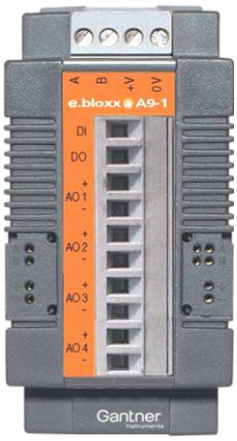
e.bloxx A9

Multi-Channel Analog Output Module

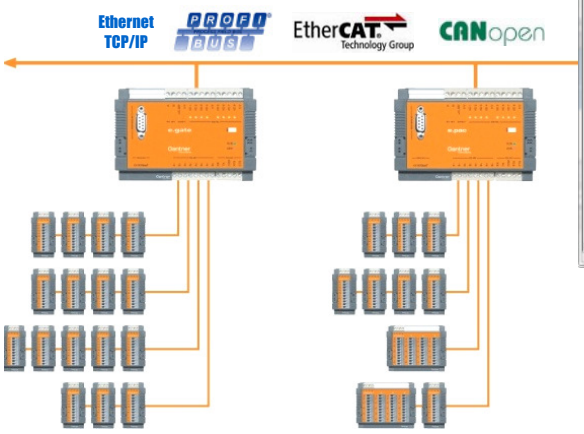


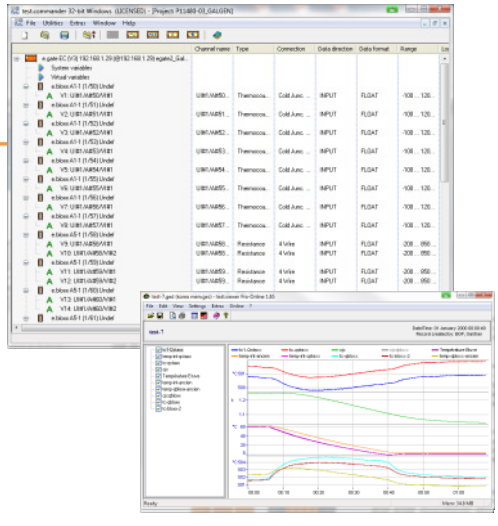
e.bloxx A9

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 0.02 %**
- **4 analog output channels**
  Selectable voltage (±10 V) or current (0 to 20 mA)
- **High accuracy digitalization**
  19 bit ADC, 10 Hz sampling rate per channel
- **Signal conditioning**
  Additional scaling, minimum/maximum, arithmetic, alarm
- **1 digital input and 1 digital output**
  Status, reset peak hold, alarm, limit value, tolerance band
- **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)**





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e.bloxx A9 Technical Data

Analog Output (4 each module)

Accuracy	0.02 %
Type of output	4 configurable voltage or current output
Output voltage	±10 VDC
Valid load resistance	>2 kΩ
Temperature influence	
on zero	2 mV per 10 K
on sensitivity	0.05 % / 10 K
noise voltage in range	
0 ... 10 Hz	2 mV
0 ... 1000 Hz	10 mV
Long time drift	1 mV / 48 h, 2.5 mV / 8000 h
Output current	0 to 20 mA
Permitted load	<400 Ω
Temperature influence	
on zero	4 µA / 10 K
on sensitivity	0.05 % / 10 K
Noise voltage in range	
0 ... 10 Hz	4 µA
0 ... 1000 Hz	20 µA
Long time drift	2 µA / 48 h, 5 µA / 8000 h
Linearity deviation	0.01 % of final value
Resolution	16 bit
Refresh rate	1,000 samples/sec (1 channel defined)
Refresh rate	250 samples/sec (4 channels defined)
Settling time	3 ms

Digital In/output

Input	Status, tare, reset
Input voltage	max. 30 VDC
Input current	max. 1.5 mA
Upper switching threshold	> 10 V (high)
Lower switching threshold	< 2.0 V (low)
Output	Process or host controlled
Type of output	Open Collector
Output voltage	max. 30 V
Output current	max. 100 mA

Communication Interface

Standard	RS 485, 2-wire
Data format	8E1
Protocols	ASCII, Modbus-RTU, Profibus-DP Local-Bus
Baud rate	
ASCII and ModBus-RTU	19.2; 38.4; 57.6; 93.75; 115.2 kBaud
Profibus-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
Galvanic isolation	500 V

Power Supply

Power supply	10 to 30 VDC overvoltage and overload protection
Power consumption	approx. 1.5 W
Influence of the voltage	0.001 %/V

Mechanical

Case	Aluminium and ABS
Dimensions (W x H x D) and weight	45 x 90 x 83 mm, 160 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.

Valid from Nov. 2010. Specification subject to change without notice.
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