



SIWAREX[®] U

Device manual

Version: 06/2008

For modules with order number 7MH4950-1AA01 and 7MH4950-2AA01



2 Scope of delivery, compatibility

2.1 Scope of delivery

The scope of delivery of SIWAREX U comprises the manufacturer's conformity declaration and a supplementary sheet with the up-to-date additional information about the product.

To configure SIWAREX U in SIMATIC S7 you need the configuration package SIWAREX U for SIMATIC S7 with the order number 7MH4950-1AK01, which must be ordered separately.

The configuration package is composed of the following components:

- The Windows program SIWATOOL U for the setting of the scale during commissioning
- SIMATIC software for the operation of SIWAREX U in SIMATIC S7
- Device manuals in several languages.

For the first programming steps, the software "Getting Started" is very helpful. It can be found on the delivery CD or can be obtained for free on the Internet (www.siwarex.com).

To configure SIWAREX U in SIMATIC PCS7 you need the configuration package SIWAREX U for SIMATIC PCS7 with the order number 7MH4 683-3BA64, which must be ordered separately.

The configuration package is composed of the following components:

- The Windows program SIWATOOL U for the setting of the scale during commissioning
- Standard software (FB) for the operation of SIWAREX U in SIMATIC PCS 7
- Device manuals in several languages
- Ready-made face plates blocks for the operating station.

The required and optional accessories are listed in Chapter [12 Order numbers](#) and accessories.

2.2 Compatibility

The SIWAREX U modules with the new order number **7MH4950-*AA01** are fully compatible as regards software with the modules with order number 7MH4601-1*A01, which were produced from May 1997 to ca. November 2007.

1BSCOPE OF DELIVERY, COMPATIBILITY

As regards hardware, compatibility is also guaranteed, although from ca. November 2007 the modules work with a lower supply voltage for the load cells (6 V instead of 10 V), thus requiring less energy. The remaining hardware features (ports, frame size, pin assignment, etc.) remain unchanged. In this way, the replacement of a defective module 7MH4601-1*A01 with the order number 7MH4950-*AA01 is possible without any difficulty.

Newly implemented was the possibility with the modules 7MH4950-*AA01 to process the communication with the SIMATIC CPU alternatively via a function block, which is prepared in the project "Getting Started". The functioning of the new function block has already proven itself with the SIWAREX modules (SIWAREX FTA, SIWAREX FTC, SIWAREX CS).

The program SIWATOOL U was also updated and corresponds in its design and functionality to the SIWATOOL programs for SIWAREX FTA, SIWAREX FTC, SIWAREX CS, and SIWAREX MS.

With the new SIWATOOL U, the modules with the order number 7MH4601-1*A01, which were produced up to ca. October 2007, can also be operated. In this way, the saved scale data (xxx.sku) can be imported into the new SIWATOOL U environment and further used (xxx.swu).

4BWEIGHING FUNCTIONS

				0	no display	
				1	4-digit display Siebert display	
				2	5-digit display Siebert display	
				3	6-digit display Siebert display	
Assignment LED1	BYTE	1	101	Code	Status information	Channel no.
				100	Channel error	Channel 1
				101	Limit value 1	Channel 1
				102	Limit value 2	Channel 1
				103	Scale adjusted	Channel 1
				200	Channel error	Channel 2
				201	Limit value 1	Channel 2
				202	Limit value 2	Channel 2
				203	Scale adjusted	Channel 2
Assignment LED2	BYTE	1	102	Reserve		
Reserve	BYTE	1	0			
		6				

Table 5-2 Allocation of DR 5

5.4.1 DR 5 – module number

Each module can be assigned a number. With SIWAREX U modules with order number 7MH4601... and when using SIWATOOL U Version 1.7, the number of the module is checked against the number saved in the SIWAREX module while establishing an online connection. Establishing a connection is only possible when the number in SIWATOOL U matches that of the module or when the number "0" is specified.

This module number only serves information purposes from SIWATOOL U Version 2.0 on or for modules with order number 7MH4950.... The online connection is established in every case.

5.4.2 DR 5 – port parameters

The setting of port parameters is only possible to a limited degree. This setting is valid both for the RS232 port and the TTY port. The baud rate is fixed at 9600 bit/s.

Bit no.	reset	set
0	with parity bit (default)	without parity bit
1	parity even (default)	parity odd
2 - 7	reserve	

5.4.3 DR 5 – display model

The Siebert remote display Model S102 can be connected to the SIWAREX U module via the TTY port. Dependent on the number of display elements, corresponding codes are allocated.

