

DESCRIPTION

DIGITAL METER for the following input signals:

- PROCESS ($\pm 10V$, $\pm 200V$ and $\pm 20mA$)
- TEMPERATURE (Pt100, Pt1000, TC J, K, T and N)
- POTENTIOMETER (100 Ω to 100k Ω)
- RESISTANCE (999.9 Ω , 9999 Ω and 50.00k Ω)

JR-P and **JR20-P** models admit several signal input types to control industrial processes. Easy to scale into desired engineering units, directly by frontal keys or real input signal value in teach mode.

Universal AC/DC voltage supply. Fully configurables through 3 frontal keys, they allow input type selection and also provide a **24V DC @ 30mA** output for sensor excitation.

4 digit indicator with **14mm** digit and **-9999** to **9999** display range for JR-P and **20mm** digit and **-1999** to **9999** display range for JR20-P, configurable decimal point and 2 led for setpoints status indication (if output 2RE option card is installed).



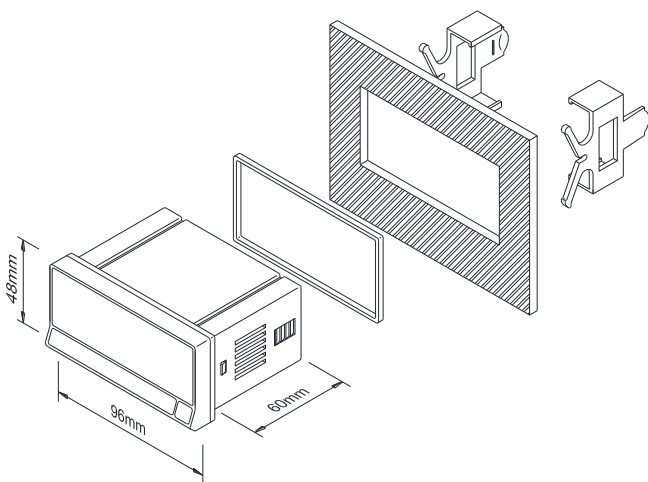
Detection, saving, later recalling and resetting of maximum and minimum values reached by the input signal since last reset activation. Reset function sets automatically memorized value to current input signal value when maximum or minimum value are displayed. Maximum and minimum values recalling to display and reset functions are directly available through frontal keys.

Capable of measuring 3-wire **Pt100** and 2-wire **Pt1000** (IEC 60751) and **Thermocouple** (IEC 60584-1) **Temperature**, 3-wire **Potentiometer**, 2-wire **Resistance** and **Process** input signals.

DIMENSIONS AND MOUNTING

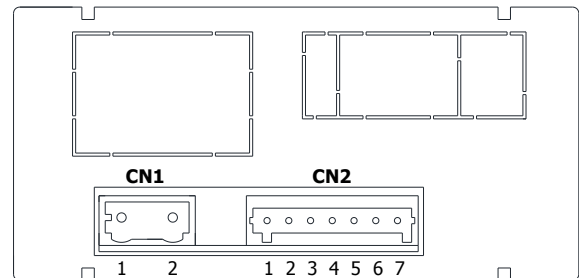
Dimensions..... 96 x 48 x 60 mm (1/8 DIN).
 Panel cutout 92 x 45 mm.
 Weight 150g.
 Case material UL 94 V-0 polycarbonate

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



CONNECTIONS

Rear view



CN1		POWER SUPPLY			
1		V DC / V AC			
2		V DC / V AC			
CN2		INPUT SIGNAL			
	PROCESS	TEMPERATURE		RESISTANCE	POTENT.
		Pt100 Pt1000	TC		
1	COMMON	Pt100 Pt1000	-TC	COMMON	Term 1
2		Pt100 Pt1000	+TC	999.9 Ω 9999 Ω	Cursor
3				50.00k Ω	Term 2
4		Pt100 COMMON			
5	+mA				
6	+EXC 24V				
7	+V				

ORDERING CODES

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

TECHNICAL SPECIFICATIONS

SPECIAL FUNCTIONS

Return to factory configuration.
Software configuration lockout.

