SIPROTEC

Multifunction Paralleling Devices 7VE61 and 7VE63

Communication module

PROFIBUS-DP
Bus mapping

Revision 2.0

Edition: December 2004

C53000-L1840-B017-03

Siemens Aktiengesellschaft
C53000-L1840-B017-03

Preface

Purpose of this manual

This manual describes the data in the PROFIBUS-DP messages of the SIPROTEC devices 7VE61 and 7VE63 and is divided into the following topics:

- Data in the PROFIBUS-DP messages → Chapter 1,
- Standard mapping 3-1 and 3-2 → Chapter 2,
- Standard mapping 3-3 → Chapter 3.

General details about the function, operation, assembly and commissioning of the SIPROTEC devices you find in the

- SIPROTEC4 System Manual, order no. E50417–H1176–C151.

PROFIBUS-DP communication profile documentation

The following additional manual informs you about the data types, bus specific parameters and hardware interface of the PROFIBUS-DP slave module of the SIPROTEC devices:

Manual	Order number
SIPROTEC Communication module, PROFIBUS-DP - Communication profile	C53000-L1840-B001-03

PROFIBUS-DP specification

The PROFIBUS-DP specification and the structure of the PROFIBUS-DP messages are defined in the European Standard EN 50170:

❑ PROFIBUS Specification
Normative Parts of PROFIBUS-FMS, -DP, -PA
According to the European Standard
EN 50170, Volume 2
PROFIBUS Nutzerorganisation e.V.

Validity

This manual is valid for the SIPROTEC devices:

- 7VE61 and 7VE63 (firmware version 4.00 or higher)

with

- PROFIBUS-DP communication module version 03.01.03 or higher.

For device parameterization have to be used:

- DIGSI 4.30 or higher,
- PROFIBUS-DP standard mappings 3-1 to 3-n
  (n = device type dependent number of standard mappings).

Additional Support

For questions regarding SIPROTEC4 devices, please contact your Siemens representative.

Training courses

Individual course offerings may be found in our Training Catalog and questions can be directed to our Training Centre. Please contact your Siemens representative.

Target audience

Protection engineers, commissioning engineers, personnel concerned with adjustment, checking and service of selective protective equipment, automatic and control facilities and personnel of electrical facilities and power plants.

Warning!

Hazardous voltages are present in this electrical equipment during operation. Non-observance of the safety rules can result in severe personal injury or property damage.

Only qualified personnel shall work on and around this equipment after becoming thoroughly familiar with all warnings and safety notices of this and the associated manuals as well as with the applicable safety regulations.

The successful and safe operation of this device is dependent on proper transport and storage, proper handling, installation, operation, and maintenance by qualified personnel under observance of all warnings and hints contained in this and the associated manuals.

In particular the general erection and safety regulations (e.g. IEC, EN, DIN, VDE, or other national and international standards) regarding the correct use of high-voltage installations must observed. Non-observance can result in death, personal injury or substantial property damage.

QUALIFIED PERSONNEL

For the purpose of this manual and product labels, a qualified person is one who is familiar with the installation, construction and operation of the equipment and the hazards involved. In addition, he has the following qualifications:

- Is trained and authorized to energize, de-energize, clear, ground and tag circuits and equipment in accordance with established safety practices.
- Is trained in the proper care and use of protective equipment in accordance with established safety practices.
- Is trained in rendering first aid.

Typographic and graphical conventions

The following text formats are used to identify concepts giving device information described by the text flow:

`Parameter names`, or identifiers for configuration or function parameters that appear in the device display or on the screen of a PC (with DIGSI) are shown in mono-script (same point size) bold text. This also applies to header bars for selection menus.

`Parameter conditions`, or possible settings of parameters that appear in the device display or on the screen of a PC (with DIGSI), are additionally shown in italic style. This also applies to selection items for selection menus.

„`Annunciations`“, or identifiers for information produced by the device or required by other devices or from the switchgear is shown in mono-script (same point size) and placed into quotation marks.

For diagrams in which the identifier type results from the representation itself, text conventions may differ from the above-mentioned.

