

*** SPARE PART*** SIMATIC SC,ELECTRONIC SUBMODULE 2 AI,
4..20mA, 2 MS CONVERSION TIME P. CHANNEL FOR 4-WIRE-
TRANSDUCER

General information	
Usable terminal block	TB 16IM-SC
Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
Input current	
from supply voltage L+, max.	30 mA
Power loss	
Power loss, typ.	0.6 W
Hardware configuration	
Slots	
• required slots	1; from 8
Analog inputs	
Number of analog inputs	2
permissible input current for current input (destruction limit), max.	35 mA; 35 mA continuous, 150 mA for max. 1 s (mark to space ratio 1:20)
Input ranges	
• Current	Yes
Input ranges (rated values), currents	
• -20 mA to +20 mA	Yes
• Input resistance (-20 mA to +20 mA)	50 kΩ
• 4 mA to 20 mA	Yes
• Input resistance (4 mA to 20 mA)	50 Ω
Thermocouple (TC)	
Temperature compensation	
— parameterizable	No
Characteristic linearization	
• parameterizable	No
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	Actual value encryption
Integration and conversion time/resolution per channel	

• Resolution (incl. overrange) • Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Basic conversion time (ms)	4 to 20 mA: 11 bit, ± 20 mA: 12 bit incl. sign 12 bit No 1 ms
Smoothing of measured values	
• parameterizable • Step: None • Step: low • Step: Medium • Step: High	Yes; parameterizable in 4 stages by means of digital filtering Yes; 1x cycle time Yes; 8x cycle time Yes; 64x cycle time Yes; 128x cycle time
Encoder	
Connection of signal encoders	
• for current measurement as 4-wire transducer	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.05 %
Temperature error (relative to input range), (+/-)	0.01 %/K
Crosstalk between the inputs, min.	50 dB; At 50/60 Hz
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.1 %
Operational error limit in overall temperature range	
• Current, relative to input range, (+/-)	1 %
Basic error limit (operational limit at 25 °C)	
• Current, relative to input range, (+/-)	0.7 %
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency	
• Series mode interference (peak value of interference < rated value of input range), min. • Common mode interference (USS < 2.5 V), min.	70 dB; With smoothing factor $k = 128$ 50 dB
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Potential separation	
Potential separation analog inputs	
• between the channels • between the channels and backplane bus • between the channels and the power supply of the electronics	No No No
Permissible potential difference	
Between the inputs and MANA (UCM)	2 V DC / 2 Vpp AC
Dimensions	

Width	10 mm
Height	64 mm
Depth	51 mm

Weights

Weight, approx.	20 g
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last modified: 08/12/2019