DSCL23

4 to 20mA Isolators with DC Supply - DIN or Panel Mount

Description

Each DSCL23 loop powered isolator provides 1 or 2 channels of analog signal protection by electrically isolating its input from output for any DC process signal in the range 4-20mA. The DSCL23 feeds isolated DC power to the field transmitter and returns a fully isolated 4-20mA analog signal (see Figure 1).

The input signal is chopped by a proprietary DC chopper circuit, isolation is provided by transformer coupling, a proprietary technique is used to suppress transmission of common mode spikes or surges, and the output signal from the secondary of the transformer is reconstructed to the original input signal.

Features

- Transmitter Isolates Loop
- Simplified Wiring for Quick Install and Signal Protection
- DIN Rail or Panel Mountable
- into a 19" Rack Space
- No Recalibration or Maintenance Required
- rms Transformer Isolation
- Prevents Ground-Loop Problems
- Transfer of Interference V and Currents
- Accuracy Over Full Span
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Discontinued

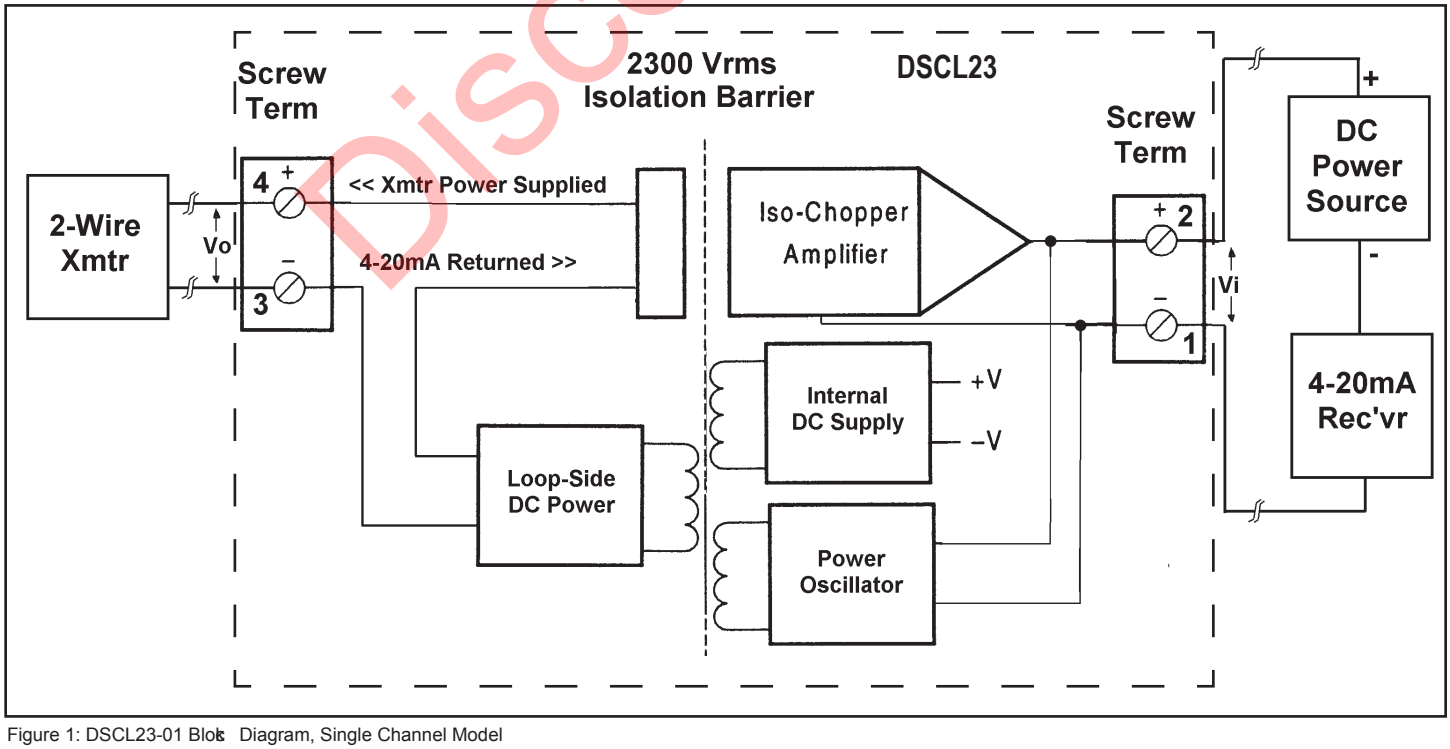


Figure 1: DSCL23-01 Block Diagram, Single Channel Model

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Specifications

Typical* at T_A = +25°C and +24VDC power

Module	DSCL23-01	DSCL23-02
Input Range(1) from Xmtr	4-20mA	*
CMV Input to Output	2300Vrms, 1 Minute	*
Accuracy	±0.1% Span Typical	*
	±0.2% Span Max	*
Linearity	Included in Accuracy	*
Stability	<50ppm/°C	*
Overshoot	<20µA (Typical 5µA)	*
Output Range(2) to System	4-20mA (50mA max)	*
