

# Product datasheet

Specifications



## Star-Delta Timing Relay - 0.05s... 300s - 24V DC / 24...240V AC - 1C/ O

RE22R1QCMU

### Main

Range of product	Harmony Timer Relays
Product or component type	Single function relay
Discrete output type	Relay
Device short name	RE22
Nominal output current	8 A

### Complementary

Contacts type and composition	1 C/O timed contact, cadmium free
Time delay type	Star-delta
Time delay range	10...100 s 3...30 s 0.1...1 s 0.3...3 s 0.05...0.5 s 1...10 s 30...300 s
Control type	Rotary knob Diagnostic button
[Us] rated supply voltage	24 V DC 24...240 V AC 50/60 Hz
Release input voltage	$\leq 2.4$ V
Voltage range	0.85...1.1 Us
Supply frequency	50...60 Hz +/- 5 %
Connections - terminals	Screw terminals, 1 x 0.5...1 x 3.3 mm <sup>2</sup> (AWG 20...AWG 12) solid without cable end Screw terminals, 2 x 0.5...2 x 2.5 mm <sup>2</sup> (AWG 20...AWG 14) solid without cable end Screw terminals, 1 x 0.2...1 x 2.5 mm <sup>2</sup> (AWG 24...AWG 14) flexible with cable end Screw terminals, 2 x 0.2...2 x 1.5 mm <sup>2</sup> (AWG 24...AWG 16) flexible with cable end
Tightening torque	0.6...1 N.m conforming to IEC 60947-1
Housing material	Self-extinguishing
Repeat accuracy	+/- 0.5 % conforming to IEC 61812-1
Temperature drift	+/- 0.05 %/°C
Voltage drift	+/- 0.2 %/V
Setting accuracy of time delay	+/- 10 % of full scale at 25 °C conforming to IEC 61812-1
Insulation resistance	100 MOhm at 500 V DC conforming to IEC 60664-1
Recovery time	120 ms on de-energisation

<b>Immunity to microbreaks</b>	10 ms
<b>Power consumption in VA</b>	35 VA at 240 V AC
<b>Power consumption in W</b>	0.6 W at 24 V DC
<b>Switching capacity in VA</b>	2000 VA
<b>Minimum switching current</b>	10 mA at 5 V DC
<b>Maximum switching current</b>	8 A
<b>Maximum switching voltage</b>	250 V AC
<b>Electrical durability</b>	100000 cycles, 8 A at 250 V, AC-1 100000 cycles, 2 A at 24 V, DC-1
<b>Mechanical durability</b>	10000000 cycles
<b>Rated impulse withstand voltage</b>	5 kV for 1.2...50 µs conforming to IEC 60664-1
<b>Power on delay</b>	100 ms
<b>Creepage distance</b>	4 kV/3 conforming to IEC 60664-1
<b>Overtoltage category</b>	III conforming to IEC 60664-1
<b>Safety reliability data</b>	MTTFd = 285.3 years B10d = 270000
<b>Mounting position</b>	Any position
<b>Mounting support</b>	35 mm DIN rail conforming to EN/IEC 60715
<b>Status LED</b>	LED backlight green (steady) for dial pointer indication LED yellow (steady) for output relay energised LED yellow (fast flashing) for timing in progress and output relay de-energised LED yellow (slow flashing) for timing in progress and output relay energised
<b>Width</b>	22.5 mm
<b>Net weight</b>	0.08 kg

## Environment

<b>Dielectric strength</b>	2.5 kV for 1 mA/1 minute at 50 Hz between relay output and power supply with basic insulation conforming to IEC 61812-1
<b>Standards</b>	UL 508 IEC 61812-1
<b>Directives</b>	2004/108/EC - electromagnetic compatibility 2006/95/EC - low voltage directive
<b>Product certifications</b>	GL CE CCC EAC UL CSA RCM
<b>Ambient air temperature for operation</b>	-20...60 °C
<b>Ambient air temperature for storage</b>	-40...70 °C
<b>IP degree of protection</b>	IP40 housing: conforming to IEC 60529 IP50 front face: conforming to IEC 60529 IP20 terminals: conforming to IEC 60529
<b>Pollution degree</b>	3 conforming to IEC 60664-1
<b>Vibration resistance</b>	20 m/s <sup>2</sup> (f= 10...150 Hz) conforming to IEC 60068-2-6
<b>Shock resistance</b>	15 gn not operating for 11 ms conforming to IEC 60068-2-27 5 gn in operation for 11 ms conforming to IEC 60068-2-27
<b>Relative humidity</b>	95 % at 25...55 °C
<b>Electromagnetic compatibility</b>	Fast transients immunity test - test level: 1 kV level 3 (capacitive connecting clip) conforming to IEC 61000-4-4 Surge immunity test - test level: 1 kV level 3 (differential mode) conforming to IEC 61000-4-5 Surge immunity test - test level: 2 kV level 3 (common mode) conforming to IEC 61000-4-5

