|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| M=BUS LAB Analog Board | | | | | | |
|  | | | |  | | |
| 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 | | |
|  | | | |  | | |
| **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** | | | | | | |
|  | | | | | | |
| 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... | | | | | | |
|  | | | | | | |
| 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... | | | | | | |
|  | | | | | | |
| |  |  |  |  | | --- | --- | --- | --- | | 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 | | | |   Y:\UM\Korrigierte_M=BUS DRAFT Datenblätter_Stand_17092018\Korr_M=BUS Pro Analog Logger_MESSRING_data sheet\Lemo_Buchse_7_Polig.png | | | | | | |
| Figure 3: (MESSRING product code 4BBD214) CP pin assignment (socket view, device)  Use this plug: LEMO FGG.1B.307... | | | | | | |