

ENERGY AND AUTOMATION

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

| ü | | | | |
|---|--------|------------|--------|-----------|
| | 700.50 | 4. | | |
| | 1 | | 1 | Alle M |
| | 13 | XM L | 3650 | a bee N |
| M | 2 | 9 : | Aberto | at May In |

| | | - | 333355 |
|-------------------------------|-----|-----|-------------------------------------|
| Product designation | | | Pump protection |
| - | | | relays |
| Product type designation | | | PMA50 |
| General characteristics | | | Duran nyataatian |
| | | | Pump protection relay (motor |
| | | | under-load and |
| | | | over-current |
| Description | | | control) |
| | | | monitoring for max AC current, |
| | | | min cos |
| | | | loss and incorrect |
| | | | phase sequence |
| Type of system | | | Single-phase and |
| Power supply | | | three-phase |
| Auxiliary supply voltage Us | | | 200240VAC |
| Operating voltage range | | | 0.851.1 Us |
| Rated frequency | | Hz | 50/60 ±5% |
| Power consumption Max | | VA | 4.5 |
| Power dissipation Max | | W | 2.3 |
| Control circut | | | |
| Rated current (le) | | Α | 5 or 16 |
| Overload capacity | | | 5le for 1s - 160A for 10ms - |
| Overload capacity | | | Constant 16A |
| | | | Direct or by |
| Connection | | | current |
| | | | transformer |
| Current set-point (% le) | Max | 0/ | 40 400 |
| Minimum cosp¢ set-point | Max | % | 10100 0.10.99 |
| Tripping delay | | S | 0.110 |
| Automatic resetting delay | | min | OFF100 |
| - Internation recomming using | | | 3% for |
| Resetting hysteresis | | % | overcurrent, 0.03 |
| | | | for cosþ |
| Inhibition time | | S | 160 |
| 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 | | | |
| | | | |



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

ENERGY AND AUTOMATION 16A

| Measurement range | | V | 80660VAC |
|---|--------------------------|-------------------------------------|---|
| Frequency range | | Hz | 50/60 ±5% |
| Relay outputs | | | |
| Number of relays | | Nr. | 1 |
| | | | Normally |
| Deleviatore | | | energised De- |
| Relay state | | | energises at |
| | | | tripping |
| Contact arrangement | | | 1 changeover |
| - Contact arrangement | | | SPDT each |
| Rated operational voltage AC (IEC) | | VAC | 250 |
| Maximum switching voltage | | VAC | 400 |
| IEC Conventional free air thermal current Ith | | Α | 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 | | | 103 |
| maioations | | | 1 green LED for |
| | | | power on / |
| Indication | | | Inhibition and 2 |
| | | | |
| indication. | | | |
| | | | red LEDs for tripping |
| Connections | | | red LEDs for |
| | | | red LEDs for |
| Connections | max | Nm | red LEDs for |
| Connections | max max | Nm Ibin | red LEDs for tripping |
| Connections | | | red LEDs for tripping 0.8 |
| Connections Tightening torque for terminals | | | red LEDs for tripping 0.8 |
| Connections Tightening torque for terminals Conductor cross section | max | Ibin | red LEDs for tripping 0.8 7 |
| Connections Tightening torque for terminals Conductor cross section | | Ibin AWG | red LEDs for tripping 0.8 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil | max min | Ibin | red LEDs for tripping 0.8 7 |
| Connections Tightening torque for terminals Conductor cross section | max min | AWG AWG | red LEDs for tripping 0.8 7 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil | max min Max min | AWG AWG mm² | red LEDs for tripping 0.8 7 24 12 0.2 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil | max min Max | AWG AWG | red LEDs for tripping 0.8 7 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC | max min Max min | AWG AWG mm² | red LEDs for tripping 0.8 7 24 12 0.2 4 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui | max min Max min | AWG AWG mm² mm² | red LEDs for tripping 0.8 7 24 12 0.2 4 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp | max min Max min | AWG AWG mm² mm² | red LEDs for tripping 0.8 7 24 12 0.2 4 600 6 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage | max min Max min | AWG AWG mm² mm² | red LEDs for tripping 0.8 7 24 12 0.2 4 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage Ambient conditions | max min Max min | AWG AWG mm² mm² | red LEDs for tripping 0.8 7 24 12 0.2 4 600 6 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage Ambient conditions Temperature | max min Max min | AWG AWG mm² mm² | red LEDs for tripping 0.8 7 24 12 0.2 4 600 6 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage Ambient conditions | min Max min Max | AWG AWG mm² mm² V kV | 0.8 7 24 12 0.2 4 600 6 2.5 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage Ambient conditions Temperature | min Max min Max | AWG AWG mm² mm² V kV | 10.8 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage Ambient conditions Temperature Operating temperature | min Max min Max | AWG AWG mm² mm² V kV | 0.8 7 24 12 0.2 4 600 6 2.5 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage Ambient conditions Temperature | min Max min Max | AWG AWG mm² mm² kV kV cC cC | 10.8 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage Ambient conditions Temperature Operating temperature | min Max min max min | AWG AWG mm² mm² kV kV cc cc | red LEDs for tripping 0.8 7 24 12 0.2 4 600 6 2.5 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage Ambient conditions Temperature Operating temperature Storage temperature | min Max min Max | AWG AWG mm² mm² kV kV cC cC | 10.8 |
| Connections Tightening torque for terminals Conductor cross section AWG/Kcmil IEC Insulations Rated insulation voltage Ui Rated impulse withstand voltage Uimp Operating frequency withstand voltage Ambient conditions Temperature Operating temperature | min Max min max min | AWG AWG mm² mm² kV kV cc cc | red LEDs for tripping 0.8 7 24 12 0.2 4 600 6 2.5 |

