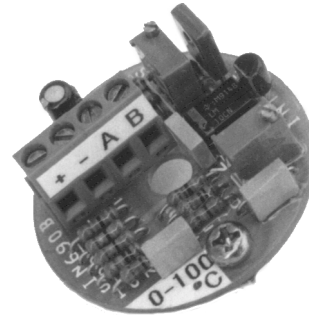


IN-690B, In Head RTD Transmitter.

Linearised In-Head 2 Wire RTD
Input to 2 wire 4~20mA
Loop Powered Output Transmitter.

Features.

- Fits Small RTD Connection Heads.
- Linear With Temperature.
- Compact.
- High Accuracy.
- Low Cost.
- Easy to Install.
- Reverse Polarity Protected.
- Externally Accessible Span & Zero Adjustments.
- Corrosion Proofed Circuit Boards & Components (Except Screws & Terminals) by Isonel 642.



Ordering Information.

IN-690B - - -
 | | |
 SB ST Range.

SENSOR BREAK (SB)		SENSOR TYPE (ST) SENSOR BREAK	
<i>blank</i>	Upscale	<i>blank</i>	Pt100
DS	Downscale	<i>other</i>	SPECIFY

Ordering Examples.

IN-690B 0~100C

IN-690B, Upscale Sensor Break, Pt100 Input, 0~100C.

IN-690B-DS-Cu10 0~150

IN-690B, Downscale Sensor Break, Cu10 Input, 0~150C.

Specifications.

RTD Input	Pt100 DIN (2 Wire) (Other Types of RTD Input Available eg. Cu10, Pt1000.)
Sensor Current	2mA.
Zero Range	-200C to 200C.
Span Range	15C to 800C.
Output	2 wire 4~20mA (Loop Powered).
Power Supply	9~32Vdc (Loop Powered).
	Reverse Polarity Protected.
Supply Voltage Sensitivity	<±0.01%/V FSO.
Maximum Output Current	Limited to <36mA.
Sensor Fail -Upscale	23mA Min.
-Downscale	3.6mA Max.
Output Load Resistance	750Ω at 24Vdc. (50Ω/V above 9Vdc.)
Accuracy	<±0.1% FSO Typical.
Linearity & Repeatability	<±0.1% FSO Typical.
Ambient Drift	<±0.02%/C FSO Typical.
R.F. Immunity	<1% Effect FSO Typical.
Operating Temperature	0~70C.
Storage Temperature	-20~80C.
Operating Ambient Humidity	90% RH Max. Non-condensing.

Note 1. Specifications based on Standard Calibration Unit, unless otherwise specified.

Note 2. Due to ongoing research and development, designs, specifications, and documentation are subject to change without notification.

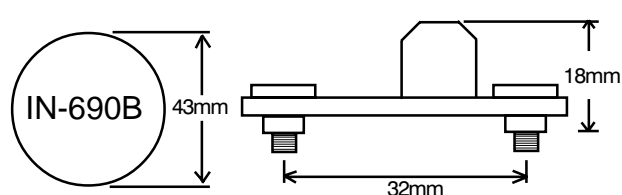
No liability will be accepted for errors, omissions or amendments to this specification.

Terminations.

Output
 1: + mA Output
 2: - mA Output

Input
 3: A — RTD
 |
 | Pt100
 4: B — 2 Wire.

Dimensions.

