

Product data sheet

Specifications



three-phase network control relay RM4-T - range 160..220 V

RM4TR31

⚠ Discontinued on: Dec 31, 2016

⚠ Discontinued

Main

Range Of Product	Harmony Relay
Relay Type	Control relay
Product Or Component Type	Industrial measurement and control relays
Product Specific Application	For 3-phase supply
Relay Name	RM4-T
Relay Monitored Parameters	Overvoltage and undervoltage detection Phase sequence Phase failure detection
Time Delay	Adjustable 0.1...10 s
Contacts Type And Composition	2 C/O
Poles Description	3P

Complementary

Maximum Switching Voltage	440 V AC
Control Threshold Undervoltage	160...220 V
Control Threshold Overvoltage	220...300 V
Output Contacts	2 C/O
Setting Accuracy Of The Switching Threshold	+/-3 %
Switching Threshold Drift	<= 0.06 % per degree centigrade depending permissible ambient air temperature <= 0.5 % within the measuring range
Setting Accuracy Of Time Delay	10 P
Time Delay Drift	<= 0.07 % per degree centigrade depending on the rated operational temperature <= 0.5 % within the measuring range
Hysteresis	5 % fixed de-energisation threshold
Delay At Power Up	650 ms
Maximum Measuring Cycle	80 ms
Marking	CE
Overvoltage Category	III IEC 60664-1
[Ui] Rated Insulation Voltage	500 V IEC
Supply Frequency	50/60 Hz +/- 5 %
Operating Position	Any position without derating

Price is "List Price" and may be subject to a trade discount – check with your local distributor or retailer for actual price.

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

Connections - Terminals	Screw terminals, 2 x 1.5 mm²flexible with cable end Screw terminals, 2 x 2.5 mm²flexible without cable end
Tightening Torque	5.31...9.74 lbf.in (0.6...1.1 N.m)
Mechanical Durability	30000000 cycles
[Ith] Conventional Free Air Thermal Current	8 A
[Ie] Rated Operational Current	2 A 158 °F (70 °C) 24 V DC-13 IEC 60947-5-1/1991 2 A 158 °F (70 °C) 24 V DC-13 VDE 0660 3 A 158 °F (70 °C) 115 V AC-15 IEC 60947-5-1/1991 3 A 158 °F (70 °C) 115 V AC-15 VDE 0660 3 A 158 °F (70 °C) 24 V AC-15 IEC 60947-5-1/1991 3 A 158 °F (70 °C) 24 V AC-15 VDE 0660 3 A 158 °F (70 °C) 250 V AC-15 IEC 60947-5-1/1991 3 A 158 °F (70 °C) 250 V AC-15 VDE 0660 0.1 A 158 °F (70 °C) 250 V DC-13 IEC 60947-5-1/1991 0.1 A 158 °F (70 °C) 250 V DC-13 VDE 0660 0.3 A 158 °F (70 °C) 115 V DC-13 IEC 60947-5-1/1991 0.3 A 158 °F (70 °C) 115 V DC-13 VDE 0660
Switching Capacity In Ma	10 mA 12 V
Switching Voltage	250 V AC
Contacts Material	90/10 silver nickel contacts
Number Of Cables	2
Height	3.07 in (78 mm)
Width	0.89 in (22.5 mm)
Depth	3.15 in (80 mm)
Terminals Description Iso N°1	(25-26-28)OC (L1-L2-L3)CO (15-16-18)OC
Output Relay State	Tripped, fault present
9 Mm Pitches	2.5
Net Weight	0.24 lb(US) (0.11 kg)

Environment

Electromagnetic Compatibility	Electrostatic discharge - test level: 6 kV level 3 (contact discharge) conforming to IEC 61000-4-2 Electrostatic discharge - test level: 8 kV level 3 (air discharge) conforming to IEC 61000-4-2 Resistance to electrostatic discharge - test level: 6 kV (contact) conforming to IEC 61000-4-2 level 3 Resistance to electrostatic discharge - test level: 8 kV (air) conforming to IEC 61000-4-2 level 3
Standards	EN/IEC 60255-6
Product Certifications	UL GL CSA
Directives	73/23/EEC - low voltage directive 89/336/EEC - electromagnetic compatibility
Ambient Air Temperature For Storage	-40...185 °F (-40...85 °C)
Ambient Air Temperature For Operation	-4...149 °F (-20...65 °C)
Relative Humidity	15...85 % 3K3 IEC 60721-3-3
Vibration Resistance	0.35 ms 10...55 Hz)IEC 60068-2-6
Shock Resistance	15 gn 11 ms IEC 60068-2-27
Ip Degree Of Protection	IP20 IEC 60529 terminals) IP50 IEC 60529 casing)

