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.

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 20V/m protection.

Certifications
**Underwriter’s Laboratories:** Ordinary (non-hazardous) or Hazardous Locations*
Class I, Division 2, Groups A, B, C & D T4

**CE Conformant**
EMC Directive 2014/30/EU – EN 61326
Specifications

Performance

Accuracy: ±0.1% of span
Linearity: ±0.1% of span
Isolation: WITHOUT -RF OPTION: 1500Vrms between input and output; WITH -RF OPTION: 500Vrms between input and output

Maximum Input Overrange: Current Inputs 25% of full scale; DC Voltage Inputs, 150% of full scale

Input Impedance: 50 ohms for 4-20mA and 0-20mA inputs; 1.0Mohms for voltage inputs 10V and below; see Input section for additional ranges

Add 20 ohms for 50mA input

Frequency Response: -3dB at 10Hz

Performance (continued)

Load Capability: \[
\frac{V_{s} - 12V}{0.02A} = \text{ohms}
\]

Output Current Limiting: 25mA typical; 30mA maximum

Power Supply Effect: <0.05% of span over the full power supply range

RF/EMI Protection: Less than ±0.1% of span error when tested at 10V/m@ 20-1000MHz; WITH -RF OPTION: Less than ±0.1% of span error when tested at 20V/m@ 80-1000MHz, 1kHz AM

Output Tracking: Assuming 4-20mA input and 4-20mA output, the isolator output will follow the input below 3mA when the input fails.

Ambient Temperature

Operating Range: -40°C to +85°C (-40°F to +185°F)

Storage Range: -40°C to +85°C (-40°F to +185°F)

Ambient Temperature Effect: ±0.007% of span°/C typical; ±0.015% of span°/C maximum

Adjustments

Type: External multiturn potentiometers
Span: ±10% of span
Zero: ±5% of span

Weight

190g (6.7 oz)

Ordering Specifications

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<th>Unit</th>
<th>Input</th>
<th>Output</th>
<th>Power</th>
<th>Options</th>
<th>Housing</th>
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<tr>
<td>SIX</td>
<td>0-20MA into 50 ohms</td>
<td>4-20MA into 50 ohms</td>
<td>12-42DC (loop-powered on output side)</td>
<td>-BI Bailey input (must be specified with -10V To +10V input type)</td>
<td>DIN-style housing mounts on 32mm G-type (EN50035) and 35mm Top Hat (EN50022) rails</td>
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<tr>
<td></td>
<td>4-20MA into 50 ohms</td>
<td>10-50MA into 70 ohms</td>
<td>12-42DC (loop-powered on output side)</td>
<td>-RF Enhanced RFI/EMI filtering provides 20V/m@ 20-1000MHz, 1kHz AM protection with less than ±0.1% of span error</td>
<td>FLB2 Externally-mounted flange provides a secure mount and ensures resistance to vibration</td>
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<td>1-MA into 1kOhms</td>
<td>-10VTO+10V into 1Mohms</td>
<td>12-42DC (loop-powered on output side)</td>
<td>-VTD Standard Factory Calibration with NIST Test Data Report</td>
<td></td>
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<td>-10V into 1Mohms</td>
<td>0-30V into 1Mohms</td>
<td>12-42DC (loop-powered on output side)</td>
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</tbody>
</table>

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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