

## PWM

Čapkova 22  
678 01 Blansko  
tel.: +420 516 416942, 419995  
fax: +420 516 416963

### SOLID STATE RELAY PWM CONTROL MODULE

- controlling the power element by pulse width modulation (PWM)
- PWM output 0..12V / 25mA
- selectable frequency of output pulses 1Hz, 10Hz, 100Hz or 1kHz
- PWM controlled by voltage, current or potentiometer 1 to 10kOhm
- auxiliary power supply 19-300V DC 90-250V AC
- conversion accuracy <0.2%
- separation input - output - power 4000Vef
- the converter's user configuration
- small size
- DIN rail mounting 35

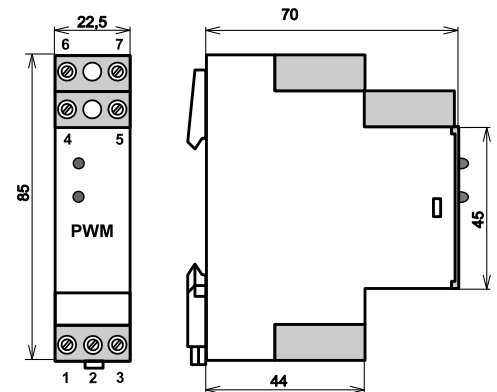
The module generates a pulse width modulated output signal to control power semiconductor relays. The 12V output isolated signal is modulated at 1Hz (10Hz, 100Hz or 1kHz). This allows control of, for example, heating elements. The modulation of the output signal is controlled by a DC input signal. The set input nominal value then corresponds to 100% of the output signal. The input value of 50% of the nominal input value corresponds to a signal modulated by a 1: 1 ratio of the set carrier frequency. A potentiometer can be connected to the input terminals as a control signal. Thus, the output value can be set manually without using the control system. The green LED indicates that the device is connected to power, the red LED indicates output pulses.



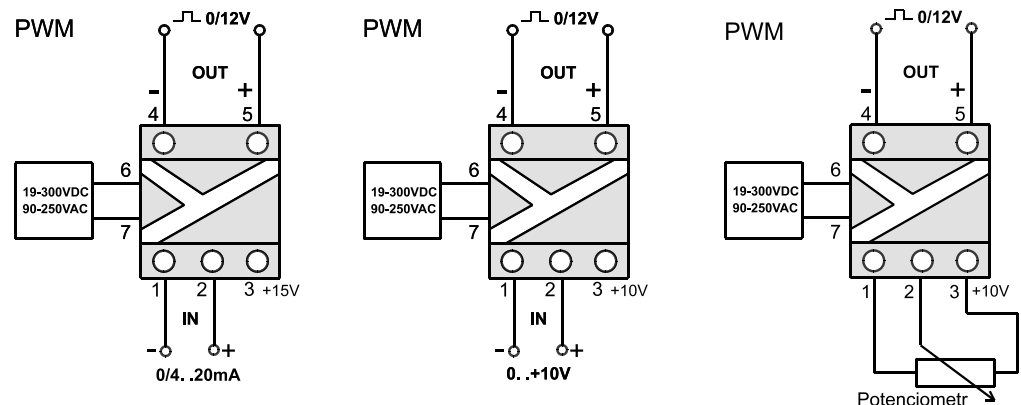
#### Electrical specifications:

- operating temperature range: -25 ... + 70 ° C
- storage temperature range: -40 ... + 80 ° C
- supply voltage: 19..300V DC 90..250V AC 50 60Hz, max 1.5VA
- protection: PTC return fuse in primary supply
- input signal voltage: 0..10V DC
- input signal current: 0..20mA or 4-20mA
- input signal potentiometer: input resistance Rin 3Mohm, 1kOhm to 10kOhm
- load of 10V source: max. 25mA
- load 15V: max. 22mA
- output signal: PWM 0..100% (upper limit can be set in range 30 to 100%)
- maximal output current: 25mA
- output voltage: 12V
- output frequency: 1Hz, 10Hz, 100Hz, 1kHz ± 2%
- transmission: linear
- max transmission error: <0.2%
- temperature error: 50ppm
- Weight: 90g
- enclosure degree: IP40
- terminal block: IP10
- working environment degree of contamination: 2
- overvoltage category of installation: III
- optional programming adapter AY-USB (AX-USB, PK-USB) + programming software free

#### Dimensions:



#### Module usage variants:



### Meaning of individual terminals:

1,2.... input U or I active signal (terminal 2 is +)  
3,2 .... input 4..20mA passive converter (terminal 3 is + 15V)  
4,5.... PWM output terminals (terminal 5 is +)  
6,7.... power terminals (no polarity)  
1-2-3..potentiometer: 1 (-), 2 (center), 3 (+ 10V)

### Type tests:

Basic type test: according to EN 60770-1 ed.2  
EMC: according to EN 61326-1  
Safety assessed: according to EN 61010-1 ed.2

### Ordering:

The converter is available in two versions.

- with current input.
- with voltage input.

If the input signal is a potentiometer, a voltage design is selected. The potentiometer generates a 0..10V signal.

You must specify in your order:

- converter type (PWM)
- input signal (voltage or current)
- set input measuring range of converter:  
eg 0..10V, 2..10V, 5..7V, 4..20mA, 10..17mA etc. Minimum measuring range span is 1V or 2mA  
the default setting is 0..10V or 0..20mA
- corresponding range of output modulation:  
eg 0.100%, 0..80%, 0..30% PWM.  
the default setting is 0..100% PWM
- maximum allowed PWM output modulation  
the default is 100% PWM
- output frequency (1Hz, 10Hz, 100Hz, 1kHz)
- Quantity
- The program can be used to customize the output frequency and input range, the corresponding PWM modulation range, and the maximum output modulation.

### Ordering examples:

PWM 0..10V / 1Hz 1pcs  
PWM 2..7V / 1kHz 5pcs  
PWM 0..5V / 100Hz 3pcs

PWM 0..20mA / 1Hz 2pcs  
PWM 4..20mA / 100Hz 1pc  
PWM 2..10V / 0..70% PWM 1kHz 3pcs



Likvidaci po ukončení životnosti provést odděleným sběrem.  
Rawet s.r.o. je členem sdružení RETELA [www.retela.cz](http://www.retela.cz)

ver.2p