# PMA50A480

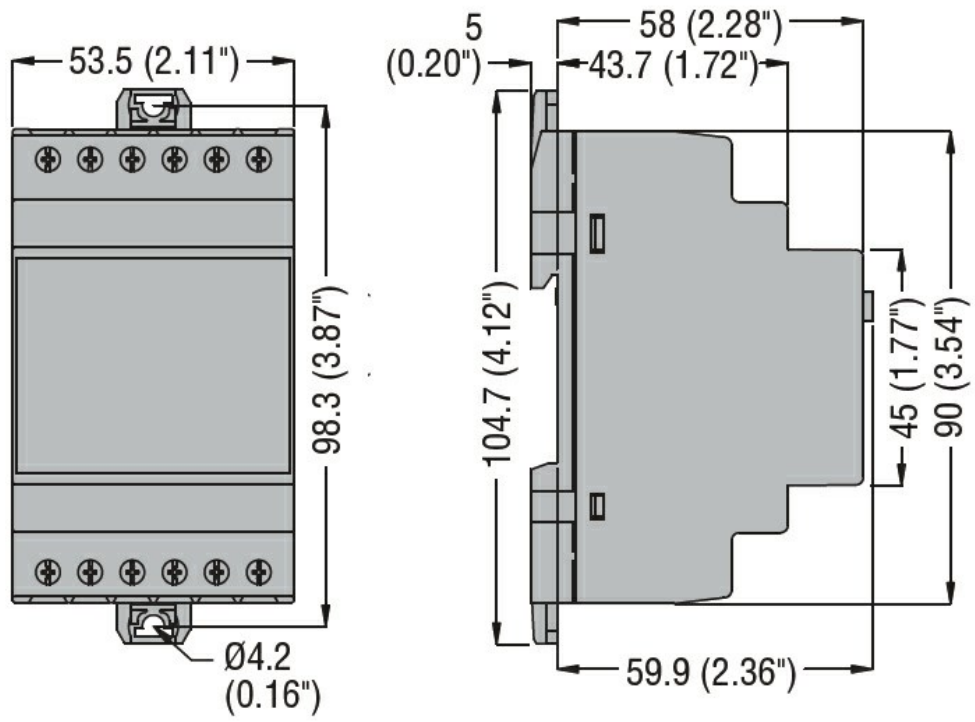
PUMP PROTECTION RELAY FOR SINGLE AND THREE-PHASE SYSTEMS, MAXIMUM AC CURRENT AND MINIMUM COSΦ. PHASE LOSS AND INCORRECT PHASE SEQUENCE, 5A OR 16A

| | | | |
|---|---|---|---|
| Product designation | | | Pump protection relays |
| Product type designation | | | PMA50 |
| **General characteristics** | | | |
| Description | | | Pump protection relay (motor under-load and over-current control) monitoring for max AC current, min cosϕ, phase loss and incorrect phase sequence |
| Type of system | | | Single-phase and three-phase |
| **Power supply** | | | |
| Auxiliary supply voltage Us | | | 440…480VAC |
| Operating voltage range | | | 0.85…1.1 Us |
| Rated frequency | | Hz | 50/60 ±5% |
| Power consumption Max | | VA | 4.5 |
| Power dissipation Max | | W | 2.3 |
| **Control circut** | | | |
| Rated current (Ie) | | A | 5 or 16 |
| Overload capacity | | | 5Ie for 1s - 160A for 10ms - Constant 16A |
| Connection | | | Direct or by current transformer |
| Current set-point (% Ie) | Max | % | 10…100 |
| Minimum cospϕ set-point | | | 0.1…0.99 |
| Tripping delay | | s | 0.1…10 |
| Automatic resetting delay | | min | OFF…100 |
| Resetting hysteresis | | % | 3% for overcurrent, 0.03 for cosϕ |
| Inhibition time | | s | 1…60 |
| Type of reset | | | Automatic or manual |
| External input | | | Consent input for running/resetting |
| Repeat accuracy | | % | ±1 (with constant parameters) |
| Tripping time for phase loss | | ms | 60 |
| **Voltage inputs** | | | |

