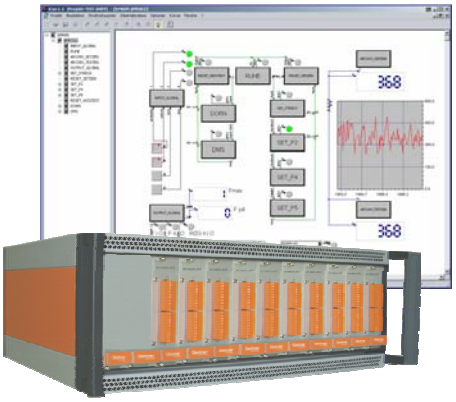
e.rack A3

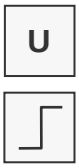
Multi-Channel Voltage Plug-In



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.



8 analog input channels

Differential voltage (±10 V and ± 2V range)

Measuring rate 100 samples/sec with 8 active channels

Total rate 800 samples/sec

Differential inputs

Common mode voltage 100 VDC

Signal conditioning

Digital filtering, averaging, scaling,
minimum/maximum store, arithmetic, alarm

RS 485 fieldbus interface

Profibus-DP, Modbus-RTU, ASCII

Order Information:

Product	Article No.
e.rack A3	327681
Accessories	
Configuration Software	
ICP 100	633214
Interface Converter	
RS232 / RS485	
ISK 200	229682
ISK 101	689326

Additional features

- Accuracy 0.01 %
- ADC resolution and internal calculation accuracy of 19 bits
- Measuring rate 100 samples/sec per channel (8 active channels)
- Filtering, scaling, and data formatting

- 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

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e.rack A3 Technical Data

Analog Inputs

Accuracy	0.01 % typical		
	0.02 % in controlled environment[1]		
	0.05 % in industrial area[2]		
Repeatability	0.003 % typical (within 24 h)		
Measurement	**Range**	**Accuracy**	**Resolution**
Voltage	±10 V	±2 mV	40 µV
	±2 V	±0.4 mV	8µV
Input resistance	800 kΩ		
Common mode voltage	100 V 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	50µV / 10 K		
on sensitivity	0.005 % / 10 K		
Long-time drift	1 µV / 24 h		

Analog/Digital Conversion

Resolution	19 bit
Sample rate	100 samples/sec at 8 active channels
Conversion method	Sigma-Delta
Filter	Variable digital low pass filter 1st order averaging

Digital In-/Outputs

Input	Status, tare, reset
Input voltage	max. 30 VDC
Input current	max. 6 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
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.

[1] according to EN 61326: 1997, appendix B
[2] according to EN 61326: 1997, appendix A

Valid from October 2006. Specification subject to change without notice.
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