

# Product data sheet

Specifications



## time delay relay for star-delta starter - 0.05..1 s - 24 V AC DC - 20C

RE7YA12BU

 **Discontinued on:** Jan 23, 2021

 **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	Qt
Time Delay Range	0.05 s...300 h

### Complementary

Discrete Output Type	Relay
Contacts Material	90/10 silver nickel contacts
Width Pitch Dimension	0.89 in (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 mm <sup>2</sup> flexible with cable end Screw terminals, 2 x 2.5 mm <sup>2</sup> flexible without cable end
Tightening Torque	5.31...9.74 lbf.in (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 158 °F (70 °C) IEC 60947-5-1/1991/VDE 0660 0.1 A DC-13 250 V 158 °F (70 °C) IEC 60947-5-1/1991/VDE 0660 0.2 A DC-13 115 V 158 °F (70 °C) IEC 60947-5-1/1991/VDE 0660 3 A AC-15 158 °F (70 °C) IEC 60947-5-1/1991/VDE 0660
Minimum Switching Capacity	10 mA 12 V
Marking	CE

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

Overvoltage Category	III IEC 60664-1
[Ui] Rated Insulation Voltage	250 V between contact circuit and control inputs IEC 250 V between contact circuit and power supply IEC 300 V between contact circuit and control inputs CSA 300 V between contact circuit and power supply CSA
Supply Disconnection Value	> 0.1 Uc
Operating Position	Any position without derating
Surge Withstand	2 kV IEC 61000-4-5 level 3
Power Consumption In Va	2 VA 48 V 1.2 VA 24 V 12.5 VA 240 V 2.8 VA 110 V
Maximum Power Consumption In W	0.8 W 24 V 1.6 W 48 V
Terminal Description	(B1-A2)CO (25-26-28)OC_ON ALT (15-16-18)OC_ON (Z2)UNUSED
Height	3.07 in (78 mm)
Width	0.89 in (22.5 mm)
Depth	3.15 in (80 mm)
Net Weight	0.33 lb(US) (0.15 kg)

## Environment

Immunity To Microbreaks	3 ms
Standards	EN/IEC 61812-1
Product Certifications	GL UL CSA
Ambient Air Temperature For Storage	-40...185 °F (-40...85 °C)
Ambient Air Temperature For Operation	-4...140 °F (-20...60 °C)
Relative Humidity	15...85 % 3K3 IEC 60721-3-3
Vibration Resistance	0.35 mm 10...55 Hz)IEC 60068-2-6
Shock Resistance	15 gn 11 ms IEC 60068-2-27
Ip Degree Of Protection	IP20 terminals) IP50 housing)
Pollution Degree	3 IEC 60664-1
Dielectric Strength	2.5 kV
Non-Dissipating Shock Wave	4.8 kV
Resistance To Electrostatic Discharge	6 kV in contact IEC 61000-4-2 level 3 8 kV in 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 22 - class A CISPR 11 group 1 - class A

## Ordering and shipping details

Category	22376-RELAYS-MEASUREMENT(RM4)
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Discount Schedule	CP2
Gtin	00785901481515
Returnability	No
Country Of Origin	ID

### Packing Units

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

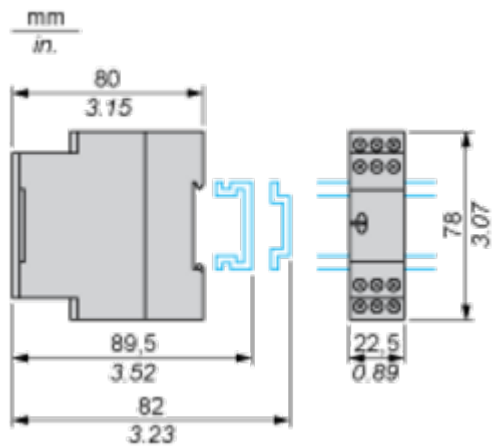
### Contractual warranty

Warranty	18 months
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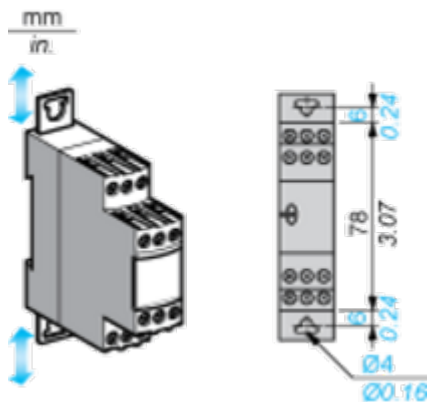
Dimensions Drawings

