

May 2009

Description

The versatile SIX can be used as a signal isolator, converter, and repeater. Ideal for installation in the plant and control room, the 2-wire (loop-powered) SIX derives its power from the process loop, eliminating the need to install an additional power supply.

Isolator—The SIX 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.

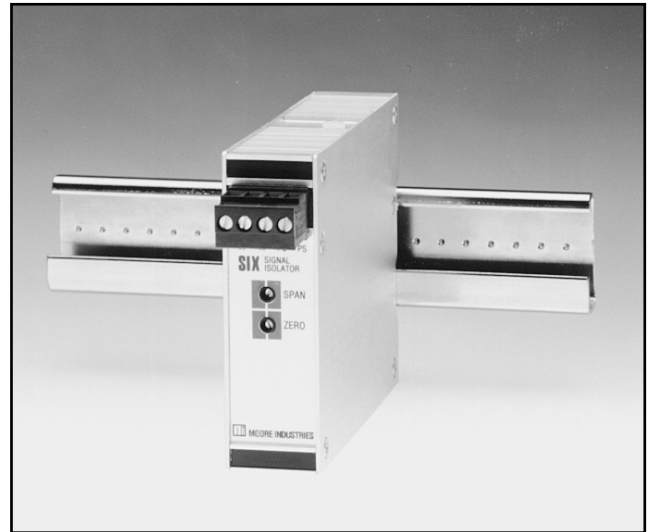
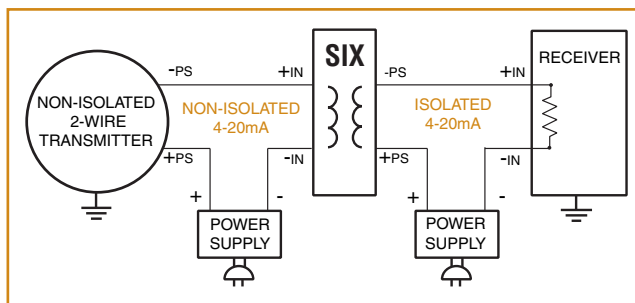
Converter—Acting as a precise interface, the SIX allows transmitters, transducers, controllers, recorders, and control systems with dissimilar signals to communicate with one another.

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

Solves “Bucking Power Supplies”

Many plants encounter problems when trying to interface a DCS with a 4-wire (line-powered) transmitter. Both units are supplying power to the same loop, which results in “Bucking Power Supplies” and a non-functioning loop. If neither power supply can be eliminated, install a SIX between the two. It operates with powered inputs from both sides, thus restoring normal operations to the loop.

Figure 1. The SIX provides isolation between a non-isolated transmitter and a receiving device.



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

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.
- **Low current impedance/high drive capability.** The SIX's exceptionally low 50 ohms (for 4-20mA input) impedance doesn't load existing loops and regenerates signals.
- **RFI/EMI protection.** Inherent 10V/m immunity protects the SIX in most applications. For especially noisy environments, choose the -RF option which provides superior 50V/m protection.

Certifications



Factory Mutual Research Corporation (FMRC)
Non-Incendive
Class I, Division 2, Groups A, B, C, D
Suitable for:
Class II, Division 2; Class III, Divisions 1 & 2



Canadian Standards Association (CSA)
General (Ordinary) Location; NRTL/C



CE Conformant EMC Directive 89/336/EEC EN 50081-2, 1993; 50082-2, 1995.

SIX

2-Wire Signal
Isolator/Converter

Specifications

<p>Performance</p> <p>Accuracy: ±0.1% of span Linearity: ±0.1% of span Isolation: Input and output transformer isolated up to 500Vrms Maximum Input Over Range: ±60V Input Impedance: 50 ohms for 4-20mA input; 1kohms for -1mA to 1mA input 1.0Mohms for voltage inputs 10V and below Frequency Response: 10hz @ -3DB</p>	<p>Performance (continued)</p> <p>Load Capability: $\frac{V_s - 12V}{0.02A} = \text{ohms}$ 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 option)</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)</p> <p>Adjustments</p> <p>Type: External multiturn potentiometers Span: ±10% of span Zero: ±5% of span</p> <p>Weight 215 grams (7.6 ounces)</p>
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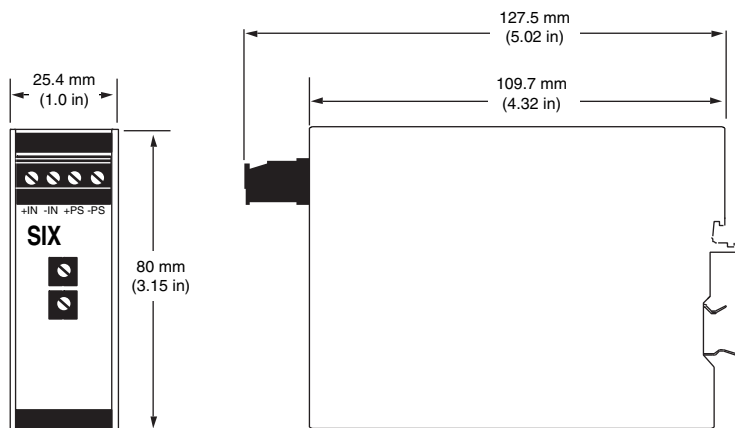
Ordering Specifications

Unit	Input	Output	Power	Options	Housing
SIX	0-20MA into 50 ohms 4-20MA into 50 ohms 10-50MA into ohms 0-1MA into 1kohms -1TO+1mA into 1kohms .2-1V into 1Mohms 0-1V into 1Mohms 0-5V into 1Mohms 1-5V into 1Mohms 0-10V into 1Mohms -10VTO+10V into 1Mohms 0-30V into 200kohms (-ATL option required)	4-20MA into 600 ohms with 24Vdc power supply 10-50MA into 600 ohms with 42Vdc power	12-42DC (loop-powered on output side)	-ATL Low-impedance attenuated input (must be specified with inputs greater than 10V) -BI Bailey input (must be specified with -10VTO+10V input type) -RF RFI/EMI protection rates 50V/m - ABC = ±0.1% F.S. when tested according to SAMA Standard PMC 33.1	DIN DIN-style housing mounts on 32mm G-type (EN50035) and 35mm Top Hat (EN50022) rails

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

Model Number Examples: SIX / 4-20MA / 4-20MA / 12-42DC / -RF [DIN]

Figure 2. Installation Dimensions and Terminal Designations.



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