

Digital Indicator



JIR-301 Series



***Standard Features: Multi-Input,
Retransmission and 3 Alarms
...at the lowest prices anywhere!***

MOD-TRONIC
INSTRUMENTS LIMITED

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Standard Features



Model JIR

1/8 DIN (96mm x 48mm)

• Structure

Unit available in standard DIN size (1/8 DIN).
NEMA 4X protective construction.
Black enclosure.

• Programmable Alarms

Unit features standard three alarm outputs.

• True Multi-Input

Unit features true multi-input capabilities:
10 thermocouple types, 2 RTD types,
2 current inputs, and 4 voltage inputs.

• Retransmission

Unit features standard 4-20mA process variable
retransmission.
Optional outputs available.

• Large LED Display

All units feature dual display. PV red 4 digits,
Alarm SV green 4 digits.

• Approvals

UL, cUL and CE Safety Approvals.

• Warranty

All units manufactured to strict ISO standards
and offer full 3 year manufacturers warranty.

• Low Cost

Most advanced price/performance package available.

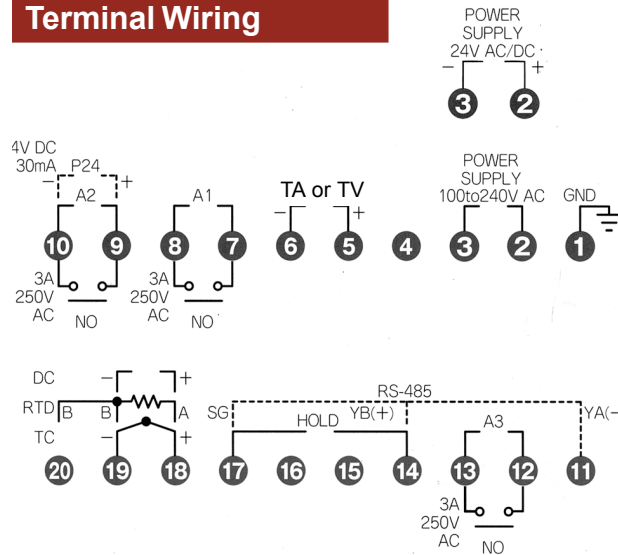


Input Range Table

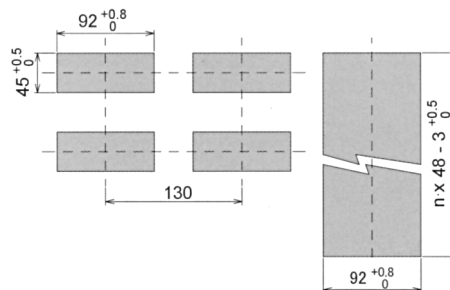
Input Type		Scale	
Thermocouple	K	-200 to 1370°C -199.9 to 400.0°F	-320 to 2500°F -199.9 to 750.0°F
	J	-200 to 1000°C	-320 to 1800°F
	R	0 to 1760°C	0 to 3200°F
	S	0 to 1760°C	0 to 3200°F
	B	0 to 1820°C	0 to 3300°F
	E	-200 to 800°C	-320 to 1500°F
	T	-199.9 to 400.0°C	-199.9 to 750.0°F
	N	-200 to 1300°C	-320 to 2300°F
	PL-II	0 to 1390°C	0 to 2500°F
	C (W/Re5-26)	0 to 2315°C	0 to 4200°F
RTD	Pt100	-199.9 to 850.0°C -200 to 850°C	-199.9 to 999.9°F -300 to 1500°F
DC	4 to 20mA DC	-1999.9 to 9999, -199.9 to 999.9 -19.99 to 99.99, -1.999 to 9.999	
	0 to 20mA DC		
	0 to 1V DC		
	0 to 10V DC		
	1 to 5V DC 0 to 5V DC		

• For DC current input a shunt resistor (sold separately) (50Ω) is required.

