

# Product data sheet

Specifications



## Modular timing relay, Harmony, 8A, 1 CO, 0.05s...300h, asymmetrical flashing, 24...240V AC DC

RE22R1MLMR

### Main

Range of product	Harmony Timer Relays
Product or component type	Multifunction 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	Asymmetrical flashing
Time delay range	0.05...1 s 30...300 min 30...300 h 30...300 s 3...30 h 0.3...3 s 3...30 min 3...30 s 10...100 s 1...10 s
Control type	Rotary knob Diagnostic button Potentiometer external
[Us] rated supply voltage	24...240 V AC/DC 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
Control signal pulse width	100 ms with load in parallel

	30 ms
<b>Insulation resistance</b>	100 MOhm at 500 V DC conforming to IEC 60664-1
<b>Recovery time</b>	120 ms on de-energisation
<b>Immunity to microbreaks</b>	10 ms
<b>Power consumption in VA</b>	3 VA at 240 V AC
<b>Power consumption in W</b>	1.5 W at 240 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>Overvoltage category</b>	III conforming to IEC 60664-1
<b>Safety reliability data</b>	MTTFd = 194 years B10d = 180000
<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>	0.1 kg
<b>Environment</b>	
<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>	IEC 61812-1 UL 508
<b>Directives</b>	2004/108/EC - electromagnetic compatibility 2006/95/EC - low voltage directive
<b>Product certifications</b>	EAC UL GL CSA RCM CCC CE
<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>	<p>Fast transients immunity test - test level: 1 kV level 3 (capacitive connecting clip) conforming to IEC 61000-4-4</p> <p>Surge immunity test - test level: 1 kV level 3 (differential mode) conforming to IEC 61000-4-5</p> <p>Surge immunity test - test level: 2 kV level 3 (common mode) conforming to IEC 61000-4-5</p> <p>Electrostatic discharge - test level: 6 kV level 3 (contact discharge) conforming to IEC 61000-4-2</p> <p>Electrostatic discharge - test level: 8 kV level 3 (air discharge) conforming to IEC 61000-4-2</p> <p>Radiated radio-frequency electromagnetic field immunity test - test level: 10 V/m level 3 (80 MHz...1 GHz) conforming to IEC 61000-4-3</p> <p>Conducted RF disturbances - test level: 10 V level 3 (0.15...80 MHz) conforming to IEC 61000-4-6</p> <p>Fast transient bursts - test level: 2 kV level 3 (direct contact) conforming to IEC 61000-4-4</p> <p>Immunity to microbreaks and voltage drops - test level: 30 % (500 ms) conforming to IEC 61000-4-11</p> <p>Immunity to microbreaks and voltage drops - test level: 100 % (20 ms) conforming to IEC 61000-4-11</p>

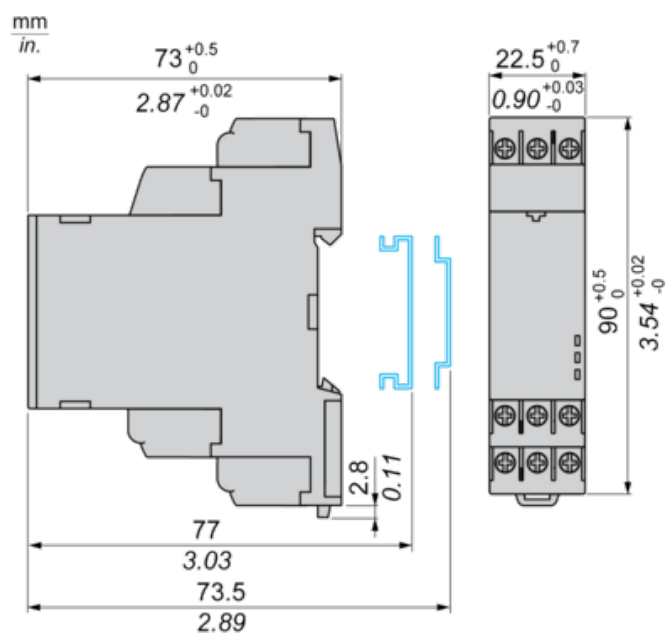
## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	8.2 cm
<b>Package 1 Width</b>	9.5 cm
<b>Package 1 Length</b>	2.6 cm
<b>Package 1 Weight</b>	107.0 g
<b>Unit Type of Package 2</b>	S02
<b>Number of Units in Package 2</b>	40
<b>Package 2 Height</b>	15.0 cm
<b>Package 2 Width</b>	30.0 cm
<b>Package 2 Length</b>	40.0 cm
<b>Package 2 Weight</b>	4.735 kg
<b>Unit Type of Package 3</b>	PAL
<b>Number of Units in Package 3</b>	640
<b>Package 3 Height</b>	50.0 cm
<b>Package 3 Width</b>	60.0 cm
<b>Package 3 Length</b>	80.0 cm
<b>Package 3 Weight</b>	86.18 kg

