

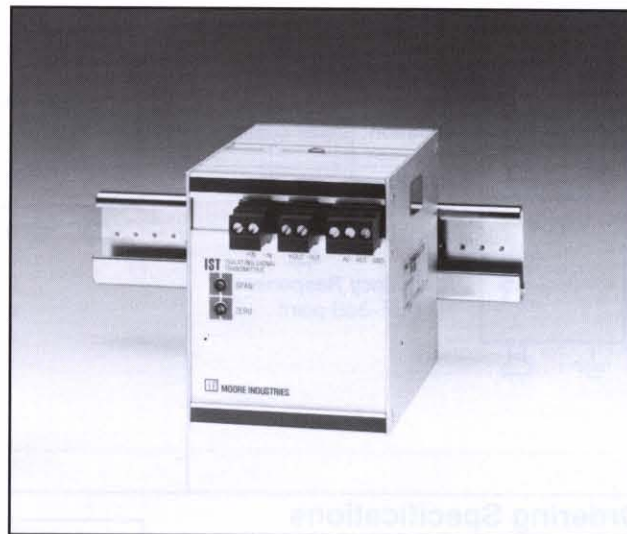
Description

The versatile IST can be used as a signal isolator, converter, and repeater. Ideal for installation in the plant and control room, this 4-wire (line-powered) instrument is available in models that accept both ac and dc power supplies.

Isolator—The IST provides total isolation between the signal from a non-isolated transmitter and a receiving device. This eliminates faulty readings in process measurement and control equipment caused by ground loops, motor noise, and other electrical interference.

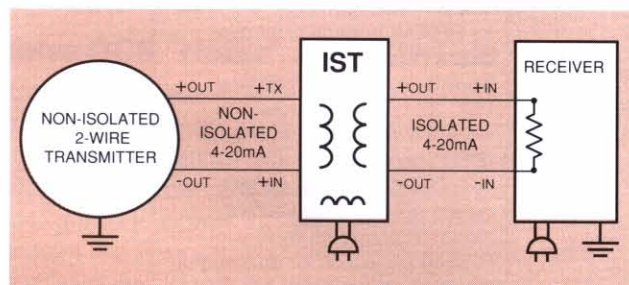
Converter—Acting as a precise interface, the IST allows transmitters, transducers, controllers, recorders, and control systems with dissimilar signals to communicate with one another.

Repeater/Diverter—The IST features low input impedance and high drive capability. It can be used to increase drive capability to a process loop, allowing installation of additional instruments on the loop. The IST also is excellent for “diverting” a secondary signal from a process loop to a recorder, indicator, or other similar device.



The IST's DIN-style housing mounts quickly and easily on G-type and Top Hat rails. Removable terminal blocks speed installation and maintenance.

Figure 1. With the -TX option, the IST supplies power to a 2-wire transmitter while performing signal isolation.



Features

- **Stops ground loops.** Complete isolation stops ground loops from affecting the integrity of a transmitted process signal.
- **Wide range of inputs and outputs.** Available models offer input and output combinations to handle common and unusual applications.
- **Dual input and output models.** The IST is available in dual input channel and dual output channel models. These provide application flexibility while reducing costs because one IST will do the work of two isolators.
- **Powers a 2-wire transmitter.** With the -TX option, the IST provides power to a 2-wire (loop-powered) transmitter.
- **Superior RFI/EMI protection.** Inherent 10V/m protects the IST in most applications. For especially noisy environments, specify the -RF (or -RFH) option for 50V/m protection (30V/m with -RFH option, see the Ordering Specifications section for details.)

