

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; $\pm 0 \dots 4 \text{ mV/V}$
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	

Number of digital inputs	3
Digital inputs, parameterizable	Yes
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Input voltage	
<ul style="list-style-type: none"> Type of input voltage 	24 V DC
<ul style="list-style-type: none"> Rated value (DC) 	24 V
<ul style="list-style-type: none"> for signal "0" 	< 5 V DC
<ul style="list-style-type: none"> for signal "1" 	+11 to +30V
<ul style="list-style-type: none"> permissible voltage at input, min. 	-30 V
<ul style="list-style-type: none"> permissible voltage at input, max. 	30 V
Input current	
<ul style="list-style-type: none"> for signal "1", typ. 	1.6 mA
Input delay (for rated value of input voltage)	
for technological functions	
— parameterizable	Yes
Cable length	
<ul style="list-style-type: none"> shielded, max. 	500 m
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> Freely usable digital output 	Yes
Switching capacity of the outputs	
<ul style="list-style-type: none"> with resistive load, max. 	0.5 A
Output voltage	
<ul style="list-style-type: none"> Type of output voltage 	DC
Output delay with resistive load	
<ul style="list-style-type: none"> "0" to "1", typ. 	20 μ s
<ul style="list-style-type: none"> "1" to "0", typ. 	30 μ s
Parallel switching of two outputs	
<ul style="list-style-type: none"> for uprating 	No
Switching frequency	
<ul style="list-style-type: none"> with resistive load, max. 	500 Hz
Total current of the outputs	
<ul style="list-style-type: none"> Current per channel, max. 	0.5 A; the total current of all outputs \geq 0.6 A, the ambient temperature is reduced by -1 °C per 100 mA
<ul style="list-style-type: none"> Current per module, max. 	1.5 A; Observe derating
Cable length	
<ul style="list-style-type: none"> shielded, max. 	500 m
<ul style="list-style-type: none"> unshielded, max. 	150 m
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. 	56 Ω ; when using SIWAREX IS 87 ohm for 7MH4710-5BA; 180 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), (+/-)	0.001 %
Error limit according to DIN 1319-1	0.002 %; of full-scale value
Accuracy class	III
Temperature coefficient, zero point	$\leq \pm 0.015 \mu\text{V/K}$
Temperature coefficient, span	$\leq \pm 5 \text{ ppm/K}$
Interfaces	
Number of RS 485 interfaces	1; SIWAREX DB

1. Interface	
Interface types	
<ul style="list-style-type: none"> RS 485 	Yes; Terminated internally with 390 Ω / 220 Ω / 390 Ω
2. Interface	
Interface types	
<ul style="list-style-type: none"> RJ 45 (Ethernet) 	Yes; 10/100 Mbit/s
<ul style="list-style-type: none"> Number of ports 	1
Protocols	
<ul style="list-style-type: none"> IP protocol 	Yes; IPv4
<ul style="list-style-type: none"> Web server 	Yes
Interface types	
RJ 45 (Ethernet)	
<ul style="list-style-type: none"> Autonegotiation 	Yes
<ul style="list-style-type: none"> Autocrossing 	Yes
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
Protocols	
Web server	
<ul style="list-style-type: none"> HTTP 	Yes
<ul style="list-style-type: none"> HTTPS 	No
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; green/red DIAG LED
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"> Automatic weighing instrument 	SWA/AGFI; SWE/ACI; SKW/SCW; SWT/DTAWI
<ul style="list-style-type: none"> Non-automatic weighing instrument 	NAWI
<ul style="list-style-type: none"> fraction of the error limit pi 	0.4
<ul style="list-style-type: none"> Number of verification intervals, max. 	3x 6 000 d (d=e)
<ul style="list-style-type: none"> permissible input signal per verification interval, min. 	0.4 μV/e
<ul style="list-style-type: none"> Sampling rate 	1 024 Hz
<ul style="list-style-type: none"> Resolution of input signal 	±20 000 000 parts at 0 ... 4 mV/V
<ul style="list-style-type: none"> Common mode voltage, min. 	2.8 V
<ul style="list-style-type: none"> Common mode voltage, max. 	7.7 V
<ul style="list-style-type: none"> input resistance of signal line, typ. 	8 MΩ
<ul style="list-style-type: none"> input resistance of sense line, typ. 	300 MΩ
<ul style="list-style-type: none"> Cable length, max. 	500 m; when using the SIWAREX 7MH4702-8AG cable
Measuring functions	
Measuring range	
<ul style="list-style-type: none"> -1 mV/V to +1 mV/V 	Yes
<ul style="list-style-type: none"> -2 mV/V to +2 mV/V 	Yes
<ul style="list-style-type: none"> -4 mV/V to +4 mV/V 	Yes
Isolation	
Isolation tested with	
	707 V DC (type test)
Standards, approvals, certificates	

Suitable for safety functions	No
Ecological footprint	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. 	-30 °C 60 °C -30 °C 50 °C

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 	5 000 m; more than 2 000 m above sea level, the ambient temperature is reduced by -1 °C per 100 m 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
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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



[China RoHS](#)



General Product Approval	For use in hazardous locations	Environment
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[Metrological Approval](#)



[Miscellaneous](#)



last modified:

2/1/2026

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