Pollution Degree	3 IEC 60664-1
Dielectric Test Voltage	2.5 kV
Non-Dissipating Shock Wave	4.8 kV
Resistance To Electrostatic Discharge	6 kV contact IEC 61000-4-2 level 3 8 kV air IEC 61000-4-2 level 3
Resistance To Electromagnetic Fields	9.14 V/m (10 V/m) IEC 61000-4-3 level 3
Resistance To Fast Transients	2 kV IEC 61000-4-4 level 3
Disturbance Radiated/Conducted	CISPR 11 group 1 - class A CISPR 22 - class A

Ordering and shipping details

Category	22376-RELAYS-MEASUREMENT(RM4)
Discount Schedule	CP2
Gtin	00785901481645
Returnability	No
Country Of Origin	ID

Packing Units

Unit Type Of Package 1	PCE
Number Of Units In Package 1	1

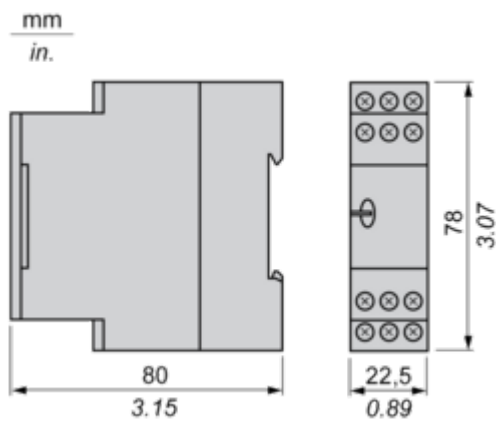
Contractual warranty

Warranty	18 months
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Dimensions Drawings

3-phase Supply Control Relays

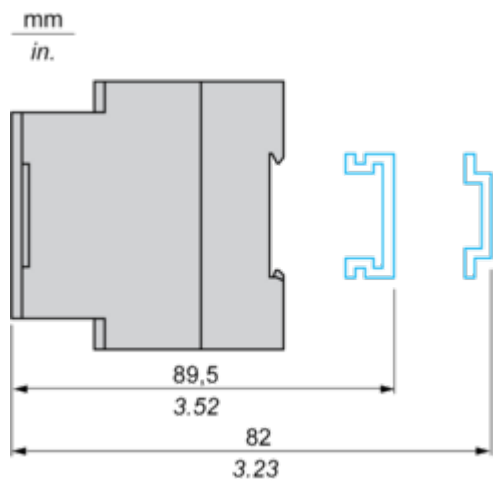
Dimensions



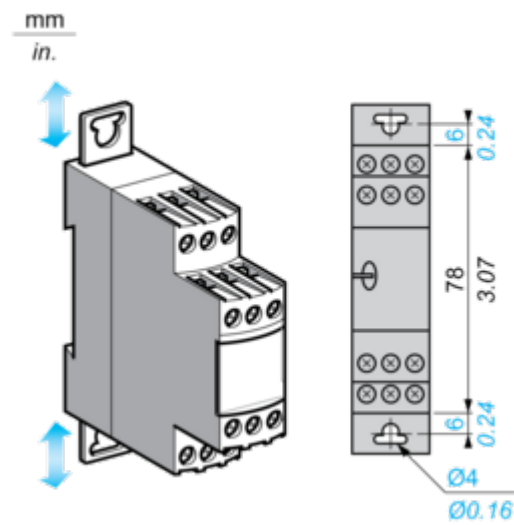
Mounting and Clearance

3-phase Supply Control Relays

Rail mounting



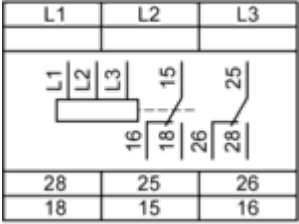
Screw fixing



Connections and Schema

3-Phase Supply Control Relays

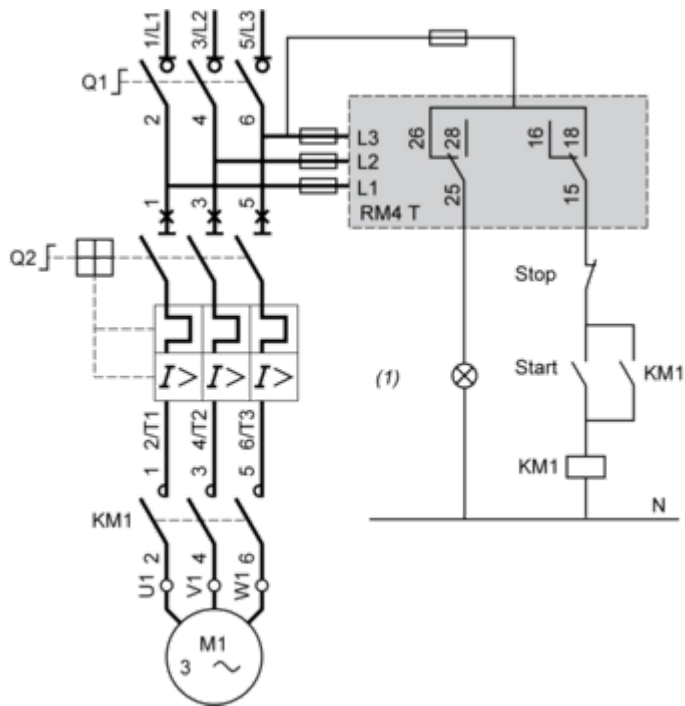
Wiring Diagram



L1, L2, L3 Supply to be monitored
15-18, 15-16 1st C/O contact of the output relay
25-28, 25-26 2nd C/O contact of the output relay