Specifications

<p>Performance Accuracy: ±0.1% of span (includes adjustment resolution and linearity) Isolation: Input, output and case are transformer isolated up to 500Vrms with no dc connections between them Frequency Response: 10Hz at -3dB point</p>	<p>Performance Maximum Input Over (continued) Range: ±60V (voltage inputs only) Power Supply Effect: ≤0.05% of span over the full power supply range RFI/EMI Effect: Negligible effect @ 10V/m at popular walkie-talkie frequencies (for enhanced protection, see the -RF and -RFH options)</p>	<p>Ambient Temperature Range: -30°C to +82°C (-22°F to +180°F) Effect: ±0.015% of span/°C change over 0-70°C range (±0.008% of span/°F over +32°F to +158°F range) Adjustments Type: External multiturn potentiometers Span: ±10% Zero: ±5% (on dual channel models, each channel has independent adjustments) Weight 454 grams (16 ounces)</p>
--	--	--

Ordering Specifications

Unit	Input	Output	Power	Options	Housing
IST	<p>SINGLE INPUT CHANNEL: 0-20MA into 50Ω 4-20MA into 50Ω 10-50MA into 20Ω 0-1MA into 1KΩ -1TO1mA into 1KΩ</p> <p>.2-1V into 1MΩ 0-1V into 1MΩ 0-5V into 1MΩ 1-5V into 1MΩ 0-10V into 1MΩ -10VTO+10V into 200KΩ (-BI option required) 0-30V into 200KΩ (-ATL option required)</p> <p>DUAL INPUT CHANNELS: 2X 0-20MA into 50Ω 2X 4-20MA into 50Ω 2X 10-50MA into 20Ω 2X 0-1MA into 1KΩ 2X -1TO1mA into 1KΩ</p> <p>2X .2-1V into 1MΩ 2X 0-1V into 1MΩ 2X 0-5V into 1MΩ 2X 1-5V into 1MΩ 2X 0-10V into 1MΩ 2X -10VTO+10V into 200KΩ (-BI option required) 2X 0-30V into 200KΩ (-ATL option required)</p>	<p>SINGLE OUTPUT CHANNEL: 4-20MA into 1400Ω 10-50MA into 560Ω</p> <p>DUAL OUTPUT CHANNELS: 2X 4-20MA into 1400Ω</p>	<p>117AC 50/60z, ±10% 117, 230AC 50/60Hz, ±10% (117AC or 230AC is jumper selectable) 117, 240AC 50/60Hz, ±10% (117AC or 240AC is jumper selectable) 24DC, ±10%</p>	<p>-ATL Low-impedance (200K) attenuated input (must be specified with greater than 10V input type) -BI Bailey input (must be specified with -10VTO+10V input type) -EP Externally-powered output loop; allows the IST to accept operating power from its output side -RF Specify for use with 117AC and 24DC power input on single output models (consult the factory for RFI/EMI protection for dual output models). When tested according to SAMA Standard PMC 33.1, RFI/EMI protection rates 50V/m - ABC = ±0.1% F.S. -RFH Specify for use with 117, 230AC and 117, 240AC power input on single output models (consult the factory for RFI/EMI protection for dual output models). When tested according to SAMA Standard PMC 33.1, RFI/EMI protection rates 30V/m - ABC = ±0.1% F.S. -TX 2-wire transmitter excitation, 24V @ 25mA; dual output units with -TX option require -EP option; (option not available as standard with 2X 10-50MA input type, consult the factory for availability)</p>	<p>DIN DIN-style housing mounts on 32mm G-type (EN50035) and 35mm Top Hat (EN50022) rails</p>

To order, specify: Unit / Input / Output / Power / Options [Housing]

Model Number Examples: IST / 4-20MA / 4-20MA / 117AC / -RF [DIN] (Single Input & Output with RFI/EMI Protection)
 IST / 4-20MA / 2X4-20MA / 24DC / [DIN] (Single Input & Dual Outputs)
 IST / 2X1-5V / 2X4-20MA / 117, 240AC / [DIN] (Dual Inputs & Dual Outputs)

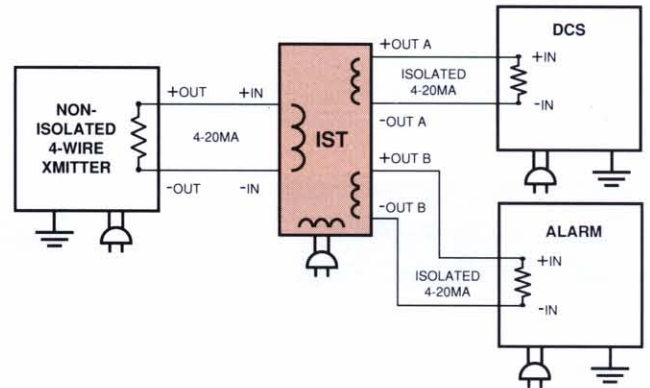
Note: For applications requiring -EP option without -TX, use the SIX 2-Wire Signal Isolator/Converter

“Sharing” a Process Signal

The IST with dual outputs will take one input and deliver two completely isolated outputs. This is valuable for viewing one process variable at two locations, such as in custody transfer, where two parties require identical information for accountability or billing purposes. This IST can also be used to send the same signal to two separate monitoring/control devices.

