SIEMENS

## Data sheet 6DL1135-6TB00-0HX1

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 | 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 | |
| ● 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 |
| 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 | |

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| ● for current output two-wire connection | Yes |
| Load impedance (in rated range of output) | |
| ● 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 | |
| ● 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** | |

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| 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 |

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