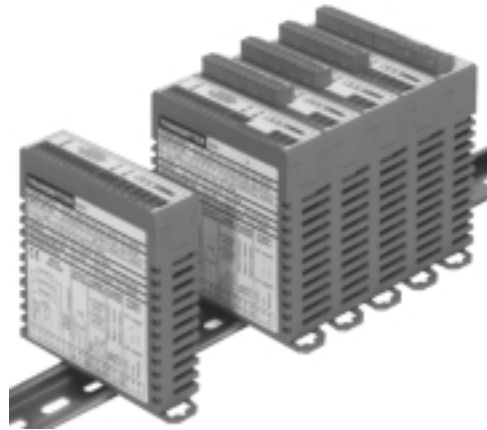


MODEL 9000

MODEL 9240



Ph: 03 5278 8222 Fax: 03 5278 9761
65 Douro Street, North Geelong VIC 3215
www.factorycontrols.com.au



The Model 9000 & Model 9240 are miniature space saving 92 x 92 x 26 mm DIN rail mount Universal Programmable Transmitters. Configuration and field calibration is done via a notebook computer or desktop PC using user-friendly software available from our website.

MODEL 9000

This transmitter offers complete 3-way isolation between power supply, input and output. The inputs are programmable to accept thermocouples of type J, K, N, R, S, T & W5, RTD's of type Pt100 or Ni100, mV inputs up to 52mV, 0-20mA / 4-20mA inputs, volt inputs up to 10V, potentiometer inputs, and frequency inputs from NPN / PNP proximity switches. Integral 2-wire transmitter power is supplied as standard with the unit, as well as a precision reference for potentiometer inputs. The analogue output is programmable for 0-20mA / 4-20mA or 0-10V output. The power supply is 95-265V AC/DC as standard. RS232 communications is standard.

MODEL 9240

This transmitter is the same as the Model 9000, but offers a 24VDC isolated power supply instead of 95-265V AC/DC. RS232 communications is standard.

Options include one or two setpoint relays and RS485 communications. The serial communications allows interfacing to remote computers and SCADA systems using DPM's DIGIbus protocol. Up to 128 transmitters can be linked on the same RS485 bus (using our Model 7000 comms converter). The instrument meets European EMC directive 73/23/EEC & Low Voltage Directive 89/336/EEC.

FEATURES

- DIN rail mount 92 x 92 x 26 mm enclosure
- Fully programmable via a notebook or desktop PC.
- Low cost - high performance design
- Complete 3-way isolation between power, input and output.
- Input types J, K, N, R, S, T, W5, Pt100, Ni100, mV, 0/4-20mA, 0-10V, frequency, pot.
- 0-10V, 0-20mA or 4-20mA analogue output with programmable zero & span
- RS232 serial communications standard with DIGIbus protocol.
- Optional RS485 communications.

OPTIONS

3001-PT	Two alarms setpoints (solid state relays)
3004-PT	One alarm setpoint (solid state relay)
7000	RS485 to RS232 converter

SPECIFICATIONS

TEMPERATURE INPUT SPECS

The input signals are accurately linearised in the following temp. ranges:

Type J	: -25°C to +900°C	<u>Internal resolution</u>
Type K	: -25°C to +1275°C	T/C resolution: 1°C (Type T+ is 0.1°C)
Type N	: +200°C to +1200°C	RTD resolution: 0.1°C
Type S	: +625°C to +1750°C	
Type R	: +625°C to +1750°C	
Type T-	: -235°C to +25°C	Accuracy: $\pm 0.5^\circ\text{C} \pm 1$ count
Type T+	: -35.0°C to 330.0°C	
Type W5	: +1150°C to +2050°C	
PT100	: -165.0°C to +600.0°C (max 999.9°F)	
Ni100	: -60.0°C to +235.0°C	

PROCESS INPUT SPECS

<u>Measuring Range</u>	<u>Input Impedance</u>	<u>Internal Resolution</u>	<u>Accuracy</u>
0 - 20 mA	100 Ω	2 μA	0.05%
4 - 20 mA	100 Ω	2 μA	0.05%
0 - 52 mV	>1 M Ω	3 μV	0.05%
0 - 2 V	500 k Ω	1 mV	0.05%
0 - 5 V	500 k Ω	1 mV	0.05%
0 - 10 V	500 k Ω	1 mV	0.05%
Potentiometer	500 k Ω	1 mV	0.05%

NOTE : All measuring ranges are programmable for non-standard inputs. E.g. 10mV - 45mV can be programmed as the zero and full scale values respectively.

