PTC Thermistor &
Single Phasing Preventer Series PD225

- Thermistor Relay combined with Protection against Phase Sequence, Phase Loss & Phase Asymmetry Faults
- Monitor and Protects Motors with Integrated PTC Resistor sensors
- Protection against Over heating for Heavy Duty Load, High Switching Frequency, High operating temperature & Insufficient cooling conditions
- LED indications for Healthy, Unhealthy, Sensor Open/Short and Phase Sequence fault conditions

Ordering Information

<table>
<thead>
<tr>
<th>Cat. No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML64BS</td>
<td>230 VAC, Three Phase Three Wire PTC Thermistor &amp; SPP, 1 NO + 1 NO</td>
</tr>
<tr>
<td>ML67BS</td>
<td>230 VAC, Three Phase Three Wire PTC Thermistor &amp; SPP, 1 NO + 1 NC</td>
</tr>
<tr>
<td>MLD4BS</td>
<td>400 VAC, Three Phase Three Wire PTC Thermistor &amp; SPP, 1 NO + 1 NO</td>
</tr>
<tr>
<td>MLD7BS</td>
<td>400 VAC, Three Phase Three Wire PTC Thermistor &amp; SPP, 1 NO + 1 NC</td>
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</tbody>
</table>

UL Approval not applicable for Cat Nos. MJ83BK & MJ93BK.
## PTC Thermistor & Single Phasing Preventer Series PD225

### Cat. No. ML64BS | MLD7BS
---|---
**Parameters**
- **Supply Voltage** (V) | 230 VAC (3 Phase 3 Wire) | 400 VAC (3 Phase 3 Wire)
- **Supply Variation** | -15% to + 15% of V | -15% to + 15% of V
- **Frequency** | 50/60 Hz | 50/60 Hz
- **Power Consumption (Max.)** | 15 VA | 24 VA

### Trip Settings
- **Trip Level** | 2.7 kΩ (± 5%) | 2.7 kΩ (± 5%)
- **Reset Level** | 1.71 kΩ (± 5%) | 1.71 kΩ (± 5%)
- **Sensor Short** | <20Ω (±4Ω) | <20Ω (±4Ω)
- **Hysteresis** | 40Ω (± 4Ω) | 40Ω (± 4Ω)
- **Sensor Open** | > 20 kΩ (± 5%) | > 20 kΩ (± 5%)  

### Max Cold Res(Ω) of Sensor Chain
- **Cable Resistance** | < 1.5 kΩ

### Phase Asymmetry
- **Asymmetrical Phase Loss** | 70 VAC (± 10 VAC) | 104 VAC (± 10 VAC)
- **Symmetrical Phase Loss** | 110 VAC (± 10 VAC) | 220 VAC (± 10 VAC)

### Restart Voltage
- **Restart Voltage** | 145 VAC (± 10 VAC) | 265 VAC (± 10 VAC)

### Reset Mode
- **Reset Mode** | Auto

### Repeat Accuracy
- **Time Delay** | 1%

### Output
- **Operate Time** | < 350 ms
- **Release Time** | 360 - 550 ms for Asymmetrical or Symmetrical Phase Fault & 100 ms (max.) for Phase Sequence, Thermistor Trip
- **Reset Time** | 100 - 750 ms

### Relay Output
- **Contact Rating** | 5A ‘NO’ & 3A ‘NC’ @ 240 VAC / 28 VDC (Resistive)

### Electrical Life
- **Contact Life** | 3 x 10³

### Utilization Category
- **AC - 15** | Rated Voltage (U): 120/240, Rated Current (I): 3.0/1.5 A
- **DC - 13** | Rated Voltage (U): 24/125/250 V, Rated Current (I): 2.0/0.22/0.1 A

### LED Indications
- **Continuous ON** | Power Supply Healthy
- **Flashing** | Power Fail
- **Continuous OFF** | Sensor Open

### Operating Temperature
- **-10°C to +60°C**

### Storage Temperature
- **-15°C to +70°C**

### Humidity (Non Condensing)
- **95% (Rh)**

### Enclosure
- **Flame Retardant UL94-V0**

### Dimension (W x H x D) (in mm)
- **22.5 X 83 X 100.5**

### Weight (unpacked)
- **150 g**

### Mounting
- **Base / DIN rail**

### Certification
- **IP 20 for Terminals, IP 40 for Enclosure**

### EMI / EMC
- **Harmonic Current Emissions** | IEC 61000-3-2
- **ESD** | IEC 61000-4-2
- **Radiated Susceptibility** | IEC 61000-4-3
- **Electrical Fast Transients** | IEC 61000-4-4
- **Surges** | IEC 61000-4-5
- **Conducted Susceptibility** | IEC 61000-4-6
- **Voltage Dips & Interruptions (AC)** | IEC 61000-4-11
- **Conducted Emission** | CISPR 14-1
- **Radiated Emission** | CISPR 14-1

### Environmental
- **Cold Heat** | IEC 60068-2-1
- **Dry Heat** | IEC 60068-2-2
- **Vibration** | IEC 60068-2-6
- **Repetitive Shock** | IEC 60068-2-27
- **Non-Repetitive Shock** | IEC 60068-2-27
Frequency Monitoring & PTC Thermistor Relay Series PD225

MOUNTING DIMENSION (mm)

<table>
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<tr>
<th>Dimension</th>
<th>Value</th>
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<tbody>
<tr>
<td>Ø 3.5 mm - 4.0 mm</td>
<td>0.60 N.m (6 Lb.in)</td>
</tr>
<tr>
<td>1 x 4.0 mm2 Solid/Stranded Wire</td>
<td>1 x 20 to 10 AWG</td>
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TERMINAL TORQUE & CAPACITY

For 1 NO + 1 NO PRODUCT:
ML64BS, MLD4BS

For 1 NO + 1 NC PRODUCT:
ML67BS, MLD7BS

CONTACT ARRANGEMENT:

PTC THERMISTOR & SINGLE PHASING PREVENTER SERIES PD 225

CONNECTION DIAGRAM

PTC THERMISTOR RELAY SERIES PD 225 &
PTC THERMISTOR & SINGLE PHASING PREVENTER SERIES PD 225