



SIMATIC ET 200SP, TM SIWAREX WP321 ST, single-channel weighing module for platform or hopper scales with analog load cells / strain gauges (full bridges), 1xRS485, 1xLC load cell interface (1-4mV/V), suitable for BU type A0, packing quantity: 1 unit, Detailed load cell diagnostics with digital junction box SIWAREX DB (7MH5001-0AD20 or 7MH5001-0AD01)

| General information                                      |                             |
|--|-----------------------------|
| Product type designation                                 | TM SIWAREX WP321 ST         |
| HW functional status                                     | FS04                        |
| Firmware version   | V1.4.3                      |
| • FW update possible                                     | Yes                         |
| usable BaseUnits   | BU type A0                  |
| Color code for module-specific color-coded label         | CC00                        |
| Product function   |                             |
| • I&M data   | Yes; I&M0 to I&M3           |
| • Isochronous mode                                       | No                          |
| • Adjustment of measuring range                          | No                          |
| Engineering with   |                             |
| • STEP 7 TIA Portal configurable/integrated from version | STEP 7 V14 or higher        |
| • STEP 7 configurable/integrated from version            | From STEP 7 V5.4 and higher |
| • PROFIBUS from GSD version/GSD revision                 | GSD Revision 5              |
| • PROFINET from GSD version/GSD revision                 | GSDML V2.34                 |
| Supply voltage   |                             |
| Rated value (DC)   | 24 V                        |
| Load voltage L+  |                             |
| • Rated value (DC)                                       | 24 V                        |
| • permissible range, lower limit (DC)                    | 19.2 V                      |
| • permissible range, upper limit (DC)                    | 28.8 V                      |
| • Short-circuit protection                               | Yes                         |
| • Reverse polarity protection                            | Yes                         |
| Input current  |                             |
| Current consumption, max.                                | 100 mA                      |
| Encoder supply   |                             |
| Output voltage (DC)                                      | 4.85 V                      |
| Short-circuit protection                                 | Yes                         |
| Power  |                             |
| Power consumption from the backplane bus                 | 70 mW                       |
| Power loss   |                             |
| Power loss, typ.   | 2 W                         |
| Address area   |                             |
| Address space per module                                 |                             |
| • Inputs   | 16 byte                     |
| • Outputs  | 16 byte                     |
| Hardware configuration                                   |                             |
| Automatic encoding                                       | Yes                         |

|   |   |
|---|---|
| • Mechanical coding element   | Yes   |
| • Type of mechanical coding element   | type B  |
| <b>Encoder</b>  |   |
| Connection of signal encoders   |   |
| • For strain gauges (full bridges) with 4-conductor connection              | Yes   |
| • For strain gauges (full bridges) with 6-conductor connection              | Yes   |
| • Resistance of full bridge, min.   | 40 Ω; when using SIWAREX IS: 50 ohm for 7MH4710-5BA; 105 ohm when using 7MH4710-5CA |
| • Resistance of full bridge, max.   | 4 100 Ω   |
| <b>Errors/accuracies</b>  |   |
| Linearity error (relative to input range), (+/-)                            | 0.01 %  |
| Error limit according to DIN 1319-1   | 0.05 %; of full-scale value   |
| Temperature coefficient, zero point   | ≤ ±0.1 μV/K   |
| Temperature coefficient, span   | ≤ ±5 ppm/K  |
| Temperature coefficient, span, 4-wire connection (in relation to end value) | ≤ ±5 ppm/K  |
| Temperature coefficient, span, 6-wire connection (in relation to end value) | ≤ ±10 ppm/K   |
| <b>Interfaces</b>   |   |
| Number of RS 485 interfaces   | 1; SIWATOOL V7 or SIWAREX DB or SIEBERT remote display                              |
| <b>1. Interface</b>   |   |
| Interface types   |   |
| • RS 485  | Yes; 390 Ω, 220 Ω, 390 Ω connectable termination                                    |
| <b>Interface types</b>  |   |
| RS 485  |   |
| • Transmission rate, max.   | 115.2 kbit/s  |
| • Cable length, max.  | 1 000 m; ≤ 115 kbps, shielded cable   |
| <b>Interrupts/diagnostics/status information</b>                            |   |
| Diagnostics function  | Yes; Diagnostic alarm   |
| Substitute values connectable   | No  |
| <b>Alarms</b>   |   |
| • Diagnostic alarm  | Yes; Parameterizable  |
| • Hardware interrupt  | Yes; Parameterizable  |
| <b>Diagnoses</b>  |   |
| • Monitoring the supply voltage   | Yes   |
| • Wire break  | Yes   |
| • Short-circuit   | Yes   |
| • Group error   | Yes   |
| <b>Diagnostics indication LED</b>   |   |
| • ERROR LED   | Yes; green/red DIAG LED   |
| • Monitoring of the supply voltage (PWR-LED)                                | Yes; green PWR LED  |
| <b>Integrated Functions</b>   |   |
| Counter   | No  |
| <b>Load cell</b>  |   |
| • Non-automatic weighing instrument   | NAWI  |
| • permissible input signal per verification interval, min.                  | 0.5 μV/d (d=e)  |
| • Sampling rate   | 600 Hz  |
| • Resolution of input signal  | ±500 000 parts pro mV/V   |
| • Common mode voltage, min.   | 0.25 V  |
| • Common mode voltage, max.   | 4.75 V  |
| • input resistance of signal line, typ.                                     | 4 MΩ  |
| • input resistance of sense line, typ.                                      | 2 MΩ  |
| • Cable length, max.  | 500 m; when using the SIWAREX 7MH4702-8AG cable                                     |
| <b>Measuring functions</b>  |   |
| Measuring range   |   |
| — -1 mV/V to +1 mV/V  | Yes; corresponds to a resolution of ±500 000 parts                                  |
| — -2 mV/V to +2 mV/V  | Yes; corresponds to a resolution of ±1 000 000 parts                                |
| — -4 mV/V to +4 mV/V  | Yes; corresponds to a resolution of ±2 000 000 parts                                |

