

Specifications

Input Range:

0(4) to 20mA, 30VDC max, each channel
Voltage Drop: 6V (300 ohms), plus output load

Output Range:

0(4) to 20mA,
Drive: 10V or 500 ohms maximum @ 20mA, 100 ohms minimum

Output Accuracy:

Better than $\pm 0.2\%$ of full-scale, including linearity, hysteresis and repeatability, maximum

Linearity:

0.1% of span typical, from 4 to 20mA at 250ohm load

Stability:

$\pm 0.02\%/^{\circ}\text{C}$ of span max. for full-scale and zero

Load Regulation:

$\pm 0.1\%$ of span, typical per 10 ohm change

Common Mode Rejection Ratio:

$\geq 100\text{dB}$ (DC to 60Hz)

Isolation:

1800VDC, input to output and channel to channel.

ESD Susceptibility:

Capable of meeting IEC 801-2 level 3 (8kV)

Response Time:

50mSec typical, 100mSec max 10 to 90% (each channel)

Temperature:

Operating: -40 to 80°C (-40 to 176°F)

Storage: -40 to 80°C (-40 to 176°F)

Humidity (non-condensing):

DRI-LPI-MA (One Channel)

Terminal	Connection	Terminal	Connection
A1	Channel 1 Output (+)	C1	Not Connected
A2	Channel 1 Output (-)	C2	Not Connected
A3	Not Connected	C3	Not Connected
A4	Not Connected	C4	Not Connected
A5	Not Connected	C5	Channel 1 Input (-)
A6	Not Connected	C6	Channel 1 Input (+)

DRI-LPI-2MA (Two Channels)

Terminal	Connection	Terminal	Connection
A1	Channel 1 Output (+)	C1	Not Connected
A2	Channel 1 Output (-)	C2	Channel 2 Input (-)
A3	Not Connected	C3	Channel 2 Input (+)
A4	Channel 2 Output (+)	C4	Not Connected
A5	Channel 2 Output (-)	C5	Channel 1 Input (-)
A6	Not Connected	C6	Channel 1 Input (+)

25 to 95% (@40°C)

Wire Terminals:

Socketed screw terminals for 12-22 AWG

Weight:

0.34lbs

Agency Approvals:

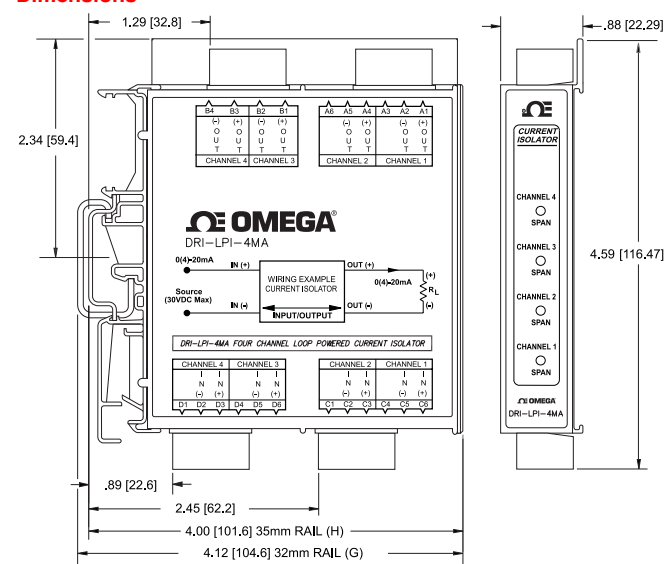
UL recognized per standard UL508 (File No.E99775).

CE conformance per EMC directive 89/336/EEC and Low voltage 73/23/EEC.

