Product data sheet

**Characteristics**

**RM35TF30**
Zelio, 3 phase supply control relay, range 220 to 480 VAC, sequence, phase failure, phase imbalance, voltage

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**Main**

- **Range of product**: Zelio Control
- **Product or component type**: Modular measurement and control relays
- **Relay type**: Multifunction control relay
- **Product specific application**: For 3-phase supply
- **Relay name**: RM35TF
- **Relay monitored parameters**: Undervoltage and overvoltage in window mode
  - Phase sequence
  - Phase failure detection
  - Asymmetry
- **Time delay**: Adjustable 0.1…10 s, +/- 10 % of the full scale value
- **Switching capacity in VA**: 1250 VA
- **Measurement range**: 220…480 V voltage AC

**Complementary**

- **Reset time**: 1500 ms at 480 V
- **Maximum switching voltage**: 250 V AC
  - 250 V DC
- **Minimum switching current**: 10 mA 5 V DC
- **Maximum switching current**: 5 A AC
  - 5 A DC
- **Supply voltage limits**: 194…528 V AC, 3 phase
- **Control circuit voltage limits**: - 12 % + 10 % Un
- **Power consumption in VA**: 0…22 VA 400 V AC 50 Hz
- **Voltage detection threshold**: < 194 V
- **Control circuit frequency**: 50…60 Hz +/- 10 %
- **Output contacts**: 2 C/O
- **Nominal output current**: 5 A
- **Measurement voltage limits**: 176…528 V AC
- **Hysteresis**: 2 %
- **Delay at power up**: 650 ms
- **Maximum measuring cycle**: 140 ms measurement cycle as true rms value
- **Threshold adjustment voltage**: -20…-2 % in the range 380…480 V AC
  - 2…20 % of Un selected
  - -12…-2 % in the range 220 V AC
  - +2…+20 % in the range 220…440 V AC
  - +2…+10 % in the range 480 V AC
- **Voltage range**: 220…480 V phase to phase
- **Adjustment of asymmetry threshold**: 5…15 % of Un selected
- **Repeat accuracy**: 0.3 % time delay
  - 0.5 % input and measurement circuit
- **Measurement error**: < 1 % over the whole range with voltage variation
  - 0.05 %/°C with temperature variation
- **Response time**: < 200 ms in the event of a fault)
- **Marking**: CE
- **Overvoltage category**: III IEC 60664-1
- **Insulation resistance**: > 500 MOhm 500 V DC IEC 60255-5
  - > 500 MOhm 500 V DC IEC 60664-1
<table>
<thead>
<tr>
<th>Specification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[UI] rated insulation voltage</td>
<td>400 V IEC 60664-1</td>
</tr>
<tr>
<td>Supply frequency</td>
<td>50/60 Hz +/- 10 %</td>
</tr>
<tr>
<td>Operating position</td>
<td>Any position without derating</td>
</tr>
<tr>
<td>Connections - terminals</td>
<td>Screw terminals, 1 x 0.5...1 x 4 mm² AWG 20...AWG 11) solid without cable end</td>
</tr>
<tr>
<td></td>
<td>Screw terminals, 2 x 0.5...2 x 2.5 mm² AWG 20...AWG 14) solid without cable end</td>
</tr>
<tr>
<td></td>
<td>Screw terminals, 1 x 0.2...1 x 2.5 mm² AWG 24...AWG 12) flexible with cable end</td>
</tr>
<tr>
<td></td>
<td>Screw terminals, 2 x 0.2...2 x 1.5 mm² AWG 24...AWG 16) flexible with cable end</td>
</tr>
<tr>
<td>Tightening torque</td>
<td>5.31...8.85 lbf.in (0.6...1 N.m) IEC 60947-1</td>
</tr>
<tr>
<td>Housing material</td>
<td>Self-extinguishing plastic</td>
</tr>
<tr>
<td>Local signalling</td>
<td>Power ON LED green)</td>
</tr>
<tr>
<td></td>
<td>Relay ON LED yellow)</td>
</tr>
<tr>
<td>Mounting support</td>
<td>35 mm symmetrical DIN rail EN/IEC 60715</td>
</tr>
<tr>
<td>Electrical durability</td>
<td>100000 cycles</td>
</tr>
<tr>
<td>Mechanical durability</td>
<td>30000000 cycles</td>
</tr>
<tr>
<td>Operating rate</td>
<td>&lt;= 360 operations/hour full load</td>
</tr>
<tr>
<td>Utilisation category</td>
<td>AC-12 IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>AC-13 IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>AC-14 IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>AC-15 IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>DC-12 IEC 60947-5-1</td>
</tr>
<tr>
<td></td>
<td>DC-13 IEC 60947-5-1</td>
</tr>
<tr>
<td>Safety reliability data</td>
<td>MTTF&lt;sub&gt;d&lt;/sub&gt; = 399.5 years</td>
</tr>
<tr>
<td></td>
<td>B10d = 360000</td>
</tr>
<tr>
<td>Maximum Width</td>
<td>1.38 in (35 mm)</td>
</tr>
<tr>
<td>Net Weight</td>
<td>0.29 lb(US) (0.13 kg)</td>
</tr>
</tbody>
</table>

