



Figure similar

SIMATIC ET 200SP, analog HART input module, AI 4xI 2-wire HART High Feature suitable for BU type A0, A1, color code CC03, channel diagnostics, 16-bit, +/-0.3%,

| General information                                      |   |
|--|---|
| Product type designation                                 | AI 4xI 2-wire HART                                  |
| Firmware version   | V1.0  |
| • FW update possible                                     | Yes   |
| usable BaseUnits   | BU type A0, A1                                      |
| Color code for module-specific color-coded label         | CC03  |
| Product function   |   |
| • I&M data   | Yes; I&M0 to I&M3                                   |
| • Isochronous mode                                       | No  |
| Engineering with   |   |
| • STEP 7 TIA Portal configurable/integrated from version | V13 SP1   |
| • STEP 7 configurable/integrated from version            | V5.5 SP4 and higher                                 |
| • PCS 7 configurable/integrated from version             | V8.1 SP1  |
| • PROFIBUS from GSD version/GSD revision                 | GSD Revision 5                                      |
| • PROFINET from GSD version/GSD revision                 | GSDML V2.3  |
| Operating mode   |   |
| • Oversampling   | No  |
| • MSI  | No  |
| 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, max.                                | 25 mA; without sensor supply                        |
| Encoder supply   |   |
| 24 V encoder supply                                      |   |
| • 24 V   | Yes   |
| • Short-circuit protection                               | Yes   |
| • Output current, max.                                   | 20 mA; max. 50 mA per channel for a duration < 10 s |
| Power loss   |   |
| Power loss, typ.   | 0.65 W; without sensor supply                       |
| Address area   |   |
| Address space per module                                 |   |
| • Address space per module, max.                         | 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  |
| <b>Hardware configuration</b>   |   |
| Automatic encoding  | Yes   |
| <ul style="list-style-type: none"> <li>Mechanical coding element</li> <li>Type of mechanical coding element</li> </ul>  | Yes<br>Type A   |
| <b>Analog inputs</b>  |   |
| Number of analog inputs   | 4; Differential inputs  |
| <ul style="list-style-type: none"> <li>For current measurement</li> </ul>   | 4   |
| permissible input current for current input (destruction limit), max.   | 50 mA   |
| <b>Input ranges (rated values), currents</b>  |   |
| <ul style="list-style-type: none"> <li>0 to 20 mA</li> <li>-20 mA to +20 mA</li> <li>4 mA to 20 mA</li> <li>— Input resistance (4 mA to 20 mA)</li> </ul>   | No<br>No<br>Yes; 15 bit + sign<br>280 Ω; + approx. 0.35 V diode forward voltage   |
| <b>Cable length</b>   |   |
| <ul style="list-style-type: none"> <li>shielded, max.</li> </ul>  | 800 m   |
| <b>Analog value generation for the inputs</b>   |   |
| Measurement principle   | integrating (Sigma-Delta)   |
| <b>Integration and conversion time/resolution per channel</b>   |   |
| <ul style="list-style-type: none"> <li>Resolution with overrange (bit including sign), max.</li> <li>Integration time, parameterizable</li> <li>Interference voltage suppression for interference frequency <math>f_1</math> in Hz</li> </ul> | 16 bit<br>Yes; channel by channel<br>10 / 50 / 60 Hz  |
| <b>Smoothing of measured values</b>   |   |
| <ul style="list-style-type: none"> <li>Number of smoothing levels</li> <li>parameterizable</li> </ul>   | 4; None; 4/8/16 times<br>Yes  |
| <b>Encoder</b>  |   |
| <b>Connection of signal encoders</b>  |   |
| <ul style="list-style-type: none"> <li>for voltage measurement</li> <li>for current measurement as 2-wire transducer</li> </ul>   | No<br>Yes   |
| <b>Errors/accuracies</b>  |   |
| Linearity error (relative to input range), (+/-)  | 0.01 %  |
| Temperature error (relative to input range), (+/-)  | 0.005 %/K   |
| Crosstalk between the inputs, min.  | 60 dB   |
| Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)   | 0.05 %  |
| <b>Operational error limit in overall temperature range</b>   |   |
| <ul style="list-style-type: none"> <li>Current, relative to input range, (+/-)</li> </ul>   | 0.5 %   |
| <b>Basic error limit (operational limit at 25 °C)</b>   |   |
| <ul style="list-style-type: none"> <li>Current, relative to input range, (+/-)</li> </ul>   | 0.3 %   |
| <b>Interference voltage suppression for <math>f = n \times (f_1 \pm 1 \%)</math>, <math>f_1</math> = interference frequency</b>   |   |
| <ul style="list-style-type: none"> <li>Series mode interference (peak value of interference &lt; rated value of input range), min.</li> </ul>   | 60 dB   |
| <b>Interrupts/diagnostics/status information</b>  |   |
| Diagnostics function  | Yes   |
| <b>Alarms</b>   |   |
| <ul style="list-style-type: none"> <li>Diagnostic alarm</li> <li>Limit value alarm</li> </ul>   | Yes<br>Yes  |
| <b>Diagnoses</b>  |   |
| <ul style="list-style-type: none"> <li>Monitoring the supply voltage</li> <li>Wire-break</li> <li>Short-circuit</li> <li>Group error</li> <li>Overflow/underflow</li> </ul>   | Yes<br>Yes; channel by channel<br>Yes; Channel-by-channel, short-circuit of the encoder supply to ground or of an input to the encoder supply<br>Yes<br>Yes; channel by channel |
| <b>Diagnostics indication LED</b>   |   |
| <ul style="list-style-type: none"> <li>Monitoring of the supply voltage (PWR-LED)</li> <li>Channel status display</li> <li>for channel diagnostics</li> </ul>   | Yes; green PWR LED<br>Yes; green LED<br>Yes; red LED  |

|  |  |
|--|--|
| • for module diagnostics                                       | Yes; green/red DIAG LED  |
| <b>Potential separation</b>                                    |  |
| Potential separation channels                                  |  |
| • between the channels   | No   |
| • between the channels and backplane bus                       | Yes  |
| • between the channels and the power supply of the electronics | No   |
| <b>Isolation</b>   |  |
| Isolation tested with  | 707 V DC (type test)   |
| <b>Ambient conditions</b>                                      |  |
| Ambient temperature during operation                           |  |
| • 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>Classifications</b>   |  |




|        | 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       |
| IDEA   | 4       | 3562           |
| UNSPSC | 15      | 32-15-17-05    |

**Approvals / Certificates**

General Product Approval

[Miscellaneous](#)    
 [Manufacturer Declaration](#)    
     
     
 [China RoHS](#)    
 

General Product Approval     For use in hazardous locations

[Metrological Approval](#)    
    
[Type Examination Certificate](#)    
[FM](#)    
    


For use in hazardous locations     Maritime application



IECEX



ABS



DNV



RINA



RMRS

Environment



last modified:

10/23/2025