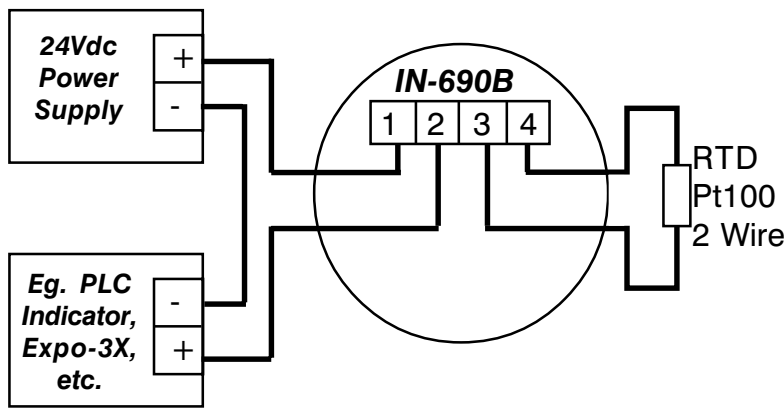


Quality Assurance Programme.

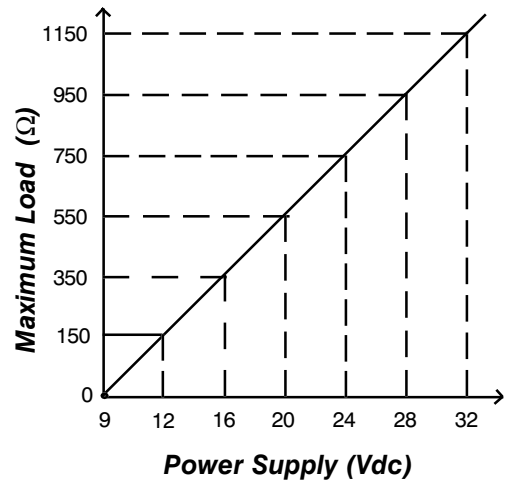
The modern technology and strict procedures of the ISO9001 Quality Assurance Programme applied during design / development, production and final inspection grant the long term reliability of the instrument.



Example of IN-690B Input Connections.



Graph Of Maximum Load Versus Power Supply.



The Proper Installation & Maintenance of IN-690B.

MOUNTING.

- (1) Mount in a clean environment in a probe head ensuring there is enough clearance between the lid and IN-690B components.
- (2) Do not subject to vibration or excess temperature or humidity variations.
- (3) Avoid mounting in cabinets with power control equipment.
- (4) To maintain compliance with the EMC Directives, the IN-690 must be mounted in a metal enclosure. The enclosure must be properly earthed, with appropriate input \ output entry points, cabling and filtering.

WIRING.

- (1) All cables should be good quality overall screened INSTRUMENTATION CABLE with the screen earthed at one end only.
- (2) Signal cables should be laid a minimum distance of 300mm from any power cables.
- (3) For 2 wire current loops Austral Standard Cables B5102ES is recommended. For three wire transmitters and RTD's Austral Standard Cables B5103ES is recommended.
- (4) It is recommended that you do not ground current loops and use power supplies with ungrounded outputs.
- (5) Lightning arrestors should be used when there is a danger from this source.
- (6) Refer to diagrams for connection information.

RTD'S.

- (1) Avoid locating the RTD where it will be in a direct flame.
- (2) Locate it where the average temperature will be measured. It should be representative of the mass.
- (3) Immerse the RTD far enough so that the measuring point is entirely in the temperature to be measured; nine to ten times the diameter of the protection tube is recommended. Heat that is conducted away from the measuring point causes a lower reading.

COMMISSIONING.

- (1) Once all the above conditions have been carried out and the wiring checked apply power to the IN-690B loop and allow five minutes for it to stabilize.
- (2) Due to cable resistance in the RTD legs or errors within the RTD itself a small Zero error may occur (usually less than 0.5C). To remove this error use a calibration standard RTD at the same immersion depth and adjust the Zero screw on the top of the IN-690B with a small screwdriver, until the two levels agree. (Clockwise to increase the output reading and anticlockwise to decrease the output reading.)

MAINTENANCE.

- (1) Check RTD's in place - with a calibration RTD at the same immersion depth.
- (2) Do it regularly - at least once every 6 months.
- (3) Replace defective protection tubes - even if they look good they may not be air or gas tight.
- (4) Check out cables entering the RTD sensor head.