**Environment**

Electromagnetic compatibility
- Emission standard for industrial environments EN/IEC 61000-6-4
- Emission standard for residential, commercial and light-industrial environments EN/IEC 61000-6-3
- Immunity for industrial environments EN/IEC 61000-6-2

**Standards**
- EN/IEC 60255-1

**Product certifications**
- GL
- UL
- CSA
- GOST
- C-tick

**Directives**
- 89/336/EEC - electromagnetic compatibility
- 73/23/EEC - low voltage directive

**Ambient air temperature for storage**
- -40...158 °F (-40...70 °C)

**Ambient air temperature for operation**
- -4...122 °F (-20...50 °C)

**Relative humidity**
- 95 % 131 °F (55 °C) IEC 60068-2-30

**Vibration resistance**
- 0.35 mm 5...57.6 Hz) IEC 60068-2-6
- 1 gn 57.6...150 Hz) IEC 60255-21-1

**Shock resistance**
- 15 gn 11 ms IEC 60255-21-1

**IP degree of protection**
- IP20 IEC 60529 (terminals)
- IP30 IEC 60529 (casing)

**Pollution degree**
- 3 conforming to IEC 60664-1

**Dielectric test voltage**
- 2 kV AC 50 Hz, 1 min

**Non-dissipating shock wave**
- 4 kV

**Ordering and shipping details**

**Category**
- 22380 - RELAYS-MEASUREMENT (RM17-RM35)

**Discount Schedule**
- CP2

**GTIN**
- 00785901596745

**Nbr. of units in pkg.**
- 1

**Package weight(Lbs)**
- 0.28 lb(US) (0.13 kg)

**Returnability**
- Yes

**Country of origin**
- ID
### Packing Units

<table>
<thead>
<tr>
<th>Unit Type of Package 1</th>
<th>PCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Package 1 Height</td>
<td>1.89 in (4.8 cm)</td>
</tr>
<tr>
<td>Package 1 width</td>
<td>3.07 in (7.8 cm)</td>
</tr>
<tr>
<td>Package 1 Length</td>
<td>3.82 in (9.7 cm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit Type of Package 2</th>
<th>S03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Units in Package 2</td>
<td>48</td>
</tr>
<tr>
<td>Package 2 Weight</td>
<td>15.05 lb (6.827 kg)</td>
</tr>
<tr>
<td>Package 2 Height</td>
<td>11.81 in (30 cm)</td>
</tr>
<tr>
<td>Package 2 width</td>
<td>11.81 in (30 cm)</td>
</tr>
<tr>
<td>Package 2 Length</td>
<td>15.75 in (40 cm)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unit Type of Package 3</th>
<th>P06</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Units in Package 3</td>
<td>384</td>
</tr>
<tr>
<td>Package 3 Weight</td>
<td>141.37 lb (64.124 kg)</td>
</tr>
<tr>
<td>Package 3 Height</td>
<td>30.31 in (77 cm)</td>
</tr>
<tr>
<td>Package 3 width</td>
<td>31.50 in (80 cm)</td>
</tr>
<tr>
<td>Package 3 Length</td>
<td>23.62 in (60 cm)</td>
</tr>
</tbody>
</table>

### Offer Sustainability

<table>
<thead>
<tr>
<th>Sustainable offer status</th>
<th>Green Premium product</th>
</tr>
</thead>
<tbody>
<tr>
<td>California proposition 65</td>
<td><strong>WARNING:</strong> This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a></td>
</tr>
</tbody>
</table>

#### REACh Regulation
- [REACH Declaration](#)

#### EU RoHS Directive
- Pro-active compliance (Product out of EU RoHS legal scope) [EU RoHS Declaration](#)

#### Mercury free
- Yes

#### RoHS exemption information
- Yes

#### China RoHS Regulation
- [China RoHS Declaration](#)

#### Environmental Disclosure
- [Product Environmental Profile](#)

#### Circularity Profile
- [End Of Life Information](#)

#### WEEE
- The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins.

### Contractual warranty

<table>
<thead>
<tr>
<th>Warranty</th>
<th>18 months</th>
</tr>
</thead>
</table>
Multifunction 3-Phase Supply Control Relays

Dimensions and Mounting
Multifunction 3-Phase Supply Control Relays

Wiring Diagram
Function Diagrams

Phase Sequence Control, Phase Failure Detection (U measured < 0.7 x nominal supply voltage) and Asymmetry Detection

Control of Overvoltage and Undervoltage in Window Mode

Legend
A Asymmetry threshold
Tt Time delay after crossing of threshold
H Hysteresis
U> Overvoltage threshold
U< Undervoltage threshold
L1, L2, L3 Phases of the supply voltage monitored
R Output relay
Relay status: black color = energized.