Bandwidth, –3dB	200Hz	*
CMR (50Hz or 60Hz)	80dB	*
NMR	20dB per Decade above 200Hz	*
Response Time	2ms, to 90% Span	*
Output Noise	≥ 0mV p-p (Typical ≤ mV p-p) (120 kHz)	*
DC Power Source, Vi(2)	12-30VDC (24V nom)	*
Xmtr. Power Supplied, Vo(1)	≥ 9.3VDC at 20mA and 24V Power Vi	*
Environmental	Weight Approx. 100g	Weight Approx. 200g
Housing Material	Lexan 940 (UL 94 V-O)	*
Operating Temp. Range	–25°C to +55°C	*
Storage Temp. Range	–40°C to +70°C	*
Shock Test	50g (10 Shocks, 3 Axis)	*
Relative Humidity	0 to 75% Noncondensing	*
Emissions	EN50081-2 (Radiated, Conducted)	*
Immunity	EN50082-2 (ESD, RF, EFT)	*

NOTES:
*Contact factory or your local Dataforth sales office for maximum values.
* Same specification as DSCL23-01
(1) At connection between isolator and 2-Wire Transmitter.
(2) At connection between isolator and Power Supply

Ordering Information

Model	Channels	Input Range	Output Range	Figure
DSCL23-01	1	4-20mA	4-20mA	2
DSCL23-02	2	4-20mA	4-20mA	3

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Dimensional and Wiring Information

The DSCL23 DIN mount package accepts EN50022 (35 x 7.5) type rails; Dataforth PN SCMXRAIL1-xx. Both DSCL models may be adapted for screw mounting to wall or panel.

Multiple DSCL23 modules may be mounted next to each other without affecting input or output signals. The compact and narrow 17.5mm housing allows for up to 27 devices in a 19" rack space. The DSCL23 may be mounted in any position.

Screw terminals with wire protection clamps sized for 2 x 0.75mm^2 or 1 x 2.5mm^2 wires. The DSCL23 requires no maintenance.