GENERAL SPECIFICATIONS

Analogue output accuracy	: 0.05% of F.S.
Analogue output resolution	: 12-bit resolution
Current output max load	: 500 Ω
Voltage output min load	: 5 k Ω
Warm up time	: 10 minutes
Temperature coeff.	: ± 30 ppm / °C typical
Conversion time	: 0.5 seconds
Operating temp. range	: 0 to +50°C
Storage temp. range	: -40 to +85°C
Data retention	: 20 years typical
Input / output isolation	: 1500V
Relays, solid state	: 400 V AC/DC, 0.5A, PF=1
EC EMC & Low Volt Directives	: 73/23/EEC & 89/336/EEC

FREQUENCY INPUT SPECS

MODEL 9001 ONLY

0.15Hz - 40000Hz, 5V nominal, 24V maximum, 0.01Hz resolution maximum
Frequency damping of 0, 0.5, 1.1 and 4.5 seconds programmable
Hz or RPM programmable
Input factor programmable from 00.01 to 99.99
NPN / PNP proxies selectable via solder links under board

EXCITATION

(FOR EXTERNAL TRANSMITTERS, PROXIES & POTENTIOMETERS)

Link selectable
24 VDC (16-24V), current limited. For 2-wire transmitters, proximity switches or encoders.
2.5 VDC precision reference, 2mA maximum for potentiometer (2k Ω pot minimum)

POWER SUPPLY OPTIONS

Model 9000	:	95V - 265V AC/DC isolated supply, 5VA typical
Model 9240	:	24V DC isolated supply, 5VA typical

ORDERING EXAMPLE

Option modules (see front page)


MODEL 9000 - 3001PT

“Programmable transmitter with 95-265V
AC/DC power supply and dual alarm option”

PROGRAMMABLE SETTINGS

These are the range of settings offered with SET9000, the configuration program for the transmitters. The configuration software is available from our website.

TEMPERATURE INPUTS:

- Units : °C, °F, or Kelvin
- Broken TC : Selectable high or low
- Broken RTD : Selectable high or low

VOLTAGE & CURRENT INPUTS:

- Zero setting : -10000 to 10000
- Full scale setting : -10000 to 10000
- Digital averaging : Selectable 0, 1, 2 or 4 seconds
- Analog output zero : -10000 to 10000
- Analog output span : -10000 to 10000

SERIAL COMMUNICATIONS:

- Bus address : 1 to 127
- Baud rate : 2400, 4800, 9600, 19200

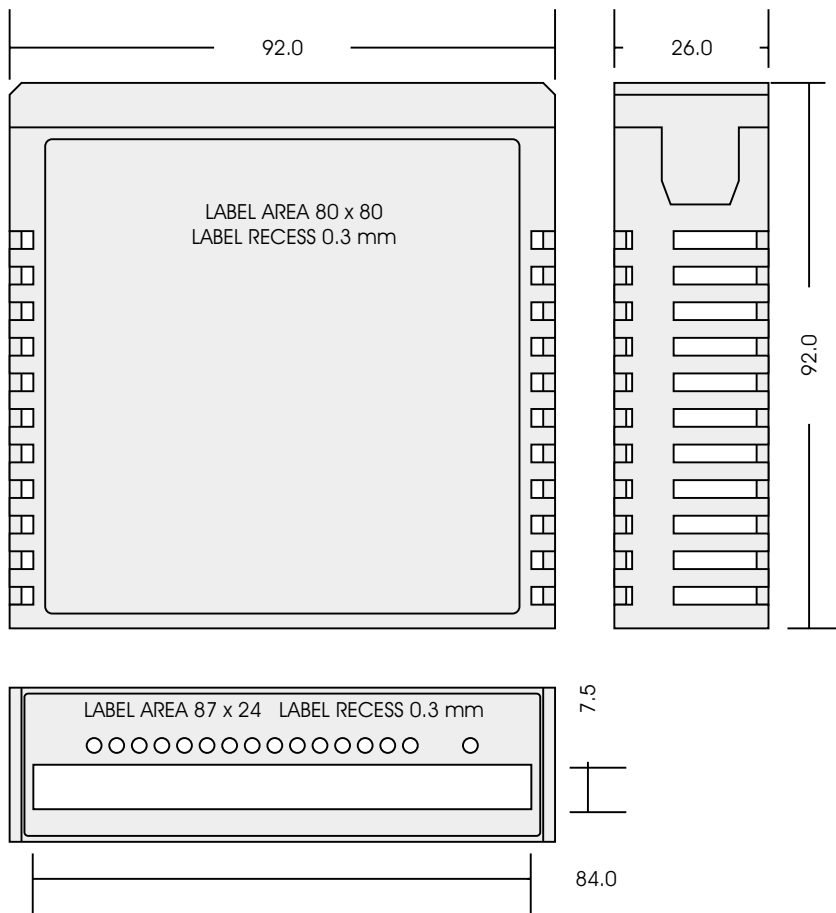
OPTIONS:

