

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

General information

Usable terminal block	TB 16IM-SC
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Supply voltage

Rated value (DC)	24 V
Reverse polarity protection	Yes

Input current

from supply voltage L+, max.	30 mA
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Output voltage

Power supply to the transmitters	
• present	Yes
• short-circuit proof	Yes
• Supply current, max.	100 mA

Power loss

Power loss, typ.	0.6 W
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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
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Input ranges (rated values), currents

• 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
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Cable length

• shielded, max.	200 m
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Analog value generation for the inputs	
Measurement principle	Actual value encryption
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> Resolution (incl. overrange) 	4 to 20 mA: 12 bit
<ul style="list-style-type: none"> Resolution with overrange (bit including sign), max. 	12 bit
<ul style="list-style-type: none"> Integration time, parameterizable 	No
<ul style="list-style-type: none"> Basic conversion time (ms) 	1 ms
Smoothing of measured values	
<ul style="list-style-type: none"> parameterizable 	Yes; parameterizable in 4 stages by means of digital filtering
<ul style="list-style-type: none"> Step: None 	Yes; 1x cycle time
<ul style="list-style-type: none"> Step: low 	Yes; 8x cycle time
<ul style="list-style-type: none"> Step: Medium 	Yes; 64x cycle time
<ul style="list-style-type: none"> Step: High 	Yes; 128x cycle time
Encoder	
Connection of signal encoders	
<ul style="list-style-type: none"> for current measurement as 2-wire transducer — Burden of 2-wire transmitter, max. 	Yes 750 Ω
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	
<ul style="list-style-type: none"> Current, relative to input range, (+/-) 	1 %
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> Current, relative to input range, (+/-) 	0.7 %
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, $f_1 =$ interference frequency	
<ul style="list-style-type: none"> Series mode interference (peak value of interference < rated value of input range), min. 	70 dB; With smoothing factor $k = 128$
<ul style="list-style-type: none"> Common mode interference (USS < 2.5 V), min. 	50 dB
Interrupts/diagnostics/status information	
Alarms	No
Diagnostics function	No
Potential separation	
Potential separation analog inputs	
<ul style="list-style-type: none"> between the channels 	No
<ul style="list-style-type: none"> between the channels and backplane bus 	No

• between the channels and the power supply of the electronics

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

last modified:

08/12/2019