Product datasheet

Specifications

time delay relay for star-delta starter - 0.05..1 s - 24 V AC DC - 2OC

RE7YR12BU

Discontinued on: 20 Oct 2022

Discontinued

Main

Range of product	Zelio Time
Product or component type	Industrial timing relay
Contacts type and composition	2 C/O
Component name	RE7
Time delay type	Qg
Time delay range	0.05 s...300 h

Complementary

Discrete output type	Relay
Contacts material	90/10 silver nickel contacts
Width pitch dimension	22.5 mm
[Us] rated supply voltage	110...240 V AC 50/60 Hz 24 V AC/DC 50/60 Hz 42...48 V AC/DC 50/60 Hz
Voltage range	0.85...1.1 Us
Connections - terminals	Screw terminals, 2 x 1.5 mm² flexible with cable end Screw terminals, 2 x 2.5 mm² flexible without cable end
Tightening torque	0.6…1.1 N.m
Setting accuracy of time delay	+/- 10 % of full scale
Repeat accuracy	+/- 0.2 %
Temperature drift	< 0.07 %/°C
Voltage drift	< 0.2 %/V
Minimum pulse duration	20 ms
Reset time	50 ms
Maximum switching voltage	250 V AC/DC
Mechanical durability	20000000 cycles
[Ith] conventional free air thermal current	8 A
Maximum [Ie] rated operational current	2 A DC-13 24 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660 0.1 A DC-13 250 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660 0.2 A DC-13 115 V at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660 3 A AC-15 at 70 °C conforming to IEC 60947-5-1/1991/VDE 0660
Minimum switching capacity	at 12 V 10 mA
Marking	CE

Overvoltage category	III conforming to IEC 60664-1
[Ui] rated insulation voltage	250 V between contact circuit and control inputs IEC certified 250 V between contact circuit and power supply IEC certified 300 V between contact circuit and control inputs CSA certified 300 V between contact circuit and power supply CSA certified
Supply disconnection value	> 0.1 Uc
Operating position	Any position without derating
Surge withstand	2 kV conforming to IEC 61000-4-5 level 3
Power consumption in VA	2 VA at 48 V 1.2 VA at 24 V 12.5 VA at 240 V 2.8 VA at 110 V
Maximum power consumption in W	0.8 W at 24 V 1.6 W at 48 V
Terminal description	(26-17-28)OC_ON (16-17-18)OC_ON (Z2)UNUSED ALT (B1-A2)CO
Height	78 mm
Width	22.5 mm
Depth	80 mm
Net weight	0.15 kg

Environment

Immunity to microbreaks	3 ms
Standards	EN/IEC 61812-1
Product certifications	UL CSA GL
Ambient air temperature for storage	-40…85 °C
Ambient air temperature for operation	-20…60 °C
Relative humidity	15…85 % 3K3 conforming to IEC 60721-3-3
Vibration resistance	0.35 mm (f= 10…55 Hz) conforming to IEC 60068-2-6
Shock resistance	15 gn for 11 ms conforming to IEC 60068-2-27
IP degree of protection	IP20 (terminals) IP50 (housing)
Pollution degree	3 conforming to IEC 60664-1
Dielectric strength	2.5 kV
Non-dissipating shock wave	4.8 kV
Resistance to electrostatic discharge	6 kV in contact conforming to IEC 61000-4-2 level 3 8 kV in air conforming to IEC 61000-4-2 level 3
Resistance to electromagnetic fields	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 22 - class A CISPR 11 group 1 - class A

