Product datasheet
Characteristics

RM4TR32

Main

Range of product	Zelio Control
Product or component type	Industrial measurement and control relays
Relay type	Control relay
Product specific application	For 3-phase supply
Relay name	RM4-T
Relay monitored parameters	Overvoltage and undervoltage detection Phase failure detection Phase sequence
Time delay type	Adjustable 0.1...10 s
Measurement range	290...484 V
Contacts type and composition	2 C/O
Poles description	3P

Complementary

Maximum switching voltage	440 V AC
Control threshold undervoltage	300...430 V
Control threshold overvoltage	420...480 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 of de-energisation threshold
Run-up delay at power-up	< 650 ms
Measuring cycle	<= 80 ms
Marking	CE
Overvoltage category	III conforming to IEC 60664-1
[Ui] rated insulation voltage	500 V conforming to IEC
Supply frequency	50/60 Hz +/- 5 %
Operating position	Any position without
Connections - terminals	Screw terminals 2 x 1.5 mm², flexible cable with cable end Screw terminals 2 x 2.5 mm², flexible cable without cable end
Tightening torque	5.31...9.73 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 at 158 °F (70 °C) 24 V DC-13 conforming to IEC 60947-5-1/1991 2 A at 158 °F (70 °C) 24 V DC-13 conforming to VDE 0660 3 A at 158 °F (70 °C) 115 V AC-15 conforming to IEC 60947-5-1/1991 3 A at 158 °F (70 °C) 115 V AC-15 conforming to VDE 0660 3 A at 158 °F (70 °C) 24 V AC-15 conforming to IEC 60947-5-1/1991 3 A at 158 °F (70 °C) 24 V AC-15 conforming to VDE 0660 3 A at 158 °F (70 °C) 250 V AC-15 conforming to IEC 60947-5-1/1991 3 A at 158 °F (70 °C) 250 V AC-15 conforming to VDE 0660 0.1 A at 158 °F (70 °C) 250 V DC-13 conforming to IEC 60947-5-1/1991 0.1 A at 158 °F (70 °C) 250 V DC-13 conforming to VDE 0660 0.3 A at 158 °F (70 °C) 115 V DC-13 conforming to IEC 60947-5-1/1991 0.3 A at 158 °F (70 °C) 115 V DC-13 conforming to VDE 0660
Switching capacity in mA	10 mA at 12 V
Switching voltage	250 V AC
Contacts material	90/10 silver nickel contacts
Number of cables	2

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein.
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.
It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof.
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Height	3.07 in (78 mm)
Width	0.89 in (22.5 mm)
Depth	3.15 in (80 mm)
Terminals description ISO n°1	(15-16-18)OC (25-26-28)OC (L1-L2-L3)CO
Output relay state	Tripped, fault present
9 mm pitches	2.5
Product weight	0.24 lb(US) (0.11 kg)

Environment

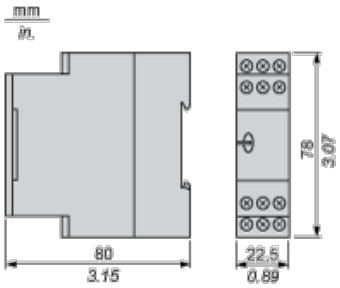
electromagnetic compatibility	Electrostatic discharge - test level 6 kV, level 3 - contact discharge conforming to IEC 61000-4-2 Electrostatic discharge - test level 8 kV, level 3 - air discharge conforming to IEC 61000-4-2 Resistance to electrostatic discharge - test level 6 kV - contact conforming 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	CSA GL UL
directives	89/336/EEC - electromagnetic compatibility 73/23/EEC - low voltage directive
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 conforming to IEC 60721-3-3
vibration resistance	0.35 ms (f = 10...55 Hz) conforming to IEC 60068-2-6
shock resistance	15 gn 11 ms conforming to IEC 60068-2-27
IP degree of protection	IP20(terminals) conforming to IEC 60529 IP50 (casing) conforming to IEC 60529
pollution degree	3 conforming to IEC 60664-1
dielectric test voltage	2.5 kV
non-dissipating shock wave	4.8 kV
resistance to electrostatic discharge	6 kV contact conforming to IEC 61000-4-2 level 3 8 kV air conforming to IEC 61000-4-2 level 3
resistance to electromagnetic fields	9.14 V/yd (10 V/m) conforming to IEC 61000-4-3 level 3
resistance to fast transients	2 kV conforming to IEC 61000-4-4 level 3
disturbance radiated/conducted	CISPR 11 group 1 - class A CISPR 22 - class A

