

### Main

Commercial Status	Commercialised
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	RM17TU
Relay monitored parameters	Phase failure detection Phase sequence Undervoltage detection
Time delay	Adjustable 0.1...10 s, 10 %
Switching capacity in VA	1250 VA
Measurement range	183...528 V AC

### Complementary

Reset time	1500 ms for time delay
Maximum switching voltage	250 V DC 250 V AC
Minimum switching current	10 mA at 5 V DC
Maximum switching current	5 A DC 5 A AC
[Us] rated supply voltage	208...480 V AC 3 phases
Supply voltage limits	183...528 V AC
Control circuit voltage limits	- 12 %, + 10 % Un
Power consumption in VA	<= 22 VA 400 V AC 50 Hz
Control circuit frequency	50...60 Hz +/- 10 %
Output contacts	1 C/O
Nominal output current	5 A
Hysteresis	2 %
Delay at power up	<= 650 ms
Measuring cycle	<= 150 ms measurement cycle as true rms value
Threshold adjustment voltage	+2...+17 % in the range 480 V AC -2...-12 % in the range 208 V AC -2...-17 % in the range 220 V AC 2...20 % of Un selected
Voltage range	480 V phase to phase 440 V phase to phase 415 V phase to phase 400 V phase to phase 380 V phase to phase 220 V phase to phase 208 V phase to phase
Adjustment of asymmetry threshold	5...15 % of Un selected
Measurement accuracy	+/- 10 % of the full scale value
Repeat accuracy	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
Phase failure sensitivity	0.7 Un
Response time	< 200 ms in the event of a fault

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Marking	CE : 73/23/EEC CE : EMC 89/336/EEC
Overvoltage category	III conforming to IEC 60664-1
Insulation resistance	> 500 MOhm at 500 V DC conforming to IEC 60664-1 > 500 MOhm at 500 V DC conforming to IEC 60255-5
[Ui] rated insulation voltage	400 V conforming to IEC 60664-1
Supply frequency	50/60 Hz +/- 10 %
Operating position	Any position without
Electrical connection	2 conductors cable 0.5...2.5 mm² AWG20...AWG14 solid without cable end conforming to IEC 60947-1 2 conductors cable 0.2...1.5 mm² AWG24...AWG16 flexible with cable end conforming to IEC 60947-1 1 conductor cable 0.5...4 mm² AWG20...AWG11 solid without cable end conforming to IEC 60947-1 1 conductor cable 0.2...2.5 mm² AWG24...AWG12 flexible with cable end conforming to IEC 60947-1
Tightening torque	0.6...1 N.m conforming to IEC 60947-1
Housing material	Self-extinguishing plastic
Status LED	1 LED yellow for relay ON 1 LED green for power ON
Mounting support	35 mm symmetrical DIN rail conforming to EN/IEC 60715
Electrical durability	100000 cycles
Mechanical durability	<= 30000000 cycles
Operating rate	<= 360 operations/hour under full load
Utilisation category	DC-13 conforming to IEC 60947-5-1 DC-12 conforming to IEC 60947-5-1 AC-15 conforming to IEC 60947-5-1 AC-14 conforming to IEC 60947-5-1 AC-13 conforming to IEC 60947-5-1 AC-12 conforming to IEC 60947-5-1
Width	17.5 mm
Product weight	0.13 kg

## Environment

Electromagnetic compatibility	Immunity for industrial environments conforming to EN/IEC 61000-6-2 Emission standard for residential, commercial and light-industrial environments conforming to EN/IEC 61000-6-3 Emission standard for industrial environments conforming to EN/IEC 61000-6-4
Standards	EN/IEC 60255-1
Product certifications	CSA C-Tick GL GOST UL
Ambient air temperature for storage	-40...70 °C
Ambient air temperature for operation	-20...50 °C
Relative humidity	95 % at 55 °C conforming to IEC 60068-2-30
Vibration resistance	1 gn (f = 57.6...150 Hz) conforming to IEC 60068-2-6/IEC 60255-21-1 0.35 mm (f = 5...57.6 Hz) conforming to IEC 60068-2-6/IEC 60255-21-1
Shock resistance	15 gn for 11 ms conforming to IEC 60255-21-1
IP degree of protection	IP30 (casing) conforming to IEC 60529 IP20 (terminals) conforming to IEC 60529
Pollution degree	3 conforming to IEC 60664-1
Dielectric test voltage	2 kV 1 min AC 50 Hz conforming to IEC 60664-1 2 kV 1 min AC 50 Hz conforming to IEC 60255-5
Non-dissipating shock wave	4 kV conforming to IEC 61000-4-5 4 kV conforming to IEC 60664-1 4 kV conforming to IEC 60255-5

## Contractual warranty

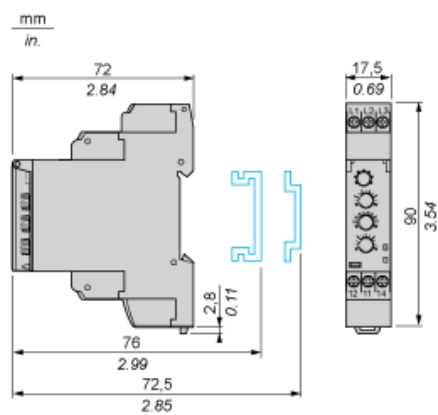
Period	18 months
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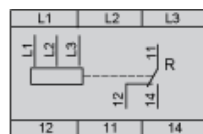
Multifunction 3-Phase Supply Control Relays

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Dimensions and Mounting

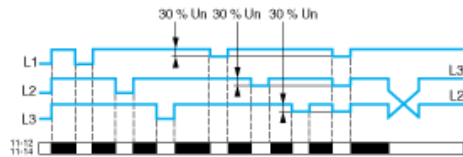


## Wiring Diagram



## Function Diagrams

### Phase Sequence Control and Phase failure Detection ( $U_{\text{measured}} < 0.7 \times \text{supply voltage}$ )



$U_n$  Nominal 3-phase supply voltage

L1, Phases of the supply voltage monitored

L2,

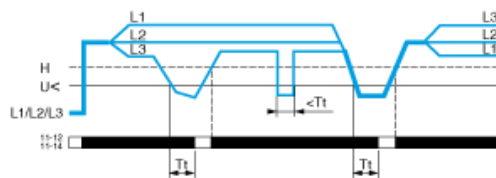
L3

11-12 Output relay connections (refer to Connections and Schema)

11-14

Relay status: black color = energized.

### Undervoltage Control



$T_t$  Time delay after crossing of threshold (adjustable on front panel)

$H$  Hysteresis

$U_{<}$  Undervoltage threshold

L1, Phases of the supply voltage monitored

L2,

L3

11-12 Output relay connections (refer to Connections and Schema)

11-14

Relay status: black color = energized.

NOTE: The undervoltage threshold is adjustable from - 2...- 20% of  $U_n$  (- 2... - 12% in the range 3 x 208 Vac and - 2%...- 17% in the range 3 x 220 Vac due to the minimum voltage 183 Vac).

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