



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
based on	7MH4138-6AA00-0BA0
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	see entry ID: 109746275
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

Encoder	
Connection of signal encoders	
<ul style="list-style-type: none"> For strain gauges (full bridges) with 4-conductor connection 	Yes
<ul style="list-style-type: none"> For strain gauges (full bridges) with 6-conductor connection 	Yes
<ul style="list-style-type: none"> Resistance of full bridge, min. 	40 Ω; when using SIWAREX IS: 50 ohm for 7MH4710-5BA; 105 ohm when using 7MH4710-5CA
<ul style="list-style-type: none"> 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
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
Interfaces	
Number of RS 485 interfaces	1; SIWATOOL V7 or SIWAREX DB or SIEBERT remote display
1. Interface	
Interface types	
<ul style="list-style-type: none"> RS 485 	Yes; 390 Ω, 220 Ω, 390 Ω connectable termination
Interface types	
RS 485	
<ul style="list-style-type: none"> Transmission rate, max. 	115.2 kbit/s
<ul style="list-style-type: none"> Cable length, max. 	1 000 m; ≤ 115 kbps, shielded cable
Interrupts/diagnostics/status information	
Diagnostics function	Yes; Diagnostic alarm
Substitute values connectable	No
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes; Parameterizable
<ul style="list-style-type: none"> Hardware interrupt 	Yes; Parameterizable
Diagnoses	
<ul style="list-style-type: none"> Monitoring the supply voltage 	Yes
<ul style="list-style-type: none"> Wire break 	Yes
<ul style="list-style-type: none"> Short-circuit 	Yes
<ul style="list-style-type: none"> Group error 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> ERROR LED 	Yes; green/red DIAG LED
<ul style="list-style-type: none"> Monitoring of the supply voltage (PWR-LED) 	Yes; green PWR LED
Integrated Functions	
Counter	Yes
Load cell	
<ul style="list-style-type: none"> Non-automatic weighing instrument 	NAWI
<ul style="list-style-type: none"> Sampling rate 	600 Hz
<ul style="list-style-type: none"> Resolution of input signal 	±500 000 parts pro mV/V
<ul style="list-style-type: none"> Common mode voltage, min. 	0.25 V
<ul style="list-style-type: none"> Common mode voltage, max. 	4.75 V
<ul style="list-style-type: none"> input resistance of signal line, typ. 	4 MΩ
<ul style="list-style-type: none"> input resistance of sense line, typ. 	2 MΩ
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. 	<p>-40 °C; = Tmin (incl. condensation/frost)</p> <p>60 °C</p> <p>-40 °C; = Tmin (incl. condensation/frost)</p> <p>50 °C</p>
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> Installation altitude above sea level, max. Ambient air temperature-barometric pressure-altitude 	<p>5 000 m</p> <p>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)</p>
Relative humidity	
<ul style="list-style-type: none"> 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 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
— Against mechanical environmental conditions acc. to EN 60721-3-3	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	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
— Against mechanical environmental conditions acc. to EN 60721-3-6	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	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	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 	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>
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
IDEA	4	3567
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

[Manufacturer Declaration](#)



[China RoHS](#)



General Product Approval	For use in hazardous locations	Maritime application
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