Application Scheme

Example



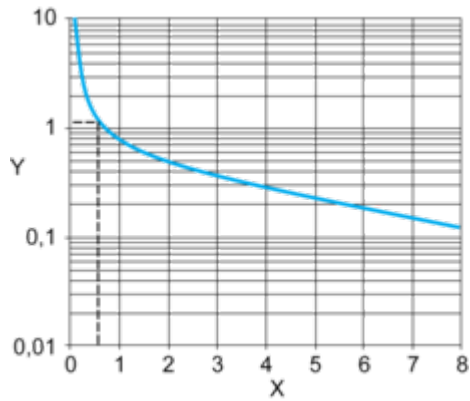
(1) Fault

Performance Curves

Electrical Durability and Load Limit Curves

AC Load

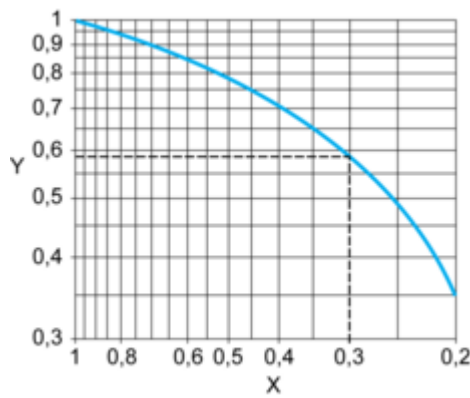
Curve 1: Electrical durability of contacts on resistive load in millions of operating cycles



X Current broken in A

Y Millions of operating cycles

Curve 2: Reduction factor k for inductive loads (applies to values taken from durability Curve 1)

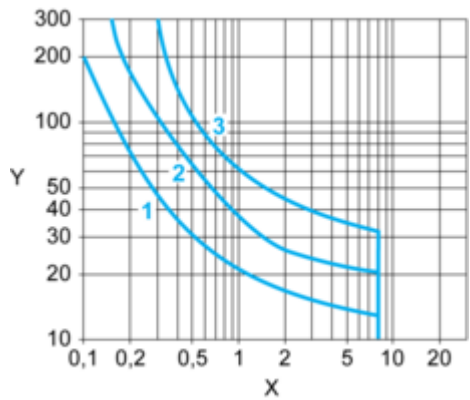


X Power factor on breaking (cos φ)

Y Reduction factor K

DC Load

Load limit curve

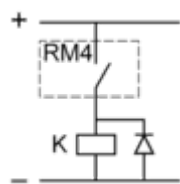


X Current in A

Y Voltage in V

1 L/R = 20 ms

- 2 L/R with load protection diode
- 3 Resistive load

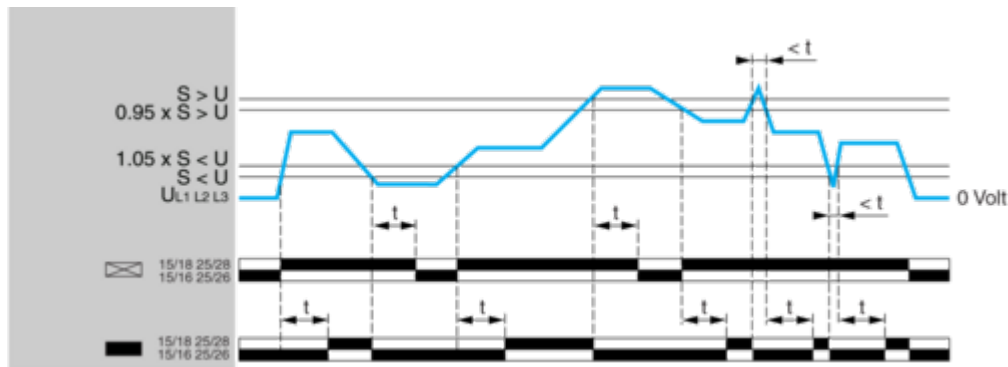


Technical Description

Function Diagram

Overvoltage and Undervoltage Detection

Functions "Fault detection delayed" or "Fault detection extended" (by switch selector)



Legend

t Time delay

U 3-phase supply voltage monitored

S Overvoltage or undervoltage setting

15/18, 15/16; 25/28, 25/26 Output relays connections

Relay status: black color = energized.