

THREE PHASE Pump Protection Relay without Level Sensors

THREE PHASE PUMP PROTECTION

Underload protection by undercurrent

- Eliminates need for level sensors to detect dry running.
- For 3-phase motors from 1 to 630 A and over. Cable feed through.
- Precise motor heating and cooling memory, reproduces its thermal image.
- Visual indication of tripping cause.
- Manual, remote and automatic reset.

Suitable where the undercurrent (running without load) is critical, such as submersible pumps, surface pumps, etc. In these cases, when the equipment runs without load (dry well) the relay trips by undercurrent.

The great advantage of the P relay is that, without requiring any external detectors such as level electrodes, it monitors the load of the motor and stops it before an expensive breakdown occurs.

EXTERNAL DISPLAY MODULE

By means of this plug-in optional accessory, the relay status can be seen and reset from the exterior of the electrical panel board.

Easy to install. Size of a Ø22 mm push button.

Suitable for motor control centres (MCC) and panel boards.

P



PROTECTION FUNCTIONS

- I> Overload
- I< Undercurrent
- Phase imbalance or phase loss
- Phase sequence

WITHOUT LEVEL SENSORS

ODP



Models	Code	Relay type
ODP	12540	P

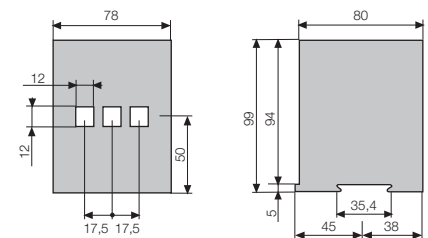
MODELS		P 19	P 44	P 90
Adjustment range Motor 400 V 50/60 Hz	I_B (A)	7 - 19,6	19 - 44,2	40 - 90,4
	CV	4 - 10	12,5 - 27,5	27,5 - 55
	kW	3 - 7,5	9,2 - 20	20 - 40
Code according to the relay voltage supply (+15% -10%) ac: 50/60 Hz	230 Vac single phase	11403	11423	11443
	115 Vac single phase	11402	11422	11442
	24 Vac, dc single phase	11400	11420	11440
For I_N of the motor below the minimum setting I_B		Pass the cables several times (n) through the holes in the relay $I_B = n \times I_N$		
For I_N of the motor above the maximum setting I_B		Use 3 CT .../5 and the relay P 19		
External display module (optional)		ODP		

CHARACTERISTICS	
Thermal memory / Overload trip	Yes / From $1,1 \times I_B$
Maximum motor nominal voltage	1000 Vac
Trip classes (IEC 947-4-1)	5 - 10 - 15
Phase sequence protection	Yes
Phase imbalance protection	Over 40%. Tripping time < 3s
Undercurrent protection adjustable / Trip delay	From 0,5 to $0,9 \times I_B$. Operative from $0,3 \times I_B / 3s$
Reset mode for protection against dry running	I< manual, remote and automatic. More info in page 110
Reset mode for other protection functions	Manual, remote and automatic (every 15 minutes)
Short circuit withstand rating	5000 A at 0,5 s (SCR 5000@0,5 s)
Signalling LED's	4 LED's: ON + I> + I< + Phase sequence
Output contacts	1 relay with 1 NO + 1 NC
Switching power	I_m : 5A; AC15 - 250V - 2A; DC13 - 30V - 2A
Terminals: Max. section / screw torque	2,5 mm ² , No. 22 - 12AWG / 20Ncm, 1,8 LB - IN
Power consumption	2,5 VA
Protection degree / weight / mounting	IP20 / 0,5 kg / DIN rail
Storage temperature	-30°C +70°C
Operating temperature / max. altitude	-15°C +60°C / 1000m; -15°C +50°C / 3000m
Standards	IEC 255, IEC 947, IEC 801, EN 50081-2

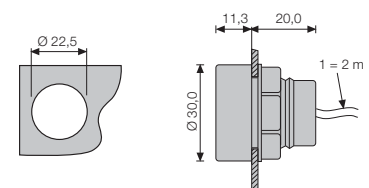


Settings and curves, see pages 105 to 111.

DIMENSIONS P RELAY (mm)



DIMENSIONS ODP MODULE (mm)



WIRING DIAGRAM