Packing Units

Unit Type of Package 1	PCE

Number of Units in Package 1	1

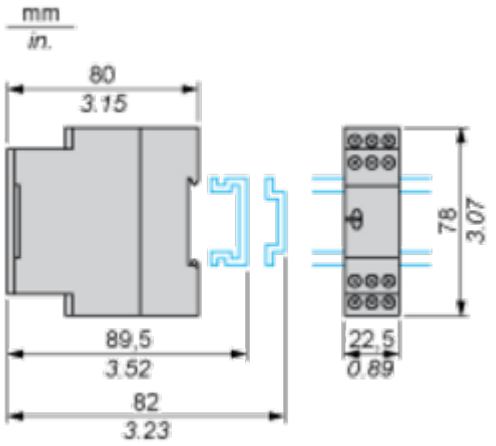
Contractual warranty

Warranty	18 months

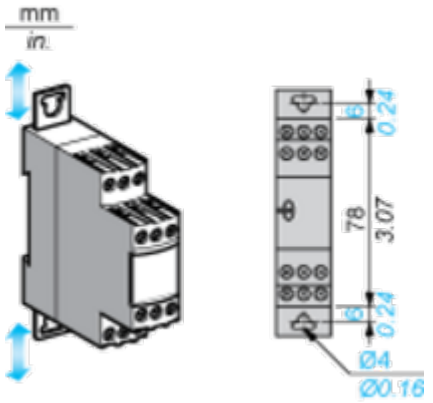
Dimensions Drawings

Width 22.5 mm

Rail Mounting

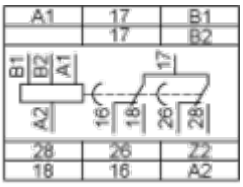


Screw Fixing



Connections and Schema

Internal Wiring Diagram



Recommended Application Wiring Diagram

Control

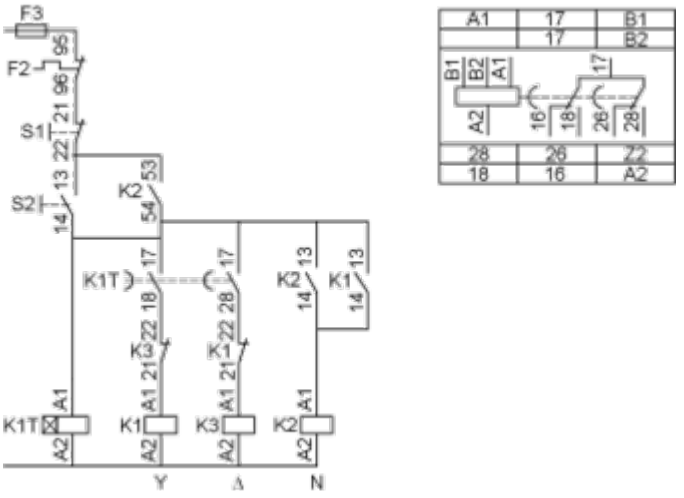
⚠ WARNING

UNEXPECTED EQUIPMENT OPERATION

No galvanic isolation between supply terminals A1, A2, B1, B2 and supply terminal Z2.

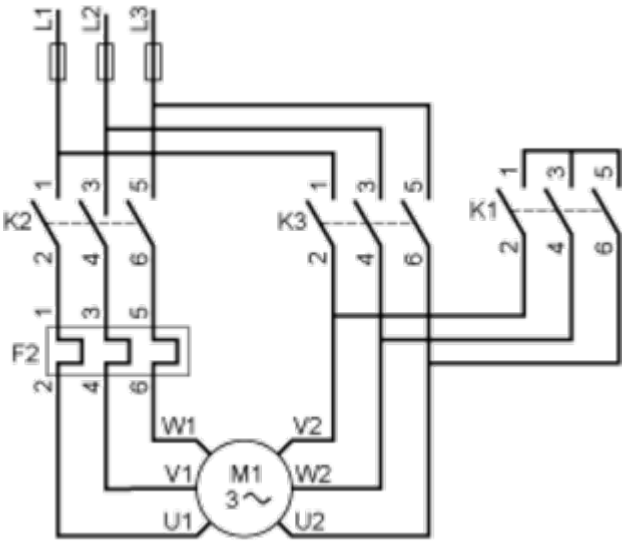
Failure to follow these instructions can result in death, serious injury, or equipment damage.