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  
 Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m level 3 (80 MHz...1 GHz) conforming to IEC 61000-4-3  
 Conducted RF disturbances - test level: 10 V level 3 (0.15...80 MHz) conforming to IEC 61000-4-6  
 Fast transient bursts - test level: 2 kV level 3 (direct contact) conforming to IEC 61000-4-4  
 Immunity to microbreaks and voltage drops - test level: 30 % (500 ms) conforming to IEC 61000-4-11  
 Immunity to microbreaks and voltage drops - test level: 100 % (20 ms) conforming to IEC 61000-4-11

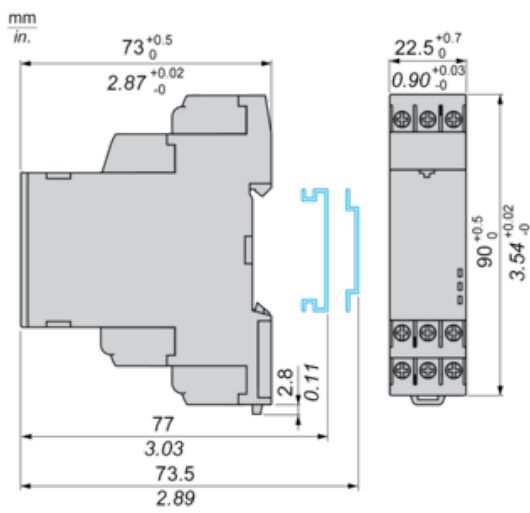
## Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Weight	90.0 g
Package 1 Height	2.5 cm
Package 1 width	8.4 cm
Package 1 Length	9.5 cm
Unit Type of Package 2	S02
Number of Units in Package 2	40
Package 2 Weight	4.14 kg
Package 2 Height	15 cm
Package 2 width	30 cm
Package 2 Length	40 cm
Unit Type of Package 3	P06
Number of Units in Package 3	640
Package 3 Weight	73.38 kg
Package 3 Height	80 cm
Package 3 width	80 cm
Package 3 Length	60 cm

## Offer Sustainability

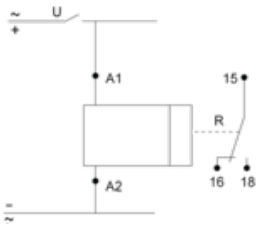
Sustainable offer status	Green Premium product
REACH Regulation	<a href="#">REACH Declaration</a>
EU RoHS Directive	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
Mercury free	Yes
RoHS exemption information	Yes
China RoHS Regulation	<a href="#">China RoHS declaration</a>
Environmental Disclosure	<a href="#">Product Environmental Profile</a>
Circularity Profile	<a href="#">End of Life Information</a>

## Dimensions



**Wiring Diagram**

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**Function Qc: Star-Delta Relay (1 CO)**

**Description**

On energisation of power supply, the output R initializes at its initial state such that energizes STAR CONTACTOR + MAIN CONTACTOR and the timing T starts (STAR connection time duration starts).At the end of the timing period T, the output R closes such that deenergizes STAR CONTACTOR and deenergizes the power supply causes t transition time starts.At the end of the transition time, the output R reverts to its initial state such that energizes DELTA CONTACTOR.

**Function: 1 Output**



t : 50 ms

**Legend**

- Relay de-energised
- Relay energised
- Output open
- Output closed

U -	Supply
T -	Timing period
t -	Delay to switch ON Delta contact output
R1 -	Star-Delta contact output