Contractual warranty

Warranty period	18 months

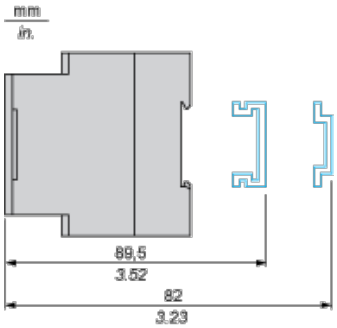
3-phase Supply Control Relays

Dimensions

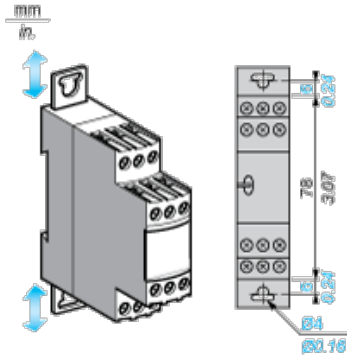


3-phase Supply Control Relays

Rail mounting

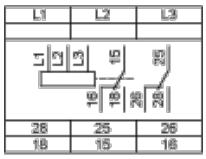


Screw fixing



3-Phase Supply Control Relays

Wiring Diagram



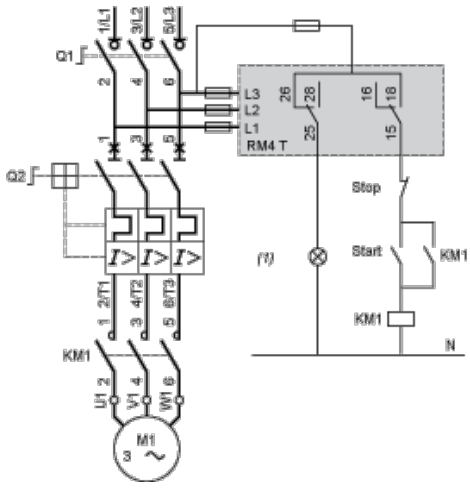
L1, L2, L3 Supply to be monitored

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

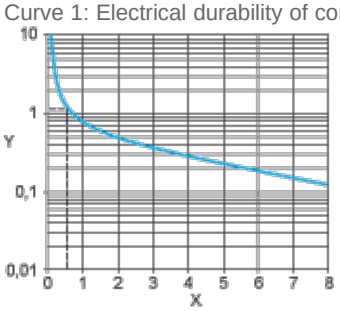


(1) Fault

Electrical Durability and Load Limit Curves

AC Load

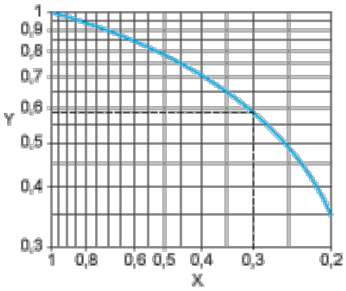
Curve 1: Electrical durability of contacts on resistive load in millions of operating cycles



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)

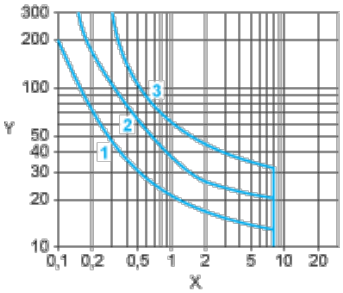


X Power factor on breaking (cos φ)

Y Reduction factor K

DC Load

Load limit curve



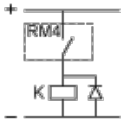
X Current in A

Y Voltage in V

1 L/R = 20 ms

2 L/R with load protection diode

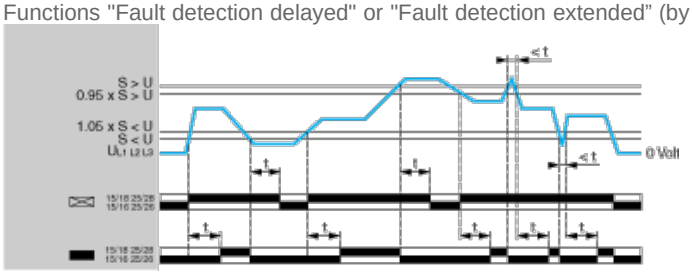
3 Resistive load



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.