| Isolation  |   |
|--|---|
| Isolation tested with  | 707 V DC (type test)  |
| Standards, approvals, certificates                             |   |
| Suitable for safety functions                                  | No  |
| Ecological footprint   |   |
| • environmental product declaration                            | Yes   |
| Global warming potential                                       |   |
| — global warming potential, (total) [CO2 eq]                   | 43.15 kg  |
| — global warming potential, (during production) [CO2 eq]       | 5.1 kg  |
| — global warming potential, (during operation) [CO2 eq]        | 38 kg   |
| — global warming potential, (after end of life cycle) [CO2 eq] | 0.05 kg   |
| Ambient conditions   |   |
| Ambient temperature during operation                           |   |
| • horizontal installation, min.                                | -25 °C  |
| • horizontal installation, max.                                | 60 °C   |
| • vertical installation, min.                                  | -25 °C  |
| • vertical installation, max.                                  | 50 °C   |
| Altitude during operation relating to sea level                |   |
| • Installation altitude above sea level, max.                  | 5 000 m; more than 2 000 m above sea level, the ambient temperature is reduced by -1 °C per 100 m |
| • Ambient air temperature-barometric pressure-altitude         | 1 080 ... 795 hPa (-1 000 ... 5 000 m above sea level)  |
| Decentralized operation  |   |
| to SIMATIC S7-300  | Yes   |
| to SIMATIC S7-400  | Yes   |
| to SIMATIC S7-1200   | Yes   |
| to SIMATIC S7-1500   | Yes   |
| to standard PROFIBUS master                                    | Yes   |
| to standard PROFINET controller                                | Yes   |
| Dimensions   |   |
| Width  | 15 mm   |
| Height   | 73 mm   |
| Depth  | 58 mm   |
| Weights  |   |
| Weight, approx.  | 30 g  |

| Classifications |        |         |                |
|-----------------|--------|---------|----------------|
|                 |        | Version | Classification |
|                 | eClass | 14      | 27-24-26-05    |
|                 | eClass | 12      | 27-24-26-05    |
|                 | eClass | 9.1     | 27-24-26-05    |
|                 | eClass | 9       | 27-24-26-05    |
|                 | eClass | 8       | 27-24-26-05    |
|                 | eClass | 7.1     | 27-24-26-05    |
|                 | eClass | 6       | 27-24-26-05    |
|                 | ETIM   | 10      | EC001601       |
|                 | ETIM   | 9       | EC001601       |
|                 | ETIM   | 8       | EC001601       |
|                 | ETIM   | 7       | EC001601       |

| Approvals / Certificates |  |
|--------------------------|--|
| General Product Approval |  |



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For use in hazardous locations

Environment

[FM](#)



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