



IOC 4T adaptor

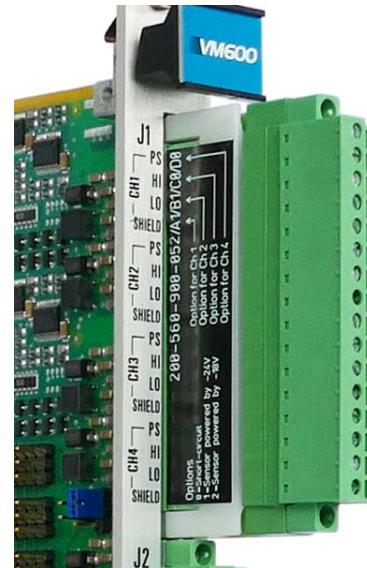
Voltage-drop adaptor

FEATURES

- » From the Vibro-Meter® product line
- » Voltage-drop adaptor:
 - 27 V input to -24 V output
 - 27 V input to -18 V output
 - or straight-through connection
- » Designed for operation with MPC 4 / IOC 4T card pairs
- » Inserts directly into the J1 and/or J2 screw-terminal sockets of an IOC 4T card

APPLICATIONS

- » Reduces external circuitry and wiring when an IOC 4T card supplies power to third-party front ends



**IOC 4T voltage-drop adaptor
(shown inserted in J1)**

DESCRIPTION

The MPC 4 / IOC 4T card pair includes a sensor power supply for each of the input channels (four dynamic and two speed/phase reference) that can provide an output of either $-27.2 \text{ V}_{\text{DC}}$, $+27.2 \text{ V}_{\text{DC}}$, $+15 \text{ V}_{\text{DC}}$ or $+6.16 \text{ mA}$, when enabled. This sensor power supply (PS) output is software configurable individually for each channel in order to support the widest possible wide range of Vibro-Meter sensors

and conditioners, including those that support current-modulated signals.

This MPC 4 / IOC 4T sensor power supply can also be used to provide power to generic devices (non-Vibro-Meter). However, some popular machinery protection products, including from Bently Nevada™, are not directly compatible with the default power supply outputs.



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DESCRIPTION (continued)

Accordingly, the IOC 4T voltage-drop adaptor has been added to the VM600 product range to allow an even wider range of sensors, signal conditioners and other devices to be more easily integrated with VM600 rack-based machinery protection systems.

Each IOC 4T voltage-drop adaptor incorporates dedicated passive circuitry for each input channel of an MPC 4 / IOC 4T card pair (four dynamic and two speed/phase reference) to reduce the $-27.2\text{ V}_{\text{DC}}$ sensor power supply's output to either -24 V_{DC} or -18 V_{DC} , or provide a straight-through (short-circuit) connection to the $-27.2\text{ V}_{\text{DC}}$ output. The option for each individual IOC 4T adaptor channel is specified at the time of ordering (see **Ordering information on page 4**).

Applications information

The IOC 4T voltage-drop adaptor is an extender that inserts directly into the appropriate screw-terminal socket depending on the channels of the IOC 4T card used: J1 for the dynamic signals and/or J2 for speed/phase reference signals. To ensure retention and mechanical support, the IOC 4T adaptor should be secured to the socket of the card using the Allen (hex) driver tool provided with the adaptor.

The mating connectors, with screw-terminal connections to the field wiring, then insert directly into the IOC 4T voltage-drop adaptor adaptor.

For specific applications, contact your nearest Meggitt Sensing Systems representative.

SPECIFICATIONS

Electrical

Input voltage	: $-27.2\text{ V}_{\text{DC}}$ (from an MPC 4 / IOC 4T card pair)
Output voltages	
• -24 V output (nominal)	: $-25.1\text{ V}_{\text{DC}}$ with no load. $-22.8\text{ V}_{\text{DC}}$ at full load (25 mA).
• -18 V output (nominal)	: $-18.3\text{ V}_{\text{DC}}$ with no load. $-17.7\text{ V}_{\text{DC}}$ at full load (25 mA).
Stability of the output	: Approx. 2%
Output current limitation	: $\leq 25\text{ mA}$ (from MPC 4 card)

Compatible sensors

A wide range of sensors from third-part suppliers can be supported, including the following

