MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Selected official pages for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

6ES7153-1AA02-0XB0

ET 200M PROFIBUS Interface. Source PDF pages: M1 pp. 68-70; M2 pp. 241-242. Adjacent model text on shared pages is outside this product reference.

OFFICIAL SOURCE

Catalog ST40 - ET 200M / IM 153 Interface; Historical ST40 catalog; printed date unconfirmed

Siemens original documentation and product reference

Siemens 12/2008; M2 source pp. 241-242

Historical AA02 ordering/configuration and compatibility reference, not complete installation instructions. Actual unit version is unverified. Use the AA02 column; later AA03 primary specifications do not apply.

AMIKON PRODUCT SUPPORT

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Amikon Limited prepared this independent reference package. Selected manufacturer pages follow with their original content and pagination visible.

IM 153 Interface module for ET 200M

Ordering data

IM 153-1 Interface module [1] Slave interface module for connection of an ET 200M to the PROFIBUS-DP	**6ES7 153-1AA02-0XB0**	**Manual for the ET 200M distributed I/O station** with description of S7-300 signal modules	
IM 153-2 Interface module [1] Slave interface module for connection of an ET 200M to the PROFIBUS-DP	**6ES7 153-2AA00-0XB0**	German English French Spanish Italian	**6ES7 153-1AA00-8AA0** **6ES7 153-1AA00-8BA0** **6ES7 153-1AA00-8CA0** **6ES7 153-1AA00-8DA0** **6ES7 153-1AA00-8EA0**
RS-485 bus connector for PROFIBUS	See IK10		

