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SIMATIC ET 200SP HA, analog output module, AQ 8xI HART HA suitable for terminal block H1, M1, color code CC00, channel diagnostics, 16-bit, +/-0.1%

General information	
Product type designation	AQ 8 x I HART HA
Firmware version	V1.0
• FW update possible	Yes
Usable terminal block	type H1, M1, N0, H0, M0 (for details see the system manual)
Color code for module-specific color-coded label	CC00
Product function	
• I&M data	Yes; I&M0 to I&M3
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V16
• STEP 7 configurable/integrated from version	V5.6
• PCS 7 configurable/integrated from version	V9.0
• PCS neo can be configured/integrated from version	V3.0
• PROFINET from GSD version/GSD revision	GSDML V2.3
Redundancy	
• Redundancy capability	Yes; With TB type M1
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
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 (rated value)	230 mA; 8x 20 mA with 750 ohm load resistance
Current consumption, max.	350 mA; 8x 24 mA with 750 ohm load resistance
Power loss	
Power loss, typ.	3.2 W
Address area	
Address space per module	
• Address space per module, max.	17 byte; 16-byte outputs and 1 byte for QI information
• Address space per module with HART, max.	57 byte; 40-byte inputs for HART and 1 byte for QI information, 16-byte outputs
• Address space per module with MultiHART, max.	24 byte; 6-byte inputs for HART and 1 byte for QI information, 16-byte outputs, and 1-byte output for MultiHART command
Analog outputs	
Number of analog outputs	8; short-circuit proof with respect to ground

Current output, no-load voltage, max.	28 V
Output ranges, current	
• 0 to 10 mA	Yes; 14 bit
• 0 to 20 mA	Yes; 15 bit
• -20 mA to +20 mA	No
• 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.	150 Ω
• with current outputs, max.	750 Ω
• with current outputs, inductive load, max.	10 mH
Destruction limits against externally applied voltages and currents	
• Voltages at the outputs	36 V; Minus 0.3 V lower limit
Cable length	
• shielded, max.	1 000 m; with unshielded cables up to 800 m, remember that (external) EMC loads can cause incorrect measured values
Analog value generation for the outputs	
Settling time	
• for resistive load	1.2 ms; 750 ohm
• for inductive load	1.2 ms
Errors/accuracies	
Linearity error (relative to output range), (+/-)	0.01 %
Temperature error (relative to output range), (+/-)	0.002 %/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: 0.2 %
Basic error limit (operational limit at 25 °C)	
• Current, relative to output range, (+/-)	0.1 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire break	Yes; channel by channel
• Short-circuit	Yes; channel by channel
• 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
Potential separation	
Potential separation channels	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
Isolation	
Isolation tested with	1 500 V DC/1 min, 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

Dimensions

Width	22.5 mm
Height	115 mm
Depth	138 mm

Weights

Weight, approx.	160 g
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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



[Miscellaneous](#)

[Declaration of Conformity](#)



General Product Approval



[China RoHS](#)



[Manufacturer Declaration](#)

[Miscellaneous](#)



For use in hazardous locations



[Declaration of Conformity](#)



For use in hazardous locations

Maritime application

[Miscellaneous](#)



[NK / Nippon Kaiji Kyokai](#)

Maritime application

Environment



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



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