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Data sheet 7MH4138-6BA00-0CU0



SIMATIC ET 200SP, TM SIWAREX WP351 HF, single-channel legal-for-trade weighing module for automatic dosing-, filling-, checkweighing- and totalizing scales with analog load cells / strain gauges (full bridges), 3xDI, 3xDQ, 1xCI, 1xRS485, 1xEthernet, 1xLC load cell interface (1-4mV/V), suitable for BU type U0, packing quantity: 1 unit, attention: for legal-for-trade applications please follow the local laws applying in the country of verification! Detailed load cell diagnostics with digital junction box SIWAREX DB (7MH5001-0AD20 or

General information	
Product type designation	TM SIWAREX WP351 HF
HW functional status	1
Firmware version	V1.0
● FW update possible	Yes
usable BaseUnits	BU type U0
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	Yes; ±0 ... 4 mV/V
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V15.1
● STEP 7 configurable/integrated from version	- / -
● PROFIBUS from GSD version/GSD revision	GSD as of 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.	140 mA; Without DQ
Power	
Power consumption from the backplane bus	94.5 mW
Power loss	
Power loss, typ.	1.7 W
Address area	
Address space per module	
● Inputs	32 byte
● Outputs	32 byte
Hardware configuration	
Automatic encoding	Yes
● Mechanical coding element	Yes
● Type of mechanical coding element	type B
Digital inputs	

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Number of digital inputs	3
Digital inputs, parameterizable	Yes
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Input voltage	
● Type of input voltage	24 V DC
● Rated value (DC)	24 V
● for signal "0"	< 5 V DC
● for signal "1"	+11 to +30V
● permissible voltage at input, min.	-30 V
● permissible voltage at input, max.	30 V
Input current	
● for signal "1", typ.	1.6 mA
Input delay (for rated value of input voltage)	
for technological functions	
— Parameterizable	Yes
Cable length	
● shielded, max.	500 m
● unshielded, max.	150 m
Digital outputs	
Number of digital outputs	3
Current-sourcing	Yes
Digital outputs, parameterizable	Yes
Short-circuit protection	Yes
Digital output functions, parameterizable	
● Freely usable digital output	Yes
Switching capacity of the outputs	
● with resistive load, max.	0.5 A
Output voltage	
● Type of output voltage	DC
Output delay with resistive load	
● "0" to "1", typ.	20 µs
● "1" to "0", typ.	30 µs
Parallel switching of two outputs	
● for uprating	No
Switching frequency	
● with resistive load, max.	500 Hz
Total current of the outputs	
● Current per channel, max.	0.5 A; the total current of all outputs ≥ 0.6 A, the ambient temperature is reduced by -1 °C per 100 mA
● Current per module, max.	1.5 A; Observe derating
Cable length	
● shielded, max.	500 m
● unshielded, max.	150 m
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.	56 Ω; when using SIWAREX IS 87 ohm for 7MH4710-5BA; 180 ohm when using 7MH4710-5CA
● Resistance of full bridge, max.	4 100 Ω
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.001 %
Error limit according to DIN 1319-1	0.002 %; of full-scale value
Accuracy class	III
Temperature coefficient, zero point	≤ ±0.015 µV/K
Temperature coefficient, span	≤ ±5 ppm/K
Interfaces	
Number of RS 485 interfaces	1; SIWAREX DB

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1. Interface	
Interface types	
● RS 485	Yes; Terminated internally with 390 Ω / 220 Ω / 390 Ω
2. Interface	
Interface types	
● RJ 45 (Ethernet)	Yes; 10/100 Mbit/s
● Number of ports	1
Protocols	
● IP protocol	Yes; IPv4
● Web server	Yes
Interface types	
RJ 45 (Ethernet)	
● Autonegotiation	Yes
● Autocrossing	Yes
RS 485	
● Transmission rate, max.	115.2 kbit/s
● Cable length, max.	1 000 m; ≤ 115 kbps, shielded cable
Protocols	
Web server	
● HTTP	Yes
● HTTPS	No
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; green/red DIAG LED
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	
● Automatic weighing instrument	SWA/AGFI; SWE/ACI; SKW/SCW; SWT/DTAWI
● Non-automatic weighing instrument	NAWI
● fraction of the error limit pi	0.4
● Number of verification intervals, max.	3x 6 000 d (d=e)
● permissible input signal per verification interval, min.	0.4 µV/e
● Sampling rate	1 024 Hz
● Resolution of input signal	±20 000 000 parts at 0 ... 4 mV/V
● Common mode voltage, min.	2.8 V
● Common mode voltage, max.	7.7 V
● input resistance of signal line, typ.	8 MΩ
● input resistance of sense line, typ.	300 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
— -2 mV/V to +2 mV/V	Yes
— -4 mV/V to +4 mV/V	Yes
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]	56.33 kg
— global warming potential, (during production) [CO2 eq]	9.8 kg
— global warming potential, (during operation) [CO2 eq]	46.5 kg
— global warming potential, (after end of life cycle) [CO2 eq]	0.03 kg
Ambient conditions	
Ambient temperature during operation	
● horizontal installation, min.	-30 °C
● horizontal installation, max.	60 °C
● vertical installation, min.	-30 °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 ... 533 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	20 mm
Height	57 mm
Depth	72 mm
Weights	
Weight, approx.	50 g

Classifications

	Version	Classification
eClass	16	27-24-26-05
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

China RoHS

General Product Approval	For use in hazardous locations

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Metrological Approval Metrological Approval UL IECEx ATEX Miscellaneous

Environment

EPD

last modified: 2/1/2026

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