

Electronic control current relay

This digital, electronic, programmable relay for control current is specially created by Relequick to monitor the intensity on single phase circuits AC/DC.

With a compact design (22.5mm wide enclosure) for Din-rail mounting, this control current relay gives a monitoring to protect against overcurrent and minimum current from 0.5 to 10A at 250V.

Characteristics

Two different modes of use for the same relay:

Manual Mode to regulate basically the intensity and switch on delay, through different ranges on its frontal side, to control overcurrents. (Function 0).

Programming Mode thanks to a mini-USB connector and using our program Easy Control programmer, you will be able to program 7 different functions very easily by connecting it to your PC.

Security lock of the manual regulation scale **by software**.

Over- under and window current monitor, with independent state signals.

Adjustable switch on / off delay.

Compact design, easy wiring and **22.5 mm** wide enclosure.

LED indication for voltage state and alarm output on its frontal side.

Double output with relays 1 contact with switching capacity of 6 A, 250VAC/30VDC

Measurement range from 0.5 A to 10 A / 250V.

Just two models to cover all the range for every voltage with direct multivoltage power.

Mod: **MDC24PM** for 12 and 24VAC/DC
Mod: **MDC230PM** for 48 at 230VAC/DC

Connection, functions and installation information on **diagrams laser marked**.

Approvals: CE & UL requested.

Specifications

Room temperature	Working	-10 to H16 (24 V) / -10 to 60°C (230 V)
	Storage	-20 to 60°C
Power supply frequency (AC)		50/60 Hz $\pm 3\text{Hz}$
Overcurrent transient on the		50 A
Output relays	Resistive load	6 A to 250 VAC ($\cos\Phi = 1$)
		6 A to 30 VDC (L/R = 0 ms)
	Inductive load	1 A to 250 VAC ($\cos\Phi = 0,4$)
		1 A to 30 VDC (L/R = 7 ms)
Mechanical life	10^7 operations	
Electrical life	$3 \cdot 10^4$ operations	
Max. Screw torque		1,2 Nm
Mount		Din-rail mounting
Measures		22,5 (wide) x 76 (high) x 105 (depth) mm

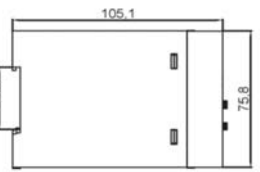
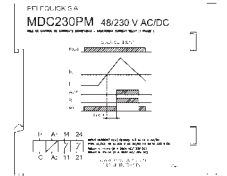
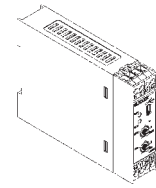
Nominal Values

Power supply		12-24 VAC/VDC (2,5 W) (not isolated)
		48-230 VAC/VDC (2 W) (isolated)
Operating range	Current	0,5 – 10 A (AC / DC)
	Time	0,1 seconds to 999 hours
Switch on delay	DC	0.02 seconds
	AC	0.2 seconds
Precision of the configuration	Time	$\pm 1\%$ of the adjusted value
	Current DC	$\pm 2\%$ of the full scale
	Current AC	$\pm 5\%$ of the full scale
Measuring circuit impedance		5 m Ω
Displays	Power supply	LED green
	Alarm	LED red
Output relays		Two relays with specifications SPST (6 A at 250 VAC/30VDC, resistive load)

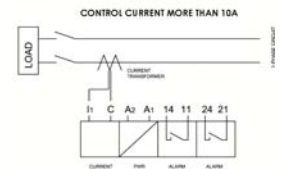
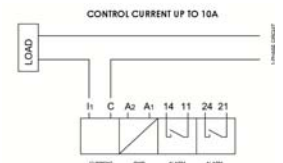
Control current relay -- Functions

	<p>Function 0 (Overcurrent, manual mode)</p> <p>Preset function by Relequick. The overheating alarm is activated from the "lock" time when the programmed threshold is exceeded. Possibility of NO and/or NC contact working. The parameters are set by the user with the potentiometers. Values: current from 0,5A to 10A with fixed hysteresis set and timing "lock" from 0 to 26 seconds.</p>
	<p>Function 1 (Overcurrent programmed mode)</p> <p>The overheating alarm is activated during a "lock" time when the programmed threshold is exceeded. The parameters are programmed by the user on a PC with our software Easy Control Programmer with USB connection. Values: current from 0,5A to 10A and timing "t" from 0,1 seconds to 999 hours. Independent programmable configuration of the switching on delay "lock" for alarm activation from 0 to 99,9 seconds.</p>
	<p>Function 2 (Undercurrent programmed mode)</p> <p>The underheating alarm is activated during a "lock" time when the lowest programmed threshold is exceeded. The parameters are programmed by the user on a PC with our software Easy Control Programmer with USB connection. Values: current from 0,5A to 10A and timing "t" from 0,1 seconds to 999 hours. Independent programmable configuration of the switching on delay "lock" to alarm activation from 0 to 99,9 seconds.</p>
	<p>Function 3 (Continuous overcurrent, programmed mode)</p> <p>The underheating alarm is activated while the current is exceeding the maximum programmed threshold. This threshold is programmed by the user on a PC with our software Easy Control Programmer with USB connection. Values: current from 0,5A to 10A.</p>
	<p>Function 4 (Continuous undercurrent programmed mode)</p> <p>The underheating alarm is activated while the current is lower than the minimum programmed as threshold. This threshold is programmed by the user on a PC with our software Easy Control Programmer with USB connection. Values: current from 0,5A to 10A.</p>
	<p>Function 5 (Continuous window, programmed mode)</p> <p>The alarm is activated when the current reaches values out of a programmed range, indicating if the variation is because these values are higher or lower than the maximum or minimum threshold. This threshold is programmed by the user on a PC with our software Easy Control Programmer with USB connection. Values: current from 0,5A to 10A</p>
	<p>Function 6 (Timed window, programmed mode)</p> <p>The alarm is activated during a programmed time if the values of the current are out of the programmed range, indicating if the variation is because these values are higher or lower than the maximum or minimum programmed threshold. This threshold is programmed by the user on a PC with our software Easy Control Programmer with USB connection. Values: current from 0,5A to 10A and timing from 0,1 seconds to 999 hours. Independent programmable setting of the switching on delay for alarm activation from 0 to 99,9 seconds.</p>

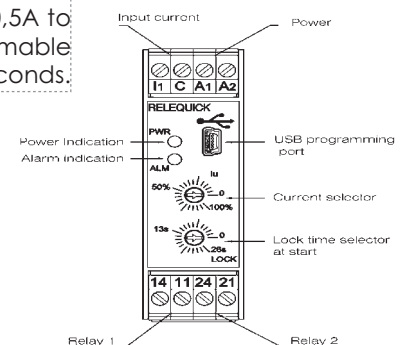
Measures



Connections



Frontal side



Applications

- Breakdown protection and prevention due to overloads** for low voltage systems for every kind of engine, including heating and cooling systems, etc.
- Motor** protection against **over-**, **undercurrent**.
- Detection of **heating system's resistances** failures.
- Control current consumption** in installations.
- Breakdown** protection and prevention for **lighting** systems.
- Security** applications for **industry, buildings**, etc.
- Detection of **current leakage** of values higher than pre-selected or due to current decrease (values lower than pre-selected ones).
- Alarm or power supply** activation when the main power supply fails.