

# C-RING TEMPERATURE CONNECTOR

**C-RING**

## LCR 338 Eng.

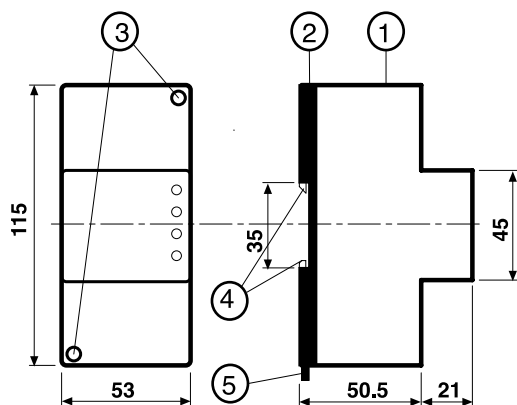
- Input : maximum flow temperature requested by controllers connected in C-Ring
- Adjustable intervention threshold, with 5 °C steps, from 0 to 80 °C
- Outputs: 1 SPDT relay; 2 optoisolated On-Off electronic controls
- Power supply: 230 V~ ; DIN rail mounting



### 1. APPLICATION

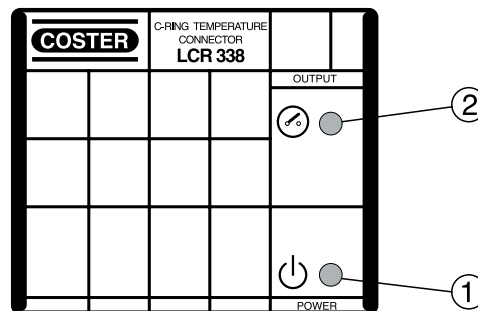
LCR 338 permits intervention according to maximum temperature requested by controllers connected in C-Ring.

### 2. OVERALL DIMENSIONS



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

### 3. FACIA



- 1 – Power supply LED
- 2 – Status outputs LED :  
- Lit = outputs On  
- Unlit = outputs Off

### 4. TECHNICAL DATA

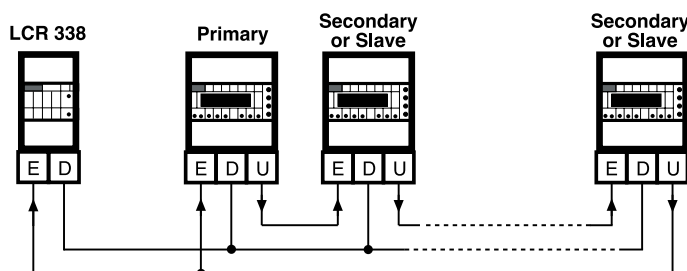
Power supply	230 V ~ ± 10%
Frequency	50...60 Hz
Consumption	2 VA
Protection	IP40
Radio disturbances	VDE0875/0871
Vibration test	with 2g (DIN 40 046)
Voltage-free output contacts:	
Maximum switched voltage	250 V~
Maximum switched current	5 (1) A
Optoisolated output controls:	
Permitted voltage	30 V– max
Maximum current	3 mA max
Construction standards	Italian Electrotech. Committee (CEI)
Enclosure	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	0.23 kg