1) For suitable modules, see the configuring aids for ET 200M

Configuring ET 200M

Ordering data	Order No.	Specs/Requirements			Power Consumption from backplane bus
IM 153-1 interface module	**6ES7 153-1AA02-0XB0**	1 Slot	Accessories: 5	Slot No.2	1000 [1] mA
Digital Input					
16 x 24 V DC	**6 ES7 321-1BH01-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	25 mA
16 x 24 V DC, source input	**6 ES7 321-1BH50-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	10 mA
32 x 24 V DC	**6 ES7 321-1BL00-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	25 mA
16 x 24 V DC	**6 ES7 321-7BH00-0AB0**	1 Slot	Accessories: 5,6	Slots 3-10	55 mA
16 x 120 V AC	**6 ES7 321-1EH01-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	16 mA
8 x 120/230 V AC	**6 ES7 321-1FF01-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	29 mA
Digital Output					
16 x 24 V DC; 0.5 A	**6 ES7 322-1BH01-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	80 mA
32 x 24 V DC; 0.5 A	**6 ES7 322-1BL00-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	90 mA
8 x 24 V DC; 0.5 A	**6 ES7 322-8BF00-0AB0**	1 Slot	Accessories: 5,6	Slots 3-10	70 mA
16 x 120 V AC; 0.5 A	**6 ES7 322-1EH01-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	184 mA
8 x 24 V DC; 2 A	**6 ES7 322-1BF01-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	40 mA
8 x 120/230 V AC; 1 A	**6 ES7 322-1FF01-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	100 mA
8 x relay output	**6 ES7 322-1HF01-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	40 mA
16 x relay output	**6 ES7 322-1HH00-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	100 mA
Digital I/O					
8DI, 8 DO, 24 V DC; 0.5 A	**6 ES7 323-1BH00-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	40 mA
16 DI, 8 DO, 24 V DC; 0.5 A	**6 ES7 323-1BL00-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	55 mA
Analog input					
8 x 9 to 14 bits + sign	**6ES7 331-7KF01-0AB0**	1 Slot	Accessories: 5,6	Slots 3-10	60 mA
2 x 9 to 14 bits + sign	**6ES7 331-7KB01-0AB0**	1 Slot	Accessories: 5,6	Slots 3-10	60 mA
Analog output					
4 x 11 bits + sign	**6ES7 332-5HD01-0AB0**	1 Slot	Accessories: 5,6	Slots 3-10	60 mA
2 x 11 bits + sign	**6ES7 332-5HB01-0AB0**	1 Slot	Accessories: 5,6	Slots 3-10	60 mA
Analog I/O					
4 inputs, 2 outputs	**6ES7 334-0CE01-0AA0**	1 Slot	Accessories: 5,6	Slots 3-10	55 mA
Ex digital input [3]					
4 x 24 V DC	**6ES7 321-7RD00-0AB0**	1 Slot	Accessories: 5,6,9	Slots 3-10	80 mA
Ex digital output [3]					
4 x 24 V DC; 10 mA	**6ES7 322-5SD00-0AB0**	1 Slot	Accessories: 5,6,9	Slots 3-10	70 mA
4 x 15 V DC; 20 mA	**6ES7 322-5RD00-0AB0**	1 Slot	Accessories: 5,6,9	Slots 3-10	70 mA
Ex analog input [3]					
4 x 10 to 15 bits + sign	**6ES 331-7RD00-0AB0**	1 Slot	Accessories: 5,6,9	Slots 3-10	60 mA
8/4 for thermocouples, Pt100	**6ES 331-7SF00-0AB0**	1 Slot	Accessories: 5,6,9	Slots 3-10	120 mA
Ex analog output [3]					
4 x 15 bits	**6ES7 332-5RD00-0AB0**	1 Slot	Accessories: 5,6,9	Slots 3-10	80 mA
Function modules					
FM 350-1 counter module [2]	**6ES7 350-1AH01-0AE0**	1 Slot	Accessories: 5,6	Slots 3-10	160 mA
FM 351 positioning module [2]	**6ES7 351-1AH01-0AE0**	2 Slots	Accessories: 5,6	Slots 3-10	180 mA
FM 352 elect.cam control [2]	**6ES7 352-1AH01-0AE0**	2 Slots	Accessories: 5,6	Slots 3-10	100 mA
Simulator module	**6ES7 374-2XH01-0AA0**	1 Slot	Accessories: 5	Slots 3-10	80 mA
Dummy modules	**6ES7 370-0AA01-0AA0**	1 Slot	Accessories: 5	Slots 3-10	5 mA
Power supply					
PS 307; 2A	**6ES7 307-1BA00-0AA0**		Accessories: 5	Slot 1	
PS 307; 5A	**6ES7 307-1EA00-0AA0**		Accessories: 5	Slot 1	
PS 307; 10A	**6ES7 307-1KA00-0AA0**		Accessories: 5	Slot 1	

1) Power feed through backplane bus
2) With S7 masters only
3) Intrinsically safe

Configuring ET 200M (continued)

Accessories

Ordering Data	Order No.	Ordering Data	Order No.
DIN Rail		Labeling strip	**6ES7 392-2XX00-0AA0**
160 mm	**6ES7 390-1AB60-0AA0**	Label cover	**6ES7 392-2X^00-0AA0**
482 mm	**6ES7 390-1AE80-0AA0**		
530 mm	**6ES7 390-1AF30-0AA0**	Front conn., 20 pin; screw contacts	**6ES7 392-1AJ00-0AA0**
830 mm	**6ES7 390-1AJ30-0AA0**	Front conn., 20 pin; spring-loaded cont.	**6ES7 392-1BJ00-0AA0**
2000 mm	**6ES7 390-1BC00-0AA0**	Front conn., 40 pin; screw contacts	**6ES7 392-1AM00-0AA0**
Shield Element	**6ES7 390-5AA00-0AA0**	Cable compartment LK 393	**6ES7 393-4AA00-0AB0**
Shield connecting terminal (2 pieces)			
for 2 cables, ø 2 to 6 mm	**6ES7 390-5AB00-0AA0**		
for 1 cables, ø 3 to 8 mm	**6ES7 390-5BA00-0AA0**		
for 1 cables, ø 4 to 13 mm	**6ES7 390-5CA00-0AA0**		

Compatibilities between the IM 153-x

A

This chapter includes the most important information that you must know if you are "changing over" from an old IM 153-x to a new or different IM 153-x.

