

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

7MH4900-2AA01

LEGAL TRADE WEIGHING MODULE

Used with the applicable PLC System configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens official manufacturer documentation

SIMATIC S7-300

Function modules

SIWAREX FTA

Overview

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SIWAREX FTA weighing module

The SIWAREX FTA (Flexible Technology, Automatic Weighing Instrument) is a versatile and flexible weighing module for industrial use. It can be used for automatic and non-automatic weighing, e.g. for the production of mixtures, filling, loading, monitoring and bagging.

It has been assigned appropriate scale approvals and is also suitable for calibration plants.

The SIWAREX FTA function module is integrated in SIMATIC S7/PCS7, and uses the features of this modern automation system, such as integral communication, diagnostics and configuration tools.

Technical specifications

SIWAREX FTA	
Use in automation systems	
• S7-300	Directly or via ET 200M
• S7-400 (H)	Via ET 200M
• PCS 7 (H)	Via ET 200M
Communication interfaces	SIMATIC S7, RS 232, RS 485
Module parameterization	Using SIMATIC S7
	Using SIWATOOL FTA software (RS 232)
Measuring properties	
• EC type approval as non-automatic weighing machine, trade class III	3 x 6000 d ≥ 0.5 µV/e
• Internal resolution	16 million parts
• Internal/external updating rate	400/100 Hz
Several parameterizable digital filters	Critically damped, Bessel, Butterworth (0.05 ... 20 Hz), mean value filter
Weighing functions	
• Non-automatic weighing machine	OIML R76
• Automatic weighing machine	OIML R51, R61, R107
Load cells	Strain gauges in 4-wire or 6-wire system
• 3 characteristic value ranges	1, 2 or 4 mV/V
Load cell powering	
• Supply voltage U_S (rated value)	10.3 V DC
• Max. supply current	184 mA
• Permissible load cell resistance	
- R_{Lmin}	> 56 Ω
- R_{Lmax}	> 87 Ω with Ex interface ≤ 4010 Ω

Max. distance of load cells	
When using the recommended cable:	
• Standard	1000 m (500 m legal-for-trade)
• In hazardous area ¹⁾	
- For gases of group IIC	300 m
- For gases of group IIB	1000 m
Connection to load cells in Ex zone 1	Optionally via SIWAREX IS Ex interface
Ex approvals zone 2 and safety	ATEX 100a, FM, UL, cUL _{US} Haz. Loc.
Power supply	
• Rated voltage	24 V DC
• Max. current consumption	500 mA
• Current consumption from backplane bus	Typ. 55 mA
Inputs/outputs	
• Digital inputs	7 DI electrically isolated
• Digital outputs	8 DO electrically isolated
• Counter input	Up to 10 kHz
• Analog output	
- Current range	0/4 to 20 mA
- Updating rate	100 Hz
Approvals	EC type approval (CE, OIML R76) OIML R51, R61, R107
Degree of protection to DIN EN 60529; IEC 60529	IP20
Climatic requirements (T_{min} (IND) ... T_{max} (IND)) (operating temperature)	
• Vertical installation	-10 ... 60 °C
• Horizontal installation	-10 ... 40 °C
EMC requirements	EN 61326, EN 45501, NAMUR NE21, Part 1
Dimensions in mm	80 x 125 x 130
Weight	600 g