Star-Delta function with contact for switching to star wiring diagram Q



K1T Timing relay

Power

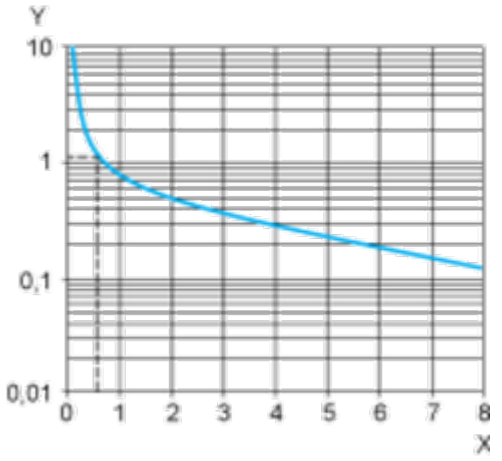


Performance Curves

Performance Curves

A.C. Load Curve 1

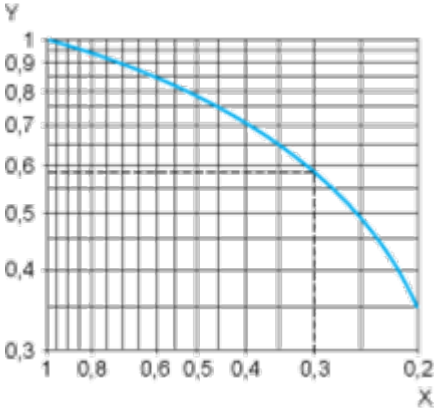
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A
Y Millions of operating cycles

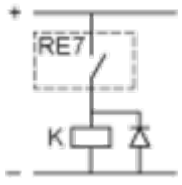
A.C. Load Curve 2

Reduction factor k for inductive loads (applies to values taken from durability curve 1).

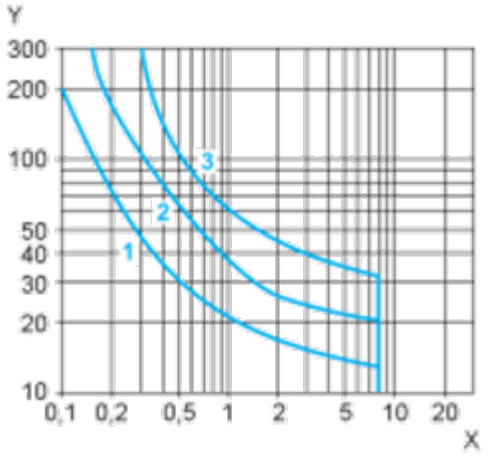


X Power factor on breaking (cos ϕ)
Y Reduction factor k
Example: An LC1-F185 contactor supplied with 115 V/50 Hz for a consumption of 55 VA or a current consumption equal to 0.1 A and cos ϕ = 0.3. For 0.1 A, curve 1 indicates a durability of approximately 1.5 million operating cycles. As the load is inductive, it is necessary to apply a reduction coefficient k to this number of cycles as indicated by curve 2.

For cos ϕ = 0.3: k = 0.6 The electrical durability therefore becomes:1.5 10^6 operating cycles x 0.6 = 900 000 operating cycles.



D. C. 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

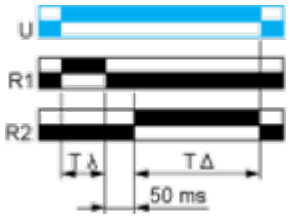
Technical Description

Function Qg: Star-Delta Timing

Description

Timing for star-delta starter with contact for switching to star connection.

Function: 1 Output



Legend

Relay de-energised
Relay energised
Output open
Output closed

C	Control contact
G	Gate
R	Relay or solid state output
R1/R2	2 timed outputs
R2 inst.	The second output is instantaneous if the right position is selected
T	Timing period
Ta -	Adjustable On-delay
Tr -	Adjustable Off-delay
U	Supply