Example -24 V devices

• <i>Bently Nevada 3300 5 mm proximity transducer systems</i>	: Requires -17.5 to -26 V_{DC} without barriers at 12 mA maximum consumption, -23 to -26 V_{DC} with barriers. Operation at a more positive voltage than $-23.5\text{ V}_{\text{DC}}$ can result in reduced linear range.
• <i>Bently Nevada 3300 XL 8 mm proximity transducer systems</i>	: As above
• <i>Bently Nevada 3300 XL NSv™ proximity transducer systems</i>	: As above
• <i>Bently Nevada 330400 and 330425 accelerometer acceleration transducers</i>	: Requires $-24 \pm 0.5\text{ V}_{\text{DC}}$, at a 2 mA (nominal) bias current

Example -18 V devices

• <i>Bently Nevada 3000 series proximitron model CA 3120-190 (200 mV/mil)</i>	: Requires -18 V_{DC}
• <i>Bently Nevada model 9513 velocity-to-displacement converter</i>	: As above

SPECIFICATIONS (continued)**Ex barriers**

- *MTL Instruments MTL7766– safety barrier (negatively-polarised shunt-diode)*

: Typically used with -24 V_{DC} .

Note: The 3-wire transmitters used with vibration monitoring equipment are invariably supplied by a -24 V_{DC} power supply, hence a recommended barrier choice is the negatively-polarised MTL7796–.

Environmental

Temperature

- *Operating* : -25 to 65°C (-13 to 149°F)
- *Storage* : -40 to 85°C (-40 to 185°F)

Humidity

- *Operating* : 0 to 90% non-condensing
- *Storage* : 0 to 95% non-condensing

Approvals

Environmental management : RoHS compliant

Physical

Mounting

: The IOC 4T voltage-drop adaptor inserts directly into the J1 and/or J2 screw-terminal sockets of the IOC 4T card. The IOC 4T adaptor has two captive retaining bolts that should be used to secure it to the socket of the card using the Allen (hex) driver tool provided (see **Ordering information on page 4**).

Dimensions

- *Height* : 72 mm (2.8 in)
- *Width* : 12 mm (0.5 in)
- *Depth* : 35 mm (1.4 in)

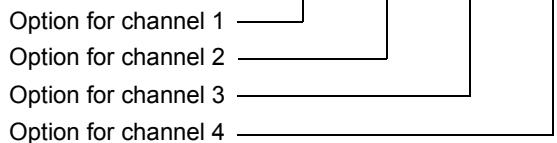
Note: When inserted, the IOC 4T voltage-drop adaptor adds 28 mm (1.1 inches) between an IOC 4T card and its mating connector.

ORDERING INFORMATION

To order please specify

Ordering number:

200-560-900-0xx / A / B / C / D



The voltage-drop options for each channel are:

- 0** for a straight through (short-circuit) connection.
The MPC 4 power supply can be set to $-27.2 \text{ V}_{\text{DC}}$, $+27.2 \text{ V}_{\text{DC}}$, $+15 \text{ V}_{\text{DC}}$ or $+6.16 \text{ mA}$ as required by the attached sensor, signal conditioner or other circuit.
- 1** for a $-24 \text{ V}_{\text{DC}}$ output.
The MPC 4 power supply must be set to $-27.2 \text{ V}_{\text{DC}}$.
- 2** for a $-18 \text{ V}_{\text{DC}}$ output.
The MPC 4 power supply must be set to $-27.2 \text{ V}_{\text{DC}}$.

Notes:

As an MPC 4 / IOC 4T card pair can accept a wide range of different sensors, an IOC 4T voltage-drop adaptor must be ordered using a PNR (ordering number above) with options that specify the voltage-drop required by each individual adaptor channel. For example:

- A voltage-drop adaptor for use with dynamic channels (connector J1 on the IOC 4T) requires an option for each dynamic input, that is, options for channels 1 to 4.
- A voltage-drop adaptor for use with the speed/phase reference channels (connector J2 on the IOC 4T) requires an option for each speed/phase reference input, that is, options for channels 1 and 2 but with option 0 specified for channels 3 and 4.

An IOC 4T voltage-drop adaptor is supplied with an Allen (hex) driver tool with a ball end suitable for the captive retaining bolts that should be used to secure the adaptor in the J1 and/or J2 screw-terminal sockets of an IOC 4T card.

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The Meggitt Sensing Systems facility in Fribourg, Switzerland was formerly known as Vibro-Meter SA, but is now Meggitt SA. This site produces a wide range of vibration and dynamic pressure sensors capable of operation in extreme environments, leading-edge microwave sensors, electronics monitoring systems and innovative software for aerospace and land-based turbo-machinery.

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