Revision index

Listing of the changes between the editions of this manual:

Modified chapters / pages	Edition	Reasons of modification
	1.0	First edition, Doc.-No.: C53000-L1840-B017-03 Aug 6th, 2003
general Chap. 1.4, 3	2.0	• Page numbering in the manual now continuous, not chapter-related any more • New: description of Standard mapping 3-3 with event list Dec. 20th, 2004

Table of contents

Data in the PROFIBUS-DP messages

1

This chapter delivers explanations to the data descriptions of the standard mappings as well as notes for evaluation of selected SIPROTEC objects and for the configuration of the standard mappings in the PROFIBUS-DP master.

1.1 Explanations

Note:

The examples shown in this chapter 1.1 do not necessarily correspond to the real allocation of the objects in the bus mapping.

Chapters 2 and 3 define the data area of the PROFIBUS-DP messages for data transfer between the PROFIBUS-DP slave of the SIPROTEC devices 7VE61 and 7VE63 and the PROFIBUS-DP master.

The columns "Designation of the SIPROTEC objects" contain the names of the SIPROTEC objects for "US English" device language.

The listed SIPROTEC objects in the PROFIBUS-DP messages' data area are sorted after byte offset, beginning with 0.

Variables with data type greater than or equal to 1 byte

The offset defines the start of the most significant byte in the message, e.g.:

Offset	Designation of the SIPROTEC objects	Comments	Scaling (32767 corresponds to...)	Internal object no.
18	V1 =	Measured value V1	3276.7 V	25044

The measured value "V1" is assigned to data byte 18 (most significant byte of the measured value) and data byte 19 (least significant byte of the measured value) in the PROFIBUS-DP message

Bit variables (SP/SC, DP/DC)

The offset indicates the byte which contains the bit value and the position of bit 0 of the bit variable, e.g. (input message):

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
17 / 4	Q0 OFF	Circuit breaker	-
17 / 5	Q0 ON		

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
0 / 5	Relay TRIP	1 = Relay GENERAL TRIP command	511

The checkback signal from the circuit breaker (as double-point indication) is located in data byte 17, bit positions 2^4 (bit 0) and 2^5 (bit 1).

The single-point indication "Relay TRIP" is located in byte 0, bit position 2^5.

Note:

The definition of the data types (single-point indication, double-point indication, measured value etc.) are contained in the manual "SIPROTEC Communication module, PROFIBUS-DP - Communication profile" (ref. to page 3).

1.2 Messages in output direction: PROFIBUS-DP master to the SIPROTEC device

The messages in PROFIBUS-DP output direction (ref. to chap. 2.1 and 3.1) allow:

- command outputs through the output relays of the SIPROTEC devices (external commands),
- manipulation of taggings (internal commands).

Note:

- The allocation of the output relays to the switching devices and to the output channels is defined during parameterization of the SIPROTEC devices.
- Depending on the device composition there may be less than indicated output relays (and corresponding PROFIBUS-DP message positions) available in the SIPROTEC device.

References

Standard mappings 3-1 and 3-2: ref. to chap. 2.1

Standard mapping 3-3: ref. to chap. 3.1

1.3 Messages in input direction: SIPROTEC device to the PROFIBUS-DP master

The messages in PROFIBUS-DP input direction (ref. to chap. 2.2 and 3.2) allow:

- polling of switching devices' status and binary inputs,
- transmission of annunciations and measurand values to the PROFIBUS-DP master.

1.3.1 Annunciations

Note:

- The allocation of the input channels to the binary inputs is defined during parameterization of the devices.
- Depending on the device composition and the existing protection packages not all of the indicated binary inputs or protection annunciations (and corresponding PROFIBUS-DP message positions) may be available in the SIPROTEC device.

References

Standard mappings 3-1 and 3-2: ref. to chap. 2.2.1

Standard mapping 3-3: ref. to chap. 3.2.1

1.3.2 Measured values

Note:

- Depending on the device composition not all of the indicated analog inputs (and corresponding PROFIBUS-DP message positions) may be available in the SIPROTEC device.
- The pre-allocated measured values are transferred as secondary values per default.
- Changes of the scaling of the measured values are possible in adaption of the concrete installation environment.
  You find information about this in the manual “SIPROTEC Communication module, PROFIBUS-DP - Communication profile” (ref. to page 3).

