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| M=BUS LAB Analog Board |
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| 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
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| **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 |
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| **Scope of supply** | * M=BUS LAB Analog Board
* M=BUS system cable (300 mm)
* Calibration certificate
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| **Required equipment** | * M=BUS LAB Base Unit (USB or Ethernet with instrument housing)
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| **PIN ASSIGNMENT**  |
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| Y:\UM\Korrigierte_M=BUS DRAFT Datenblätter_Stand_17092018\Korr_M=BUS Pro Analog Logger_MESSRING_data sheet\Lemo_Buchse_7_Polig.png | 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... |
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| Y:\UM\Korrigierte_M=BUS DRAFT Datenblätter_Stand_17092018\Korr_M=BUS Pro Analog Logger_MESSRING_data sheet\Lemo_Buchse_7_Polig.png | 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... |
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| 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 |

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