



e.gate IP/DP



e.gate EC

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 5000 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.

Profibus DP / EtherCAT / CANopen and Ethernet interfaces

High throughput data access for synchronous or asynchronous collection

High speed data sampling and transmission rate

Up to 48.000 real values/s, input and output data

Recording of a high number of channels

Profibus-DP: 244 byte, max. 120 integer or 60 real values

Ethernet: 1024 byte, max. 304 integer or 192 real values

EtherCAT: 1024 Byte

CANopen: Dynamically, regarding numbers of PDOs

Internal data buffer memory (16 MB)

Data buffer at block transfer of measurements (FTP/Socket)

Open file structure

Total integration in OEM automation systems, access to all configuration parameters and variables via text files and FTP

Order Information

| Product | Article No. |
|-----------|-------------|
| e.gate IP | 439887 |
| e.gate DP | 439584 |
| e.gate EC | 636684 |
| e.gate CO | 721982 |

Accessories

| | |
|---------------------------------------|--------|
| Configuration Software e.commander | 234476 |
| Patch cable Ethernet cross | 496524 |

Additional Features

- Profibus-DP with up to 12 Mbps
- EtherCAT according specification ETG
- CANopen according ISO 11898
- Ethernet with 10/100 Mbps, FTP, TCP/IP, UDP
- 4 x RS 485 slave interface for the connection of e.bloxx modules
- RS 232 host interface
- High speed to memory data recording without gaps (1000 Hz)
- Time stamp for all measurement values
- Synchronized measurement (maximal 20 μ s Jitter)
- Galvanic isolation of I/O-signals, power supply, and communication interface
- Power supply 10 to 30 VDC
- DIN rail mounting (EN 50022 rail)
- Electromagnetic Compatibility according to EN 61000-4 and EN 55011

e.gate IP / DP / EC / CO Technical Data

Host Interface RS 232

| | |
|-------------|---------------------------|
| Data format | 8E1, 8O1, 8N1 |
| Protocols | ASCII, Modbus RTU (parts) |
| Baud rate | 9.6 kbps up to 115.2 kbps |
| Connection | RX, TX, COM, RTS, CTS |

Host Interface Ethernet

| | |
|---------------------------|---|
| Protocols | TCP/IP, UDP, PING, ASCII, Modbus TCP/IP |
| Services | DHCP, FTP-Server |
| Baud rate | 10/100Mbps |
| Number of simult. clients | max. 10 |
| Isolation voltage | 500 V |

Host Interface Profibus-DP (e.gate DP only)

| | |
|---------------------|--|
| Standard | RS 485 |
| Data format | 8E1 |
| Baud rate | 9.6 kbps up to 12 Mbps |
| Connectable devices | max. 32 without repeater, max. 127 with repeater |
| Isolation voltage | 500 V |

Host-Interface EtherCAT (e.gate EC only)

| | |
|--------------------|---------------------|
| Standard | Ethernet |
| Number of channels | max. 1024 Byte data |
| Baud rate | 100 Mbps |
| Cycle time | >= 100µs |
| Isolation voltage | 500 V |

Host-Interface CANopen (e.gate CO only)

| | |
|-------------------|---|
| Standard | CAN 2.0B, CANopen acc. ISO11898 1 SDO Client, 2 SDO Server |
| DS404 basic frame | number PDOs by DS404 |
| Baud rates | 20 kbps to 1 Mbps |
| Isolation voltage | 500 V |

Slave interface RS 485 (4 per e.gate)

| | |
|---------------------|-----------------------|
| Standard | RS 485, 2-wire |
| Data format | 8E1 |
| Protocols | Gantner Local-Bus |
| Baudrate | 9.6 kbps up to 6 Mbps |
| Connectable devices | max. 32 at one line |
| Isolation voltage | 500 V |

Digital In/Output

| | | |
|---------------------------|--|------------------|
| Inputs | | |
| Function | | fixed definition |
| Input voltage | | max. 30 VDC |
| Input current | | max. 1.5 mA |
| Upper switching threshold | | >3.5 V (high) |
| Lower switching threshold | | <1.0 V (low) |

| | | |
|----------------|--|------------------|
| Outputs | | |
| Function | | fixed definition |
| Type of output | | Open-Collector |
| Output voltage | | max. 30 VDC |
| Output current | | max. 100 mA |

Power Supply

| | |
|-------------------|---|
| Power supply | 10 to 30 VDC overvoltage and overload protection |
| Power consumption | approx. 5 W |

Mechanical

| | |
|-----------------------------------|---|
| Case: | Aluminium and ABS |
| Dimensions (W x H x D) and weight | 129 x 90 x 83 mm (5.08 x 3.54 x 3.27 in), 500 g (1.10 lb) |
| Protective system | IP20 |
| Mounting | DIN EN-Rail |

Connection

| | |
|-------------------------|--|
| Plug-in screw terminals | Wire cross-section up to 1.5 mm ² |
| Profibus-DP | Sub-D9 plug |
| Ethernet | RJ 45 plug |

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 |

Operating System Independent

| | |
|------------------------|--------------------------------|
| Standardized interface | Ethernet (FTP/Berkeley-Socket) |
|------------------------|--------------------------------|

| Performance Examples | Slave | Input data | Output data | Mode | Rate |
|--|--------|---------------------------|--------------------------|---------|--------|
| Input data Profibus-DP active Ethernet active | UART 1 | 12 modules, 1 var. 4 Byte | - | synchr. | 1000/s |
| | UART 2 | 12 modules, 1 var. 4 Byte | - | synchr. | 1000/s |
| | UART 3 | 12 modules, 1 var. 4 Byte | - | synchr. | 1000/s |
| | UART 4 | 12 modules, 1 var. 4 Byte | - | synchr. | 1000/s |
| Input and output data Profibus-DP active Ethernet active | UART 1 | 8 modules, 1 var. 4 Byte | 4 modules, 1 var. 4 Byte | synchr. | 1000/s |
| | UART 2 | 8 modules, 1 var. 4 Byte | 4 modules, 1 var. 4 Byte | synchr. | 1000/s |
| | UART 3 | 8 modules, 1 var. 4 Byte | 4 modules, 1 var. 4 Byte | synchr. | 1000/s |
| | UART 4 | 8 modules, 1 var. 4 Byte | 4 modules, 1 var. 4 Byte | synchr. | 1000/s |

At lower data rates the limitation of the transmission is the principle maximum number of values.
Profibus-DP: 120 integer or 60 real values, EtherCAT: 304 integer values or 192 real values, Ethernet: 304 integer values or 196 real values.
(Limitation due to the address range or the frame length).

Valid from August 2008. Specification subject to change without notice.

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