24-Channel OPTO-Isolated Input Board

OME-DB-24P/OME-DB-24PD

- Optically Isolated Digital Input Channels
- Connects Directly to OME-PIO-D144
- AC/DC Signal Input
- AC Signal Input with Filter
- Input Buffer with Voltage Comparators
- Isolated Digital Input Sensing

The OME-DB-24P is a 24 channel isolated digital input daughter board for OME-PIO-D144 digital input board. The optically isolated inputs of the OME-DB-24P consist of a bi-directional opto-couples with a resistor for current sensing. You can use the OME-DB-24P to sense DC signals from TTL levels up to 24V. You can also use OME-DB-24P to sense a wide range of AC signals. The OME-DB-24P registers a constant logic high if the frequency of the input AC signal is greater or equal to 1 kHz, and if the voltage of the AC signal is at least 4 Vrms. If you are using an AC input signal, you must short the AC filter jumper. You can use the board to isolate the computer from large common-mode voltages, ground loops and voltage spikes that often occur in industrial environments.

Specifications

**I/O CONNECTOR ELECTRICAL SPECIFICATIONS**

- Configuration: 24 optically isolated digital input channels
- Compatibility: TTL compatible
- Connector: OME-DB-24P, one 50-pin header; OME-DB-24PD, one 50-pin header and one 37-pin D-sub connector

**DIGITAL INPUT**

- Number of channels: 24, each with its own ground reference isolated from other channels

**Digital Logic Level**

<table>
<thead>
<tr>
<th>Level</th>
<th>Minimum</th>
<th>Maximum</th>
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</thead>
<tbody>
<tr>
<td>Input low voltage</td>
<td>0</td>
<td>±1 V</td>
</tr>
<tr>
<td>(DC or peak AC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input high voltage</td>
<td>±2.8 Vdc</td>
<td>±24 Vdc</td>
</tr>
<tr>
<td>DC/KHz AC</td>
<td>4 Vrms</td>
<td>24 Vac</td>
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</table>

**Source Current**

- 5V inputs: 4 mA per channel (min)
- 24V inputs: 20 mA per channel (min)

**Response Time**

- 20 µs without filter/2.2 ms with filter

**Power Supplies**

- +5V @ 336 mA max

**Dimensions**

- 132 H x 220 mm W (5.2 x 8.7”)

**Operating Temperature**

- 0 to 60°C (32 to 140°F)

**Storage Temperature**

- -20 to 70°C (-4 to 175°F)

**Humidity**

- 5 to 90% RH non-condensing

Maximum Input Voltage: 24 Vdc or 24 Vac
Input Impedance: 1.2 K

**Extended Warranty**

OMEGACARE™ extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARE™ covers parts, labor and equivalent loaners.

**To Order**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>OME-DB-24P</td>
<td>24-channel OPTO-22 compatible opto-isolated input board, includes 1.5 m (5’) 50-pin flat cable</td>
</tr>
<tr>
<td>OME-DB-24PDIN</td>
<td>OME-DB-24P with DIN-Rail mounting kit</td>
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<tr>
<td>OME-DB-24PD</td>
<td>24-channel OPTO-22 compatible opto-isolated input board with D-Sub 37 connector, includes 1 m (3’) 37-pin D-sub connector cable</td>
</tr>
<tr>
<td>OME-DB-24PD/DIN</td>
<td>OME-DB-24PD with DIN-Rail mounting kit</td>
</tr>
<tr>
<td>OME-CA-5015</td>
<td>50-pin flat cable, 1.5 m (5’)</td>
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<tr>
<td>OME-CA-3720</td>
<td>37-pin male-male D-sub connector cable 2 m (7’)</td>
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<tr>
<td>OME-CA-3710</td>
<td>37-pin male-male D-sub connector cable 1 m (3’)</td>
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</table>

Comes complete with operator’s manual on CD ROM.

Ordering Example: OME-DB-24P 24-channel OPTO-22 compatible opto-isolated input board and OCW-1 OMEGACARE™ 1 year extended warranty for OME-DB-24P (adds 1 year to standard 1 year warranty).

OME-DB-24P and OME-DB-24PD shown smaller than actual size.