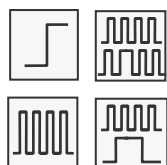


The e.rack series is designed for industrial and experimental test systems requiring precise high speed measurement of electrical, thermal, and mechanical quantities in engine and component test beds.

The e.rack series is a modular rack mount design, and easily connects 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 plug-in and signal type used. Standardized communication protocols (Profibus-DP and Modbus-RTU) allow the e.rack family to work with a wide variety of application hardware and software (including e.bloxx).

An optional Touch Screen Display, e.gate R, and e.pac R provides the full power and flexibility of the e.series in a rack mounted package.



16 configurable digital inputs /outputs

Status in/outputs

Process or host controlled

Frequency inputs

Frequency measurement up to 2 MHz

Counter inputs

Quadrature counter, up/down counter, up to 400 kHz

RS 485 fieldbus interface

Profibus-DP, Modbus-RTU, ASCII

Order Information

Product	Article No.
e.rack D1	330574
Accessories	
Configuration Software ICP 100	633214
Interface Converter	
RS232 / RS485 ISK 200	229682
ISK 101	689326

Additional Features

- 8 frequency or counter inputs
- Chronos method for precise frequency measurement
- Pulse width modulated and frequency output
- Data transmission up to 1.5 Mbps
- PC-Software (ICP 100) for easy configuration of the modules
- Galvanic isolation of I/O signals, power supply, and communication interface
- Pluggable screw terminals for field, power, and communication connections
- Electromagnetic Compatibility according to EN 61000-4 and EN 55011

e.rack D1 Technical Data

Digital Inputs

Function per terminal strip	16 x status inputs/outputs or 8 x frequency or 8 x quadrature counter or 8 x up/down counter
Status	
Response time	1 ms
Frequency measurement	
Time base	0.01 to 10 s
Max. frequency	400 kHz
Counter	
Counter depth	32 bit
Counter frequency	400 kHz
Input voltage	max. 30 VDC
Input current	max. 1.5 mA
Upper switching threshold	>3.5 V (logical "Low")
Lower switching threshold	<1.0 V (logical "High")
Reference frequency	6 MHz
Accuracy	0.01 %
Temperature drift	0.01 % / 10 K

Firmware-Variant (included)

<u>Chronos</u>	
Function	Frequency measurement
Method	Chronos, Optimization by the combination of time measurement and edge counting
Number of input channels	8
Max. frequency	400 kHz
Time base	0.01 to 1 s
Reference frequency	6 MHz
Accuracy	0.01 %
Temperature drift	0.01 % / 10 K

<u>Chronos PWM</u>	
Function	Frequency measurement (s. above)
Number of input channels	4
Function	Frequency output Pulse width modulation
Frequency range	0.1 Hz to 10 kHz
Accuracy	0.15 %
Number of output channels	4 x frequencies or 2 x PWM

<u>Fast Chronos</u>	
Function	Frequency measurement (s. above) Direction detection (0°, 90°)
Number of input channels	4
Frequency range	1 Hz to 2 MHz
Time base	0.001 to 1 s
Reference frequency	48 MHz
Resolution	0.002 %
Accuracy	0.01 %
Temperature drift	0.01 % / 10 K
Refresh rate	1 ms at 1 channel 2 ms at 2 channels

Digital Outputs

Function	Process or host controlled
Type of output	Open Collector
Output Voltage	max. 30 VDC
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
Galvanic isolation	500 V

Power Supply

Power supply	10 to 30 VDC overvoltage and overload protection
Power consumption	approx. 3 W
Influence of the voltage	0.001 %/V

Environmental

Operating temperature	-20 °C to +60 °C
Storage temperature	-30 °C to +60 °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 October 2006. Specification subject to change without notice.
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