



— Input resistance (Type S)	1 M $\Omega$
• Type T	Yes
— Input resistance (Type T)	1 M $\Omega$
<b>Thermocouple (TC)</b>	
Temperature compensation	
— internal temperature compensation	Yes; possible with TM-E15S24-AT, TM-E15C24-AT
— external temperature compensation with compensations socket	Yes; one external compensating box per channel
Characteristic linearization	
• parameterizable	Yes
— for thermocouples	Type B, C, E, J, K, L, N, R, S, T to IEC 584
Cable length	
• shielded, max.	50 m
<b>Analog value generation for the inputs</b>	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
• Integration time (ms)	16,7 / 20 ms
• Interference voltage suppression for interference frequency f1 in Hz	50 / 60 Hz
• Conversion time (per channel)	66 ms; 66 / 80 ms; additional conversion time for diagnostic wire break test
Smoothing of measured values	
• parameterizable	Yes; In four stages by means of digital filtering
• Step: None	Yes; 1x cycle time
• Step: low	Yes; 4x cycle time
• Step: Medium	Yes; 32x cycle time
• Step: High	Yes; 64x cycle time
<b>Errors/accuracies</b>	
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.1 %; $\pm 1.5$ K for thermocouples, $\pm 7$ K for thermocouples type C, $\pm 2.5$ K with static thermal state (ambient temperature change < 0.3 K/min)
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.05 %; $\pm 1$ K with thermocouples, $\pm 5$ K with thermocouples type C, $\pm 1.5$ K with static thermal state (ambient temperature change < 0.3 K/min)
<b>Interrupts/diagnostics/status information</b>	
Diagnoses	
• Wire-break	Yes; only thermocouples
• Group error	Yes
• Overflow/underflow	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
<b>Parameter</b>	
Remark	4 byte
Diagnostics wire break	Disable / enable (wire break is detected only in thermocouples)
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable
Comparison point	none / yes, internal
<b>Potential separation</b>	
Potential separation analog inputs	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
<b>Isolation</b>	
Isolation tested with	500 V DC
<b>Dimensions</b>	
Width	15 mm
Height	81 mm
Depth	52 mm
<b>Weights</b>	

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Weight, approx.

40 g

**last modified:**

3/2/2021 