References

Standard mapping 3-1: ref. to chap. 2.2.2

Standard mapping 3-2: not included

Standard mapping 3-3: ref. to chap. 3.2.2

1.4 Configuration data of the standard mappings

There are three standard mapping (standard mapping 3-1 to standard mapping 3-3) available for the SIPROTEC devices 7VE61 and 7VE63 which differ in the data size of the PROFIBUS-DP messages.

Standard mapping 3-1

The standard mapping 3-1 contains:

Output direction:

- 2 Double commands
- 54 Single commands

Input direction:

- 2 Double-point indications
- 140 Single-point indications
- 13 Measured values (Integer)

Standard mapping 3-2

The standard mapping 3-2 contains:

Output direction:

- 2 Double commands
- 54 Single commands

Input direction:

- 2 Double-point indications
- 140 Single-point indications

Unlike the standard mapping 3-1 there are no measured values contained in the standard mapping 3-2.

Standard mapping 3-3

The standard mapping 3-3 contains:

Output direction:

- Handshake byte for event list via PROFIBUS-DP
- 2 Double commands
- 54 Single commands

Input direction:

- 2 Double-point indications
- 140 Single-point indications
- 13 Measured values (Integer)
- Handshake byte and three message blocks for event list via PROFIBUS-DP

Configuration data

Standard mapping 3-1: **1FH 1FH 1BH 2DH**
(44 byte input-, 14 bytes output direction)

Standard mapping 3-2: **1FH 11H 2DH**
(18 byte input-, 14 bytes output direction)

Standard mapping 3-3: **1FH 1FH 1BH DFH 2FH**
(76 byte input-, 16 bytes output direction)

PROFIBUS-DP master

At the configuration of a PROFIBUS-DP slave of the SIPROTEC devices in the parameterization system of the PROFIBUS-DP masters are to select the following modules for the 7VE61 and 7VE63 standard mappings and to allocate associated addresses in the I/O addressing range of the PROFIBUS-DP master:

Standard mapping 3-1:

Module	Order number	Input address	Output address
0	Input - 16 Bytes	Addr_Ix	
1	Input - 16 Bytes	Addr_Ix + 16	
2	Input - 12 Bytes	Addr_Ix + 32	
3	Output - 14 Bytes		Addr_Ox

Standard mapping 3-2:

Module	Order number	Input address	Output address
0	Input - 16 Bytes	Addr_Ix	
1	Input - 2 Bytes	Addr_Ix + 16	
2	Output - 14 Bytes		Addr_Ox

Standard mapping 3-3:

Module	Order number	Input address	Output address
0	Input - 16 Bytes	Addr_Ix	
1	Input - 16 Bytes	Addr_Ix + 16	
2	Input - 12 Bytes	Addr_Ix + 32	
3	Input - 16 Words, consistent	Adr_Ex + 44	
4	Output - 16 Bytes		Addr_Ox

Addr_Ix and Addr_Ox indicate arbitrary (as a rule even) addresses in the I/O addressing range of the PROFIBUS-DP master.

Addr_Ix (base address of the inputs) is identical with offset 0 of the PROFIBUS-DP message data of the SIPROTEC device in input direction (ref. to chap. 2.2 and 3.2).

Addr_Ox (base address of the outputs) is identical with offset 0 of the PROFIBUS-DP message data of the SIPROTEC device in output direction (ref. to chap. 2.1 and 3.1).

1.5 Notes to SIPROTEC objects

This chapter contains notes for the use and evaluation of certain SIPROTEC objects.

Note:

- The description of the standard mappings (ref. to chap. 2 and 3) contains the pre-allocation of the mapping files at delivery or at first assignment of a mapping in DIGSI to the SIPROTEC device.
- Changes of the allocation and the scaling of the measured values are possible in adaptation to the concrete installation environment.
  You find information about this in the manual "SIPROTEC Communication module, PROFIBUS-DP - Communication profile" (ref. to page 3).
- If a mapping file is assigned to a SIPROTEC device and if the data size of the PROFIBUS-DP message of this SIPROTEC device is changed by choice of a new mapping file then assignments which are not available in the existing mapping file remain unassigned furthermore.