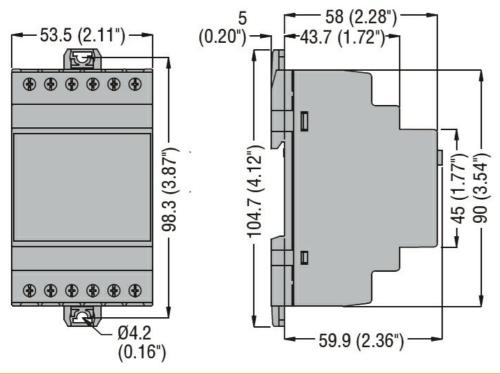


PUMP PROTECTION RELAY FOR SINGLE AND THREE-PHASE SYSTEMS, MAXIMUM AC **electric** CURRENT AND MINIMUM COSФ. PHASE LOSS AND INCORRECT PHASE SEQUENCE, 5A OR 16A

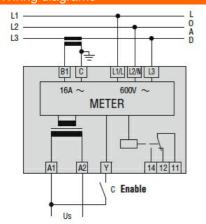
ENERGY AND AUTOMATION

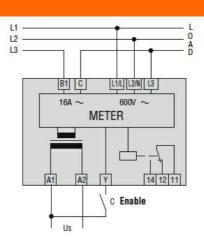
| Material | | Self-extinguishing polyamide |
|-----------------------------|----|-------------------------------------|
| Mounting | | Modular DIN 43880 housing |
| IEC degree of protection | | IP40 on front; IP20 at terminals |
| Dimensions (W x H x D) | mm | 53.5 x 104.7 x 64.9 |
| Weight Dimensions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

Jimensions [mm (in)]



Wiring diagrams





Certifications and compliance

Compliance

CSA C22.2 n° 14

IEC/EN 60255-5

IEC/EN 61000-6-2

IEC/EN 61000-6-3

UL 508

Certificates





ENERGY AND AUTOMATION

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

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

ETIM classification

ETIM 8.0

EC001440 -Current monitoring relay