

## 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.

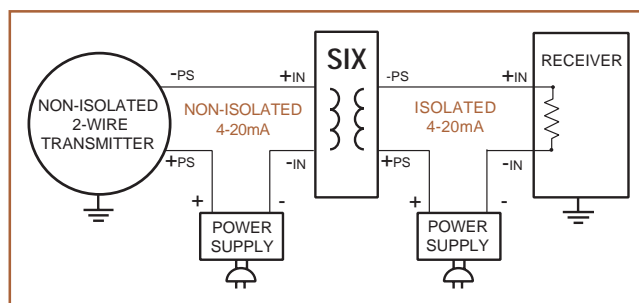
**Converter**—Acting as a precise interface, the SIX allows transmitters, transducers, controllers, recorders, and control systems with dissimilar signals to communicate with one another.

**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 50Ω (for 4-20mA input) impedance doesn't load existing loops and regenerates signals.
- **RF/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

<b>Performance</b>	<b>Accuracy:</b> ±0.1% of span	<b>Performance (continued)</b>	<b>Load Capability:</b> $\frac{V_s - 12V}{0.02A} = \text{ohms}$	<b>Ambient Temperature</b>	<b>Range:</b> -30°C to +82°C (-22°F to +180°F)
	<b>Linearity:</b> ±0.1% of span		<b>Power Supply Effect:</b> <0.05% of span over the full power supply range		<b>Effect:</b> ±0.015% of span/°C change over 0-70°C range (±0.008% of span/°F over +32°F to +158°F range)
	<b>Isolation:</b> Input and output transformer isolated up to 500Vrms		<b>RFI/EMI Effect:</b> Negligible effect @ 10V/m at popular walkie-talkie frequencies (for enhanced protection, see the -RF option)	<b>Adjustments</b>	<b>Type:</b> External multiturn potentiometers
	<b>Maximum Input Over Range:</b> ±60V				<b>Span:</b> ±10% of span
	<b>Input Impedance:</b> 50Ω for 4-20mA input; 1KΩ for -1mA to 1mA input; 1.0MΩ for voltage inputs 10V and below				<b>Zero:</b> ±5% of span
				<b>Weight</b>	215 grams (7.6 ounces)

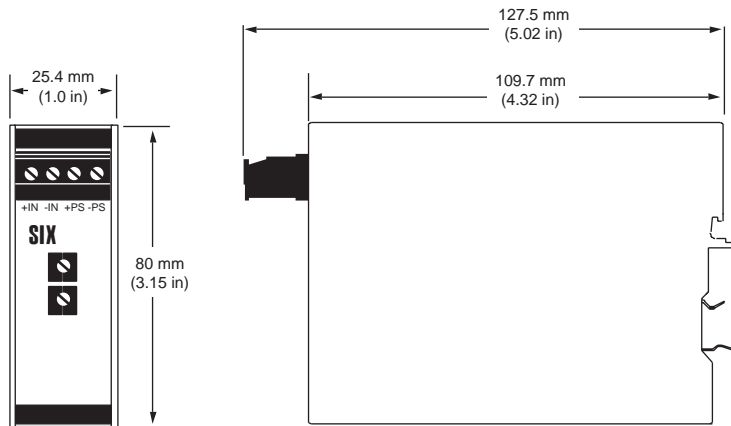
## Ordering Specifications

Unit	Input	Output	Power	Options	Housing
<b>SIX</b>	<b>0-20MA</b> into 50Ω <b>4-20MA</b> into 50Ω <b>10-50MA</b> into 20Ω <b>0-1MA</b> into 1KΩ <b>-1TO+1mA</b> into 1KΩ <b>.2-1V</b> into 1MΩ <b>0-1V</b> into 1MΩ <b>0-5V</b> into 1MΩ <b>1-5V</b> into 1MΩ <b>0-10V</b> into 1MΩ <b>-10VTO+10V</b> into 200KΩ (-BI option required) <b>0-30V</b> into 200KΩ (-ATL option required)	<b>4-20MA</b> into 600Ω ohms with 24Vdc power supply <b>10-50MA</b> into 600Ω with 42Vdc power supply	<b>12-42DC</b> (loop-powered on output side)	<b>-ATL</b> Low-impedance attenuated input (must be specified with inputs greater than 10V) <b>-BI</b> Bailey input (must be specified with -10VTO+10V input type) <b>-RF</b> RFI/EMI protection rates 50V/m - ABC = ±0.1% F.S. when tested according to SAMA Standard PMC 33.1	<b>DIN</b> 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.



The Interface Solution Experts • www.miinet.com

United States • info@miinet.com  
Tel: (818) 894-7111 • FAX: (818) 891-2816  
Australia • sales@mooreind.com.au  
Tel: (02) 9525-9177 • FAX: (02) 9525-7296

Belgium • mii.belgium@pandora.be  
Tel: 03/448.10.18 • FAX: 03/440.17.97  
The Netherlands • sales@mooreind.demon.nl  
Tel: (0)344-617971 • FAX: (0)344-615920

China • sales@mooreind.com.cn  
Tel: 86-21-58313053 • FAX: 86-21-68752927  
United Kingdom • sales@mooreind.com  
Tel: 01293 514488 • FAX: 01293 536852