



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
<ul style="list-style-type: none"> FW update possible 	Yes
usable BaseUnits	BU type A0, A1
Color code for module-specific color identification plate	CC03
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Isochronous mode 	No
<ul style="list-style-type: none"> Measuring range scalable 	No
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	V13 SP1
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	V5.5 SP4 and higher
<ul style="list-style-type: none"> PCS 7 configurable/integrated from version 	V8.1 SP1
<ul style="list-style-type: none"> PROFIBUS from GSD version/GSD revision 	GSD Revision 5
<ul style="list-style-type: none"> PROFINET from GSD version/GSD revision 	GSDML V2.3
Operating mode	
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> 24 V 	Yes
<ul style="list-style-type: none"> Short-circuit protection 	Yes
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Address space per module, max. 	8 byte; + 1 byte for QI information

<ul style="list-style-type: none"> Address space per module with HART, max. 	28 byte; + 1 byte for QI information
Hardware configuration	
Automatic encoding	Yes
<ul style="list-style-type: none"> Mechanical coding element 	Yes
<ul style="list-style-type: none"> Type of mechanical coding element 	Type A
Analog inputs	
Number of analog inputs	4; Differential inputs
<ul style="list-style-type: none"> For current measurement 	4
permissible input current for current input (destruction limit), max.	50 mA
Input ranges (rated values), currents	
<ul style="list-style-type: none"> 0 to 20 mA 	No
<ul style="list-style-type: none"> -20 mA to +20 mA 	No
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> shielded, max. 	800 m
Analog value generation for the inputs	
Measurement principle	integrating (Sigma-Delta)
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> Resolution with overrange (bit including sign), max. 	16 bit
<ul style="list-style-type: none"> Integration time, parameterizable 	Yes; channel by channel
<ul style="list-style-type: none"> Interference voltage suppression for interference frequency f_1 in Hz 	10 / 50 / 60 Hz
Smoothing of measured values	
<ul style="list-style-type: none"> Number of smoothing levels 	4; None; 4/8/16 times
<ul style="list-style-type: none"> parameterizable 	Yes
Encoder	
Connection of signal encoders	
<ul style="list-style-type: none"> for voltage measurement 	No
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Current, relative to input range, (+/-) 	0.5 %
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> Current, relative to input range, (+/-) 	0.3 %
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. 	60 dB
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes
<ul style="list-style-type: none"> Limit value alarm 	Yes
Diagnoses	
<ul style="list-style-type: none"> Monitoring the supply voltage 	Yes
<ul style="list-style-type: none"> Wire-break 	Yes; channel by channel
<ul style="list-style-type: none"> Short-circuit 	Yes; Channel-by-channel, short-circuit of the encoder supply to ground or of an input to the encoder supply
<ul style="list-style-type: none"> Group error 	Yes
<ul style="list-style-type: none"> Overflow/underflow 	Yes; channel by channel
Diagnostics indication LED	
<ul style="list-style-type: none"> Monitoring of the supply voltage (PWR-LED) 	Yes; green PWR LED
<ul style="list-style-type: none"> Channel status display 	Yes; green LED
<ul style="list-style-type: none"> for channel diagnostics 	Yes; red LED
<ul style="list-style-type: none"> 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

last modified: 9/7/2023 