Terminal Wiring



Panel Cutout



Shinko is an
ISO 9001
facility

**High Performance
Temperature & Recording
Instrumentation**

...at the lowest prices anywhere!

General Specifications

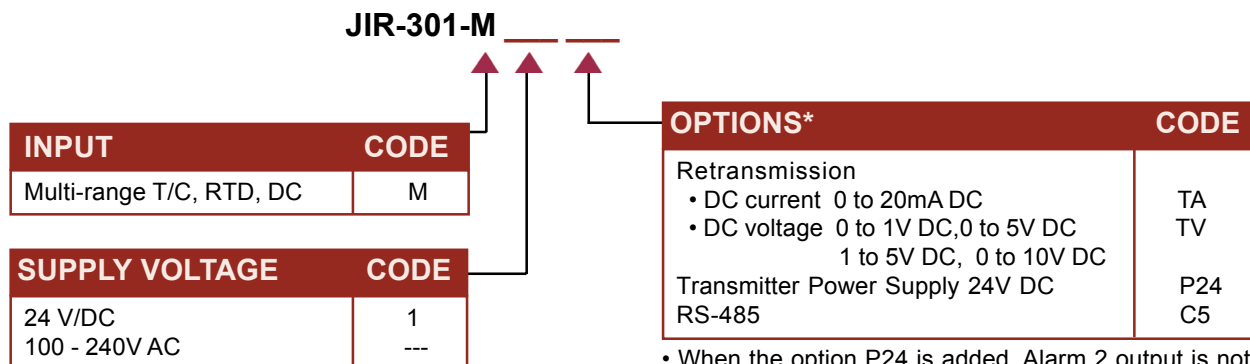
Display	PV.....Red 4-digit Character Size: 16.0 x 7.2 mm (H x W) SV.....Green 4-digit Character Size: 10.0 x 4.8 mm (H x W)
Input	Thermocouple ----- K, J, R, S, B, E, T, N, PL-II C (W/Re5-26) External resistance: 100Ω or less (However, for B input: 40Ω or less) RTD ----- Pt100, 3-wire system (Resistance per wire: 10Ω or less) DC current ----- 0 to 20mA DC, 4 to 20mA DC Input impedance: 50Ω (Connect shunt resistor 50Ω between input terminals.) Allowable input current: 50mA or less (When shunt resistor 50Ω is used.) DC voltage ----- 0 to 1V DC Input impedance: 1MΩ or greater Allowable input voltage: 5V or less Allowable signal source resistance: 2kΩ or less 0 to 5V DC, 1 to 5V DC, 0 to 10V DC Input impedance: 100kΩ or greater Allowable input voltage: 15V or less Allowable signal source resistance: 100Ω or less
Accuracy (Setting • Indicating)	Thermocouple ----- Within ±0.2% ±1digit of each input span ±1 digit or ±2°C (4°F) whichever is greater However, R or S input 0 to 200°C (0 to 400°F): Within ±6°C (12°F) B input 0 to 300°C (0 to 600°F): Accuracy is not guaranteed. RTD ----- Within ±0.1% of each input span, or ±1°C (2°F) whichever is greater DC current and DC voltage ----- Within ±0.2% ±1digit of each input span
Input Sampling Rate	0.25 seconds
Alarm 1 (A1) Alarm 2 (A2) Alarm 3 (A3)	Alarm action and Energized/De-energized can be selected by key operation. • Setting accuracy The same as the indicating accuracy. • Action ON/OFF action • Hysteresis Thermocouple and RTD: 0.1 to 100.0°C (°F) DC current and DC voltage: 1 to 1000 (The placement of the decimal point follows the selection) • Output Relay contact 3A 250V AC (Resistive load), Electric life: 100,000 times
Retransmission	The input value is converted in analog every 0.25 seconds, and it is outputted in DC current. Resolution: 1/12000 DC current: 4 to 20mA DC (load resistance, Max 550Ω) Output accuracy: Within ±0.3% of output span
Supply Voltage	100 to 240V AC 50/60Hz, 24V AC/DC 50/60Hz Allowable voltage fluctuation: 85 to 264V AC, 20 to 28V AC/DC Power consumption approximately 10VA
Isolation Resistance	500V DC 10MΩ or greater
Dielectric Strength	Between Input terminal and Ground terminal, Input terminal and Power terminal ----- 1.5KV AC for 1 minute Between Power terminal and Ground terminal ----- 1.5KV AC for 1 minute Between Output terminal and Ground terminal, Output terminal and Power terminal ----- 1.5KV AC for 1 minute (Output terminal comprised A1, A2 and A3 output terminals transmission output terminal and communication terminal)
Material Color	Material: Flame resistant resin. Color: Black
Environment	Ambient temperature: -10 to 50°C Ambient humidity: 35 to 85%RH (No condensation)
Mounting Method	Screw type mounting bracket
Setting Method	Sheet key input
Dimensions	96mm x 48mm x 100mm (W x H x D) Weight: Approximately 300g
Attached Function	Sensor correction, Setting value lock, Power failure countermeasure, Self-diagnosis, automatic cold junction temperature compensation (thermocouple type only), Sensor burnout alarm, Input burnout, Warm-up indication, Dust-proof/Drip-proof IP66, Hold function.