- *Alarm values : -10000 to 10000
- *Alarm hysteresis : 0 to 255 (default 1)
- *Alarm delay : 0 to 255 seconds (default 0)
- *Alarm relay settings : Selectable HI or LO alarm
- *Alarm relay state : Selectable NO or NC

* indicates option

HOUSING

DIMENSIONS

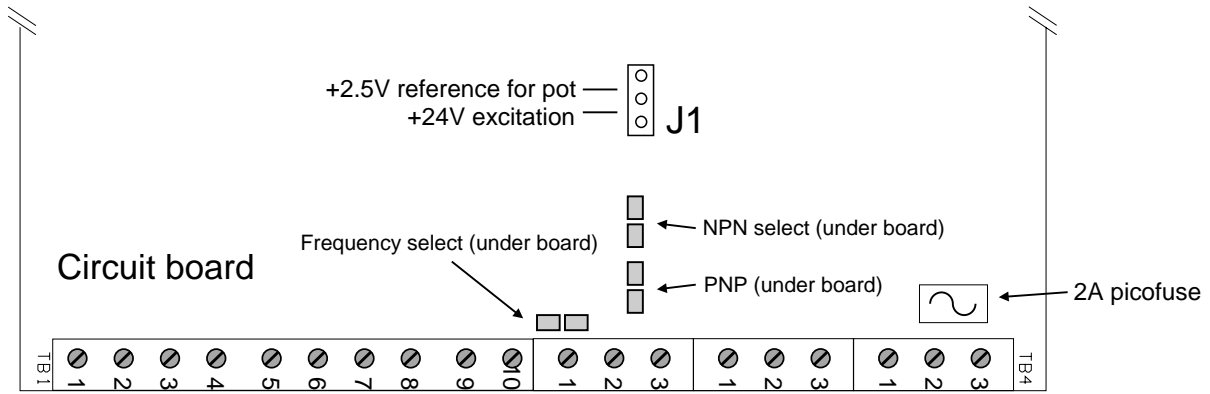


Dimension in mm
IP40 rating

Rail mount industrial strength single piece housing
Rail clips not shown

Flame retardant ABS plastic, meets UL 94 V-0 flammability rating

INTERNAL LINKS & CONNECTION DIAGRAM



Note : For potentionmeter input , link for 2.5V reference voltage.
 Note : For loop powered transmitter inputs, link for 24V excitation.

INPUT SECTION							OUTPUT SECTION			COMMS SECTION			ALARMS OPTION			POWER SUPPLY		
Current In Frequency In Voltage In RTD TC or mV 2-wire xmitter + Excitation							I Out V out +			For RS485, use pins 12, 13. For RS232, use pins 11, 12, 13. GND D+ (RX) D- (Tx)			Alarm common Alarm 1 option Alarm 2 option AL2 AL1			DC supply + - AC supply Earth Live Neutral		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	E	L	N
Input Common	T.C. Or mV	RTD	RTD	Voltage In / Freq In	Current In	Excitation Voltage	Output Common	Voltage Out	Current Out	Communications	Communications	Communications	Alarm common	Alarm 1 option	Alarm 2 option	Earth	Live or +DC	Neutral or -DC

GUARANTEE

This product is guaranteed against faulty workmanship or defective material, for a period of 3 (three) years from date of delivery by Instrotech.

Instrotech undertakes to replace without charge all defective equipment which is returned to it (transportation costs prepaid) during the period of guarantee, provided there is no evidence that the equipment has been abused or mishandled in any way.

Instrotech reserves the right to alter any specification without notice.



DISTRIBUTED BY:



Ph: 03 5278 8222 Fax: 03 5278 9761
 65 Douro Street, North Geelong VIC 3215
www.factorycontrols.com.au