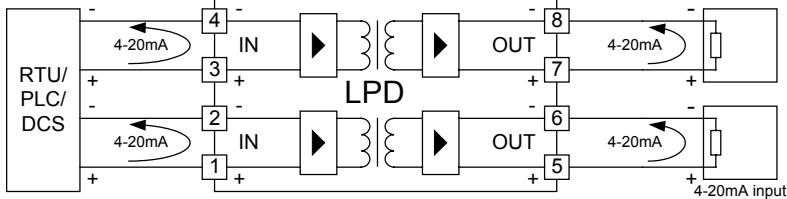
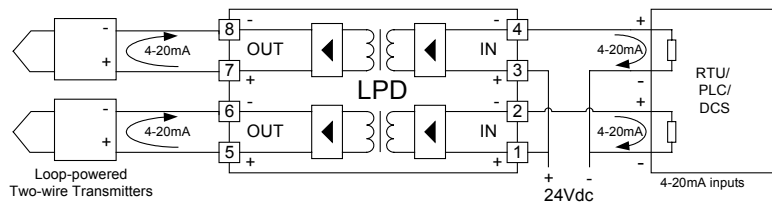


Application Examples

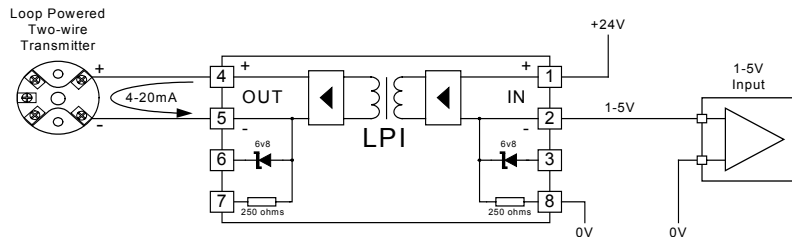
(for more information see datasheet at www.omniflex.com)



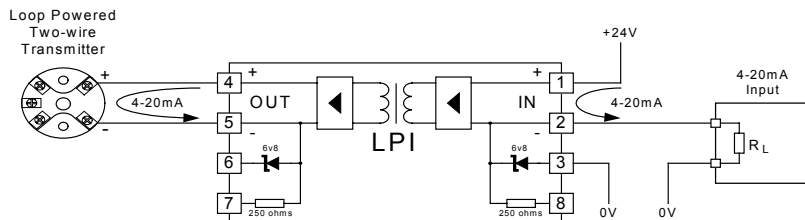
Application 1: Output from RTU/PLC/DCS with common supply to individually isolated 4-20mA circuits



Application 2: Field mounted two wire transmitters individually isolated from common input power supply.



Application 3: Using the LPI's internal resistor with a 2 wire transmitter to provide 1-5V to a PLC/RTU/DCS



Application 4: Isolated field transmitter with open circuit protection.
If input to RTU/PLC/DCS input is unplugged, current loop will remain unbroken.



INSTALLATION GUIDE

OMNITERM LPI Model C2063B
OMNITERM LPD Model C2462A

The OMNITERM LPI and LPD are loop powered isolating current repeaters specifically designed to isolate instrument current loops from circulating ground currents that can cause system inaccuracies, or at worst, instrument failure. Insert in any 4-20mA current loop to isolate the instruments in the loop. The current applied to the input is repeated on the isolated output, and the load present on the output is reflected back to the input. No separate power source is required.

The Omniterm LPI is a single repeater in a 22.5mm wide DIN rail mount housing, while the LPD is a dual repeater that fits two independent loop powered isolators into the same 22.5mm width for high density applications.

These second generation products utilise advanced electronic techniques to achieve high accuracy with minimum loop losses and zero field calibration. Because the output impedance is reflected back to the input, an open circuit on the output will cause an open circuit on the input. In cases where this is undesirable, an internal clamp is provided in the LPI model which, when connected, ensures that reflected output voltage never rises above 10 volts if the output loop is broken. This clamp is optimised for 250Ohm terminated circuits (1-5volts). The LPI also includes a precision 250Ohm resistor to convert the output into 1-5V. The LPI and LPD operate over 0-50mA operation, allowing fault current levels to be repeated.

