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Data sheet 6DL1135-6TB00-0HX1

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



General information	
Product type designation	Ex-AQ 2xI 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	V16
● STEP 7 configurable/integrated from version	V5.6 SP2
● PCS 7 configurable/integrated from version	V9.1
● PCS neo can be configured/integrated from version	V3.1
● PROFINET from GSD version/GSD revision	GSDML V2.35
Operating mode	
● MSO	Yes
Redundancy	
● Redundancy capability	No
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	No
Input current	
Current consumption (rated value)	65 mA
Current consumption, max.	70 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
Analog outputs	
Number of analog outputs	2

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Cycle time (all channels), min.	3 ms
Output ranges, current	
● 0 to 20 mA	Yes; 15 bit
● 4 mA to 20 mA	Yes; 16 bit incl. sign
Connection of actuators	
● for current output two-wire connection	Yes
Load impedance (in rated range of output)	
● for current outputs, min.	50 Ω
● with current outputs, max.	500 Ω
● with current outputs, inductive load, max.	Ex characteristic values must be observed
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 outputs	
Settling time	
● for resistive load	1 ms; 500 ohms
Errors/accuracies	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.01 %
Temperature error (relative to output range), (+/-)	0.005 %/K
Crosstalk between the outputs, min.	-70 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.02 %
Operational error limit in overall temperature range	
● Current, relative to output range, (+/-)	0.5 %; 0 ... 60 °C: 0.3%
Basic error limit (operational limit at 25 °C)	
● Current, relative to output range, (+/-)	0.2 %
Protocols	
HART protocol	Yes
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
● Diagnostic alarm	Yes
Diagnoses	
● Monitoring the supply voltage	Yes; module-wise
● Wire break	Yes; From output value > 240 µA
● Short-circuit	Yes; < 20 ohms as of 1 mA output value
● 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.	22 V
● Io (short-circuit current), max.	91 mA
● Po (power output), max.	501 mW
● Co (permissible external capacity), max.	151 nF
● Lo (permissible external inductivity), max.	4.1 mH
● Ui (intrinsically safe input voltage), max.	10 V
● Um (voltage at non-intrinsically safe connecting terminals), max.	60 V
Potential separation	
Potential separation channels	

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● 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

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

Approvals / Certificates

General Product Approval

UKCA, CE EG-Konf., UL, KC, RCM, EAC

For use in hazardous locations

CCC, UL, Miscellaneous, IECEx, ATEX

Maritime application

ABS

Maritime application

BUREAU VERITAS, DNV, LRS, NK / Nippon Kaiji Kyokai, RINA, CCS (China Classification Society)

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