



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

<ul style="list-style-type: none"> • Mechanical coding element 	Yes
<ul style="list-style-type: none"> • 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	No
Load cell	
<ul style="list-style-type: none"> • Non-automatic weighing instrument 	NAWI
<ul style="list-style-type: none"> • permissible input signal per verification interval, min. 	0.5 μV/d (d=e)
<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
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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