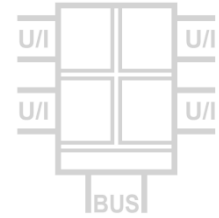


# 4 Channel 2AI/2AO Module

## DMB 96400

4 Fully Isolated Analog I/O Channels, Modbus RTU



The Modbus 4 Channel Analog Module provides four fully isolated, independently configurable channels.

Two inputs can be configured as current or voltage inputs. In addition, these can be configured as digital inputs or digital outputs (open collector).

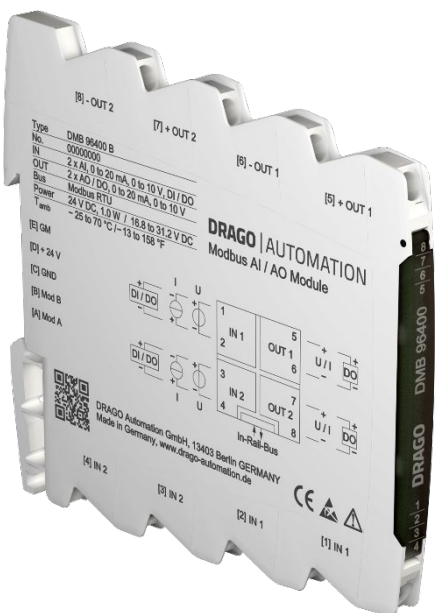
Two outputs can be configured as current or voltage outputs. In addition, these can be configured as digital outputs (active logic 0/10 V).

All parameters can be set via the Modbus RTU interface and via a programming socket behind the front panel. A free PC configuration software also offers extended setting options and extensive diagnostic functions during operation. A subset of the most common settings is also available via DIP switches.

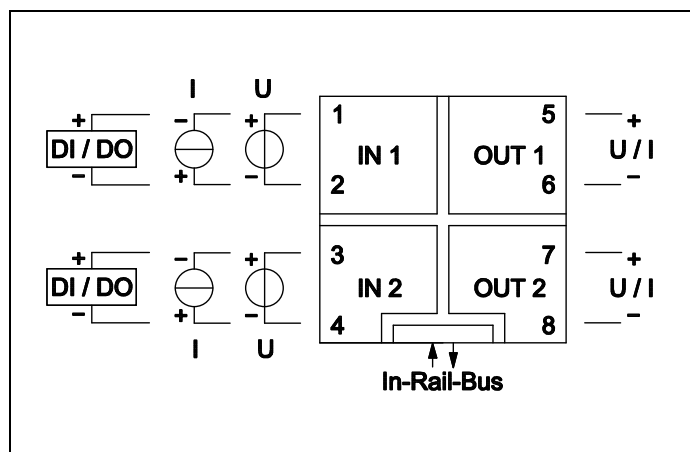
The 5 port isolation ensures reliable decoupling of the channels from each other and from the processing circuit and the power supply. Power supply and Modbus RTU are connected via the rear-mounted In-Rail-Bus connection (see Accessories).



- **Processing of 4 industrial standard signals**  
individually configurable as current or voltage signal
- **4 galvanic isolated I/O ports**  
protection against erroneous measurements due to parasitic voltages or ground loops
- **Protective 5 port separation up to 300 V AC/DC**  
Test voltage 3 kV
- **Fast signal acquisition**  
high measuring rate, short processing times
- **In-Rail-Bus connector for Modbus and Power Supply**  
allows fast and economical installation
- **Freely scalable**  
up to 247 DRAGO Module in one Modbus segment
- **Extremely slim design**  
6.2 mm slim housing for a simple and space saving DIN rail mounting
- **5 Years Warranty**  
Defects occurring within 5 years from delivery date shall be remedied free of charge at our plant (carriage and insurance paid by sender)