Model Number Example:

IST / 4-20MA / 2X4-20MA / 24DC / -RF [DIN]

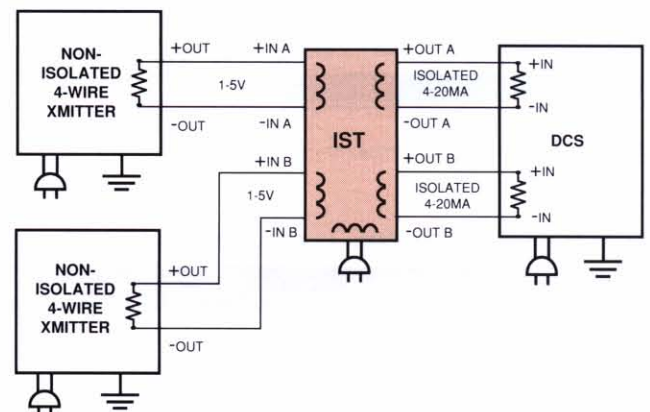


One Isolator Does the Work of Two

When ordered with dual input and output channels, the IST will perform the functions of two isolators. Each of the IST's two input-to-output channels is completely independent and isolated from the other.

Model Number Example:

IST / 2X1-5V / 2X4-20MA / 117AC / [DIN]

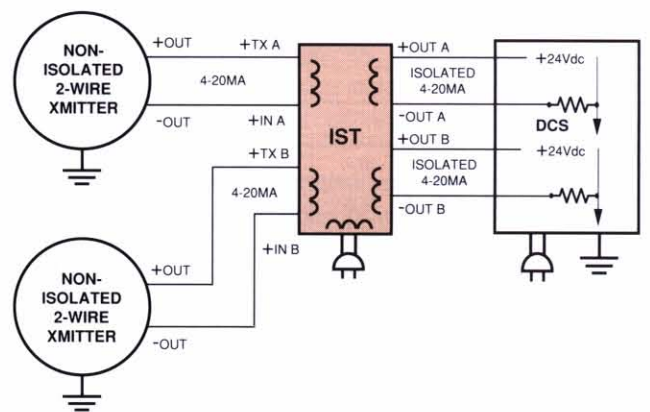


Solve DCS “Noise” After Start-Up

Isolation problems discovered after a DCS system is in operation can be quickly solved with the dual input/output channel IST*. It acts as an isolated interface between 2-wire transmitters and a DCS configured to power the transmitters. The IST powers the 2-wire transmitters (with the -TX option) and, with the -EP option, stops the problem of “bucking” power supplies by accepting the DCS's loop power.

Model Number Examples:

IST / 2X4-20MA / 2X4-20MA / 117AC / -TX -EP [DIN]
(Dual Input/Output Channels)



* For applications where only one channel is required, see the 2-wire (loop-powered) SIX Signal Isolator/Converter

