

## DESCRIPTION

DIGITAL METER for the following input signals:

- HIGH VOLTAGE (10 to 600V AC)
- SENSORS: MAGNETIC, NAMUR, NPN and PNP
- TTL/24V ENCODER
- CONTACT SWITCH

**JR-D** and **JR20-D** models, accept most commonly used pulse generators or transducers to work as an **unidirectional counter** or **tachometer** (rpm or rate). They have configurable factor and offset when are programmed as a counter or easily scalables into desired engineering units working as tachometer (rate).

**Universal AC/DC voltage supply.** Fully configurables through 3 frontal keys, they allow signal input type selection and also provide **8V or 24V DC** up to **60mA** or **30mA** load current output respectively for sensor excitation.

**4 digit indicator** with **14mm** digit for JR-D and **20mm** for JR20-D. **0 to 9999** display range, configurable decimal point and 2 led for setpoints status indication (if output 2RE option card is installed).

2RE option activates two alarms depending on display programmed values, though not from totalizer which this is only an informative reading.



Configured as a counter has a totalizer (up to **999999**) and a RESET function, available through frontal key or remotely. Besides current counting display, the totalizer brings the possibility of visualizing the cumulative number (divided in two parts) of pulses produced in multiple processes. Remote RESET is activated through contact switch input present at input rear connector.

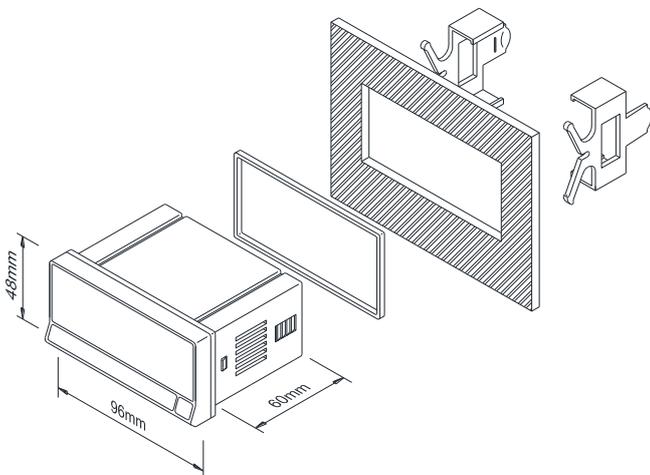
When configured as a tachometer (rpm or rate) it is also possible to adjust internal sampling time and time limit, thus providing specific application adaptation.

Detection, saving, later recalling and resetting of maximum and minimum values reached by display since last reset activation (functions not available for counter mode).

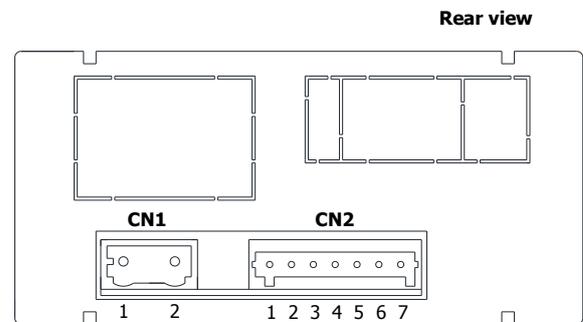
## DIMENSIONS AND MOUNTING

Dimensions..... 96 x 48 x 60 mm (1/8 DIN).  
 Panel cutout ..... 92 x 45 mm.  
 Weight ..... 150g.  
 Case material ..... UL 94 V-0 polycarbonate

Instruments include a sealing gasket and 2 fixing clips for frontal and rear panel installation.



## CONNECTIONS



CN1	POWER SUPPLY
1	V DC / V AC
2	V DC / V AC
CN2	SIGNAL INPUT
1	-IN (COMMON)
2	+IN
3	+EXC 8V DC
4	+EXC 24V DC
5	RESET
6	N.C
7	IN HIGH (10-600V AC)

## ORDERING CODES

**JR-D:** ..... 20-265V AC 50/60Hz and 11-265V DC (14mm digit)  
**JR20-D:** .... 20-265V AC 50/60Hz and 11-265V DC (20mm digit)

## TECHNICAL SPECIFICATIONS

### SPECIAL FUNCTIONS

Return to factory configuration.  
Software configuration lock-out.

