



Figure similar

SIMATIC ET 200SP, analog HART input module, AI 4xI 2-wire HART High Feature suitable for BU type A0, A1, color code CC03, channel diagnostics, 16-bit, +/-0.3%,

General information	
Product type designation	AI 4xI 2-wire HART
Firmware version	V1.0
• FW update possible	Yes
usable BaseUnits	BU type A0, A1
Color code for module-specific color-coded label	CC03
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V13 SP1
• STEP 7 configurable/integrated from version	V5.5 SP4 and higher
• PCS 7 configurable/integrated from version	V8.1 SP1
• PROFIBUS from GSD version/GSD revision	GSD Revision 5
• PROFINET from GSD version/GSD revision	GSDML V2.3
Operating mode	
• Oversampling	No
• 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.	25 mA; without sensor supply
Encoder supply	
24 V encoder supply	
• 24 V	Yes
• Short-circuit protection	Yes
• Output current, max.	20 mA; max. 50 mA per channel for a duration < 10 s
Power loss	
Power loss, typ.	0.65 W; without sensor supply
Address area	
Address space per module	
• Address space per module, max.	8 byte; + 1 byte for QI information

• Address space per module with HART, max.	28 byte; + 1 byte for QI information
Hardware configuration	
Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	Type A
Analog inputs	
Number of analog inputs	4; Differential inputs
• For current measurement	4
permissible input current for current input (destruction limit), max.	50 mA
Input ranges (rated values), currents	
• 0 to 20 mA	No
• -20 mA to +20 mA	No
• 4 mA to 20 mA	Yes; 15 bit + sign
— Input resistance (4 mA to 20 mA)	280 Ω; + approx. 0.35 V diode forward voltage
Cable length	
• shielded, max.	800 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.	16 bit
• Integration time, parameterizable	Yes; channel by channel
• Interference voltage suppression for interference frequency f1 in Hz	10 / 50 / 60 Hz
Smoothing of measured values	
• Number of smoothing levels	4; None; 4/8/16 times
• parameterizable	Yes
Encoder	
Connection of signal encoders	
• for voltage measurement	No
• for current measurement as 2-wire transducer	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.	60 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Current, relative to input range, (+/-)	0.5 %
Basic error limit (operational limit at 25 °C)	
• Current, 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.	60 dB
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire break	Yes; channel by channel
• Short-circuit	Yes; Channel-by-channel, short-circuit of the encoder supply to ground or of an input to the encoder supply
• Group error	Yes
• Overflow/Underflow	Yes; channel by channel
Diagnostics indication LED	
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• Channel status display	Yes; green LED
• for channel diagnostics	Yes; red LED

• 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		No		
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 ET 200SP system manual		
Dimensions				
Width		15 mm		
Height		73 mm		
Depth		58 mm		
Weights				
Weight, approx.		31 g		
Classifications				
			Version	Classification
		eClass	14	27-24-26-01
		eClass	12	27-24-26-01
		eClass	9.1	27-24-26-01
		eClass	9	27-24-26-01
		eClass	8	27-24-26-01
		eClass	7.1	27-24-26-01
		eClass	6	27-24-26-01
		ETIM	10	EC001596
		ETIM	9	EC001596
		ETIM	8	EC001596
		ETIM	7	EC001596
		IDEA	4	3562
		UNSPSC	15	32-15-17-05
Approvals / Certificates				
General Product Approval				
Miscellaneous		Manufacturer Declaration		
		 EG-Konf.		
		China RoHS		 UL
General Product Approval		For use in hazardous locations		
Metrological Approval		Type Examination Certificate		FM
 RCM		 CCC		 UL
For use in hazardous locations		Maritime application		



IECEX



ABS



DNV



RINA



RMRS

Maritime application

Environment

[CCS \(China Classification Society\)](#)



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