PRECISION

Temperature coefficient 100 ppm/°C
Warm-up time 5 minutes
Specifications range 23°C±5°C

POWER SUPPLY AND FUSES (DIN 41661) (not included)

JR-P: 20-265 V AC 50/60 Hz and 11-265 V DC . F 1A/ 250V
JR20-P: 20-265 V AC 50/60 Hz and 11-265 V DC . F 1A/ 250V
Power consumption (both models) 3W
Sensor excitation (both models) 24V±3V@30mA

CONVERSION

Technique Sigma-Delta
Resolution 16 bits
Conversion rate 20/s

FILTER

Cutoff frequency (-3dB) 7.3Hz to 0.2Hz
Slope -20dB/Dec.

DISPLAY

Range:
JR-P -9999 ÷ 9999, 14mm RED LED
JR20-P -1999 ÷ 9999, 20mm RED LED
Decimal point Configurable
Leds 2 for setpoints state indication
Display refresh rate 50ms
Display/input overrange indication \overline{OUE} , \overline{OUE}
Sensor failure indication \overline{OUE}

ENVIRONMENTAL CONDITIONS

Operating temperature -10°C ÷ +60°C
Storage temperature -25°C ÷ +85°C
Relative humidity (non-condensing) <95% @ 40°C
Maximum altitude 2000m
Frontal protection degree IP65

INPUT SIGNAL

Configuration Differential asymmetrical

PROCESS

±10V and ±200V input impedance 1MΩ
±20mA input impedance <20Ω
EMI max. Influence (±10V) ±7mV
EMI max. Influence (±200V) ±60mV
EMI max. Influence (±20mA) ±6μA

RANGE	RESOLUTION	ACCURACY
±10V	1mV	±(0.1%rdg + 6mV)
±200V	20mV	±(0.1%rdg + 0.1V)
±20mA	2μA	±(0.1%rdg + 15μA)

POTENTIOMETER

Maximum measurement current <0.4mA
EMI max. influence ±0.07%F.S.

RANGE	RESOLUTION	ACCURACY
100Ω-100kΩ	0.01%F.S.	±(0.1%rdg + 0.05%F.S.)

TEMPERATURE

Pt100 measurement current 1mA
Pt1000 measurement current 100μA
Pt100 maximum wire resistance 40Ω (balanced)
Pt100/Pt1000 linearization IEC 60751
Pt100/Pt1000 α coefficient 0.00385
Thermocouple cold junction compensation range... -10°C to 60°C
EMI max. Influence (Pt100) ±1.3°C
EMI max. Influence (Pt1000) ±0.6°C
EMI max. Influence (Thermocouple) ±6°C

Pt100 (3 wires)		
RANGE	RESOLUTION	ACCURACY
-150.0°C to +800.0°C	0.1°C	±(0.15%rdg + 0.5°C)
-150°C to +800°C	1°C	

Pt1000 (2 wires)		
RANGE	RESOLUTION	ACCURACY
-150.0°C to +800.0°C	0.1°C	±(0.15%rdg + 0.5°C)
-150°C to +800°C	1°C	

THERMOCOUPLE J		
RANGE	RESOLUTION	ACCURACY
-150.0°C to +999.9°C	0.1°C	±(0.1%rdg + 0.6°C)
-150°C to +1100°C	1°C	

THERMOCOUPLE K		
RANGE	RESOLUTION	ACCURACY
-150.0°C to +999.9°C	0.1°C	±(0.1%rdg + 0.6°C)
-150°C to +1200°C	1°C	

THERMOCOUPLE T		
RANGE	RESOLUTION	ACCURACY
-150.0°C to +400.0°C	0.1°C	±(0.2%rdg + 0.8°C)
-150°C to +400°C	1°C	

THERMOCOUPLE N		
RANGE	RESOLUTION	ACCURACY
-150.0°C to +999.9°C	0.1°C	±(0.1%rdg + 0.6°C)
-150°C to +1300°C	1°C	

RESISTANCE

999.9Ω range max. measurement current 2.3mA
9999Ω range max. measurement current 230μA
50.00kΩ range max. measurement current 23μA
EMI max. Influence (999.9Ω) ±0.7Ω
EMI max. Influence (9999Ω) ±2Ω
EMI max. Influence (50.00kΩ) ±20Ω

RANGE	RESOLUTION	ACCURACY
999.9Ω	0.1Ω	±(0.1%rdg + 0.7Ω)
9999Ω	1Ω	±(0.1%rdg + 6Ω)
50.00kΩ	10Ω	±(0.1%rdg + 35Ω)