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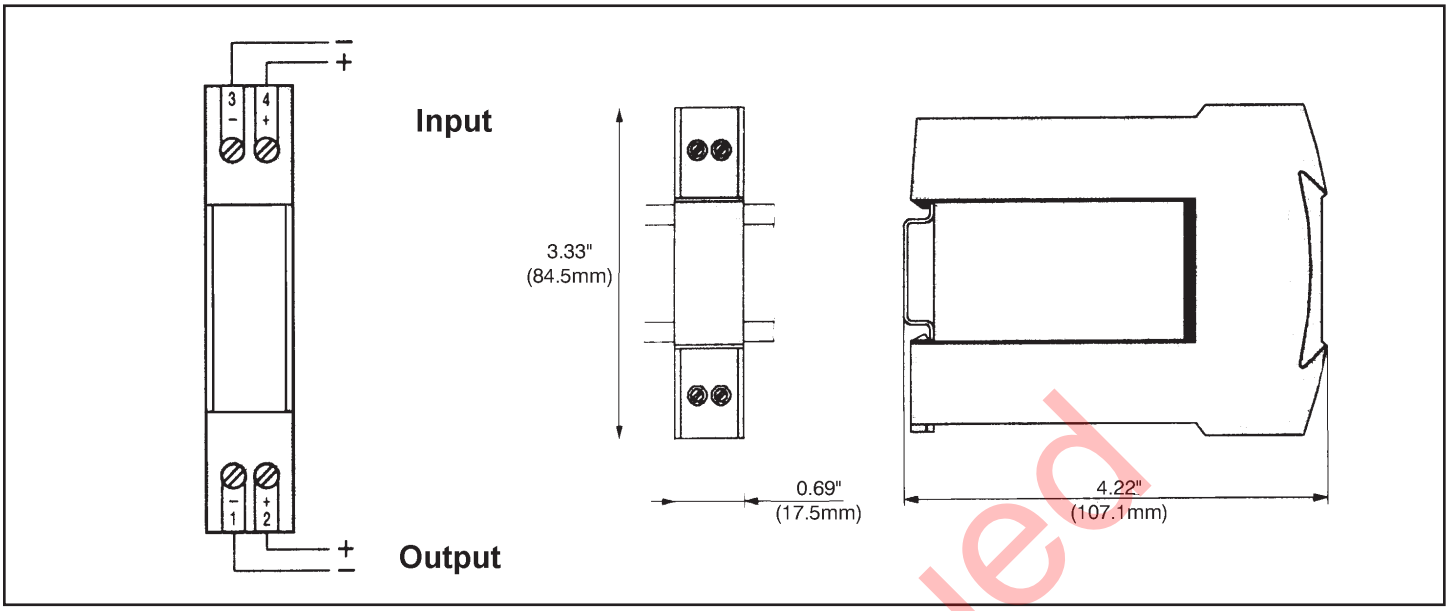
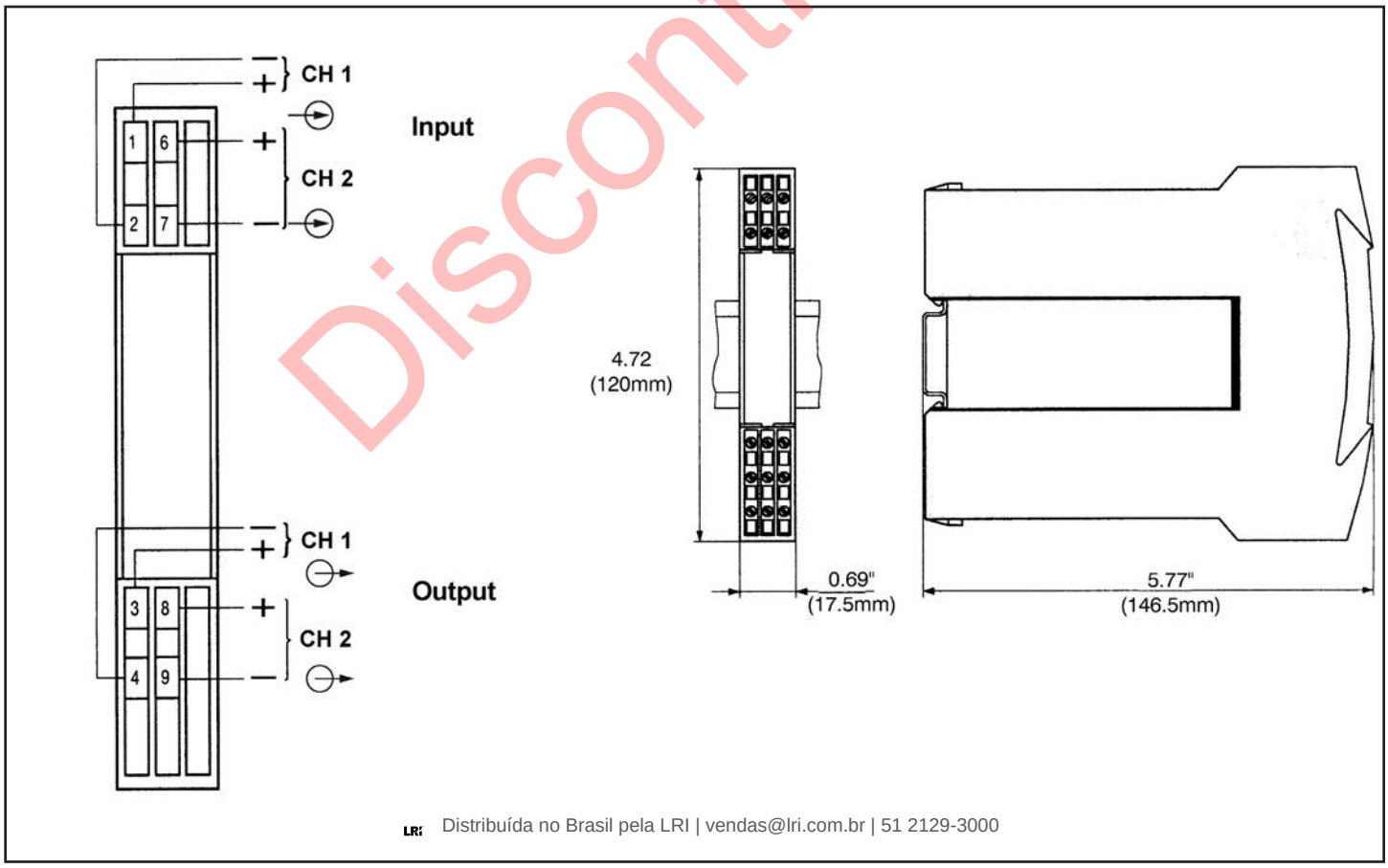


Figure 2: DSCL23-01 Wiring and Dimensions

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Figure 3: DSCL23-02 Wiring and Dimensions

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