DATASHEET

M=BUS LAB Analog Board

Safer Mobility.

Stationary data logger for signal conditioning, processing and data storage of analog signals.

- Data logger/board for 8 analog channels
- 16 bit resolution
- Max. 500 kHz sampling rate
- Internal shunt resistor
- Internal bridge completion

TECHNICAL SPECIFICATIONS

Supported channels	8
Power consumption (unloaded)	2.7 W
Supported instrumentation	Resistive sensors / active sensors
Sensor excitation voltage	5 VDC
Accuracy of sensor excitation voltage	0.1 %
Max. output current per channel	30 mA
Sensor input voltage	± 1.25 mV…± 2.5 V (over voltage protection up to ± 48 V)
High voltage measurement	± 50 V (over voltage protection up to ± 150 V)
Trigger	M=BUS system trigger via gateway
Conformity	SAE J211 / ISO 6487
Analog bandwidth (- 3 dB)	>60 kHz @ gain 2,000
Resolution	16 bit
Sampling rate	20 kHz / 100 kHz / 500 kHz
Max. recording time	3.2 h per channel @ 20 kHz (233.963.520 samples per channel)
Internal shunt	Yes (20 kΩ 0.1%)
Internal bridge completion	Half bridge
Offset adjustment	Full range sensor input voltage, 16 bit
Sensor-ID per socket	1-Wire® compatible (Dallas)
Data storage	4 GB flash
Data storage time	Non-volatile
Dimensions	1 slot
Weight	222 g
M=BUS connectors	MMCX female
Operating temperature	0…50°C
Humidity range	10...70 % RH

© **MESSRING GmbH**
Friedrichshafener Straße 4c, 82205 Gilching / Germany
More information: **M=BUS LAB Analog Board**
sales@messring.de
www.messring.de

20.05.2021

Scope of supply
- M=BUS LAB Analog Board
- M=BUS system cable (300 mm)
- Calibration certificate

Required equipment
- M=BUS LAB Base Unit (USB or Ethernet with instrument housing)

PIN ASSIGNMENT

Pin	Description	Pin	Description
1	Not connected	5	Negative excitation (GND)
2	ID-module	6	Negative sensor input
3	Positive sensor input	7	-50...50 V input
4	Positive excitation (5 V)		
Socket housing connected to ground			

Figure 1: (MESSRING product code 4BBD211) Standard pin assignment (socket view, device)
Use this plug: LEMO FGG.1B.307...

Pin	Description	Pin	Description
1	Positive excitation (5 V)	5	-50...50 V input
2	Negative excitation (GND)	6	ID-module
3	Positive sensor input	7	Not connected
4	Negative sensor input		
Socket housing connected to ground			

Figure 2: (MESSRING product code 4BBD212) NA3X pin assignment (socket view, device)
Use this plug: LEMO FGG.1B.307...

Pin	Description	Pin	Description
1	Positive sensor input	5	Negative excitation (GND)
2	Positive excitation (5 V)	6	Negative sensor input
3	Not connected	7	-50...50 V input
4	ID-module		
Socket housing connected to ground			

Figure 3: (MESSRING product code 4BBD214) CP pin assignment (socket view, device)
Use this plug: LEMO FGG.1B.307...

Friedrichshafener Straße 4c, 82205 Gilching / Germany
More information: **M=BUS LAB Analog Board**
sales@messring.de
www.messring.de