ELKO EP, s.r.o.
Palackého 493
769 01 Holešov, Všetuly
Czech Republic
Tel.: +420 573 514 211
e-mail: elko@elkoep.com
www.elkoep.com

Made in Czech Republic

02-3/2017 Rev.: 1

EN

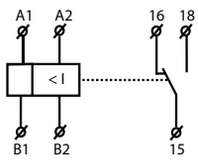
PRI-51

Monitoring current relay

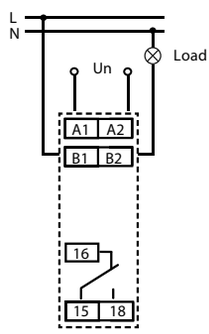
Characteristics

- serves for monitoring of heating poles in rail-switches, heating cables, current flow indication, monitoring of take-OFF in 1-phase engines slight...
- adjusting of actualing current via potentiometer, choice from 7 ranges: AC 0.05 - 0.5 A; AC 0.1 - 1 A; AC 0.2 - 2 A; AC 0.5 - 5 A; AC 0.8 - 8 A; AC 1 - 10 A; AC 1.6 - 16 A
- adjustable delay 0.5 - 10 s (eliminat short current peaks, on of short...)
- possible to use for scanning of current from current transformer - up to 600 A!
- universal supply oltage AC 24 - 240 V and DC 24 V
- supplying is not galvanically separated from measured current
- output contact: 1x changeover 8 A
- 1-phase version, 1-MODULE, DIN rail mounting, replacement for PRI-31

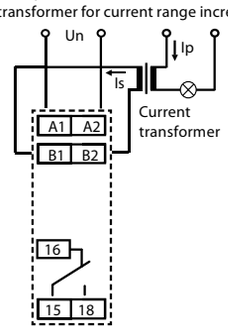
Symbol



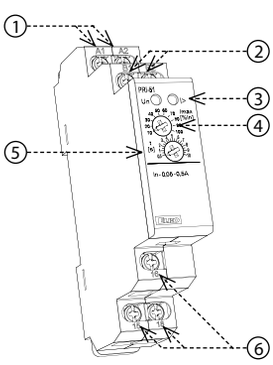
Connection



Example of connection PRI-51 with current transformer for current range increase



Description



1. Supply voltage terminals
2. Measuring input (only AC)
3. Output indication
4. Setting of currentlevel in % from range - it´s crossing over is indicated by closed relay and shining of red LED diode
5. Setting of delay - delay of output reaction to crossing over the set current level
6. Output contacts

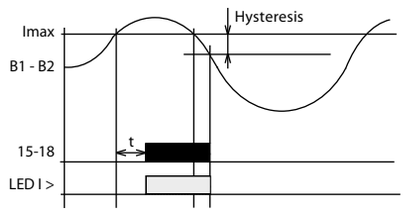
Type of load	cos φ ≥ 0.95 AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	HAL.230V AC5b	AC6a	AC7b	AC12
Mat. contacts AgNi, contact 8A	250V / 8A	250V / 3A	250V / 2A	230V / 1.5A (345VA)	x	300W	x	250V / 1A	250V / 1A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Mat. contacts AgNi, contact 8A	x	250V / 3A	250V / 3A	24V / 8A	24V / 3A	24V / 2A	24V / 8A	24V / 2A	x

Technical parameters

PRI-51		
Supply		
Supply terminals:	A1 - A2	
Voltage range:	AC 24 - 240 V and DC 24 V (AC 50 - 60 Hz)	
Burden:	max. 1.6 VA	
Supply voltage tolerance:	-15 %; +10 %	
Measuring circuit		
Load:	between B1 - B2	
Current range:	PRI-51/0.5: AC 0.05-0.5A	PRI-51/8: AC 0.8-8A
	PRI-51/1: AC 0.1-1A	PRI-51/10: AC 1-10A
	PRI-51/2: AC 0.2-2A	PRI-51/16: AC 1.6-16A
	PRI-51/5*: AC 0.5-5A	(AC 50 Hz)
Max. permanent current:	PRI-51/0.5: 2 A PRI-51/1: 4 A PRI-51/2: 8 A PRI-51/5, PRI-51/8, PRI-51/10, PRI-51/16: 17 A	
Inrush overload < 1 s:	100 A	
Current adjustment:	potentiometer	
Time delay:	adjustable, 0.5 - 10 s	
Accuracy		
Setting accuracy (mechanical):	5 %	
Repeat accuracy:	< 1 %	
Temperature dependancy:	< 0.1 % / °C (°F)	
Limit values tolerance:	5 % (10 % for 0.05 - 0.5 A range)	
Hysteresis (fault to OK):	5 %	
Output		
Number of contacts:	1x changeover / SPDT (AgNi / Silver Alloy)	
Current rating:	8 A / AC1	
Breaking capacity:	2000 VA / AC1, 240 W / DC	
Output indication:	green / red LED	
Other information		
Operating temperature:	-20 °C to 55 °C (-4 °F to 131 °F)	
Storage temperature:	-30 °C to 70 °C (-22 °F to 158 °F)	
Electrical strength:	4 kV (supply - output)	
Operating position:	any	
Mounting:	DIN rail EN 60715	
Protection degree:	IP40 from front panel / IP10 terminals	
Overvoltage cathegory:	III.	
Pollution degree:	2	
Max. cable size (mm^2):	solid wire max. 2x 2.5 or 1x 4 / with sleeve max. 1x 2.5 or 2x 1.5 (AWG 12)	
Dimensions:	90 x 17.6 x 64 mm (3.5˝ x 0.7˝ x 2.5˝)	
Weight:	72 g (2.54 oz.)	
Standards:	EN 60255-6, EN 61010-1	

* Applicable also for current transformer.

Function



Monitoring relay PRI-51 is designated to monitor current levels in 1-phase AC circuits. Its slight setting of actuating current predeterminate this relay for many applications. Output relay is in normal state opened. After crossing over the set current level, relay will closed after set delay time (0.5 - 10 s). When returning from a faulty state to normal, hystersis (5 %) applies. An advantage of this relay is an universal supplying. It is possible to monitor load, which doesn´t have the same supply as the monitoring relay PRI-51. It is possible to increase the range of PRI-51 by using an external current transformer.

Warning

The device is constructed to be connected into 1-phase main and must be installed in accordance with regulations and norms applicable in a particular country. Installation, connection and setting can be done only by a person with an adequate electro-technical qualification which has read and understood this instruction manual and product functions. The device contains protections against over-voltage peaks and disturbing elements in the supply main. Too ensure correct function of these protection elements it is necessary to front-end other protective elements of higher degree (A, B, C) and screening of disturbances of switched devices (contactors, motors, inductive load etc.) as it is stated in a standard. Before you start with installation, make sure that the device is not energized and that the main switch is OFF. Do not install the device to the sources ofexcessive electromagnetic disturbances. By correct installation, ensure good air circulation so the maximal allowed operational temperature is not exceeded in case of permanent operation and higher ambient temperature. While installing the device use screwdriver width approx. 2 mm. Keep in mind that this device is fully electronic while installing. Correct function of the device is also depended on transportation, storing and handling. In case you notice any signs of damage, deformation, malfunction or missing piece, do not install this device and claim it at the seller. After operational life treat the product as electronic waste.