### PRECISION (tachometer rpm or rate modes)

Temperature coefficient ..... 50ppm/°C  
Accuracy .....  $\pm(0.01\% \text{ rdg} + 1d)$   
Specifications range .....  $23^{\circ}\text{C}\pm 5^{\circ}\text{C}$   
Warm-up time ..... 5 minutes

### ALIMENTACIÓN y FUSIBLES (DIN 41661) (no incorporados)

**JR-D:** 20-265 V AC 50/60 Hz and 11-265 V DC.. F 3A/ 250V  
**JR20-D:** 20-265 V AC 50/60 Hz and 11-265 V DC.. F 3A/ 250V  
Power consumption (both models) ..... 3W  
Sensor excitation (both models) .... 8V@60mA ; 24V±3V@30mA

### DISPLAY

Ranges:  
JR-D ..... 0 ÷ 9999, 14mm RED LED  
JR20-D ..... 0 ÷ 9999, 20mm RED LED  
Totalizer (counter mode ) (both models) ..... 0 ÷ 999999  
Decimal point ..... Configurable  
LEDs ..... 2 for setpoints state indication  
Display refresh rate  
(tachometer rpm or rate modes) ..... 0.1s to 9.9s (config.)  
Display/frequency overrange indication ..... "OUE"  
OFFSET (counter mode) ..... Through frontal key configurable  
RESET (counter and totalizer) ..... Through frontal key  
Remote RESET (counter) ..... Contact switch  
MAX./MIN. and MAX./MIN. RESET functions  
(tachometer rpm or rate modes) ..... Through frontal key

### FILTER (switch contact)

Cutoff frequency (Fc)..... 20Hz

### ENVIRONMENTAL CONDITIONS

Operating temperature .....  $-10^{\circ}\text{C} \div +60^{\circ}\text{C}$   
Storage temperature .....  $-25^{\circ}\text{C} \div +85^{\circ}\text{C}$   
Relative humidity (non-condensing) .....  $<95\% @ 40^{\circ}\text{C}$   
Maximum altitude ..... 2000m  
Frontal protection degree ..... IP65

### INPUT SIGNAL

Maximum frequency (counter mode) ..... 7.5kHz  
Maximum frequency (tachometer rpm or rate modes) ..... 25kHz  
Minimum frequency (tachometer rpm or rate modes) ..... 0.01Hz

### High voltage input

Range ..... 10V AC to 600V AC

### Magnetic sensor

Sensitivity .....  $F \geq 1\text{kHz} ; V_m \text{ min.} \geq 100\text{mV}$

### Namur sensor

$R_C$  .....  $1\text{k}\Omega$   
 $I_{ON}$  .....  $< 1\text{mA DC}$   
 $I_{OFF}$  .....  $> 3\text{mA DC}$

### NPN/PNP sensor

$R_C$  .....  $1\text{k}\Omega$   
Logic level "0" .....  $< 2.4\text{V DC}$   
Logic level "1" .....  $> 2.6\text{V DC}$

### TTL/24V encoder

Logic level "0" .....  $< 2.4\text{V DC}$   
Logic level "1" .....  $> 2.6\text{V DC}$

### Contact switch

$V_C$  ..... 5V  
 $R_C$  .....  $3.9\text{k}\Omega$

### 2RE OPTION

Maximum switching current (resistive load) ..... 8A  
Maximum switching power ..... 2000VA / 192W  
Maximum switching voltage ..... 400VAC / 125VDC  
Contact rating ..... 8A @ 250VAC / 24VDC  
Contact resistance .....  $\leq 100\text{m}\Omega$  at 6V DC @ 1A  
Contact type ..... SPDT  
Operate time .....  $\leq 10\text{ms}$