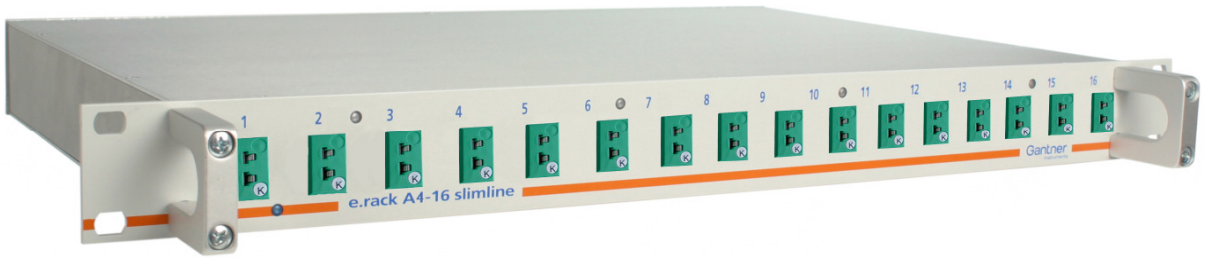
e.rack A4-16 *slimline*

Multi-Channel Thermocouple and mV Unit

The e.rack slimline 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 slimline is a low profile 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 unit and signal type used. Standardized communication protocols (Profibus-DP and Modbus-RTU) allow the e.rack slimline family to work with a wide variety of application hardware and software (including e.bloxx).

All of this measurement power is housed in a 1 unit (1U) 19" rack for unparalleled density. With the addition of an e.series controller (e.gate, e.pac, etc.) even the most sophisticated applications can be achieved with ease.



16 analog, high speed, galvanic isolated channels

Thermocouple and ± 80 mV, 19 bit at 100 samples/s

Cold junction compensation

Integrated CJC each input

Dynamic linearization

Optimized linearization for the types B, E, J, K, L N, R, S, T, U

Signal conditioning

Digital filter, averaging, scaling, minimum/maximum storage, arithmetic, alarm

RS 485 fieldbus interface

Profibus-DP, Modbus-RTU, ASCII

Order Information

Product	Article No.
e.rack A4-16 *slimline*	440980
Accessories	
Configuration Software ICP 100	633214
Input plug series 423 8 pole	423 8P
Interface Converter RS232 / RS485 ISK 101	689326

Additional Features

- Accuracy 0.01 %
- ADC resolution and internal calculation accuracy of 19 bits
- Measuring rate up to 100 samples/sec
- Linearization, scaling, and data formatting

- Data transmission up to 1.5 Mbps
- PC-Software (ICP 100) for easy configuration of the modules
- Compatible with all e.series controllers (e.gate, e.pac, etc.)

- Galvanic isolation of I/O signals, power supply, and communication interface
- Electromagnetic Compatibility according to EN 61000-4 and EN 55011

Gantner Instruments Test & Measurement GmbH ■ www.gantner-instruments.com ■ office@gantner-instruments.com
Montafonerstraße 8 ■ A-6780 Schruns / Austria ■ T +43 (0) 5556 77463-0 ■ F +43 (0) 5556 77463-300
Industriestraße 12 ■ D-64297 Darmstadt / Germany ■ T +49 (0) 6151 95136-0 ■ F +49 (0) 6151 95136-26

e.rack A4-16 *slimline* Technical Data

Analog Inputs

Number of analog inputs	16
Accuracy	0.01 % typical 0.02 % in controlled environment[1] 0.05 % in industrial area[2]
Repeatability	0.003 % typical (within 24 h)

Measurement	**Accuracy**
Thermocouples	
Type B	better than ±5 °C
Type E, J, K, L, T, U	better than ±1 °C
Type N	better than ±2 °C
Type R, S	better than ±3 °C

Input resistance	> 10 MΩ
Common Mode Voltage	100 V permanent
Linearity deviation	0.01 % of the final value
Signal to noise ration	100 dB
Temperature influence	
on zero point	1µV / 10 K
on sensitivity	0,01 % / 10 K
Long-time drift	1 µV / 24 h

Analog/Digital Conversion

Resolution	19 bit
Sample rate	100 samples/sec
Conversion method	Sigma-Delta
Filter	variable digital low-pass filter 1st order averaging

Communication Interface

Standard	RS 485, 2-wire
Data format	8E1
Protocols	ASCII, Modbus RTU, Profibus-DP Local-Bus
Baud rate	
ASCII and ModBus	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 over voltage and overload protection
Power Consumption	approx. 10 W
Influence of the voltage	0.001 %/V

Mechanical

Type	19" Standard, 1 unit
Dimensions (W x H x D)	
Basic housing	444 x 44 x 280 mm (17.48 x 1.73 x 11.02 in)
incl. plugs and assembly flange	483 x 44 x 335 mm (19.02 x 1.73 x 13.19 in)
Protection system	IP20

Environmental

Operating temperature	-20 °C to +55 °C
Storage temperature	-30 °C to +55 °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 June 2007. Specification subject to change without notice.
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