Code (dec)	Meaning
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5.8.5 DR 31/32 – operating errors

In the 16 bits the pending operating errors are displayed.

Bit no.	Name	Remarks
0	1= limit for load cell signal exceeded or undershot	See message list Chapter 7.8
1	1= minimum voltage at the sense line undershot	See message list Chapter 7.8
2	1= watchdog	See message list Chapter 7.8
3	1= error in EPROM	See message list Chapter 7.8
4	1= error in EEPROM	See message list Chapter 7.8
5	1= error in RAM	See message list Chapter 7.8
6	1= ADC error	See message list Chapter 7.8
7	1= number overflow in weight calculation	See message list Chapter 7.8
8	1= No 24 V supply	See message list Chapter 7.8
9	Reserve	

Table 5-8 Operating errors

5.8.6 DR 31/32 – data and command errors

In the 16 bits, the data or command errors which occurred most recently are displayed. The display is reset at the next command or next data transfer.

Bit no.	Name	Remarks
0	1= adjustment command could not be executed as distance between adjustment points is too small	See message list Chapter 7.7
1	1= instruction could not be executed due to fault	See message list Chapter 7.7
2	1= a non-existent or inactive channel was addressed	See message list Chapter 7.7
3	1= code not defined (e.g. cutoff frequency, digital filter etc.)	See message list Chapter 7.7
4	1= data record/command unknown	See message list Chapter 7.7
5	1= command not possible because scale is not adjusted	See message list Chapter 7.7
6	1= waiting time of 5 sec. for adjustment commands not observed	See message list Chapter 7.7
7	1= the adjustment weight is negative	See message list Chapter 7.7
9	Reserve	

Table 5-9 Data or command errors

5.9 DR 40 module info

No entries can be made in DR40. The purpose of the data record is to provide information about the module version.

Name	Model	Length	Default	Range of Values / Meaning / Display
FW version	WORD	2		Firmware version
FW checksum	WORD	2		0.....65535
Reserve	BYTE	1	0	Reserve
Number of channels	BYTE	1	1/2	Number of channels
Model	BYTE	1	1/0	0= 7MH4601...., 1= 7MH4950.....
Reserve	BYTE	1	0	Reserve
		8		

Table 5-10 Allocation of DR 40

<p>Ex interface, model SIWAREX IS</p> <p>with ATEX approval, but without UL and FM approval, for the intrinsically safe connection of load cells,</p> <p>incl. device manual,</p> <p>suitable for the weighing modules SIWAREX U, CS, MS, FTA, FTC, M, and CF,</p> <p>use in the EU possible.</p>	
<ul style="list-style-type: none"> • With short circuit current < DC 199 mA 	7MH4710-5BA
<ul style="list-style-type: none"> • With short circuit current < DC 137 mA 	7MH4710-5CA
Cable (optional)	
<p>Cable Li2Y 1 x 2 x 0.75 ST + 2 x (2 x 0.34 ST) - CY, orange coated</p> <p>for the connection of SIWAREX U, CS, MS, FTA, FTC, M, and CF with junction and distributor box (JB), extension box (EB) or Ex interface (Ex-I) as well as between two JBs, for stationary laying, occasional bending is possible, 10.8 mm external diameter, for ambient temperature -40 to +80 °C.</p>	7MH4702-8AG
<p>Cable Li2Y 1 x 2 x 0.75 ST + 2 x (2 x 0.34 ST) - CY, blue coated</p> <p>connection of junction box (JB) or extension box (EB) in the explosive area and Ex interface (Ex-I), for fixed installation, occasional bending is possible, blue PVC insulating cover, approx. 10.8 mm external diameter, for ambient temperature -40 to +80 °C.</p>	7MH4702-8AF
<p>Cable LiYCY 4 x 2 x 0.25 mm² ^{A)}</p> <p>for TTY (connect 2 pairs of conductors connected in parallel in each case), for the connection of a remote display.</p>	7MH4407-8BD0 ^{A)}

¹⁾ Compatible with 7MH4601-1AA01; supply of load cells changed to DC 6 V.

²⁾ Compatible with 7MH4601-1BA01; supply of load cells changed to DC 6 V.

³⁾ Follow-up product to 7MH4683-3AA63.

^{A)} Subject to export regulations AL: N, ECCN: EAR99H.