



SIPLUS ET 200SP WP321 based on 7MH4138-6AA00-0BA0 with conformal coating, -40...+60 °C, electronic weighing system 1 channel for the connection of load cells DMS full bridges (1-4 mV/V) for SIMATIC ET200SP, suitable for BU type A0, RS485 interface for SIWATOOL or remote display.

| General information | |
|--|---|
| Product type designation | TM SIWAREX WP321 ST |
| Firmware version | |
| • FW update possible | Yes |
| usable BaseUnits | BU type A0 |
| Color code for module-specific color identification plate | CC00 |
| Product function | |
| • I&M data | Yes; I&M0 to I&M3 |
| • Isochronous mode | No |
| • Adjustment of measuring range | No |
| Supply voltage | |
| 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 |
| Power | |
| Power available 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 |
| Encoder | |
| 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 |
| Errors/accuracies | |
| 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 |

1. Interface

| | |
|---|--|
| Interface types | |
| • RS 485 | Yes; 390 Ω, 220 Ω, 390 Ω connectable termination |
| Interface types | |
| RS 485 | |
| • Transmission rate, max. | 115.2 kbit/s |
| • Cable length, max. | 1 000 m; ≤ 115 kbps, shielded cable |
| Interrupts/diagnostics/status information | |
| Diagnostics function | Yes; Diagnostic alarm |
| Substitute values connectable | No |
| Alarms | |
| • Diagnostic alarm | Yes; Parameterizable |
| • Hardware interrupt | Yes; Parameterizable |
| Diagnoses | |
| • Monitoring the supply voltage | Yes |
| • Wire-break | Yes |
| • Short-circuit | Yes |
| Diagnostics indication LED | |
| • ERROR LED | Yes; green/red DIAG LED |
| • Monitoring of the supply voltage (PWR-LED) | Yes; green PWR LED |
| Integrated Functions | |
| Counter | Yes |
| Load cell | |
| • Non-automatic weighing instrument | NAWI |
| • 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 |
| Measuring functions | |
| 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 |
| Ambient conditions | |
| Ambient temperature during operation | |
| • horizontal installation, min. | -40 °C; = Tmin (incl. condensation/frost) |
| • horizontal installation, max. | 60 °C |
| • vertical installation, min. | -40 °C; = Tmin (incl. condensation/frost) |
| • vertical installation, max. | 50 °C |
| Altitude during operation relating to sea level | |
| • Installation altitude above sea level, max. | 5 000 m |
| • Ambient air temperature-barometric pressure-altitude | Tmin ... Tmax at 1 080 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax - 20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m) |
| Relative humidity | |
| • With condensation, tested in accordance with IEC 60068-2-38, max. | 100 %; RH incl. condensation / frost (no commissioning in bedewed state), horizontal installation |
| Resistance | |
| Coolants and lubricants | |
| — Resistant to commercially available coolants and lubricants | Yes; Incl. diesel and oil droplets in the air |
| Use in stationary industrial systems | |
| — to biologically active substances according to EN 60721-3-3 | Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request |
| — to chemically active substances according to EN | Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity |

| | |
|---|--|
| 60721-3-3 — to mechanically active substances according to EN 60721-3-3 — Against mechanical environmental conditions acc. to EN 60721-3-3 | degree 3); * Yes; Class 3S4 incl. sand, dust, * Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0) |
| Use on ships/at sea | |
| — to biologically active substances according to EN 60721-3-6 — to chemically active substances according to EN 60721-3-6 — to mechanically active substances according to EN 60721-3-6 — Against mechanical environmental conditions acc. to EN 60721-3-6 | Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna) Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); * Yes; Class 6S3 incl. sand, dust; * Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0) |
| Usage in industrial process technology | |
| — Against chemically active substances acc. to EN 60654-4 — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 | Yes; Class 3 (excluding trichlorethylene) Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil) |
| Remark | |
| — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 | * The supplied plug covers must remain in place over the unused interfaces during operation! |
| Conformal coating | |
| <ul style="list-style-type: none"> • Coatings for printed circuit board assemblies acc. to EN 61086 • Protection against fouling acc. to EN 60664-3 • Military testing according to MIL-I-46058C, Amendment 7 • Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A | Yes; Class 2 for high reliability Yes; Type 1 protection Yes; Discoloration of coating possible during service life Yes; Conformal coating, Class A |
| 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 | 57 mm |
| Depth | 72 mm |
| Weights | |
| Weight, approx. | 31 g |

last modified: 9/27/2021 