11 open
U4 = contacts 12-14 closed, 13-14 open
U5 = contacts 15-17 closed, 16-17 open
U6 = contacts 18-20 closed, 19-20 open
U7 = contacts 21-23 closed, 22-23 open

6. SITING

The step controller must be sited in a dry space which meets the relevant ambiental conditions included under *4. Technical Data*. If sited in a space classified as “Dangerous” it must be installed in a cabinet for electrical appliances constructed according to the standards in force for the danger class involved.
The unit may be installed on DIN rail or in DIN modular enclosure

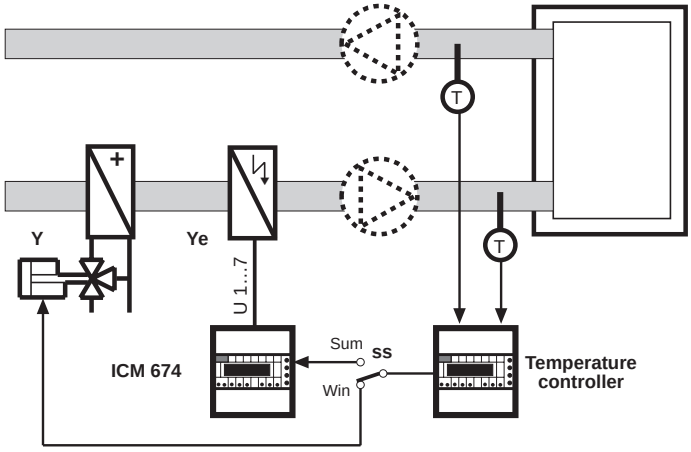
7. WIRING

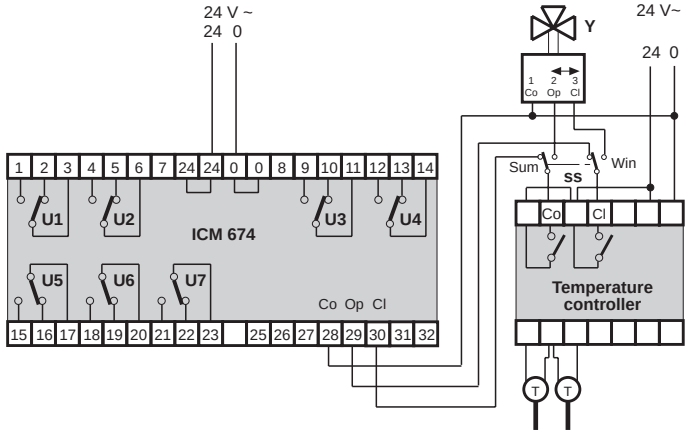
Proceed as follows :
- Separate base and cover
- Mount the base on the DIN rail and check that the securing elements (2.4) hold it firmly in place.
- Carry out the wiring according to the diagram and in observance of the regulations in force. Use following cable types:
  – 1.5 mm^2 for power and relay output controls
  – 1 mm^2 for input control signal and remote control
- Switch on power (24 V~) and check voltage across terminals 24 and 0
- Switch off power, replace cover on base and secure it with the four screws supplied (2.3).

It is recommended not to insert more than two cables in a single terminal of the controller and, if necessary, to use external junction boxes.

8. EXAMPLES OF INSTALLATION

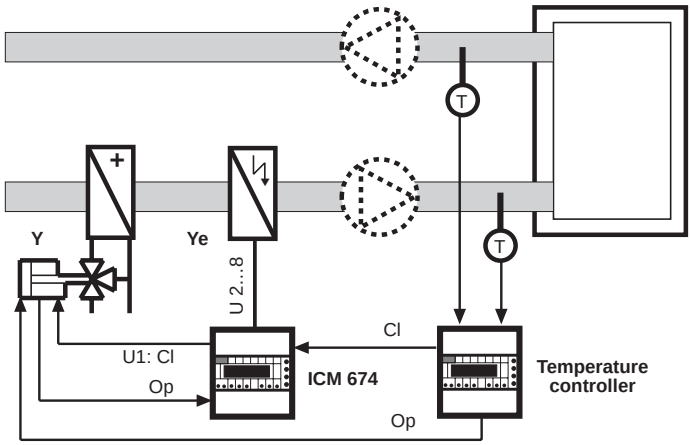
8.1 Air conditioning unit with hot water heating battery and electric battery as alternative

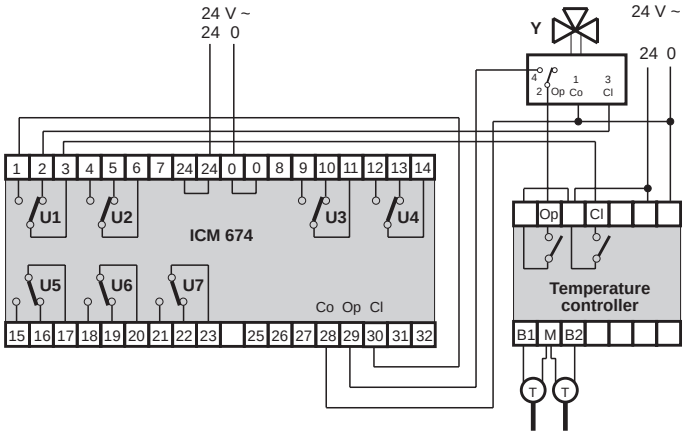




Y – Valve hot water battery
Ye – Electric battery
ss – Season switch

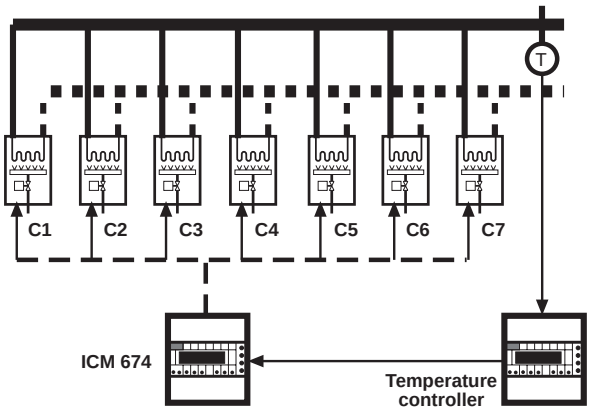
8.2 Air conditioning unit with hot water heating battery and electric battery as alternative

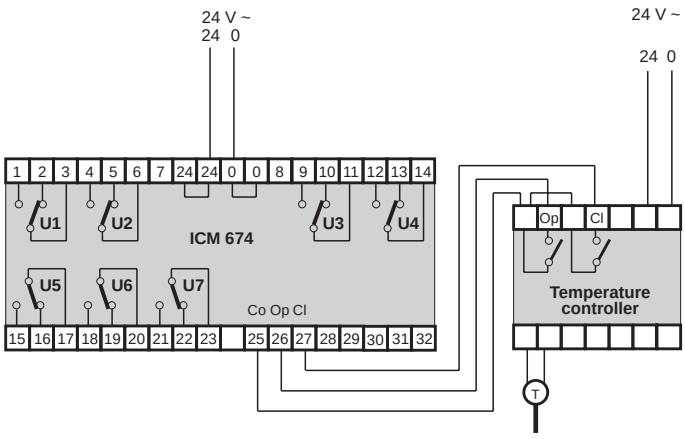




Y – Valve hot water battery
Ye – Electric heater

8.3 Battery of boilers in sequence





C 1…7 – Boilers

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