Width 22.5 mm

Rail Mounting



Screw Fixing



Connections and Schema

Internal Wiring Diagram



Recommended Application Wiring Diagram

Control



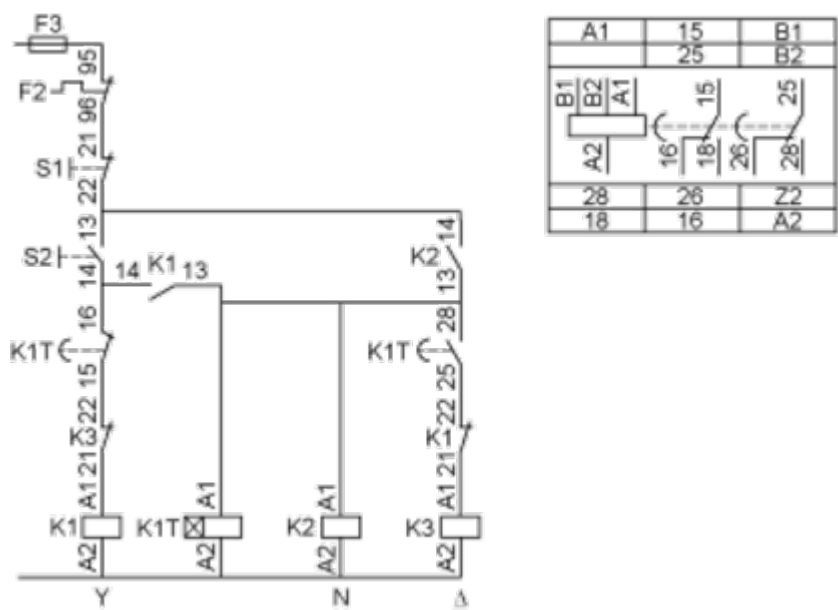
WARNING

UNEXPECTED EQUIPMENT OPERATION

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

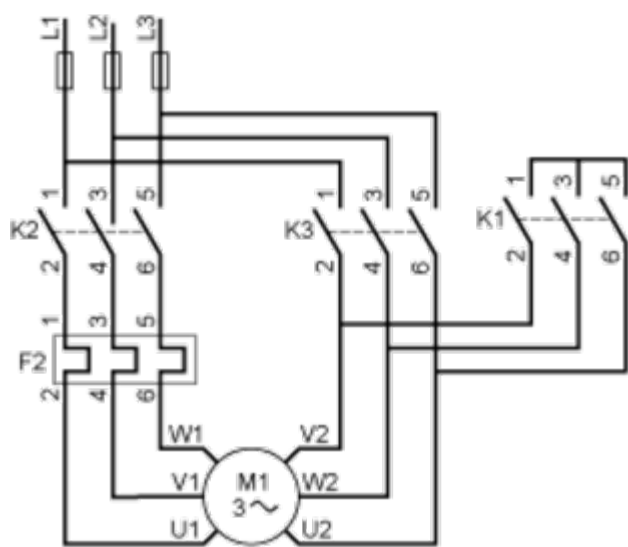
Failure to follow these instructions can result in death, serious injury, or equipment damage.

Star-Delta function with double On-delay timing Qt.



K1T Timing relay

Power

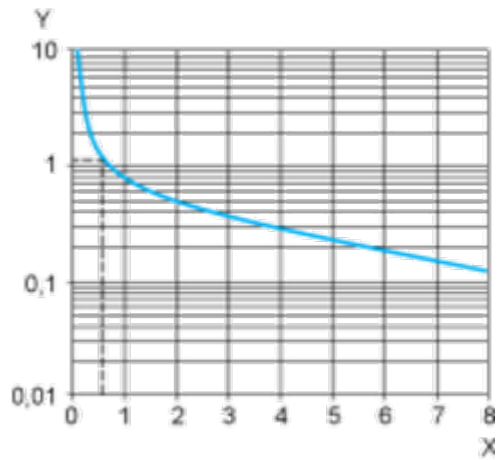


Performance Curves

Performance Curves

A.C. Load Curve 1

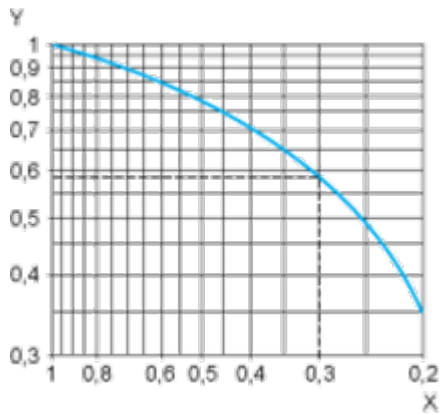
Electrical durability of contacts on resistive loading millions of operating cycles



X Current broken in A  
Y Millions of operating cycles

A.C. Load Curve 2

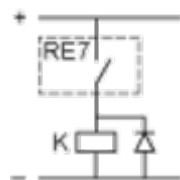
Reduction factor k for inductive loads (applies to values taken from durability curve 1).



X Power factor on breaking ( $\cos \phi$ )  
Y Reduction factor k

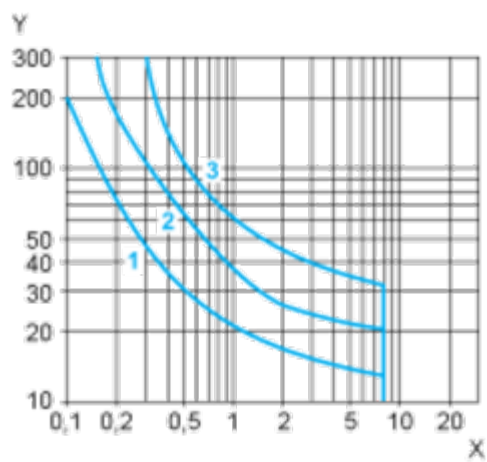
Example: An LC1-F185 contactor supplied with 115 V/50 Hz for a consumption of 55 VA or a current consumption equal to 0.1 A and  $\cos \phi = 0.3$ . For 0.1 A, curve 1 indicates a durability of approximately 1.5 million operating cycles. As the load is inductive, it is necessary to apply a reduction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

For  $\cos \phi = 0.3$ :  $k = 0.6$  The electrical durability therefore becomes:  $1.5 \cdot 10^6$  operating cycles  $\times 0.6 = 900\,000$  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

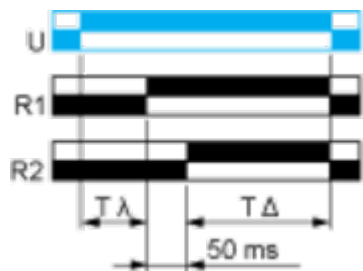
Technical Description

Function Qt: Star-Delta Timing





Description

Timing for star-delta starter with double On-delay period.

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