MEGGiTT
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extreme environments

IOC 4T adaptor

Capacitive-coupling adaptor

FEATURES

- From the Vibro-Meter® product line
- Capacitive-coupling adaptor:
  1 µF series capacitor
  or straight-through connection
- Designed for operation with MPC 4 / IOC 4T card pairs
- Inserts directly into the J3 screw-terminal socket of an IOC 4T card

APPLICATIONS

- Reduces external circuitry and wiring when the raw outputs on an IOC 4T card are connected to test and measurement or third-party equipment

IOC 4T capacitive-coupling adaptor (shown inserted in J3)

DESCRIPTION

The MPC 4 / IOC 4T card pair provides “raw” output signals that are buffered versions of the signals on the card pair’s four dynamic channels (AC range: ±10V_{PEAK}, DC range: 0 to 20V_{DC} or 0 to −20V_{DC}). These raw signals are available via the BNC connectors on the front panel of the MPC 4 card and also via a screw-terminal socket on the front panel of the IOC 4T card.

The MPC 4 / IOC 4T card pair’s raw signals are intended for the connection of various items of test and measurement equipment, or other third-party equipment, to the card pair. However, some test equipment such as analog recorders, often provide only DC-coupled inputs which can result in the equipment being saturated by the DC component of a raw signal and losing the AC component.

DESCRIPTION *(continued)*

Accordingly, the IOC 4T capacitive-coupling adaptor has been added to the VM600 product range to allow devices without AC-coupled inputs to be more easily integrated with VM600 rack-based machinery protection systems.

Each IOC 4T capacitive-coupling adaptor incorporates dedicated passive circuitry for each raw output signal of an IOC 4T card pair (corresponding to the four dynamic channels) in order to AC couple the signal and remove the DC component, or provide a straight-through (short-circuit) connection that contains both AC and DC components. 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 capacitive-coupling adaptor is an extender that inserts directly into the J3 screw-terminal socket that provides the raw outputs on the IOC 4T card. 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 connector, with screw-terminal connections to the field wiring, then inserts directly into the capacitive-coupling adaptor IOC 4T adaptor.

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

SPECIFICATIONS

Electrical

Coupling capacitor

- *Capacitance* : 1 µF
- *Tolerance* : ± 20%

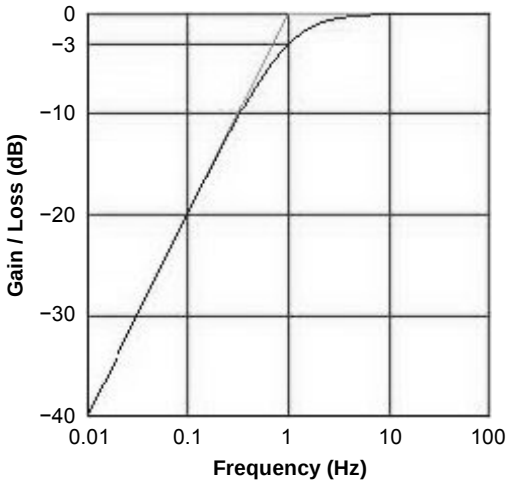
Circuit : Series capacitor, forming a high-pass filter in series with the input impedance of the attached equipment

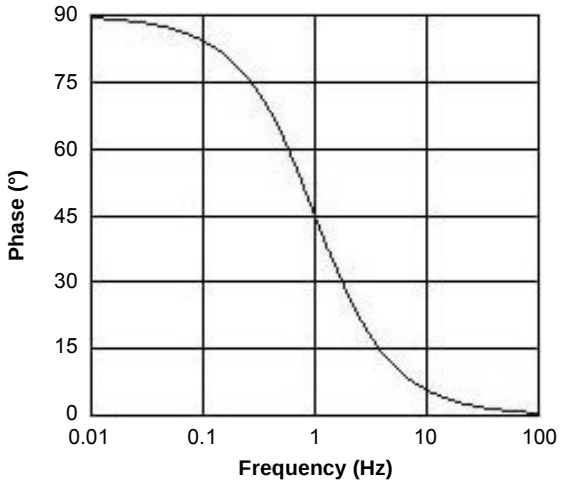
Cut-off frequency : The cut-off frequency (*fc*) can be calculated using the standard high-pass filter formula:

$$fc = 1/(2 \times \pi \times R \times C) = 159155/R$$

As equipment input impedances are usually greater than 100 kΩ, the cut-off frequency is usually lower than 1.6 Hz.

Typical response curves





Note: The actual cut-off frequency depends on the input impedance of the attached equipment.

SPECIFICATIONS *(continued)*

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 capacitive-coupling adaptor inserts directly into the J3 screw-terminal socket 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* : 14 mm (0.5 in)
- *Depth* : 35 mm (1.4 in)
  Note: When inserted, the IOC 4T capacitive-coupling adaptor adds 28 mm (1.1 in) between an IOC 4T card and its mating connector.

ORDERING INFORMATION

To order please specify

Ordering number:

200-560-910-0xx / A / B / C / D

Option for channel 1
Option for channel 2
Option for channel 3
Option for channel 4

The capacitive-coupling options for each channel are:

0 for a straight through (short-circuit) connection. The raw output signal for this channel will contain both AC components and DC components.

1 for a 1 µF capacitor connected in series. The raw output signal for this channel will contain AC components only.

Notes:

As an MPC 4 / IOC 4T card pair can connect to a range of different equipment, an IOC 4T capacitive-coupling adaptor must be ordered using a PNR (ordering number above) with options that specify the capacitive-coupling required by each individual adaptor channel.
An IOC 4T capacitive-coupling adaptor is supplied with an Allen (hex) driver with a ball end suitable for the captive retaining bolts that should be used to secure the adaptor in the J3 screw terminal socket of an IOC 4T card.

Sales offices

Meggitt Sensing Systems has offices in more than 30 countries. For a complete list, please visit our website.

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FS 584089

ISO 14001
BUREAU VERITAS
Certification

Your local agent

Head office

Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

Tel: +41 26 407 11 11
Fax: +41 26 407 13 01

www.meggittsensingsystems.com
www.vibro-meter.com