SIEMENS

Data sheet 6DL1134-6TB00-0HX1

Figure similar

SIMATIC ET 200SP HA, ET 200SP, analog ex-i HART input module, Ex-AI 2xI 2-Wire HART, suitable for BaseUnit type X1, channel diagnostics, 16bit, +/-0.3%

General information	
Product type designation	Ex-AI 2xI 2-wire HART
Firmware version	V1.0
● FW update possible	Yes
usable BaseUnits	BU type X1
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	No
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	STEP 7 V16 or higher with HSP
● STEP 7 configurable/integrated from version	STEP 7 V5.6 SP2 or higher
● PCS 7 configurable/integrated from version	V9.1
Operating mode	
● MSI	Yes
Redundancy	
● Redundancy capability	No
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Input current	
Current consumption (rated value)	74 mA
Current consumption, max.	92 mA; Peak load (all channels in short-circuit)
Encoder supply	
24 V encoder supply	
● 24 V	Yes
● Short-circuit protection	Yes; Electronic disconnection in case of short-circuit, current limitation from 27 mA
● Output current per channel, max.	28 mA
Power loss	
Power loss, typ.	1.2 W
Address area	
Address space per module	
● Address space per module, max.	4 byte; + 0/1 byte for QI information
● Address space per module with HART, max.	24 byte; + 0/1 byte for QI information
● Address space per module with MultiHART, max.	11 byte; + 0/1 byte for QI information
Hardware configuration	
Automatic encoding	
● Mechanical coding element	Yes

Selection of BaseUnit for connection variants	
● 2-wire connection	BU type X1
Analog inputs	
Number of analog inputs	2; Differential inputs
● For current measurement	2
Cycle time (all channels), min.	3 ms
Input ranges (rated values), currents	
● 0 to 20 mA	Yes
● 4 mA to 20 mA	Yes; 15 bit + sign
— Input resistance (4 mA to 20 mA)	400 Ω; At 20 mA input current
Cable length	
● shielded, max.	500 m; Ex characteristic values must be observed
● unshielded, max.	300 m; Ex characteristic values must be observed
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 current measurement as 2-wire transducer	Yes
— Burden of 2-wire transmitter, max.	750 Ω; At 20 mA input current
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, (+/-)	0.3 %
Basic error limit (operational limit at 25 °C)	
● Current, relative to input range, (+/-)	0.2 %
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency	
● Series mode interference (peak value of interference < rated value of input range), min.	60 dB
Protocols	
HART protocol	Yes
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
● Group error	Yes
● Overflow/underflow	Yes; channel by channel
Diagnostics indication LED	
● MAINT LED	Yes; Yellow 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
Ex(i) characteristics	

maximum values for connecting terminals for gas group IIC	
● Uo (no-load voltage), max.	26 V
● Io (short-circuit current), max.	93 mA
● Po (power output), max.	605 mW
● Co (permissible external capacity), max.	99 nF
● Lo (permissible external inductivity), max.	4 mH
● Ui (intrinsically safe input voltage), max.	10 V
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	Yes; Electrical isolation between the channels and input voltage PME
Isolation	
Isolation tested with	further information on insulation can be found in the "ET 200SP HA / ET 200SP modules for devices in hazardous areas" System Manual
insulation of the field circuits to local ground acc. to IEC/EN 60079-11 tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	-40 °C
● horizontal installation, max.	70 °C
● vertical installation, min.	-40 °C
● vertical installation, max.	60 °C
Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	2 000 m
Dimensions	
Width	20 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	55 g

last modified: 5/20/2021