USER INSTRUCTIONS English

2-Channel Signal Converter DN 26000

CE DRAGO | AUTOMATION

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

► 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 an 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 2-Channel Signal Converter is used for electrical isolation and conversion of unipolar process signals. Due to the extremely slim design, the space requirement is only 3 mm per channel.

The input and output ranges can be selected individually for each channel via DIP switches. A readjustment is not necessary due to the calibrated measuring ranges. A limitation of the output signal (clipping) and the cut-off frequency can also be adapted to the measuring task via DIP switches.

The 5-way isolation guarantees reliable decoupling 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.

The power is supplied via the In-Rail-Bus, which ensures pre-wiring on a standard DIN rail. This significantly reduces the wiring effort. A green LED on the front of the unit has been provided to monitor the power supply.

► Functioning

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

► Settings

Set the input and output ranges with DIP switch as indicated in the following table:

	Channel 1				Channel 2				Function	
	IN		OUT		IN		OUT		f_c	Clip
S1-	1	2	3	4	5	6	7	8	9	10
0 … 20 mA										
4 … 20 mA		●		●		●		●		
0 … 10 V	●		●		●		●			
0 … 5 V	●	●	●	●	●	●	●	●		
f_c = 100 Hz										
f_c = 10 Hz									●	
Clipping Off										
Clipping On										●

Factory settings: all switches in position OFF ● = on

An active clipping function (Clipping = On) limits the output signal to the following values:

Output range	Signal limits	
0 … 20 mA	0,0 mA	20,5 mA
4 … 20 mA	3,8 mA	20,5 mA
0 … 10 V	0,0 V	10,25 V
0 … 5 V	0,0 V	5,125 V

► Mounting, Electrical Connection

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

Terminal assignments

Channel 1
1 Input (+U / −I) 3 Output +
2 Input (−U / +I) 4 Output −

Channel 2
5 Input (+U / −I) 7 Output +
6 Input (−U / +I) 8 Output −

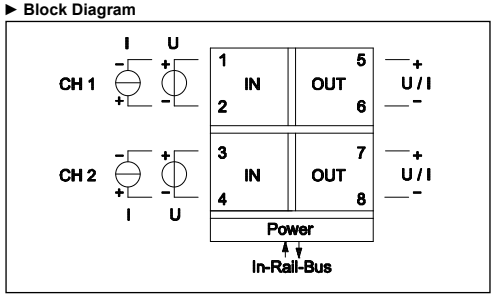
D Power supply In-Rail-Bus D +
C Power supply In-Rail-Bus C -

► Technical Data

Input	**Voltage**	**Current**
Input signal (calibrated switchable)	0 … 10 V 0 … 5 V	0 … 20 mA 4 … 20 mA
Input resistance	≥ 100 kΩ	≤ 25 Ω
Overload	≤ 30 V	≤ 50 mA
Output	**Voltage**	**Current**
Output signal (calibrated switchable)	0 … 10 V 0 … 5 V	0 … 20 mA 4 … 20 mA
Load	≤ 5 mA (2 kΩ at 10 V)	≤ 10 V (500 Ω at 20 mA)
Ripple	< 10 mV_{rms}	
General data		
Transmission error	< 0.1 % full scale	
Temperature coefficient[1]	< 100 ppm/K	
Cut-off frequency -3 dB (switchable)	100 Hz, 10 Hz	
Response time T_{99}	10 ms, 55 ms	
Test voltage	3 kV, 50 Hz, 1 min. All circuits against each other	
Working voltage[2] (Basic insulation)	600 V AC/DC for overvoltage category II and contamination class 2 acc. to EN 61010-1	
Protection against dangerous body currents[2]	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 input and output and power supply.	
Power supply	24 V DC via In-Rail-Bus (see accessories) 16.8 V … 31.2 V, approx. 1.1 W	
Ambient temperature	Operation Transport and storage	-25 °C to +70 °C (-13 to +158 °F) -40 °C to +85 °C (-40 to +185 °F)
EMC[3]	EN 61326-1	
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	

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 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.
3) Minor deviations possible during interference

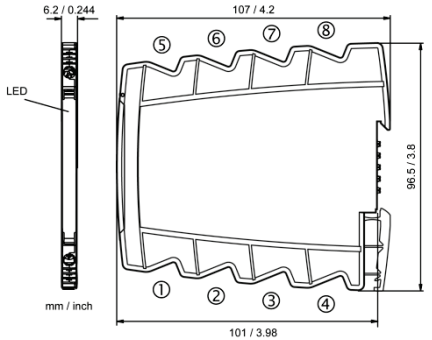
► Block Diagram



► Order Information

Standard Signal Converter	**Order No.**
Screw terminals	DN 26000 B
Push-In terminals	DN 26004 B

► Dimensions



► Connection data

Connection	**Screw terminals**	**Push-In terminals**
Wire cross-section stranded ferruled	0.5 mm^2 - 2.5 mm^2 AWG 20 - 14	0.5 mm^2 - 1.5 mm^2 AWG 20 - 16
Wire cross-section solid wire	0.5 mm^2 - 2.5 mm^2 AWG 20 - 14	0.5 mm^2 - 2.5 mm^2 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:

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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