PRI-41, PRI-42 | Current monitoring relay of Imin and Imax in 1P - AC/DC
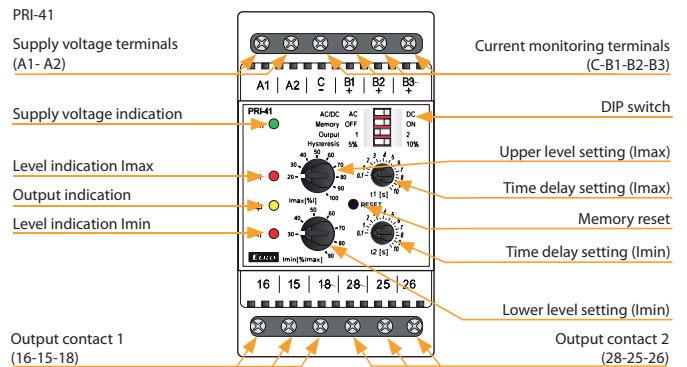

EAN code
PRI-41/UNI: 8595188185349
PRI-41/400V: 8595188147446
PRI-42/UNI: 8595188185356
PRI-42/400V: 8595188147484

- Used to monitor overload/relief (machines, motors, etc.), check consumption, diagnostic on a remote device (burning, short circuit, increased current draw, etc.)
- Relay is used for monitoring AC or DC current in three ranges.
- Monitors level of current in two independent levels (Imax, Imin).
- Setting the monitored upper level (Imax) in % of range.
- Setting the monitored lower level (Imin):
     in % of the set upper limit (PRI-41, function HYSTERESIS)
     in % of range (PRI-42, function WINDOW)
- Selectable function of output contacts (independently/in parallel).
- Independent adjustable time delay of both levels
  (eliminating short-term drops and spikes).
- Galvanically separated power supply from monitoring inputs.
- Output contact for each monitored current level.

Technical parameters

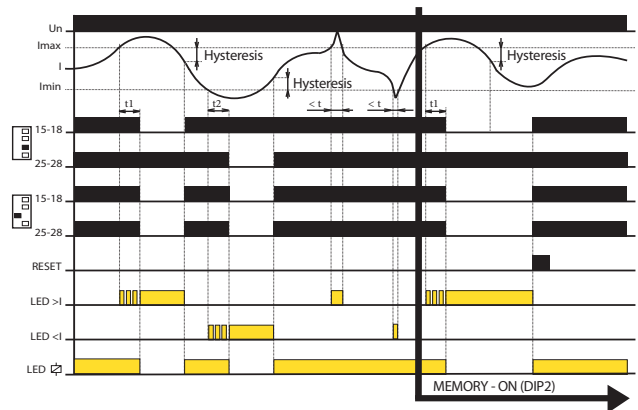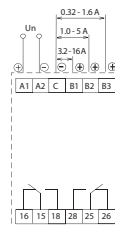| Technical parameters		PRI-41	PRI-42
Supply circuit			
Supply terminals:		A1-A2	
Supply voltage:	UNI	AC/DC 24 – 240 V (AC 50-60 Hz)	
Consumption (max.):		3 VA/1 W	
Supply voltage:	400V	AC 400 V (50-60 Hz)	
Consumption (max.):		5 VA/2.5 W	
Supply voltage tolerance:		−15 %; +10 %	
Measuring circuit			
Monitored terminals:		C-B1	C-B2	C-B3
Monitored ranges*:		AC/DC 3.2 – 16 A	AC/DC 1 – 5 A	AC/DC 0.32 – 1.6 A
		(AC 50-60 Hz)	(AC 50-60 Hz)	(AC 50-60 Hz)
Input resistance:		2.3 mΩ	11 mΩ	23 mΩ
Max. permanent current:		16 A	8 A	3 A
Inrush overload (1 s):		20 A	16 A	6 A
Time delay Imax (t1):		adjustable, 0.1 – 10 s		
Time delay Imin (t2):		adjustable, 0.1 – 10 s		
Accuracy			
Setting accuracy (mech.):		5 %	
Repeat accuracy:		< 1 %	
Temperature dependance:		< 0.1 %/°C (°F)	
Limit values tolerance:		5 %	
Hysteresis (fault to OK):		selectable, 5 %/10 % from the upper range value	
Output			
Contact type:		2× changeover/SPDT (AgNi)	
Current rating:		16 A/AC1	
Breaking capacity:		4000 VA/AC1, 384 W/DC1	
Inrush current:		30 A/< 3 s	
Switching voltage:		250 V AC/24 V DC	
Power dissipation (max.):		2.4 W	
Mechanical life:		10.000.000 ops.	
Electrical life (AC1):		100.000 ops.	
Other information			
Operating temperature:		−20 .. 55 °C (−4 .. 131 °F)	
Storage temperature:		−30 .. 70 °C (−22 .. 158 °F)	
Dielectric strength:			
supply – output		AC 4 kV	
output 1 – output 2		AC 4 kV	
Operating position:		any	
Mounting:		DIN rail EN 60715	
Protection degree:		IP40 front panel / IP20 terminals	
Overvoltage category:		III.	
Pollution degree:		2	
Cross-wire section – solid/		max. 1× 2.5, 2× 1.5/	
stranded with ferrule (mm²):		max. 1× 2.5 (AWG 14)	
Dimensions:		90 × 52 × 65 mm (3.5˝ × 2˝ × 2.6˝)	
Weight:		UNI – 166 g (5.86 oz), 400V – 248 g (8.7 oz)	
Standards:		EN 60255-1, EN 60255-26, EN 60255-27	

* Only one input can be monitored at a time.

Description

PRI-41

Supply voltage terminals (A1- A2)
Supply voltage indication
Level indication Imax
Output indication
Level indication Imin
Output contact 1 (16-15-18)

Current monitoring terminals (C-B1-B2-B3)
DIP switch
Upper level setting (Imax)
Time delay setting (Imax)
Memory reset
Time delay setting (Imin)
Lower level setting (Imin)
Output contact 2 (28-25-26)

Description of DIP switch

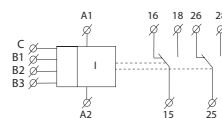|		
AC/DC AC	DC	Type of monitored current
Memory OFF	ON	Memory function
Output 1	2	Output function setting
Hysteresis 5%	10%	Hysteresis setting

Function

MEMORY - ON (DIP2)

Connection

Symbol

- If the value of the monitored current is in the zone between the set upper and lower levels, the OK state occurs, both output contacts are closed and the yellow LED illuminates. If the value of the monitored current is outside the set limits (> Imax or < Imin), a fault state occurs.
- When moving to a fault state (I > Imax), time delay t1 is running and red LED >I simultaneously flashes. After the time t1 elapses, the red LED >I illuminates and the relevant output contact opens.
- When moving to a fault state (I < Imin), time delay t2 is running and red LED <I simultaneously flashes. After the time t2 elapses, the red LED <I illuminates and the relevant output contact opens.
- When moving from a fault state to the OK state, the relevant red LED immediately goes out, and the corresponding output contact closes.
- Output 1 = output contacts are switched in parallel
- Output 2 = output contacts are switched separately for each level