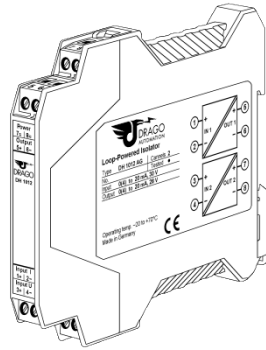


Loop-Powered Isolator DH 1000



Read these instructions before using the product and retain for future information.

DH 1000

1. Before Startup



The isolator should only be installed and put into operation by qualified staff. The staff must have studied the warnings in these operating instructions thoroughly.

The isolator may not be put into operation if the housing is open.

In applications with high operating voltages sufficient distance and isolation as well as shock protection must be ensured.

Safe and trouble-free operation of this device can only be guaranteed if transport, storage and installation are carried out correctly and operation and maintenance are carried out with care.



Appropriate safety measures against electrostatic discharge (ESD) should be taken during connection and assembly on the isolator.

2. Short Description

The loop powered isolator is used for electrical isolation and processing of 0(4) ... 20 mA standard signals.

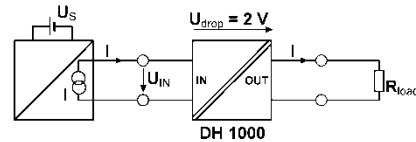
The galvanic isolation guarantees reliable decoupling of the sensor circuit from the processing circuit and prevents linked measurement circuits from influencing each other. The Protective Separation of the DH 102X with high isolation level provides protection for personnel and downstream devices against impermissibly high voltage.

3. Functioning

The input signal is modulated and then electrically decoupled using a transformer. The isolated signal is then made available at the output, demodulated and filtered.

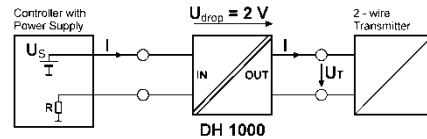
When using loop-powered Isolators, ensure that the current-driving voltage of the power source U_S is sufficient for driving the maximum current of 20 mA over the isolator with voltage drop of $U_{drop} = 2 V$ and the load R_{load} .

$$U_S \geq U_{IN} = 2 V + 20 \text{ mA} \times R_{load}$$



Optional use:

$$U_T = U_S - 2 V - 20 \text{ mA} \times R$$



4. Equipment

A screwdriver with a width of 2.5 - 3.5 mm is required connect the wires to the screw clamp terminals.

5. Mounting, Electrical Connection

The isolation transmitter is mounted on standard 35 mm DIN rail.

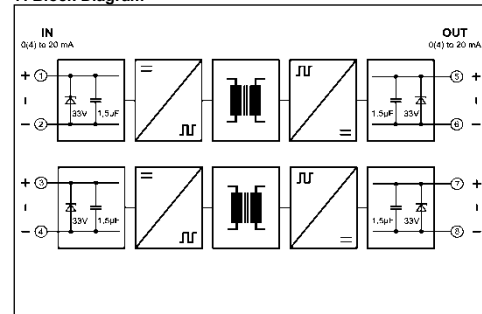
Terminal assignments	
Channel 1	Channel 2
1 Input +	3 Input +
2 Input -	4 Input -
5 Output +	7 Output +
6 Output -	8 Output -

6. Technical Data

Input	
Input signal	0(4) ... 20 mA / max. 30 V
Operating current	< 20 μ A
Voltage drop	< 2 V
Overload	$\leq 100 \text{ mA}, \leq 30 \text{ V}$
Output	
Output signal	0(4) ... 20 mA / max. 28 V
Response time (10 to 90 % of end value)	2 ms @ 500 Ω load
Ripple	< 10 mV _{rms}
General data	
Transmission error	$\pm 0.1 \%$ of end value
Load error	$\pm 0.03 \%$ of measured value / 100 Ω load
Temperature coefficient ¹⁾	$\pm 15 \text{ ppm/K}$ of measured value / 100 Ω load
DH 101X: Test voltage	1,5 kV, 50 Hz Between all circuits
DH 102X: Test voltage	4 kV, 50 Hz Between all circuits
Working voltage ²⁾ (Basic insulation)	600 V AC/DC for overvoltage category II and contamination class 2 acc. to EN 61010 part 1.
Protection against dangerous body currents ³⁾	Protective Separation by reinforced insulation acc. to EN 61010 part 1 up to 300 V AC/DC for overvoltage category II and contamination class 2 between all circuits.
Ambient temperature	Operation - 20 °C to + 70 °C (-4 to +158 °F) Transport and storage - 35 °C to + 85 °C (-31 to +185 °F)
EMC ³⁾	EN 61326 -1
Construction	12,5 mm (0.5") housing, protection type: IP 20
Connection	pluggable screw connection solid/stranded 0.2 to 2.5 mm ² , AWG 24 to 12 tightening torque 0.5 to 0.6 Nm
Weight	Approx. 100 g

- 1) Average TC in specified operating temperature range
- 2) As far as relevant the standards and rules mentioned above are considered by development and production of our devices. In addition relevant assembly rules are to be considered by installation of our devices in other equipments. For applications with high working voltages, take measures to prevent accidental contact and make sure that there is sufficient distance or insulation between adjacent situated devices.
- 3) Minor deviations possible during interference

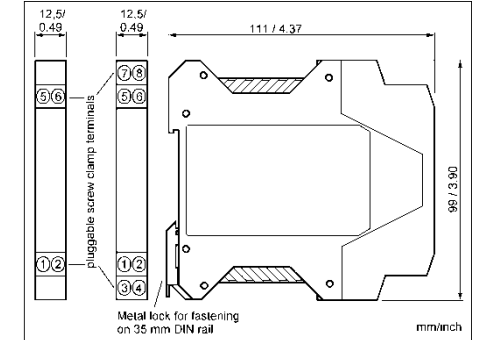
7. Block Diagram



8. Order Information

Product	Part No.
Loop-Powered Isolator 1 Channel	DH 1011 AG
2 Channel	DH 1012 AG
1 Channel, Protective Separation, Testvoltage 4kV~	DH 1021 AG
2 Channel, Protective Separation, Testvoltage 4kV~	DH 1022 AG

9. Dimensions



LIMITED WARRANTY

DRAGO Automation GmbH hereby warrants that the Product will be free from defects in materials or workmanship for a period of **five (5) years** from the date of delivery ("Limited Warranty"). This Limited Warranty is limited to repair or replacement at DRAGO's option and is effective only for the first end-user of the Product. This Limited Warranty applies only if the Product:

1. is installed according to the instructions furnished by DRAGO;
2. is connected to a proper power supply;
3. is not misused or abused; and
4. there is no evidence of tampering, mishandling, neglect, accidental damage, modification or repair without the approval of DRAGO or damage done to the Product by anyone other than DRAGO.

Delivery conditions are based upon the „GENERAL CONDITIONS FOR THE SUPPLY OF PRODUCTS AND SERVICES OF THE ELECTRICAL AND ELECTRONICS INDUSTRY“ recommended by the Zentralverband Elektrotechnik- und Elektronikindustrie (ZVEI) e.V. .

Subject to change!

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