

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	TB type H1, M1 and N0
Color code for module-specific color identification plate	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
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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
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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.	26 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
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Load impedance (in rated range of output)

• 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
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Cable length

• shielded, max.	1 000 m; with unshielded cables up to 800 m, remember that (external) EMC loads can cause incorrect measured values
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Analog value generation for the outputs

Settling time

• for resistive load	1.2 ms; 750 ohm
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- 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
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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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