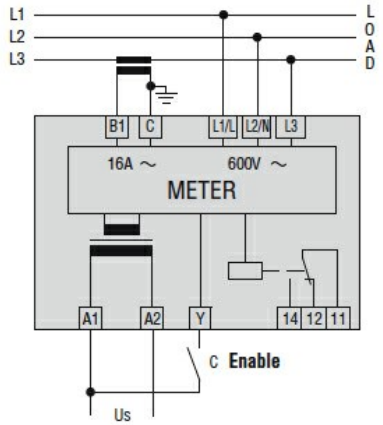
| | | | |
|---|---|---|---|
| Measurement range | | V | 80…660VAC |
| Frequency range | | Hz | 50/60 ±5% |
| **Relay outputs** | | | |
| Number of relays | | Nr. | 1 |
| Relay state | | | Normally energised De-energises at tripping |
| Contact arrangement | | | 1 changeover SPDT each |
| Rated operational voltage AC (IEC) | | VAC | 250 |
| Maximum switching voltage | | VAC | 400 |
| IEC Conventional free air thermal current Ith | | A | 8 |
| UL/CSA and IEC/EN 60947-5-1 designation | | | B300 |
| Electrical life (with rated load) | | cycles | 100000 |
| Mechanical life | | cycles | 30000000 |
| **Functions** | | | |
| Modular version | | | 3U |
| Maximum AC current | | | Yes |
| Minimum cosϕ for dry running pump protection | | | Yes |
| Phase loss | | | Yes |
| Incorrect phase sequence | | | Yes |
| **Indications** | | | |
| Indication | | | 1 green LED for power on / Inhibition and 2 red LEDs for tripping |
| **Connections** | | | |
| Tightening torque for terminals | | | |
| | max | Nm | 0.8 |
| | max | lbin | 7 |
| Conductor cross section | | | |
| AWG/Kcmil | | | |
| | min | AWG | 24 |
| | Max | AWG | 12 |
| IEC | | | |
| | min | mm² | 0.2 |
| | Max | mm² | 4 |
| **Insulations** | | | |
| Rated insulation voltage Ui | | V | 600 |
| Rated impulse withstand voltage Uimp | | kV | 6 |
| Operating frequency withstand voltage | | kV | 2.5 |
| **Ambient conditions** | | | |
| Temperature | | | |
| Operating temperature | | | |
| | min | °C | -20 |
| | max | °C | +60 |
| Storage temperature | | | |
| | min | °C | -30 |
| | max | °C | +80 |
| **Housing** | | | |
| Execution (n° of modules) | | | 3 |

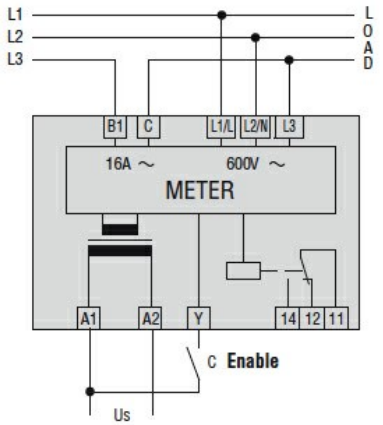
| | | |
|---|---|---|
| Material | | Self-extinguishing polyamide |
| Mounting | | Modular DIN 43880 housing |
| IEC degree of protection | | IP40 on front; IP20 at terminals |
| Dimensions (W x H x D) | mm | 53.5 x 104.7 x 64.9 |
| Weight | g | 251 |

## Dimensions [mm (in)]




## Wiring diagrams




## Certifications and compliance

Compliance

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|---|
| CSA C22.2 n° 14 |
| IEC/EN 60255-5 |
| IEC/EN 61000-6-2 |
| IEC/EN 61000-6-3 |
| UL 508 |

Certificates

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|---|---|
| | cULus |
| | EAC |

## ETIM classification

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|---|---|
| ETIM 8.0 | EC001440 - Current monitoring relay |