### 5. INSTALLATION

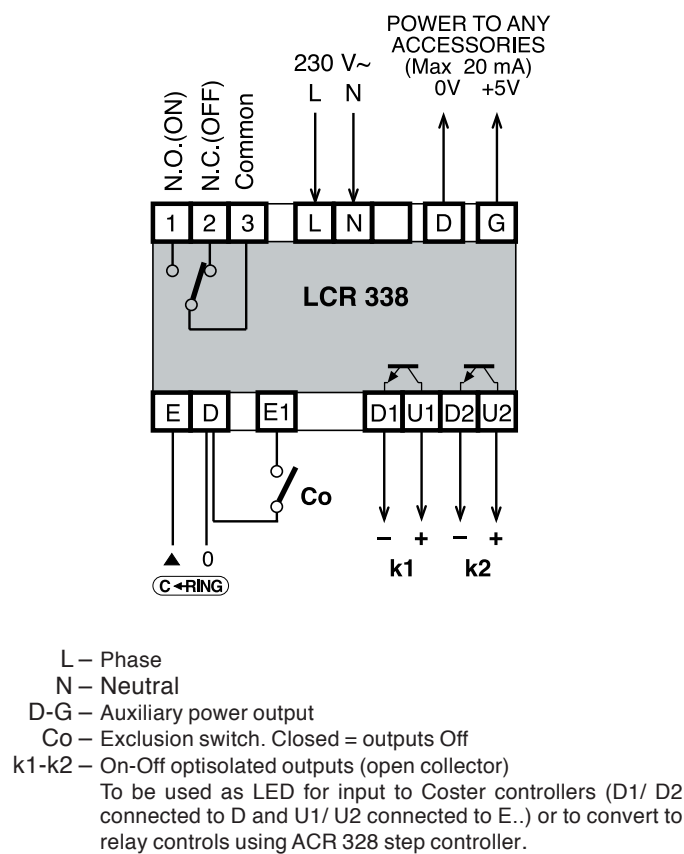
LCR 338 must be installed in a dry location that respects the ambient conditions given under 4. TECHNICAL DATA. If installed in a location classified as "Hazardous" it must be installed in a cabinet for electrical equipment constructed according to the current regulations for the class of danger concerned. The controller can be mounted on a DIN rail and housed in a standard DIN enclosure.

### 6. C-RING CONNECTION

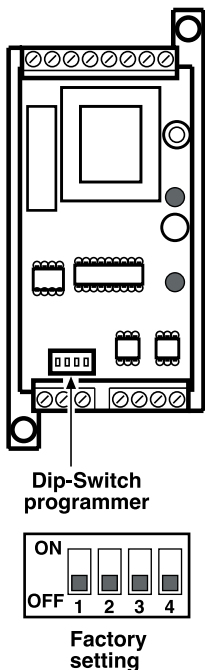
In the C-Ring LCR 338 is connected directly to the "Primary" controller so it can record the maximum temperature requested by all the controllers which comprise the plant control system.



7.WIRING DIAGRAM



8. SETTING TEMPERATURE THRESHOLD



D1	D2	D3	D4	TEMP. °C
OFF	OFF	OFF	OFF	0 °C
ON	OFF	OFF	OFF	10 °C
OFF	ON	OFF	OFF	15 °C
ON	ON	OFF	OFF	20 °C
OFF	OFF	ON	OFF	25 °C
ON	OFF	ON	OFF	30 °C
OFF	ON	ON	OFF	35 °C
ON	ON	ON	OFF	40 °C
OFF	OFF	OFF	ON	45 °C
ON	OFF	OFF	ON	50 °C
OFF	ON	OFF	ON	55 °C
ON	ON	OFF	ON	60 °C
OFF	OFF	ON	ON	65 °C
ON	OFF	ON	ON	70 °C
OFF	ON	ON	ON	75 °C
ON	ON	ON	ON	80 °C

9. ELECTRICAL CONNECTIONS

Proceed as follows :

- Separate base from cover after loosening the securing screws (2.3),
- Mount the base on the DIN rail and check that it is firmly anchored by the securing elements (2.4),
- Carry out the wiring according to the diagram and in compliance with current electrical regulations and using :
  - 1.5 mm<sup>2</sup> cables for power supply and SPDT relay switch,
  - 1 mm<sup>2</sup> cables for all the other connections,
- Apply power (230 V~) and check its presence across terminals L and N,
- Remove power, replace cover on base/terminal block and secure it with the two screws (2.3) .

You are advised not to insert more than two cables in a single terminal of the controller and, if necessary, to use an external junction box.

10. OPERATION

LCR 338 connector records the maximum temperature requested by the controllers in the C-Ring.  
The intervention threshold can be set from 0 to 80°C, in 5°C steps, by programming the dipswitches according to the table in section 8.  
When the maximum temperature is above the threshold set: outputs on ON: 1-3 closed, 2-3 open, k1 and k2 closed.  
When the maximum temperature is 3°C below the threshold set: outputs on OFF: 1-3 open, 2-3 closed, k1 and k2 open  
By closing the external switch **Co** it is possible to exclude the connector: the outputs go to OFF, independently of the request for temperature.  
**Warning: in the event of communication failure for more than four minutes, the outputs switch to OFF.**  
The connector LCR 338 also provides a continuous output voltage of + 5 volts, at 20 mA which can be used to power any accessories that may be present .

MZ 18.02.03 Rev. : MZ 09.04.03 ; LB 25.06.03