***All units feature a full 3 year warranty
and lifetime technical support!***

Options

Specified (TA or TV) Retransmission	The input value is converted in analog every 0.25 seconds, and is outputted in DC current or DC voltage. If this option is applied, the standard transmission output (4 to 20mA) becomes ineffective. Resolution: 1/12000 DC current (TA): 0 to 20mA DC (load resistance, max 500Ω) DC voltage (TV): 0 to 1V DC (load resistance, min. 100kΩ), 0 to 5V DC (load resistance, min. 500kΩ) 1 to 5V DC (load resistance, min. 500kΩ), 0 to 10V DC (load resistance, min. 1MΩ) Output accuracy: Within ±0.3% of output span
Serial Communication (C5)	Operates various setting value changes, setting value readings and settings from external computer. If this option is added, Hold function is not available. Code form ----- ASCII Connectable units ----- A maximum of 31 units per host computer Data transfer rate ----- 9600 bps (2400/4800/19200 bps changeable by key operation) Communication system ----- Half-duplex start stop synchronous Error detection ----- Parity check, checksum
Transmitter Power Supply (P24)	24V DC from terminals 9 and 10, and this becomes the power source for a 2-wire transmitter. If this option is added, Alarm 2 (A2) output is not available. Output voltage: 24V ±3V DC (when load current is 30mA) Ripple voltage: 200mV (when load current is 30mA) Max. load current: 30mA

Model Number Configuration



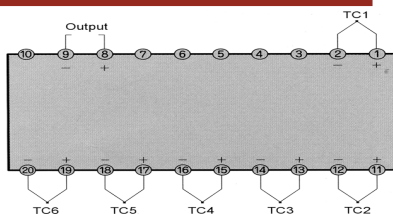
- When the option P24 is added, Alarm 2 output is not available.
- When the option C5 is added, Hold function is not available.

Selector Switch (Model FS-106-E)

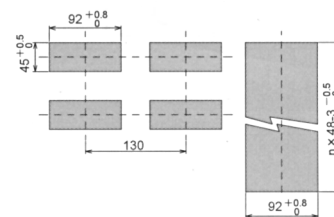
Standard Specifications

Input	Thermocouple: K, J, R, S, B, E, T, C (W/Re5-26), N, PL-II
Input Switching	6-point push button switch (Push button head: Black)
Material, Color	Material: Flame resistant resin, Color: Black
Mounting	Flush, Mounting bracket: One-touch type (Panel thickness: Within 1 to 3 mm), Weight: Approx. 250g

Terminal Arrangement



Panel Cutout



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