

- MSI

No

CiR – Configuration in RUN

Reparameterization possible in RUN Yes

Calibration possible in RUN No

Supply voltage

Rated value (DC) 24 V

permissible range, lower limit (DC) 19.2 V

permissible range, upper limit (DC) 28.8 V

Reverse polarity protection Yes

Input current

Current consumption, max. 37 mA

Encoder supply

24 V encoder supply

- 24 V No

Additional 24 V encoder supply

- 24 V No

Power loss

Power loss, typ. 0.9 W

Address area

Address space per module

- Address space per module, max. 4 byte; + 1 byte for QI information

Hardware configuration

Selection of BaseUnit for connection variants

- 1-wire connection BU type A0, A1
- 2-wire connection BU type A0, A1

Analog inputs

Number of analog inputs 2

- For voltage measurement 2

permissible input voltage for voltage input (destruction limit), max. 30 V

Cycle time (all channels), min. 500 μ s

Input ranges (rated values), voltages

- 0 to +10 V Yes; 15 bit
 - Input resistance (0 to 10 V) 180 k Ω
- 1 V to 5 V Yes; 15 bit
 - Input resistance (1 V to 5 V) 180 k Ω
- -10 V to +10 V Yes; 16 bit incl. sign
 - Input resistance (-10 V to +10 V) 180 k Ω
- -5 V to +5 V Yes; 16 bit incl. sign

— Input resistance (-5 V to +5 V)	180 kΩ
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
• Integration time, parameterizable	Yes
• Interference voltage suppression for interference frequency f1 in Hz	16.6 / 50 / 60 Hz / off
• Conversion time (per channel)	50 ms @ 60 Hz, 60 ms @ 50 Hz, 180 ms @ 16.6 Hz, 250 μs without filter
Smoothing of measured values	
• Number of smoothing levels	4
• parameterizable	Yes
• Step: None	Yes; 1x cycle time
• Step: low	Yes; 4x cycle time
• Step: Medium	Yes; 8x cycle time
• Step: High	Yes; 16x cycle time
Encoder	
Connection of signal encoders	
• for voltage measurement	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.005 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.5 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.3 %
Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$, f1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min.	70 dB
• Common mode voltage, max.	10 V
• Common mode interference, min.	90 dB
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	

• Diagnostic alarm	Yes
• Limit value alarm	No
Diagnostic messages	
• Monitoring the supply voltage	Yes
• Wire-break	No
• Short-circuit	Yes; at 1 to 5 V
• Group error	Yes
• Overflow/underflow	Yes
Diagnostics indication LED	
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• Channel status display	Yes; Green LED
• for channel diagnostics	No
• for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels	No
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-30 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C
• vertical installation, max.	50 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	31 g
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