A.1 Compatibilities between the versions of IM 153 and IM 153-1

The versions of IM 153-1

Table A- 1 Properties and variants of the IM 153-1

Functions / properties	Interface module with order number 6ES7153-1AA..					
	00	01	02	03	82	83
Min_slave_interval between two slave list cycles	1 ms	0,1 ms	0,1 ms	0,1 ms	0,1 ms	0,1 ms
SYNC, FREEZE	–	x	x	x	x	x
Module change during operation	–	–	x	x	–	–
Direct data exchange	–	–	as of E07	x	as of E06	x
Enhanced diagnostics • 64 byte diagnostic frame	–	–	–	x as of E02	–	x
Extended range of environmental conditions (outdoors)	–	–	–	–	x	x
RC network with 10 MΩ for unearthed configuration	- (1 MΩ)	- (1 MΩ)	as of E08	x	as of E07	x
DPV1-mode	–	–	–	as of E05	–	as of E03
E = module version						

Compatibility between 153-1AA00- and 153-1AA01-…

The IM 153-1, order number 6ES7153-1AA**01**-0XB0 is partially upwards compatible. This means that the configuration and the user programs for the IM 153-1, order number 6ES7153-1AA**01**-0XB0 can also be used for the IM 153, order number 6ES7153-1AA**00**-0XB0, **apart from** if you are working with SYNC and FREEZE in these user programs. Note also the different min_slave-intervals (refer to table above).

Retrofitting to 153 1AA02 ...

The IM 153-1 with order number 6ES7153-1AA**01**-0XB0 can be retrofitted to the IM 153-1 with order number 6ES7153-1AA**02**-0XB0.

Contact your Siemens representative for this.

Behavior with inserting / removing interrupt

up to 153-1AA03, module version 01	as of 153-1AA03, module version 02
The ET 200M is set up on active bus modules. The removal/insertion interrupt is disabled at parameter assignment. The removal or insertion of a module results in station failure.	The ET 200M is set up on active bus modules. The removal/insertion interrupt is disabled at parameter assignment. It is still, however, possible to remove and insert modules. An interrupt is not reported, but the events are displayed in the diagnosis.

Startup Characteristics When Response Monitoring is Switched Off

The IM 153-1 **as of** 6ES7153-1AA**02**-0XB0, module version **05** has a different behavior when the DP normal master is restarted with a switched off response monitoring:

If the response monitoring is switched off, in the event of a DP master failure the outputs of the ET 200M maintain their set values.

When the DP master starts again **without resetting the DP slave** these output values remain until the new output data is received from the DP master.
Without resetting the DP slave means that the DP slave is not enabled for other DP masters. In the parameter assignment message frame, the bit 6 of the "Octet 1: station_status, unlock_req" has the value "0" (e.g. with the DP master of the SIMATIC 505).

In the case of previous versions: When restarting the DP master, the outputs of the ET 200M are briefly set to "0" until they are reset by the DP master.

If the **response monitoring switched on** is set, the IM 153-1AA02 as of E05 behaves like the predecessor versions.

Configuration of the IM 153-1 with the general ID format (AKF)

You can also configure the IM 153-1 as of order number 6ES7153-1AA03-0XB0, module version 02, with the general ID format AKF. This configuration assumes detailed knowledge of the structure of the AKF. You must use the code 0x00 for the slots 1 to 3.

⚠ WARNING

If you conduct the configuration with the general ID format AKF, the quality of the comparison of the preset and actual configuration when the DP slave starts up or when removing or inserting modules is very low. Since there is no type ID available for the comparison, an incorrect configuration cannot be easily detected!

See also

Configuration of an ET 200M with ungrounded reference potential (Page 54)

RC Network with 1 MΩ for Configuration with ungrounded reference potential (Page 246)