DRI-LPI-4MA (Four Channels)

Terminal	Connection	Terminal	Connection
A1	Channel 1 Output (+)	C1	Not Connected
A2	Channel 1 Output (-)	C2	Channel 2 Input (-)
A3	Not Connected	C3	Channel 2 Input (+)
A4	Channel 2 Output (+)	C4	Not Connected
A5	Channel 2 Output (-)	C5	Channel 1 Input (-)
A6	Not Connected	C6	Channel 1 Input (+)
B1	Channel 3 Output (+)	D1	Not Connected
B2	Channel 3 Output (-)	D2	Channel 4 Input (-)
B3	Channel 4 Output (+)	D3	Channel 4 Input (+)
B4	Channel 4 Output (-)	D4	Not Connected
		D5	Channel 3 Input (-)
		D6	Channel 3 Input (+)

Dimensions



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WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC., warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY RETURNS**, please have the following information available BEFORE contacting OMEGA.

1. Purchase order number which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY RETURNS**, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA.

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product and
3. Repair instructions and/or specific problems relative to the product.

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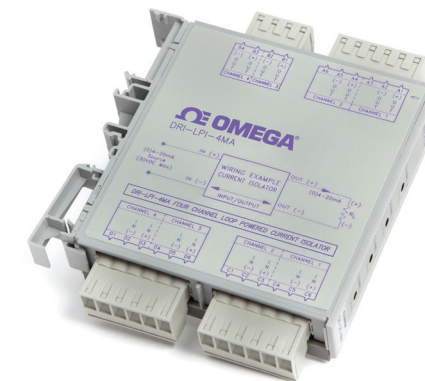
DRI-LPI SERIES

Input Loop Powered DIN Rail Multi-Channel Isolators

INSTRUCTION
SHEET

M5479/0815

Shop online at omega.com e-mail: info@omega.com
For latest product manuals: www.omegamannual.info



Provides up to 4 Isolated DC Current Outputs in
Proportion to the Input Currents

- Up to 4 Loop Isolators in a Single Package
- Prevents Ground Loops
- High Density DIN Rail Mounting
- Plug-in Terminals
- ASIC Technology

Description

The DRI-LPI Series is a DIN rail mount, loop-powered isolator with single, dual or quad (4) channel capability. Each channel accepts a 0-20mA or 4-20mA input and outputs a proportional 0-20mA or 4-20mA signal. The DRI-LPI Series provides 1800VDC signal isolation from input to output and channel to channel.

The DRI-LPI Series features plug-in screw terminals for easy installation and low Mean-Time-To-Repair (MTTR). Two or more modules can slide together and interlock for solid, high density mounting. This is accomplished by removing either the foot or the adjacent unit's faceplate (for right-hand side or left-hand side mounting, respectively). The module to be attached will easily slide on to the side of the mounted unit.

Application

Loop-powered isolators are used to isolate process signals transmitted between field instrumentation, Programmable Logic Controllers (PLC), Distributed Control Systems (DCS) and Data Acquisition Systems (DAS). Outputs from these systems can also drive one or more isolator channels of the DRI-LPI Series. Field devices such as flow, level or temperature transmitters can also drive a DRI-LPI Series isolator channel. The 1800VDC isolation capability prevents ground loops from causing errors in 4-20mA current signals and can reduce susceptibility to Radio Frequency Interference (RFI). Isolation also provides protection from high voltages and current spikes which can damage expensive Supervisory Control And Data Acquisition (SCADA) equipment, such as a PLC or DCS.

Operation

The DRI-LPI Series operates as a loop-powered isolator, with each channel deriving its power from the input loop current, 0(4)-20mA. The effective load of a DRI-LPI Series isolator channel on a loop is 300 ohms plus the output load resistance. For example, if the load on an output of the DRI-LPI Series is 500 ohms, then the current loop connected to the input would need to drive 300 ohms plus 500 ohms (i.e. 800 ohms) at a maximum current of 20mA, or 800 ohms x 20mA which equals 16.0V.

The DRI-LPI Series is protected from reverse input polarity and output short circuit. A span pot is provided for each channel in order to calibrate the output to the load.

Calibration

1. Connect the input to a calibrated milliamp source. Connect the output to the actual device or to a load (between 100 and 500 ohms) equivalent to the actual device. Monitor the output current with a milliamp meter in series with the load or monitor the voltage across the load.
2. Set the calibrator to 20mA and adjust the span potentiometer for 20mA output.
3. Set the calibrator to 4mA and confirm that the output is 4mA.

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