

RC30: Current

RV30: Voltage

3 metering inputs in each module

Adjustments for setpoint and time delay

Selectable relay inversion, time delay, hysteresis and start-up delay

Automatic detection of AC or DC metering input

DC supply or AC supplies up to 230 VAC



C-mac® current monitoring relay, type RC30, and voltage monitoring relay, type RV30 are universal metering relays, each supplied with 3 metering ranges, automatic detection of AC or DC input signal, plus a 24VDC output voltage, for the supply of external sensors or the like.

By means of a DIP-switch in the bottom of the unit you can select between 4 different combinations of relay inversion and reaction - delay, 5 or 15% hysteresis and start - up delay.

On the front of the unit you can adjust the setpoint and reaction - delay between 0 and 10 seconds. The monitoring relays are each available in 3 different variants, which makes it possible to select current ranges between 0.1 to 2mA and 0.25 to 6A, and voltage ranges between 3 to 60mV and 25 to 500 V.

The start-up has the following function:

When the DIP - switch for selection (switch 4) is off, there will be no start-up delay, which means the monitoring will start, when the supply voltage is connected.

When switch 4 is on, there will be a fixed start-up delay of 10 seconds, and in this period the output relay is in the position, which corresponds to no signal on the input, and after this period, the output corresponds to the actual input signal.

This function is particularly interesting, if you are monitoring a load, which has a very high start-up current.

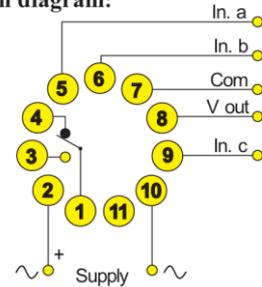
The units are supplied for 24, 115 or 230V AC supply or 12 - 60 VDC supply

Meteringranges, max. inputsignals and input impedances (R_{in}):

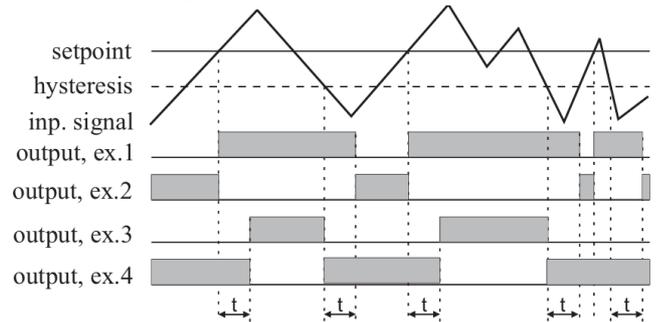
Module	Input A	Input B	Inout C	Module	Input A	Input B	Inout C
RC30 Type 1	1 –20 mA max.0,1A R _{in} =72 Ω	0,5 – 10 mA max. 80 mA R _{in} = 122 Ω	0,1 – 2 mA max. 50 mA R _{in} =524 Ω	RV30 Type 1	3 – 60 mV max.1 V R _{in} =10 kΩ	7,5 – 150 mV max. 2 V R _{in} = 25 kΩ	0,05 – 1 V max. 10 V R _{in} =168 kΩ
RC30 Type 2	25 – 500 mA max. 0,8 A R _{in} =2,7 Ω	10 – 200 mA max. 0,5 A R _{in} =3,2 Ω	5 – 100 mA Max. 0,5 A R _{in} =4,7 Ω	RV30 Type 2	0,5 – 10 V max. 60 V R _{in} = 111 kΩ	1 – 20 V max. 100 V R _{in} =221 kΩ	2,5 - 50 V Max.150 V R _{in} =553 kΩ
RC30 Type 3	0,25 – 6 A max. 8 A R _{in} =7 mΩ	0,05 – 1 A max. 3 A R _{in} =40 mΩ	–	RV30 Type 3	5 - 100 V max.200 V R _{in} =1 MΩ	10 – 200 V max. 400 V R _{in} = 2 MΩ	25 - 500 V Max.600 V R _{in} =5,1 MΩ

Technical data		
Supply AC:	24, 115 and 230 VAC +/- 10%	
Supply frequency:	40 - 70 Hz	
Supply DC:	12 - 60 VDC	
Isolation voltage:	Supply - input - output: 3.75 kV	
Power consumption:	3 VA	
Operation temp.:	-20°C to +60°C	
Humidity:	0 - 90% RH, non-condensing	
Temp.coefficient:	< 0,01% / °C	
Indications:	Green LED: Active: Supply ON and input ok	
	Flashing: Supply ON and input signal outside the metering range	
Red LED:	Relay active	
Selection of function	S1 -S2: Relay inversion and reaction delay, see functional diagram	
	S3: Hysteresis:	OFF: 5%
		ON: 15%
S4: Start-up delay:	OFF: No delay	
	ON: 10 sec. delay	
Adjustments:	Potentiometer 1: Setpoint, 0-100 % of the range	
	Potentiometer 2: Reaction delay, 0 – 10 seconds.	
Transducer supply:	Pin 8	
	V out	24 VDC +5% - 20%
	I out	max. 22 mA
Max. load, relay:	8A- 250 VAC	
	Ohmic load	

Connection diagram:



Functional diagram:



Selection of function:

SW 1	SW 2	Ex.no.	function
OFF	OFF	1	Relay activates, when setpoint is exceeded, delay on release
ON	OFF	2	Relay releases, when setpoint is exceeded, delay on activate
OFF	ON	3	Delay on activate, when setpoint is exceeded
On	ON	4	Delay on release, when setpoint is exceeded

Ordering guide RC30 and RV30

Module	Supply	Metering ranges RC30	Metering ranges RV30
RC30-1	4-012 = 12 - 60 VDC	1 = 0,1-2 mA, 0,5-10 mA and 1-20 mA	1 = 3-60 mV, 7,5-150 mV og 0,05-1 V
RV30-1	1-024 = 24 VAC	2 = 5-100 mA, 10-200 mA and 25-500 mA	2 = 0,5-10 V, 1-20 V and 2,5-50 V
	1-115 = 115 VAC	3 = 0,05-1 A and 0,25-6 A	3 = 5-100 V, 10-200 V and 25-500 V
	1-230 = 230VAC		

Example: **RV30-1-4-012-2**

EMC and safety regulations

Emmision:	EN50081-1
Immunity:	EN50082-2
Safety:	EN60730



Materials and weight:

Housing:	NORYL SE-1, grey, self-extinguishing
Housing bottom:	NORYL SE-1, GFN-2, black
Terminals:	Nickel-plated brass
Weight:	190 g

Mechanical dimensions:

