NOMINAL Controls

Made in Canada

Integrated Transducer Simulator *(iTS-350)*

Introduction

***Integrated* Transducer Simulator (iTS-350)** simulates mV/V load cell output with high precision and stability. While based on the proven resistive bridge design, iTS-350 combines the latest IC technology to achieve next-level performance; most notably, it is virtually immune to temperature errors which may otherwise deviate traditional load cell simulator output by 0.5%FS/10°C.

iTS-350 features a simplified design and operation. Users only need to select 1 of 12 calibration positions. Accuracy, reliability, and stability are always ensured.

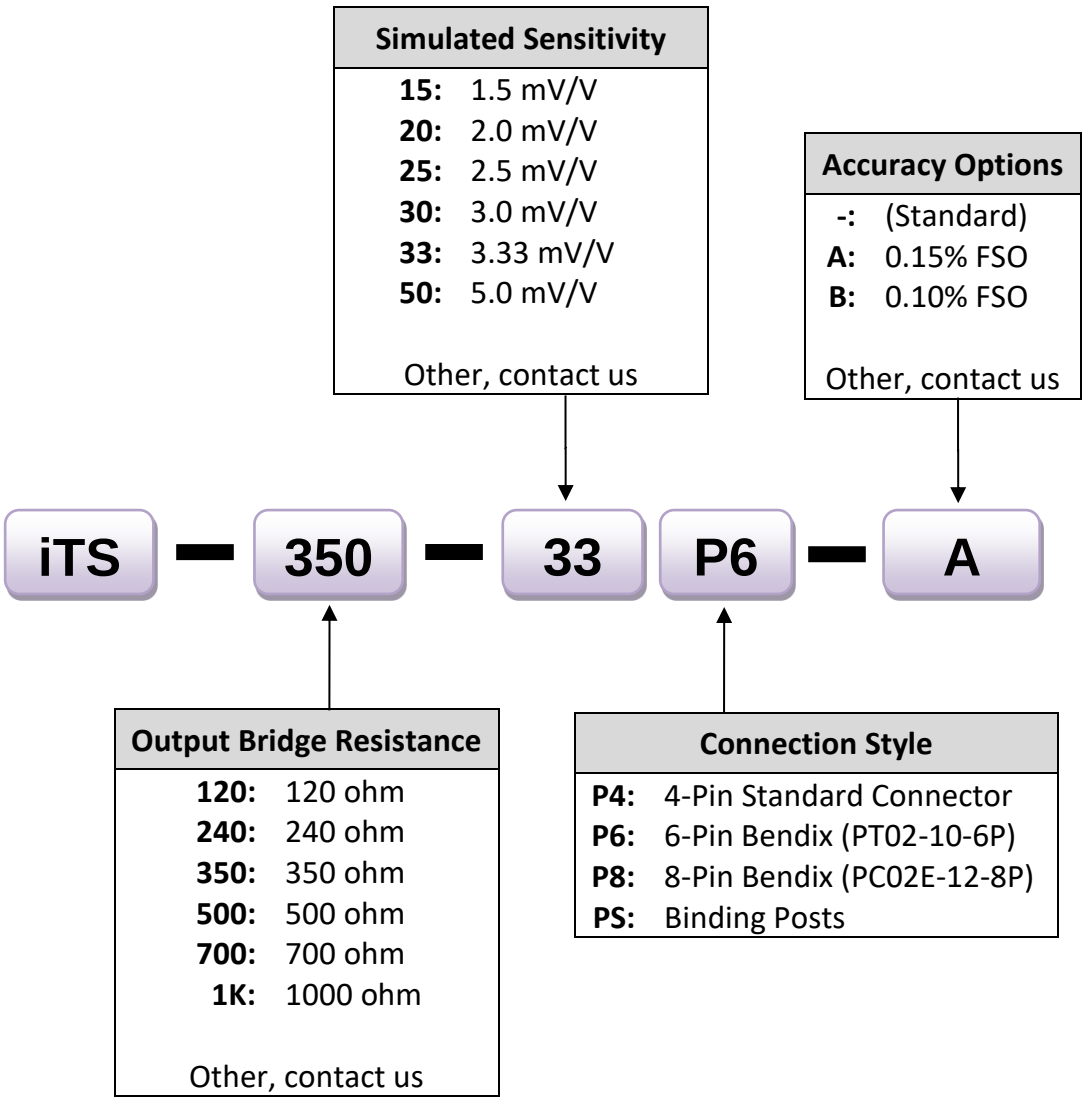
Features and Benefits

- **Commonly used for calibration, fault diagnostic, backup, and loss prevention**
- **Exceptional stability; virtually immune to temperature drift errors**
- **Exceptional precision; built with military-grade chips**
- **Ultraportable, plug and play**
- **12 linear calibration steps with uninterrupted output signal**
- **24 months warranty**

General Specifications	
Model:	iTS-350
Excitation Voltage:	3.3 VDC - 18 VDC
Output Sensitivity	1.5mV/V, 2.0mV/V, 2.5mV/V, 3.0mV/V, 3.33mV/V, 5.0mV/V
Bridge Resistance: (customizable)	350, 120, 240, 400, 500, 700, 1000 ohms (±2%)
Overall Accuracy:	● ±0.25% FSO ● ±0.15% FSO (Optional) ● ±0.10% FSO (Optional)
Calibration Positions: (continuous rotation)	0, 5%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90%, 100%

Other Specifications	
Connection:	● 4-Pin Connector, ISAS378 ● 6-Pin Connector, PT02-10-6P ● 8-Pin Connector, PC02E-12-8P ● Binding Posts, ISAS378
Operating Temperature:	-13°F to 140°F or -25°C to 60°C
Temperature Coefficient:	25 PPM/°C
Temperature Drift:	<0.001% FS/°C
Warm-up Time:	recommended 20 seconds
Overall Dimensions:	L: 3.15”(80mm), W: 2.2”(55mm), H: 1.1”(28mm)
Case Material:	ABS, Flame Retardant (UL 94V-0)
Weight:	0.4 lbs

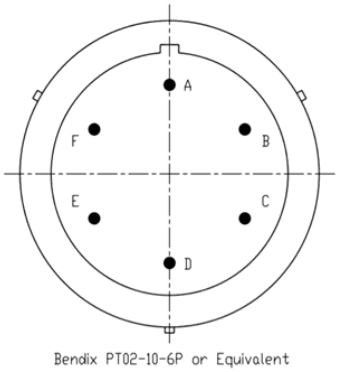
Selection Guide



Wiring Diagrams

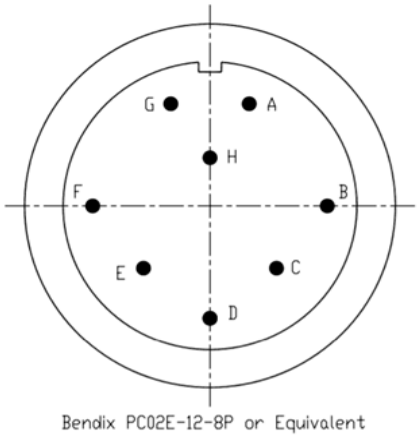
Simulator 4-Pin Male Connector
(Top View)

4-PIN	mV/V Output
#1 /Green	Signal (+)
#2 /White	Signal (-)
#3 /Red	Excitation (+)
#4 /Black	Excitation (-)



Simulator 6-Pin Male Connector
(Top View)

6-PIN (PT02-10-6P)	mV/V Output
A/Red	Signal (+)
B/Black	Signal (-)
C/White	Excitation (+)
D/Green	Excitation (-)
E/Blue	N/A
F/Orange	N/A



Simulator 8-Pin Bendix Connector
(Top View)

8-PIN (PC02E-12-8P)	mV/V Output
A/White	Excitation (+)
B/Red	Signal (+)
C/Green	Excitation (-)
D/Black	Signal (-)
E/Blue	N/A
F/Orange	N/A
G	N/A
H	N/A

Important Information

A. iTS-350 Transducer Simulator is designed to accurately simulate mV/V load cell output across a resistance. It utilizes both resistor and integrated circuits.

B. Before connecting the simulator, ensure the excitation voltage is between 3.3VDC to 18VDC, or else internal circuit may be damaged. Cable connections should be wired according to the respective diagrams provided in the datasheet.

C. Simulated outputs are 0%, 5%, 10%, 20%, 30%, 40%, 50%, 60%, 70%, 80%, 90% and 100%. You may turn the knob past the 100% position to return to 0. For iTS-350, there is no signal drop during the transitions of different steps. This prevents possible system shock associated with momentary loss of load cell signal.

D. iTS-350 should always be stored in a dry and non-corrosive environment. Do not drop the device, subject it to excessive vibrations, or hard impact.

E. This simulator is factory calibrated and zeroed. You may check its integrity from time to time by applying an appropriate excitation voltage and then measure its signal output. Each % step give the corresponding amount of output scaled by the excitation voltage.

F. For iTS-350 only, the output bridge resistance cannot be directly measured. However, the output bridge resistance will be exact for any next stage amplifier.

For any technical questions, feel free to contact us directly.