## Offer Sustainability

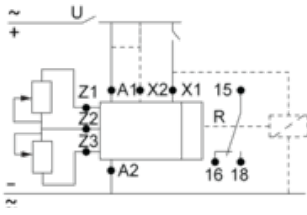
<b>Sustainable offer status</b>	Green Premium product
<b>REACH Regulation</b>	<a href="#">REACH Declaration</a>
<b>EU RoHS Directive</b>	Pro-active compliance (Product out of EU RoHS legal scope) <a href="#">EU RoHS Declaration</a>
<b>Mercury free</b>	Yes
<b>China RoHS Regulation</b>	<a href="#">China RoHS declaration</a>
<b>RoHS exemption information</b>	Yes
<b>Environmental Disclosure</b>	<a href="#">Product Environmental Profile</a>
<b>Circularity Profile</b>	<a href="#">End of Life Information</a>
<b>California proposition 65</b>	WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>

Dimensions



**Wiring Diagram**

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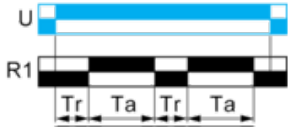
**Function L: Asymmetrical Flashing Relay (Starting Pulse Off)**

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**Description**

On energisation of power supply, output(s) R starts at its/their initial state for timing duration  $T_r$  then change(s) to output(s) R close(s) for the another timing duration  $T_a$ . This cycle is repeated indefinitely until power supply removal.

**Function: 1 Output**



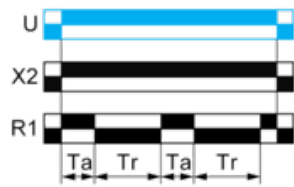
## Function Li: Asymmetrical Flashing Relay (Starting Pulse On)

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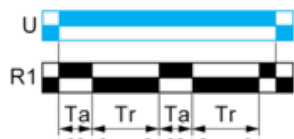
### Description

On energisation of power supply, output(s) R starts at output(s) R close(s) for timing duration  $T_a$  then change(s) to its/their initial state for timing duration  $T_r$ . This cycle is repeated indefinitely until power supply removal. Specially for RE22R1MLMR, this Li function can only be initiated by energizing X2 permanently.

### Function: 1 Output with Function Selection



### Function: 1 Output

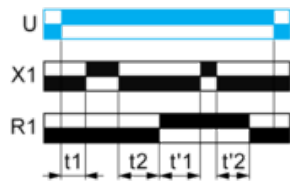


**Function Lt: Asymmetrical Flashing Relay (Starting Pulse Off) & with Pause / Summation Control**

**Description**

On energisation of power supply, output(s) R starts at its/their initial state for timing duration  $T_r$  and the timing can be interrupted / paused each time X1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value  $T_r$ , then changes to output(s) R close(s). The output(s) R close state will remain for the same timing duration  $T_a$  and the timing can be interrupted / paused each time X1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value  $T_a$ , the output(s) R revert(s) to its/their initial state. This cycle is repeated indefinitely until power supply removal.

**Function: 1 Output**



$$T = t_1 + t_2 + \dots$$

$$T = t'_1 + t'_2 + \dots$$

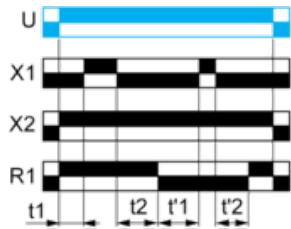


**Function Lit: Asymmetrical Flashing Relay (Starting Pulse On) & Pause / Summation Control**

**Description**

On energisation of power supply, output(s) R starts at output(s) R close(s) for timing duration  $T_a$  and the timing can be interrupted / paused each time X1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value  $T_a$ , the output(s) R revert(s) to its/their initial state. The output(s) R at initial state will remain for timing duration  $T_r$  the timing can be interrupted / paused each time X1 energizes. When the cumulative total of time periods elapsed reaches the pre-set value  $T_r$ , then changes to output(s) R close(s). This cycle is repeated indefinitely until power supply removal. Specially for RE22R1MLMR, this Li function can only be initiated by energizing X2 permanently

**Function: 1 Output with Function Selection**



$T = t_1 + t_2 + \dots$

$T = t'_1 + t'_2 + \dots$

**Legend**

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

U -	Supply
R1 -	Timed output
$T_a$ -	Adjustable On-delay
$T_r$ -	Adjustable Off-delay
X1 -	Pause / Summation control
X2 -	Function Selection

**Recommended replacement(s)**