The time synchronized acquisition of measurement data is only part of the needs of today's demanding testing applications. Supervisory Control Functions, Signal Analysis, and more are needed to make a reliable and cost effective system. When an e.series Programmable Automation Controller (PAC) is added to an e.bloxx system all of these capabilities and more can easily be achieved without a permanent Personal Computer involved.

With e.con, the needed PAC control algorithms and functionality can be defined graphically in an intuitive and visually appealing way. The e.con programming environment comes with a large library of predefined algorithms, functions, and User Interface widgets to make any application development fast and easy.

e.pac IP / DP

e.pac EC
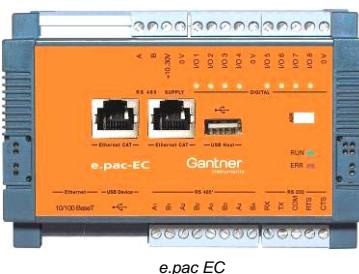
Extensive function block library

Sequences, data archive, PID-controller and further transfer functions, mathematic, numeric, Boolean combinations, function generator

Data memory 16 Mbytes (DL-version 128 Mbytes Flash)

Configurable memory for measurements, I/Os and conditioned variables

Synchronizing

Synchronized data acquisition and PAC functionality up to 1 kHz

Open file structure

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

Different interfaces

Ethernet TCP/IP (all versions),
Profibus-DP (DP-version), EtherCAT (EC-version), USB Host (DL-version)

Order Information:

Product	Article No.
e.pac IP	439988
e.pac DP	439786
e.pac EC	637685
e.pac DL	152677
Accessories	
USB Memory 1 GByte	636886
Graphic Programming system	
e.con - Advanced	304373
e.con - Lite	438987
Configuration software	
e.commander	234476
Patch cable Ethernet cross	496524

Additional Features

- Profibus-DP with up to 12 Mbps
- EtherCAT according specification ETG
- Ethernet with 10/100 Mbps, FTP, TCP/IP, UDP
- 4 x RS 485 slave interface for connection of e.bloxx modules
- RS 232 and RS 485 host interface

- Divisible measurement storage (8 x 2 MByte)
- 128 MByte non-volatile flash memory, extendable by USB
- Time stamp for all measurement values
- Synchronized measurement (maximal 20 µs Jitter)
- Synchronization between data acquisition and PAC function

- Galvanic isolation of I/O-signals, power supply, and communication interface
- Power supply 10 to 30 VDC
- DIN rail mounting (DIN EN 50022 rail)
- Electromagnetic compatibility according to EN 61000-4 and EN 55011

e.pac IP / DP / EC / DL 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 RS 485

Data format	8E1, 8O1, 8N1
Protocols	ASCII, Modbus RTU (pieces)
Baud rate	9.6 kbps up to 115.2 kbps
Connectable devices	max. 32 at one line

Host-Interface Ethernet

Protocols	TCP/IP, UDP, PING, ASCII, Modbus TCP/IP
Services	DHCP, FTP-Server
Baud rate	10/100Mbps
Number of simultaneous Clients	max. 10
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 Profibus-DP (e.pac 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 USB (e.pac DL only)

Version	USB 2.0
Data rate	typ. 100 kByte/s

Slave-Interface RS 485 (4 per e.pac)

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

Data memory

RAM	16 MByte, 8 Data archives each 2 MByte
Flash (e.pac DL only)	128 MByte

Digital In/Output

Inputs
Function	fixed definition synchronization
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 synchronization, monitoring
Type of output	Open-Collector
Output voltage	max. 30 VDC
Output current	max. 100 mA

Power Supply

Power supply	10 to 30 VDC over voltage 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)
Protection system	IP20
Mounting	DIN EN rail

Connection

Plug-in screw terminals	wire cross-section up to max. 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 (no. of channels at data rate)

In each case: Read variables - run function - write variables

Function	Rate 1000/s	Rate 500/s
Controller type PID	20	44
FIR Filter, 100 coefficients	4	20
Alarm and limit control	30	60
Linearization, 16 pole interpolation	20	40
Arithmetic	90	180