



Figure similar

SIMATIC ET 200SP, analog HART output module, AQ 4xI HART High Feature, suitable for BU type A0, A1, Color code CC00, channel diagnostics, 16 bit, +/-0.3%

General information	
Product type designation	AQ 4xI HART HF
Firmware version	V1.0
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
usable BaseUnits	BU type A0, A1
Color code for module-specific color identification plate	CC00
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V15 SP1
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.6 and higher
<ul style="list-style-type: none"> <li>PCS 7 configurable/integrated from version</li> </ul>	V9.0 SP1
<ul style="list-style-type: none"> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	V04.02.14
<ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>	GSDML V2.34
CiR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	No
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)	115 mA
Current consumption, max.	125 mA
Power loss	
Power loss, typ.	1.7 W
Address area	
Address space per module	
<ul style="list-style-type: none"> <li>Address space per module, max.</li> </ul>	8 byte; + 1 byte for QI information
<ul style="list-style-type: none"> <li>Address space per module with HART, max.</li> </ul>	28 byte; + 1 byte for QI information
Hardware configuration	
Automatic encoding	
<ul style="list-style-type: none"> <li>Mechanical coding element</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Type of mechanical coding element</li> </ul>	Type A
Analog outputs	
Number of analog outputs	4
Current output, no-load voltage, max.	28 V
Cycle time (all channels), min.	3 ms

<b>Output ranges, current</b>	
• 0 to 20 mA	Yes; 16 bit incl. sign
• -20 mA to +20 mA	No
• 4 mA to 20 mA	Yes; 16 bit incl. sign
<b>Connection of actuators</b>	
• for current output two-wire connection	Yes
<b>Load impedance (in rated range of output)</b>	
• with current outputs, max.	750 Ω
• with current outputs, inductive load, max.	10 mH
<b>Destruction limits against externally applied voltages and currents</b>	
• Voltages at the outputs	30 V
<b>Cable length</b>	
• shielded, max.	800 m
<b>Analog value generation for the outputs</b>	
<b>Settling time</b>	
• for resistive load	2 ms; 750 ohm
• for capacitive load	2 ms
• for inductive load	2 ms
<b>Errors/accuracies</b>	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.03 %
Temperature error (relative to output range), (+/-)	0.003 %/K
Crosstalk between the outputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.03 %
<b>Operational error limit in overall temperature range</b>	
• Current, relative to output range, (+/-)	0.3 %; 0 ... 60 °C: 0.2 %
<b>Basic error limit (operational limit at 25 °C)</b>	
• Current, relative to output range, (+/-)	0.1 %
<b>Protocols</b>	
HART protocol	Yes
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
Substitute values connectable	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnoses</b>	
• Monitoring the supply voltage	Yes; Module-wise
• Wire-break	Yes; channel by channel
• Short-circuit	Yes
• Overflow/underflow	Yes; channel by channel
<b>Diagnostics indication LED</b>	
• 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
<b>Potential separation</b>	
<b>Potential separation channels</b>	
• between the channels	No
• between the channels and backplane bus	Yes
• Between the channels and load voltage L+	Yes
<b>Permissible potential difference</b>	
between different circuits	60 V DC/30 V AC
<b>Isolation</b>	
Isolation tested with	707 V DC (type test)
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• horizontal installation, min.	-30 °C
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C

• vertical installation, max.	50 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP system manual
<b>Dimensions</b>	
Width	15 mm
Height	73 mm
Depth	58 mm
<b>Weights</b>	
Weight, approx.	31 g
<b>last modified:</b>	8/19/2023 