10.6 Using the ET 200M in the potentially explosive area zone 2

See product information "Use of subassemblies/modules in a zone 2 hazardous area (https://support.industry.siemens.com/cs/ww/en/view/19692172)".

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)

A.2 Compatibilities between the versions of IM 153-2 / -2 FO

The versions of the IM 153 2 / -2 FO

Functions / Properties	Interface module with order number 6ES7153-...								
	2AA..			2BA..			2AB.. (FO)		2BB.. (FO)
	00	01	02	00	01/81	02/82	00	01	00
RS 485 interface	x	x	x	x	x	x	–	–	–
Fiber-optic interface	–	–	–	–	–	–	x	x	x
12 modules can be operated after the interface module	–	–	–	–	–	x	–	–	–
SYNC, FREEZE	–	–	–	x	x	x	–	–	x
Module change during operation	x	x	x	x	x	x	x	x	x
Direct data exchange	–	–	x	x	x	x	–	x	x
Direct data exchange with F-modules	–	–	–	–	x	x	–	–	–
Enhanced diagnostics									
• 96-byte diagnostic frame	–	–	x as of E07	x	x	– [3]	–	x as of E06	x
• 130-byte diagnostic frame	–	–	–	–	–	x	–	–	–
Forwarding of parameter assignment data from the PG/PC (e.g. for HART modules)	–	x	x	x	x	x	x	x	x
Support for I/O modules with expanded input data	–	–	–	–	–	x	–	–	–
Support for 64-channel DI/DO	–	–	–	–	–	x	–	–	–
Configurable FM in an ET 200M	–	x	x	x	x	x	x	x	x
Time synchronization on the PROFIBUS DP	–	–	x	x	x	x	x	x	x
Time-of-day synchronization on the I/O bus	–	–	–	–	x	x	–	–	–
Time stamping of input signals	–	–	x	x	x	x	x	x	x
• In case of redundancy	–	–	as of E07	x	x	x	–	as of E06	x
• with 1 ms precision	–	–	–	–	x	x	–	–	–
• outside of S7-400	–	–	–	–	x	x	–	–	–
• For maximum of 32 DI per slot	–	–	–	–	–	x	–	–	–
Redundancy [1]	–	–	x	x	x	x	-	x	x
• Flying redundancy	–	–	–	–	x	x	–	–	–
System modification in RUN mode									
• In the redundant system	–	–	x	x	x	x	–	x	x
• In the non-redundant system	–	–	–	x	x	x	–	–	x
Clock synchronism [1]	–	–	–	x	x	x	–	–	x
Identification and maintenance data (I&M)	–	–	–	x (I&A)	x	x	–	–	x (I&A)
Update via PROFIBUS DP	–	–	–	x [2]	x	x	–	–	x [2]

Functions /	**Interface module with order number 6ES7153-...**								
Update via SIMATIC Micro Memory Card	–	–	–	x	–	–	–	–	x
RC network with 10 MΩ for unearthed configuration	- (1 MΩ)	as of E03	x	x	x	x	x	x	x
DPV1 mode	–	–	as of E09	x	x	x	–	as of E08	x
IQ-sense	–	–	–	x (as of FW V3.0.1)	x	x	–	–	x (as of FW V3.0.1)
E = module version [1] SYNC, FREEZE should not be used for these functions. [2] not when operating with the bus module BM IM/IM 6ES7195-7HD00-0XA0 [3] supports expanded diagnostics with the 96-byte diagnostic frame in the spare part scenario									

Retrofitting

You can retrofit the IM 153-2 with order number 6ES7153-2AA02-0XB0; module version **06** to the module version **07** - this is subject to a fee.

You can retrofit the IM 153-2 FO with order number 6ES7153-2AB01-0XB0, module version **05** to module version **06** - this is subject to a fee.

Contact your Siemens representative for this.

Behavior with inserting / removing interrupt

up to **153-2AA02, module version 06** **153-2AB01, module version 05**	**as of** **153-2AA02, module version 07** **153-2AB01, module version 06**
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.