

## Passive Isolator DH 11000



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

### DH 11000

#### ► Before Startup



When operating the signal converter, certain parts of the module can carry dangerous voltage! Ignoring the warnings can lead to serious injury and/or cause damage!

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

The signal converter 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 range selection and assembly on the transmitter.

#### ► Short description

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

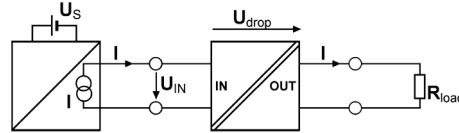
The galvanic isolation guarantees reliable decoupling of the sensor circuit from the processing circuit and prevents linked measurement circuits from influencing each other. The Protective Separation with high isolation level provides protection for personnel and downstream devices against impermissibly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

#### ► 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 Passive 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  $U_{drop} = 2.3$  V and the load  $R_{load}$ .

$$U_S \geq U_{IN} = 2.3 \text{ V} + 20 \text{ mA} \times R_{load}$$



#### ► Mounting, electrical connection

The passive isolator is mounted on standard 35 mm DIN rail.

#### Terminal assignments

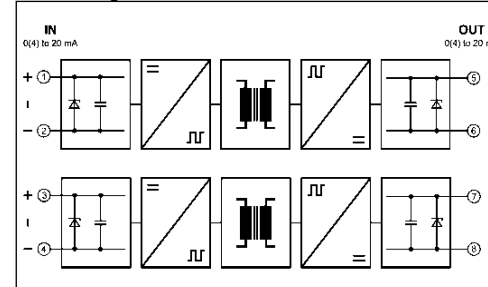
Channel 1	Channel 2
1 Input +	3 Input +
2 Input -	4 Input -
5 Output +	7 Output +
6 Output -	8 Output -

#### ► Technical Data

Input	
Input signal	0(4) ... 20 mA
Start up current	< 200 $\mu$ A
Voltage drop	< 2.3 V
Overload	$\leq 50 \text{ mA} / \leq 30 \text{ V}$
Output	
Output signal	0(4) ... 20 mA
Load	$\leq 600 \Omega$
Response time $T_{99}$	7 ms at 600 $\Omega$ load
Cut-off frequency -3 dB	100 Hz
Residual ripple	< 10 mV <sub>rms</sub>
General data	
Transmission error	< 0.1 % full scale
Load error	< 0.05 % of measured value / 100 $\Omega$ load
Temperature coefficient <sup>(1)</sup>	< 100 ppm/K
Test voltage	3 kV, 50 Hz, 1 min. between all circuits
Working voltage <sup>(1)</sup> (Basic insulation)	600 V AC/DC for overvoltage category II and contamination class 2 acc. to EN 61010-1
Protection against dangerous body currents <sup>(2)</sup>	Protective Separation by reinforced insulation acc. to EN 61010-1 up to 300 V AC/DC for overvoltage category II and contamination class 2 between all circuits.
Ambient temperature	Operation -25 °C to +70 °C (-13 to +158 °F) Transport -40 °C to +85 °C (-40 to +185 °F)
EMC <sup>(3)</sup>	EN 61326-1
MTBF	DH11010: 2865 years DH1120: 1508 years acc. to SN 29500 (stationary continuous operating, average ambient temperature 40 °C)
Construction	6.2 mm (0.244") housing, protection type: IP 20 mounting on 35 mm DIN rail acc. to EN 60715
Connection terminals (see order information)	- Screw terminals (plus-minus clamp screws) - Cage clamp terminals (Push-In)
Weight	Approx. 70 g

- Average TC in specified operating temperature range
- 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 equipment. 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.
- Minor deviations possible during interference

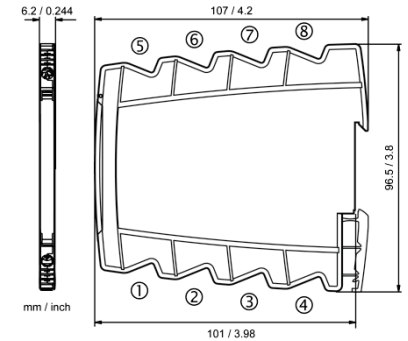
#### ► Block Diagram



#### ► Order Information

Passive Isolator	Order No.
1 channel, screw terminals	DH 11010 S
1 channel, Push-In terminals	DH 11014 S
2 channel, screw terminals	DH 11020 S
2 channel, Push-In terminals	DH 11024 S

#### ► Dimensions



#### ► Connection data

Connection	Screw terminals	Push-In terminals
Wire cross-section stranded ferruled	0.5 mm <sup>2</sup> - 2.5 mm <sup>2</sup> AWG 20 - 14	0.5 mm <sup>2</sup> - 1.5 mm <sup>2</sup> AWG 20 - 16
Wire cross-section solid wire	0.5 mm <sup>2</sup> - 2.5 mm <sup>2</sup> AWG 20 - 14	0.5 mm <sup>2</sup> - 2.5 mm <sup>2</sup> AWG 20 - 14
Stripped length	8 mm / 0.3 in	8 mm / 0.3 in
Screw terminal torque	0.6 Nm / 5 lbf in	-

#### 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:

- is installed according to the instructions furnished by DRAGO;
- is connected to a proper power supply;
- is not misused or abused; and
- 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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