### 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**: 208...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 at 5 V DC
- **Maximum switching current**: 5 A AC
  - 5 A DC
- **Supply voltage limits**: 194...528 V AC, 3 phases
- **Control circuit voltage limits**: - 12 % + 10 % Un
- **Power consumption in VA**: 0…22 VA at 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 %

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications.

Jan 2, 2020
### 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 % for time delay
0.5 % for 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 conforming to IEC 60664-1

### Insulation resistance
> 500 MOhm at 500 V DC conforming to IEC 60255-5
> 500 MOhm at 500 V DC conforming to IEC 60664-1

### [Ui] rated insulation voltage
400 V conforming to IEC 60664-1

### Supply frequency
50/60 Hz +/- 10 %

### Operating position
Any position without

### Connections - terminals
- Screw terminals, 1 x 0.5...1 x 4 mm² (AWG 20...AWG 11) solid without cable end
- Screw terminals, 2 x 0.5...2 x 2.5 mm² (AWG 20...AWG 14) solid without cable end
- Screw terminals, 1 x 0.2...1 x 2.5 mm² (AWG 24...AWG 12) flexible with cable end
- Screw terminals, 2 x 0.2...2 x 1.5 mm² (AWG 24...AWG 16) flexible with cable end

### Tightening torque
0.6...1 N.m conforming to IEC 60947-1

### Housing material
Self-extinguishing plastic

### Local signalling
- LED (green)power ON:
- LED (yellow)relay ON:
- LED (yellow)fault:

### Mounting support
35 mm symmetrical DIN rail conforming to EN/IEC 60715

### Electrical durability
100000 cycles

### Mechanical durability
3000000 cycles

### Operating rate
<= 360 operations/hour full load

### Utilisation category
- AC-12 conforming to IEC 60947-5-1
- AC-13 conforming to IEC 60947-5-1
- AC-14 conforming to IEC 60947-5-1
- AC-15 conforming to IEC 60947-5-1
- DC-12 conforming to IEC 60947-5-1
- DC-13 conforming to IEC 60947-5-1

### Safety reliability data
MTTFd = 399.5 years
B10d = 360000

### Width
35 mm

### Net weight
0.13 kg

### Environment

#### Electromagnetic compatibility
- Emission standard for industrial environments conforming to EN/IEC 61000-6-4
- Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3
- Immunity for industrial environments conforming to 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...70 °C

### Ambient air temperature for operation
-20...50 °C
<table>
<thead>
<tr>
<th>Relative humidity</th>
<th>95 % at 55 °C conforming to IEC 60068-2-30</th>
</tr>
</thead>
</table>
| Vibration resistance              | 0.35 mm (f= 5…57.6 Hz) conforming to IEC 60068-2-6  
1 gn (f= 57.6…150 Hz) conforming to IEC 60255-21-1 |
| Shock resistance                  | 15 gn for 11 ms conforming to IEC 60255-21-1 |
| IP degree of protection           | IP20 (terminals) conforming to IEC 60529  
IP30 (casing) conforming to IEC 60529 |
| Pollution degree                  | 3 conforming to IEC 60664-1 |
| Dielectric test voltage           | 2 kV, 1 min AC 50 Hz |
| Non-dissipating shock wave        | 4 kV |

**Offer Sustainability**

<table>
<thead>
<tr>
<th>Sustainable offer status</th>
<th>Green Premium product</th>
</tr>
</thead>
<tbody>
<tr>
<td>REACh Regulation</td>
<td>REACh Declaration</td>
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</tbody>
</table>
| 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**

| Warranty                          | 18 months |
Multifunction 3-Phase Supply Control Relays

Dimensions and Mounting
Multifunction 3-Phase Supply Control Relays

Wiring Diagram
Product data sheet

Technical Description

RM35TF30

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.