



Figure similar

SIMATIC, electronic module for ET200iSP, 4 AI HART, 4-wire transducer, for connecting HART 4-wire transmitters, supported HART protocol version 6.0, Ex ib (ia Ga) IIC T4 Gb, Ex ib [ia IIIC Da] IIC T4 Gb, Ex ib [ia] I Mb

General information	
Product brand name	SIMATIC
Product family	ET 200iSP
Product category	Analog module input
Product type designation	4AI I 4WIRE HART
Product function	
• Isochronous mode	No
Installation type/mounting	
Rack mounting	No
Front mounting	Yes
Rail mounting	Yes
Wall mounting/direct mounting	No
Supply voltage	
Type of supply voltage	DC
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption, typ.	27 mA
from load voltage (power bus), max.	30 mA
Power loss	
Power loss, typ.	0.4 W
Hardware configuration	
Fieldbus connection via separate transceiver	Yes
Analog inputs	
Number of analog inputs	4
permissible input current for current input (destruction limit), max.	50 mA
Cycle time (all channels) max.	120 ms; 30 ms basic conversion time x4 channels with 60 Hz, 50 Hz interference frequency suppression
Technical unit for temperature measurement adjustable	Yes
Input ranges	
• Voltage	No
• Current	Yes
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), currents	
• 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	295 Ω

Cable length	
• shielded, max.	500 m
Analog value generation for the inputs	
Measurement principle	integrating (Sigma-Delta)
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	12 bit; + sign
• Integration time, parameterizable	Yes
• Basic conversion time, including integration time (ms)	30 ms
• Interference voltage suppression for interference frequency f_1 in Hz	50 / 60 Hz
Smoothing of measured values	
• parameterizable	Yes; in 4 stages
• Step: None	Yes; 1x cycle time
• Step: low	Yes; 4x cycle time
• Step: Medium	Yes; 32x cycle time
• Step: High	Yes; 64x cycle time
Encoder	
Connection of signal encoders	
• for current measurement as 4-wire transducer	Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.015 %
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), (+/-)	0.01 %
Operational error limit in overall temperature range	
• Current, relative to input range, (+/-)	0.15 %
Basic error limit (operational limit at 25 °C)	
• Current, relative to input range, (+/-)	0.1 %
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.	70 dB
Interfaces	
Number of PROFINET interfaces	0
Protocols	
Supports protocol for PROFINET IO	No
PROFIsafe	No
PROFIBUS	No
Further protocols	
• other bus systems	No
Interrupts/diagnostics/status information	
Alarms	
• Diagnostic alarm	Yes; Parameterizable
• Limit value alarm	Yes; Parameterizable
Diagnoses	
• Diagnostic information readable	Yes
• Wire-break	Yes
Diagnostics indication LED	
• Group error SF (red)	Yes
Ex(i) characteristics	
maximum values for connecting terminals for gas group IIC	
• U_o (no-load voltage), max.	0.9 V
• I_o (short-circuit current), max.	0.8 mA
• P_o (power output), max.	0.2 mW
• C_o (permissible external capacity), max.	1 000 μ F
• L_o (permissible external inductivity), max.	1 000 mH
• U_i (intrinsically safe input voltage), max.	30 V
• I_i (intrinsically safe input current), max.	150 mA
• P_i (intrinsically safe input power), max.	1.2 W
• C_i (internal capacity), max.	0 nF
• L_i (internal inductance), max.	0 mH

Potential separation	
Potential separation analog inputs	
• between the channels	No
• between the channels and backplane bus	Yes
Degree and class of protection	
IP degree of protection	IP30
Standards, approvals, certificates	
CE mark	CE 0344
UKCA mark	DEKRA 21UKEX0090 Importer UK: Siemens plc Manchester M20 2UR
cULus	LISTED E334384
FM approval	CLASSIFIED 3025852
Suitable for safety functions	No
INMETRO certificate	UL-BR 12.0074
reference designation according to IEC 81346-2 (2009)	K
Highest safety class achievable in safety mode	
• acc. to EN 954	n.a.
• Performance level according to ISO 13849-1	none
• SIL acc. to IEC 61508	No
Use in hazardous areas	
• ATEX marking	II 2 G (1) G Ex ib [ia Ga] IIC T4 Gb II 2 G (1) D Ex ib [ia IIIC Da] IIC T4 Gb I M2 Ex ib [ia] I Mb
• IECEx	IECEx KEM 05.0007
• CCC Ex	2020322316002942
• EAC Ex	PB Ex ib [ia] I Mb 1Ex ib [ia Ga] IIC T4 Gb [Ex ia Da] IIIC
• FM marking	Class I, Zone 1 AEx ib [ia] IIC T4 Ex ib IIC T4 NI, Class I, DIV.2, GP. A,B,C,D T4 AIS, Class I, DIV.1, GP. A,B,C,D T4 DIP Class II, III, GP. E,F,G
• Explosion protection category for gas	ATEX gas explosion protection, Zone 1
• Explosion protection category for dust	ATEX dust explosion protection, Zone 21 always install in corresponding enclosure
• associated equipment (Ex ia)	Yes
• associated equipment (Ex ib)	Yes
Marine approval	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
connection method	
Design of electrical connection	Screw/spring-type terminal
Dimensions	
Width	30 mm
Height	129 mm
Depth	136.5 mm
Weights	
Weight, approx.	230 g

last modified:

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