Block diagram



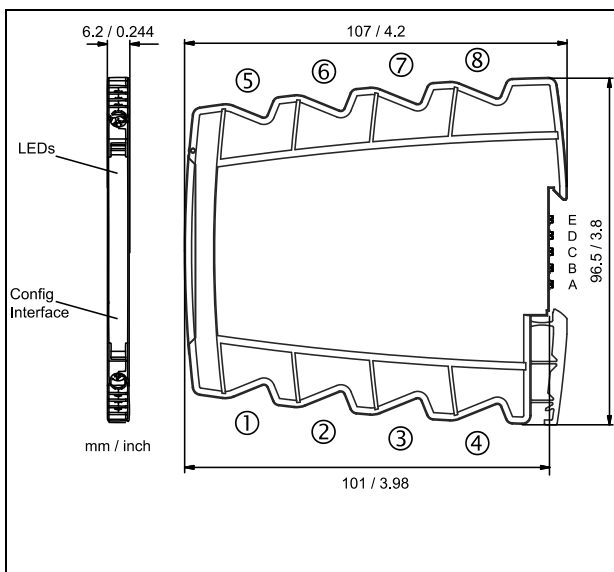
**6mm**

**Technical Data**

Input	Voltage	Current
Input signal	0 ... 10 V	0 ... 20 mA
Input resistance	≥ 100 kΩ	≤ 25 Ω
Overload	≤ 30 V	≤ 100 mA
Additional function	DI: 12/24 V (L < 2.0 V H > 8.4 V) DO: Open collector switching output, ≤ 30 V / ≤ 100 mA (drop voltage < 2V)	
Output	Voltage	Current
Output signal	0 ... 10 V	0 ... 20 mA
	0 to 20 mA	
Load	≤ 5 mA (2 kΩ at 10 V)	≤ 12 V (600 Ω at 20 mA)
Residual ripple	< 10 mVrms	
Additional function	DO: active switching output 0/10 V	
Modbus		
Protocol	Modbus RTU (RS485)	
Module addressing	1 to 247	
Baud rate	300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200	
Configuration	Parity: Even, Odd, None 2 stop bits, None 1 stop bit      Response delay: 1 to 1000 ms	
Connectivity	Up to 247 DRAGO Modbus devices without additional repeater (1/8 Load)	
General Data		
Measuring error	< 0.1 % full scale	
Temperature coefficient <sup>1)</sup>	< 100 ppm/K	
Resolution	14 bit	
Test voltage	3 kV AC, 50 Hz, 1 min.      All channels against each other and against Modbus/power supply	
Working voltage <sup>2)</sup> (Basic insulation)	600 V AC/DC for overvoltage category II and pollution degree 2 acc. to EN 61010-1	
Protection against dangerous body currents <sup>1)</sup>	Protective Separation by reinforced insulation acc. to DIN EN 61010-1 up to 300 V AC/DC for overvoltage category II and contamination class 2 between input and Modbus/power supply	
Ambient temperature	Operation: -25 °C to +70 °C (-13 to +158 °F)      Transport and storage: -40 to 85 °C (-40 to +185 °F)	
Power supply	24 V DC      voltage range 16.8 V to 31.2 V DC,      max. 1.0 W	
EMC <sup>2)</sup>	EN 61326-1	
Construction	6.2 mm (0.244") housing, protection type: IP 20, mounting on 35 mm DIN rail acc. to EN 60715	
Weight	Approx. 70 g	

1) Average TC related to full scale value in specified operating temperature range, reference temperature 23 °C  
 2) For applications with high working voltages, ensure there is sufficient spacing or isolation from neighboring devices and protection against electric shocks.  
 3) Minor deviations possible during interference

**Dimensions**



**Terminal assignments**

1	+ U	- I	Input 1
2	- U	+ I	
3	+ U	- I	Input 2
4	- U	+ I	
5	+ U	+ I	Output 1
6	- U	- I	
7	+ U	+ I	Output 2
8	- U	- I	
A	Modbus A		
B	Modbus B		
C	- Power supply		
D	+ Power supply		

**Connection**

Captive plus-minus clamp screws  
 Wire cross-section 0.5 to 2.5 mm<sup>2</sup> / AWG 20-14  
 Stripped length 8 mm / 0.3 in  
 Screw terminal torque 0.6 Nm / 5 lbf in  
 Optional power connection via In-Rail-Bus (see accessories)

**Product line**

Device	Order No.
Modbus 4 Channel 2AI/2AO Module	DMB 96400 B

Subject to change!