**Product data sheet**

**RM22TU23**

three-Phase Undervoltage control relay 380…480Vac, 2 C/O

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**Main**

Range of product: Zelio Control

Product or component type: Modular measurement and control relays

Relay type: Control relay

Network number of phases: 3 phases

Relay name: RM22TR

Relay monitored parameters:
- Phase failure detection
- Phase sequence
- Undervoltage detection

Time delay type: Without

Switching capacity in VA: 2000 VA

Measurement range: 380…480 V voltage AC

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**Complementary**

Reset time: <= 1500 ms at maximum voltage

Maximum switching voltage: 250 V AC

Minimum switching current: 10 mA at 5 V DC

Maximum switching current: 8 A AC

[Us] rated supply voltage: 380…480 V AC

Supply voltage limits: 304…576 V AC

Operating limits: - 20 % + 20 % Un

Power consumption in VA: 15 VA at 480 V AC 60 Hz

Voltage detection threshold: < 100 V AC

Supply voltage frequency: 50…60 Hz +/- 10 %

Output contacts: 2 C/O

Setting accuracy of the switching threshold: +/- 10 % of the full scale

Switching threshold drift:
- <= 0.05 % per degree centigrade depending permissible ambient air temperature
- <= 1 % within the supply voltage range

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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.
### Setting accuracy of time delay

- **10 P**

### Time delay drift

- <= 0.05 % per degree centigrade depending permissible ambient air temperature
- <= 1 % within the supply voltage range

### Hysteresis

- 2 % fixed of selectable

### Run-up delay at power-up

- <= 650 ms

### Measuring cycle

- 150 ms measurement cycle as true rms value

### Threshold adjustment voltage

- 2...20 % of Un selected

### Voltage range

- 380...480 V phase to phase

### Repeat accuracy

- +/- 0.5 % input and measurement circuit

### Measurement error

- < 0.05 %/°C with temperature variation
- < 1 % over the whole range with voltage variation

### Response time

- <= 300 ms

### Overvoltage category

- III conforming to UL 508
- III conforming to IEC 60664-1

### Insulation resistance

- > 100 MOhm at 500 V DC conforming to IEC 60255-27

### Mounting position

- Any position

### Connections - terminals

- Screw terminals 2 x 0.5...2 x 2.5 mm² - AWG 20...AWG 14, solid cable without cable end
- Screw terminals 2 x 0.2...2 x 1.5 mm² - AWG 24...AWG 16, flexible cable with cable end
- Screw terminals 1 x 0.5...1 x 3.3 mm² - AWG 20...AWG 12, solid cable without cable end
- Screw terminals 1 x 0.2...1 x 2.5 mm² - AWG 24...AWG 14, flexible cable with cable end

### Tightening torque

- 0.6...1 N.m conforming to IEC 60947-1

### Housing material

- Self-extinguishing plastic

### Status LED

- LED yellow for relay ON
- LED green for power ON

### Mounting support

- 35 mm DIN rail conforming to EN/IEC 60715

### Electrical durability

- 100000 cycles

### Mechanical durability

- 1000000 cycles

### Utilisation category

- AC-1 conforming to IEC 60947-4-1
- DC-1 conforming to IEC 60947-4-1
- AC-15 conforming to IEC 60947-5-1
- DC-13 conforming to IEC 60947-5-1

### Safety reliability data

- MTTFd = 388.1 years
- B10d = 350000

### Contacts material

- Cadmium free

### Width

- 22.5 mm

### Product weight

- 0.09 kg

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### Environment

**Immunity to microbreaks**

- <= 10 ms

**Electromagnetic compatibility**

- Conducted and radiated emissions class B conforming to CISPR 22
- Immunity for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-1
- Electrostatic discharge 6 kV level 3 contact discharge conforming to IEC 61000-4-2
- Electrostatic discharge 8 kV level 3 air discharge conforming to IEC 61000-4-2
- Radiated radio-frequency electromagnetic field immunity test 10 V/m level 3 conforming to IEC 61000-4-3
- Electrical fast transient/burst immunity test 4 kV level 4 direct conforming to IEC 61000-4-4
- Electrical fast transient/burst immunity test 2 kV level 4 capacitive coupling conforming to IEC 61000-4-4
- Surge immunity test 4 kV level 4 common mode conforming to IEC 61000-4-5
- Surge immunity test 2 kV level 4 differential mode conforming to IEC 61000-4-5
- Conducted and radiated emissions class B group 1 conforming to CISPR 11
- 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**

- CE
- China RoHS
- EAC
- CSA
- RCM
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<tr>
<th><strong>Ambient air temperature for storage</strong></th>
<th>-40...70 °C</th>
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| **Ambient air temperature for operation** | -20...50 °C at 60 Hz  
-20...60 °C at 50 Hz AC/DC |
| **Relative humidity** | 93...97 % at 25...55 °C conforming to IEC 60068-2-30 |
| **Vibration resistance** | 0.075 mm (f = 10...58.1 Hz) (not in operation) conforming to IEC 60068-2-6  
1 gn (f = 10...58.1 Hz) (not in operation) conforming to IEC 60068-2-6  
0.035 mm (f = 58.1...150 Hz) (in operation) conforming to IEC 60068-2-6  
0.5 gn (f = 58.1...150 Hz) (in operation) conforming to IEC 60068-2-6 |
| **Shock resistance** | 15 gn for 11 ms (not in operation) conforming to IEC 60068-2-27  
5 gn for 11 ms (in operation) conforming to IEC 60068-2-27 |
| **IP degree of protection** | IP20 on terminals conforming to IEC 60529  
IP40 on housing conforming to IEC 60529  
IP50 on front panel conforming to IEC 60529 |
| **Pollution degree** | 3 conforming to IEC 60664-1  
3 conforming to UL 508 |
| **Dielectric test voltage** | 2.5 kV for 1 min AC 50 Hz conforming to IEC 60255-27 |

### Offer Sustainability

<table>
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<tr>
<th><strong>Sustainable offer status</strong></th>
<th>Green Premium product</th>
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| **RoHS (date code: YYWW)** | Compliant - since 0701 - Schneider Electric declaration of conformity  
Schneider Electric declaration of conformity |
| **REACH** | Reference not containing SVHC above the threshold  
Reference not containing SVHC above the threshold |
| **Product environmental profile** | Available  
Product Environmental Profile |
| **Product end of life instructions** | Available  
End of Life Information |
Dimensions

![Diagram of RM22TU23 dimensions]

- Width: 78.5 mm (3.10 in)
- Height: 35.5 mm (1.40 in)
- Depth: 22.5 mm (0.89 in)

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Product data sheet
Dimensions Drawings

RM22TU23
Mounting and Clearance

Rail Mounting

mm
in
3-Phase Undervoltage Control Relay

Wiring Diagram

L1, L2, L3: Supply to be monitored
11-14, 12: 1st C/O contact of output relay
21-24, 22: 2nd C/O contact of output relay
Function Diagrams

Phase Sequence Control and Phase failure Detection

Undervoltage Control

Legend

Tr : Response time after cross the threshold
U< : Undervoltage threshold
L1, L2, L3 : Phases of the supply voltage monitored
R : Relay output 11-12/11-14, 21-22/21-24
H : Hysteresis
Relay status : black color = energized.