USER INSTRUCTIONS English

Function Signal Converter DN 2050

DRAGO | AUTOMATION

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

► Before Startup

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

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

The module 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 function signal converter with 4 I/O ports and a switching output is used for acquisition, conversion and galvanic isolation of 0/4 ... 20 mA, 0/2 ... 10 V standard signals and binary I/O signals.

Port 1,2: configurable as AI, DI or DO (open collector)
Port 3,4: configurable as AO or DO (active logic output)
Switch: switching output

The configuration is carried out with the PC software DRAGOset at the programming interface on the front panel. Numerous functions are available such as signal splitter, clipping isolating amplifier, inverse isolating amplifier, split-range isolating amplifier, signal comparator, MIN/MAX separator, 2-channel isolating amplifier, signal distributor, switching amplifier, limit alarm unit, adder/ subtractor and many more.

All I/O ports are fully isolated and protected against overvoltage, short-circuit and reverse polarity.

► Functioning

The I/O ports, as well as an additional switching output, can be combined as required using DRAGO's cross-port technology to implement various device functions.

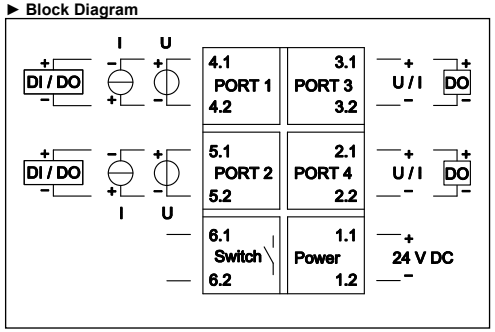
► Configuration with software DRAGOset

The function signal converter is configured with the PC software DRAGOset and the programming interface DZU 1201 (see accessories) at the front programming socket. The configuration can be done either with or without power supply.

Further information can be found on the following websites:
http://4ez.de/114 Function Signal Converter DN 2050
http://4ez.de/z31 PC Software DRAGOset

Additional information about the function signal converter and accessories is available on our website www.drago-automation.de

► Block Diagram



► Mounting, Electrical Connection

The module is mounted on standard 35 mm DIN rail.

► Technical Data

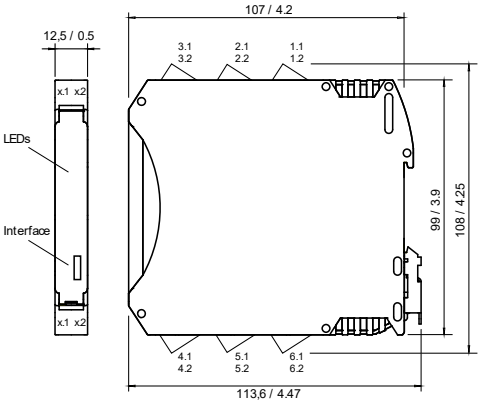
Port 1, 2		
Input analog	0 … 20 mA (range: 0 … 22 mA)	0 … 10 V (range: 0 … 11 V)
Input resistance	≤ 25 Ω	≥ 100 kΩ
Overload	≤ 100 mA	≤ 30 V
Input binary	0 … 30 V, switching point L/H: 3 V/10 V	
Output binary	Open-Collector 30 V/100 mA Residual voltage < 2,3 V	
Port 3, 4		
Output analog	0 … 20 mA (range: 0 … 22 mA)	0 … 10 V (range: 0 … 11 V)
Load	≤ 15 V (750 Ω at 20 mA)	≤ 20 mA (500 Ω at 10 V)
Residual ripple	< 10 mV_{rms}	
Output binary	active logic output, L/H : 0/16 V, max. 20 mA	
Switching Output		
Solid state relay	30 V AC/DC, max. 0.5 A fully isolated, not current limited	
General data		
Transmission error	< 0.1 % full scale	
Temperature coefficient[1]	< 150 ppm/K	
Cut-off frequency -3 dB	2 … 100 Hz, configurable	
Response time T_{99}	10 … 500 ms, configurable	
Test voltage	3 kV AC, 50 Hz, 1 min., all electrical 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	
Ambient temperature	Operation Transport and storage	-25 °C to +70 °C (-13 to +158 °F) -40 °C to +85 °C (-40 to +185 °F)
Power supply	24 V DC	16.8 V … 31.2 V, approx. 1.6 W
EMC[3]	EN 61326-1	
Construction	12,5 mm (0.5'') housing, protection type: IP 20 mounting on 35 mm DIN rail acc. to EN 60715	
Connection terminals	Plug-in connection terminal blocks, (plus-minus clamp screws)	
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

► Order Information

Product	Order No.
Function Signal Converter	DN 2050 AG

► Dimensions



► Connection data

Connection	Screw terminals
Wire cross-section stranded ferruled	0.2 mm^2 - 2.5 mm^2 AWG 24 - 12
Wire cross-section solid wire	0.2 mm^2 - 2.5 mm^2 AWG 24 - 12
Stripped length	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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