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Data sheet 7MH4138-6AA00-0BA0



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 identification plate	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

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● Type of mechanical coding element	type B
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
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	
● 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
● Group error	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	No
Load cell	
● 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
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	

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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

Confirmation KC

For use in hazardous locations | **Environment**

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FM



Miscellaneous







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