



## Analogue Output Modules

### Plug/Panel Mounting

### 4-20 mA and 0-10 V Output

**TM420 / TM420M**  
**TM010 / TM010M**

- Convert input pulses into analogue signals
- Voltage output proportional to input pulse rate
- Current output proportional to input pulse rate
- Three user selectable ranges
- Fully scaleable
- DC or AC powered versions
- Selectable PNP or NPN type input
- 12 VDC output to power sensors etc.



### DESCRIPTION

These modules accept pulse inputs from sensors, encoders or similar sources and provide an analogue output that is proportional to the input pulse rate. The output can be a voltage or current and is fully scaleable by the user. The unit plugs into a standard 11 pin relay socket and may be panel mounted.

The input may be configured by links on the terminals to accept PNP or NPN type signals and to select from three ranges of pulse rate. These ranges cover rates from 100 ppm to 100,000 ppm and the calibration within the selected range is continuously adjustable with a multi-turn potentiometer adjustable through the top of the instrument case. Please note that units can be factory set to a specific calibration and non-standard ranges are available to order.

These instruments are available in versions for either low voltage DC or AC mains input and will provide a regulated 12 VDC output that can be used to power proximity switches, encoders etc.

### SPECIFICATION

<b>Power Input:</b>	14 to 35 VDC @ 50 mA or 115/230 VAC 50-60 Hz
<b>DC Output:</b>	12 VDC @ 50 mA max for powering sensors etc
<b>Input Signal:</b>	Selectable PNP or NPN type—maximum input voltage 35V
<b>Input Pulse Rate:</b>	0 to 100,000 pulses per minute.
<b>Min Pulse Width:</b>	1 millisecond
<b>Ranges:</b>	1) 100 - 1000 ppm    2) 1000 - 10,000 ppm    3) 10,000 - 100,000 ppm
<b>Outputs:</b>	TM420 4—20 milliamp    TM010 0—10 volts
<b>Output Linearity:</b>	< 0.5%
<b>Output Stability:</b>	< 0.1% (for maximum change in supply voltage)
<b>Output Load:</b>	>500 ohms
<b>Step Response:</b>	0.8—8 Seconds (Cal pot ACW—CW, 0 to full scale step input)
<b>Ripple:</b>	Range 1 <10%, Range 2 <1%, Range 3 <0.2%
<b>Dimensions:</b>	48 x 48 120 mm ( panel cut-out 45 x 45 mm)
<b>Indication:</b>	Red LED for power supply indication

### ORDER CODES

Please consult sales for special ranges etc.

<b>TM 420</b>	DC powered 4— 20 milliamp output
<b>TM 420M</b>	AC powered 4— 20 milliamp output
<b>TM 010</b>	DC powered 0 – 10 volts output
<b>TM 010 M</b>	AC powered 0 – 10 volts output