IST

4-Wire Signal Isolator/Converter

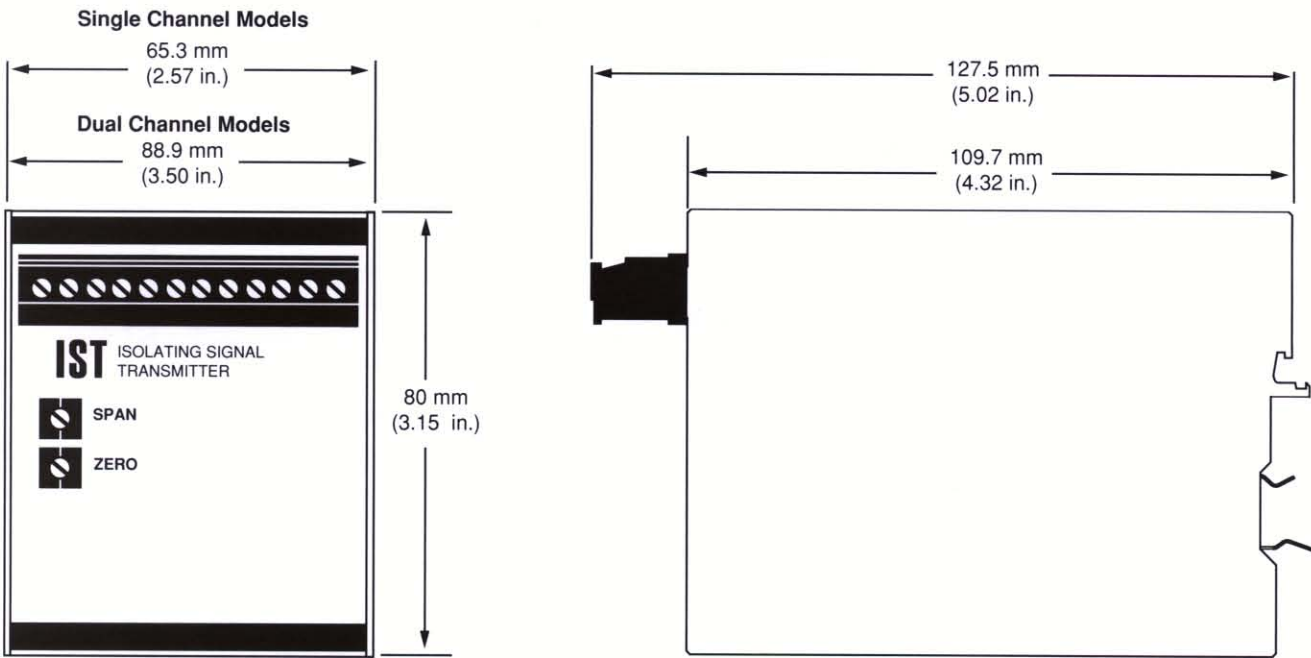


Figure 2. Installation Dimensions

Table 1. Terminal Designations

TERMINAL POSITION												
Unit w/ option	1	2	3	4	5	6	7	8	9	10	11	12
Single Input/Single Output												
No Options	+IN	-IN		+OUT	-OUT		AC/DC	ACC/DCC	GND			
-TX Option	+IN	-IN	TX	+OUT	-OUT		AC/DC	ACC/DCC	GND			
Single Input/Dual Output												
No Options	+IN	-IN	+OUT A	-OUT A			+OUT B	-OUT B		AC/DC	ACC/DCC	GND
-TX & -EP Options	+IN	-IN	TX	+OUT A	-OUT A		+OUT B	-OUT B		AC/DC	ACC/DCC	GND
Dual Input/Dual Output												
No Options	+IN A	-IN A	+OUT A	-OUT A	+IN B	-IN B	+OUT B	-OUT B		AC/DC	ACC/DCC	GND
-TX & -EP Options	+IN A	TX A	+OUT A	-OUT A	+IN B	TX B	+OUT B	-OUT B		AC/DC	ACC/DCC	GND

Table 1a. Key to Abbreviations

Key	Definition
A, B	Channel designation in Dual Input/Output Units
AC, DC	AC or DC power input
ACC, DCC	AC or DC common
GND	Ground
TX	2-wire transmitter excitation output



The Interface Solution Experts • www.miinet.com

United States • info@miinet.com
Tel: (818) 894-7111 • FAX: (818) 891-2816

Belgium • info@mooreind.be
Tel: 03/448.10.18 • FAX: 03/440.17.97

China • sales@mooreind.com.cn
Tel: 86-21-68406724 • FAX: 86-21-50623585

The Netherlands • sales@mooreind.demon.nl
Tel: (0)344-617971 • FAX: (0)344-615920

United Kingdom • sales@mooreind.com
Tel: 01293 514488 • FAX: 01293 536852

Australia • sales@mooreind.com.au
Tel: (02) 8536-7200 • FAX: (02) 9525-7296