The e.bloxx series is designed for industrial and experimental test systems requiring precise high speed measurement of electrical, thermal, and mechanical quantities in engine and component test beds.

All units are based on a clean modular design, and easily connect to the wide variety of field devices used in today's test beds. Sample rates up to 1000 Hz and resolutions up to 19 bit are possible depending on the module and signal type used. Standardized communication protocols (Profibus-DP and Modbus-RTU) allow the e.bloxx family to work with a wide variety of application hardware and software.

Adding an e.series Test Controller dramatically increases the system’s throughput and connectivity options. An e.series Test Controller is a data concentrator, communication gateway, and optionally a Programmable Automation Controller (PAC) with 100Mbps Ethernet, Profibus-DP, EtherCAT, or CANopen.

Most important features:

- **Accuracy 0.01**
- **4 or 16 galvanic isolated input channels**
  Differential voltage, current over shunt terminal
- **High accuracy digitalization**
  19 bit ADC, 100 Hz sampling rate per channel, total rate 400 Hz
- **1 digital input and 1 digital output**
  Status, tare, reset peak hold
  Status, alarm, limit value, tolerance band
- **Differential inputs**
  Common mode voltage 100 VDC
- **Signal conditioning**
  Linearization, digital filtering, averaging, scaling, minimum/maximum, arithmetic, alarm
- **RS 485 fieldbus interface**
  Profibus-DP, Modbus-RTU, ASCII as well as connectable to any e.series Test Controller
- **Galvanic isolation**
  of I/O-signals, power supply and interface
  Isolation voltage 500 VDC
- **Electromagnetic Compatibility**
  according EN 61000-4 and EN 55011
- **Power supply 10…30 VDC**
- **DIN rail mounting (EN500022)**
### Analog Input

**Accuracy**
- 0.01 % typical
- 0.02 % in controlled environment
- 0.05 % in industrial area

**Repeatability**
- 0.003 % typical (within 24 h)

**Measurement Range**
- **Voltage**
  - ±10 V, ±2 mV, 40 µV
  - ±2 V, ±0.4 mV, 8 µV

**Input resistance**
- 800 kΩ

**Common mode voltage**
- 100 VDC permanent

**Linearity deviation**
- 0.01 % of the final value

**Signal to noise ratio**
- 100 Hz: 100 dB
- 1 Hz: 120 dB

**Temperature influence**
- on zero: 50 µV / 10 K
- on sensitivity: 0.005 % / 10 K
- Long-time drift: 1 µV / 24 h, 2.5 µV / 8000 h

### Communication Interface

**Standard**
- RS 485, 2-wire

**Data format**
- 8E1

**Protocols**
- ASCII, Modbus-RTU, Proflbus-DP, Local-Bus

**Baud rate**
- ASCII and ModBus-RTU: 19.2; 38.4; 57.6; 93.75; 115.2 kBaud
- Proflbus-DP: 19.2; 93.75; 187.5; 500; 1500 kBaud
- Local-Bus: 19.2; 38.4; 57.6; 93.75; 115.2; 187.5; 500; 1500 kBaud

**Connectable devices**
- up to 32

### Power Supply

**Power supply**
- 10 to 30 VDC
- overvoltage and overload protection

**Power consumption**
- **e.bloxx A3-1**
  - approx. 1.5 W
- **e.bloxx A3-4**
  - approx. 6 W

**Influence of the voltage**
- 0.001 %/V

### Mechanical

**Case**
- Aluminium and ABS

**Dimensions (W x H x D) and weight**
- **e.bloxx A3-1**
  - 45 x 90 x 83 mm, 160 g
- **e.bloxx A3-4**
  - 104 x 90 x 83 mm, 500 g

**Protective system**
- IP20

**Mounting**
- DIN EN-Rail

### Environmental

**Operating temperature**
- -20 °C to +60 °C

**Storage temperature**
- -40 °C to +85 °C

**Relative humidity**
- 5 % to 95 % at 50 °C
- non condensing

### Warm Up Time

All declarations are valid after a warm up time of 45 minutes.