Applications

- Inter-instrument isolation
- High voltage isolation of grounded current loops
- Drive multiple grounded instruments with one loop
- Internal 250 Ohm resistor for 1-5V input to PLC's etc.
- Isolate RTU's, PLC's, SCADA I/O from the field loop.
- Isolate two-wire transmitter loops from local 24Volts
- Isolate grounded chart recorders from the field loop
- Can be used with two-wire or four-wire transmitters

Specifications

Input

Normal Operating Input Current Range	4-20mA
Maximum Input current range	0-50mA
Allowable input voltage	27V maximum
Maximum volt drop in loop	3 volts max. at 20mA
Max. Equivalent insertion loop resistance	150Ω at 20mA

Output

Output current	Matches input current
Min. load resistance (externally connected)	100Ω (or 2 Volts equivalent)
Max. load resistance (without open circuit clamp connected)	1kΩ at 20 mA (24Volt supply)

Performance

Accuracy at 20°C and 250Ω load	< 20uA between 4 and 20mA
Effect of load impedance	< 0.1%/100Ω (0,05%/100Ω typical)
Response time 10-90% of 20mA into 250Ω	20ms typical

Open Circuit Clamp when connected (LPI Model ONLY)

Max voltage across input with output open circuit	<8 volts
Maximum working load impedance	250Ω

Internal 250 Ohm resistor (LPI Model ONLY)

Resistance	250Ω ± 0.1%
Resistance change with temperature	50ppm/°C

Temperature

Storage / Operating	-20 to +70°C / 0 to +60°C
Effect of Temperature	< 100ppm/°C

Isolation

Isolation Test Voltage	1500Vrms Input to Output
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Weight

	LPI Model C2063B	LPD Model C2462A
Unpacked / Packed	115g / 140g approx.	160g / 185g approx.

Compliance to Standards

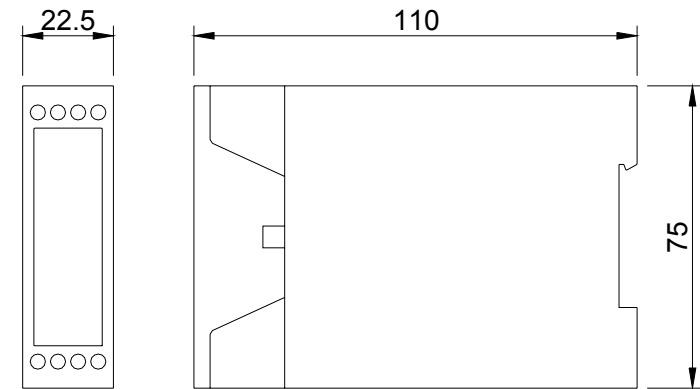
Safety	EN 60950:1995
Emissions	EN 55011 and EN50081-2:1994 Group I, Class A
Immunity – ESD	IEC 61000-4-2:1995, level 3
Immunity – RF Fields	IEC 61000-4-3:1995, level 3
Immunity – EFT	IEC 61000-4-4:1995, 1 kV – input/output lines

Dimensions

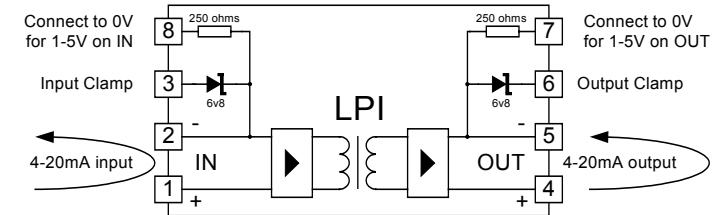
Width x Height x Depth	22.5mm (1.18") x 75mm(2.95") x 110mm(4.33")
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Part Number 8.0101.018
Revision 4

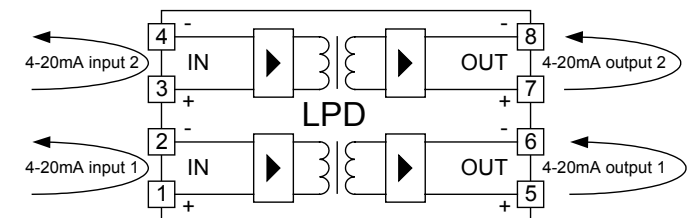
Mechanical Dimensions



Connection Diagram



Terminal Configuration of Omniterm LPI (Model C2063B)



Terminal Configuration of Omniterm LPD (Model C2463A)