1) For details, refer to SIWAREX IS data sheet

SIMATIC S7-300

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Ordering data	Order No.		Order No.
SIWAREX FTA Legal-for-trade weighing electronics for automatic scales for S7-300 and ET 200M. EC type approval 3 x 6000 d Applications: dosing, filling, bagging, loading. Note: observe approval conditions for applications with obligation of verification. It is recommendable to use the calibration set and contact the SIWAREX hotline.	7MH4 900-2AA01	SIWAREX Multiscale STEP 7 software for SIWAREX FTA. Control of one or more scales for a scalable number of components and any number of recipes. Applications: batching plants, mixers in production process, CD-ROM	7MH4 900-2AL01
SIWAREX FTA Manual • German • English • Italian • Spanish • French Free download from the Internet at: www.siemens.com/weighing-technology		SIWAREX Multifill STEP 7 software for SIWAREX FTA. Control of filling and bagging processes for one or more filling stations and any number of materials, CD-ROM	7MH4 900-2AM01
SIWAREX FTA "Getting started" Example software for easy acquaintance with scale programming in STEP 7. Free download from the Internet at: www.siemens.com/weighing-technology		SIWATOOL cable from SIWAREX FTA with serial PC interface, for 9-pin PC interfaces (RS 232) • 2 m long • 5 m long	7MH4 702-8CA 7MH4 702-8CB
SIWAREX FTA configuration package for SIMATIC S7 on CD-ROM • SETUP for S7 link with STEP 7 V5.2 or later • S7 function block • SIWATOOL FTA commissioning software • Manual	7MH4 900-2AK01	40-pin front plug with screw contacts (required for each SIWAREX module), alternatively with spring-loaded contacts	6ES7 392-1AM00-0AA0
SIWAREX FTA configuration package for PCS 7 V6.x on CD-ROM • SETUP for S7 link • Function block for CFC • Faceplate • SIWATOOL FTA commissioning software • Manual	7MH4 900-2AK61	40-pin front plug with spring-loaded contacts (required for each SIWAREX module), alternatively with screw contacts	6ES7 392-1BM00-0AA0
SIWAREX FTA configuration package for PCS 7 V5.1 and V5.2 On request	on request	Shield contact element Sufficient for one SIWAREX FTA module	6ES7 390-5AA00-0AA0
Calibration set for SIWAREX FTA For verification of up to 5 scales comprising: • 1x inscription foil for labeling • 1x protection foil • 10x EC verification marks (black M on green background) • Guidelines for verification, verification certificates and approvals, adaptable label • SIWAREX FTA Manual	7MH4 900-2AY10	Shield connection terminal Contents: 2 units (suitable for cable with diameter 4 ... 13 mm) Note: one shield connection terminal is required each for: • Scale connection • RS 485 interface • RS 232 interface	6ES7 390-5CA00-0AA0
		S7 DIN rail • 160 mm • 480 mm • 530 mm • 830 mm • 2000 mm	6ES7 390-1AB60-0AA0 6ES7 390-1AE80-0AA0 6ES7 390-1AF30-0AA0 6ES7 390-1AJ30-0AA0 6ES7 390-1BC00-0AA0
		PS 307 load power supply (only required if DC 24 V is not available) 120/230 V AC; 24 V DC • PS 307-1B; 2 A • PS 307-1E; 5 A • PS 307-1K; 10 A	6ES7 307-1BA00-0AA0 6ES7 307-1EA00-0AA0 6ES7 307-1KA00-0AA0
		MMC memory for data recording up to 16 MB	6ES7 953-8LF11-0AA0

SIMATIC S7-300

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Ordering data (continued)

Order No.

Remote display (option)

The Siebert S102 and S302 remote digital display can be directly connected to the SIWAREX FTA via an RS 485 interface.

Siebert Industrieelektronik GmbH
P.O. Box 1180
D-66565 Eppelborn
Tel.: +49 6806/980-0
Fax: +49 6806/980-999
Internet: <http://www.siebert.de>

Detailed information available from manufacturer.

SIWAREX JB junction box, aluminium housing

7MH4 710-1BA

for connecting up to 4 load cells in parallel, and for connecting several junction boxes

SIWAREX JB junction box, stainless steel housing

7MH4 710-1EA

for connecting up to 4 load cells in parallel

Ex interface, type SIWAREX Pi

7MH4 710-5AA

With UL and FM approvals, but **without ATEX approval** for intrinsically-safe connection of load cells, suitable for the SIWAREX U, M, FTA, FTC, CS and P weighing modules. Use in the EC is not possible.

Manual for Ex interface type SIWAREX Pi

C71000-T5974-C29

Ex interface, type SIWAREX IS

With ATEX approval, but **without UL and FM approvals** for intrinsically-safe connection of load cells, including Manual, suitable for the SIWAREX U, M, FTA, FTC, CS and P weighing modules. Use in the EC is possible.

- With short-circuit current < 199 mA DC
- With short-circuit current < 137 mA DC

7MH4 710-5BA

7MH4 710-5CA

Cable (optional)

Cable Li2Y 1 x 2 x 0.75 ST + 2 x (2 x 0.34 ST) - CY, orange sheath

7MH4 702-8AG

to connect SIWAREX U, M, P, FTA, FTC, CS, MS and CF to the junction box (JB), extension box (EB) or Ex interface (Ex-I) or between two JB's, for fixed laying, occasional bending is possible, 10.8 mm outer diameter, for ambient temperature -40 to +80 °C

Cable Li2Y 1 x 2 x 0.75 ST + 2 x (2 x 0.34 ST) - CY, blue sheath

7MH4 702-8AF

to connect the junction box (JB) or extension box (EB) in a potentially explosive atmosphere to the Ex interface (Ex-I), for fixed laying, occasional bending is possible, blue PVC insulating sheath, approx. 10.8 mm outer diameter, for ambient temperature -40 to +80 °C

Cable LiYCY 4 x 2 x 0.25 mm² A)

7MH4 407-8BD0

for TTY (connect 2 pairs of conductors in parallel), for connection of a remote indicator

A) Subject to export regulations: AL: N and ECCN: EAR99H