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EN

PRI-35

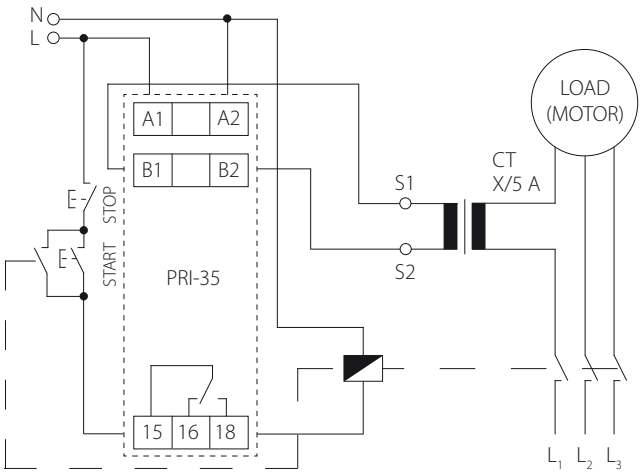
Undercurrent monitoring relay in 1P - AC by external CT

Characteristics

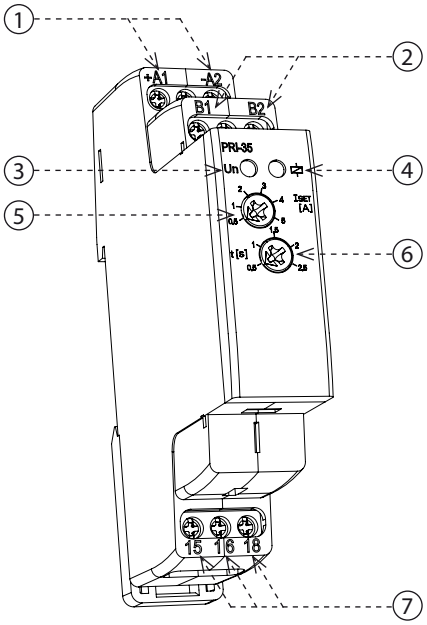
- Designed to protect a motor of a pump (submersible pump) against dry running.
- Monitor a current of a motor by means of current transformer (CT) X/5A.
- Current level (I_{SET}) and the TRIP delay (t) can be set with potentiometers.
- Indication of operating states by the red LED on the front panel.

- The power supply is not galvanically separated from the monitored current terminals, terminals A2, B2 are internally connected.
- Wiring between B1, S1 and B2, S2 must be insulated and not connected to any external voltage or ground.
- External current transformer X/5A must be used.

Connection



Description



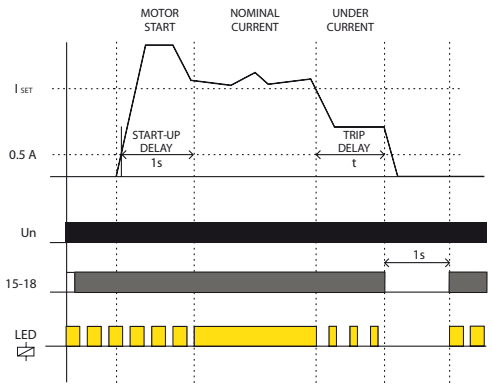
1. Supply voltage terminals
2. Terminals for current transformer
3. Supply voltage indication
4. Status indication
5. Current level setting
6. TRIP delay setting
7. Output contacts

Type of load	cos φ ≥ 0.95 AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	HAL.230V AC5b	AC6a	AC7b	AC12
mat. contacts AgNi, contact 16 A	250V / 16A	250V / 5A	250V / 3A	230V / 3A (690VA)	x	800W	x	250V / 3A	250V / 10A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
mat. contacts AgNi, contact 16 A	250V / 6A	250V / 6A	250V / 6A	24V / 16A	24V / 6A	24V / 4A	24V / 16A	24V / 2A	24V / 2A

Technical parameters

	PRI-35
Supply	
Supply terminals:	A1 - A2
Voltage range:	AC/DC 24 - 240 V (AC 50 - 60 Hz)
Consumption (max.):	3.8 VA / 0.7 W
Supply voltage tolerance:	-15 %; +10 %
Measuring circuit	
Current range (I_{SET}):	adjustable, AC 0.5 - 5A
Max. permanent current:	AC 10 A
Inrush overload < 1 s:	30 A
TRIP delay (t):	adjustable, 0.5 - 2.5 s
Accuracy	
Setting accuracy (mech.):	5 %
Temperature dependancy:	< 0.1 % / °C (°F)
Limit values tolerance:	5 %
Hysteresis (fault to OK):	10 %
Output	
Number of contacts:	1x changeover / SPDT (AgNi)
Current rating:	16 A / AC1
Max. dissipated power	2.5 W
Breaking capacity:	4000 VA/AC1, 384 W/DC
Mechanical life:	10.000.000 operations
Electrical life (AC1):	100.000 operations
Other information	
Operating temperature:	-20 °C.. +55 °C (-4 °F.. +131 °F)
Storage temperature:	-30 °C.. +70 °C (-22 °F.. +158 °F)
Dielectric strenght:	4 kV (supply - output)
Operating position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP40 from front panel / IP20 terminals
Overvoltage category:	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:	65 g (2.3 oz)
Standards:	EN 60255-1, EN 60255-26, EN 60255-27

Function



Right after connecting a supply voltage, an output relay is immediately closed and waits for a motor to be started by a START button. Once the START button is activated a contactor closes and the motor starts. An auxiliary contact of the contactor bridges the START button and keeps the contactor closed.

Fixed START-UP delay prevents undercurrent spikes when the contactor contacts bounce.

If the motor current is higher than the I_{SET} value after the START-UP delay, the output relay and contactor remain closed.

If the motor current falls below the I_{SET} value, the TRIP delay is triggered and after running out a set time the output relay opens and contactor drops out.

The output relay is open for 1s, then the output relay closes again and waits for the next start activated by the START button.

Warning

Device is constructed for connection in 1-phase main AC/DC 24 - 240 V and must be installed according to norms valid in the state of application. Connection according to the details in this direction. Installation, connection, setting and servicing should be installed by qualified electrician staff only, who has learnt these instruction and functions of the device. This device contains protection against overvoltage peaks and disturbancies in supply. For correct function of the protection of this device there must be suitable protections of higher degree (A, B, C) installed in front of them. According to standards elimination of disturbancies must be ensured. Before installation the main switch must be in position "OFF" and the device should be de-energized. Don´t install the device to sources of excessive electro-magnetic interference. By correct installation ensure ideal air circulation so in case of permanent operation and higher ambient temperature the maximal operating temperature of the device is not exceeded. For installation and setting use screw-driver cca 2 mm. The device is fully-electronic - installation should be carried out according to this fact. Non-problematic function depends also on the way of transportation, storing and handling. In case of any signs of destruction, deformation, non-function or missing part, don´t install and claim at your seller it is possible to dismount the device after its lifetime, recycle, or store in protective dump.