1.5.1 Changing the setting group

In order to change the setting group, the value "10" = ON must be transmitted for the corresponding pair of bits and afterwards be reset to "00" = "Quiescent status" (controlled by an impulse from the PROFIBUS-DP master).

- Switching ON one setting group automatically switches OFF the current active setting group.
- Transmission of the value "01" = OFF is insignificant for the change of the setting group and is refused by the device.
- A change of the setting group is only possible via PROFIBUS-DP if the parameter **`Change to Another Setting Group`** (parameter address = 302) has the value ***`Protocol`***.

References

Standard mappings 3-1 and 3-2: ref. to chap. 2.1.2

Standard mapping 3-3: ref. to chap. 3.1.3

Standard mapping 3-1 and 3-2

2

This chapter describes the data in the PROFIBUS-DP messages between the PROFIBUS-DP master and the SIPROTEC devices 7VE61 and 7VE63 if standard mapping 3-1 or 3-2 is selected.

2.1 Message in output direction

2.1.1 Single commands and taggings

- Single commands and taggings can be routed on these positions as “Source system interface” using the **`DIGSI Configuration matrix`**.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
0 / 0	<user-defined> OFF	not pre-allocated	-
0 / 1	<user-defined> ON		
0 / 2	<user-defined> OFF	not pre-allocated	-
0 / 3	<user-defined> ON		
0 / 4	<user-defined> OFF	not pre-allocated	-
0 / 5	<user-defined> ON		
0 / 6	<user-defined> OFF	not pre-allocated	-
0 / 7	<user-defined> ON		
1 / 0	<user-defined> OFF	not pre-allocated	-
1 / 1	<user-defined> ON		
1 / 2	<user-defined> OFF	not pre-allocated	-
1 / 3	<user-defined> ON		
1 / 4	<user-defined> OFF	not pre-allocated	-
1 / 5	<user-defined> ON		
1 / 6	<user-defined> OFF	not pre-allocated	-
1 / 7	<user-defined> ON		
2 / 0	<user-defined> OFF	not pre-allocated	-
2 / 1	<user-defined> ON		
2 / 2	<user-defined> OFF	not pre-allocated	-
2 / 3	<user-defined> ON		
2 / 4	<user-defined> OFF	not pre-allocated	-
2 / 5	<user-defined> ON		
2 / 6	<user-defined> OFF	not pre-allocated	-
2 / 7	<user-defined> ON		
3 / 0	<user-defined> OFF	not pre-allocated	-
3 / 1	<user-defined> ON		
3 / 2	<user-defined> OFF	not pre-allocated	-
3 / 3	<user-defined> ON		
3 / 4	<user-defined> OFF	not pre-allocated	-
3 / 5	<user-defined> ON		

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
3 / 6	<user-defined> OFF	not pre-allocated	-
3 / 7	<user-defined> ON		
4 / 0	<user-defined> OFF	not pre-allocated	-
4 / 1	<user-defined> ON		
4 / 2	<user-defined> OFF	not pre-allocated	-
4 / 3	<user-defined> ON		
4 / 4	<user-defined> OFF	not pre-allocated	-
4 / 5	<user-defined> ON		
4 / 6	<user-defined> OFF	not pre-allocated	-
4 / 7	<user-defined> ON		
5 / 0	<user-defined> OFF	not pre-allocated	-
5 / 1	<user-defined> ON		
5 / 2	<user-defined> OFF	not pre-allocated	-
5 / 3	<user-defined> ON		
5 / 4	<user-defined> OFF	not pre-allocated	-
5 / 5	<user-defined> ON		
5 / 6	<user-defined> OFF	not pre-allocated	-
5 / 7	<user-defined> ON		
6 / 0	<user-defined> OFF	not pre-allocated	-
6 / 1	<user-defined> ON		
6 / 2	<user-defined> OFF	not pre-allocated	-
6 / 3	<user-defined> ON		
6 / 4	<user-defined> OFF	not pre-allocated	-
6 / 5	<user-defined> ON		
6 / 6	<user-defined> OFF	not pre-allocated	-
6 / 7	<user-defined> ON		
7 / 0	<user-defined> OFF	not pre-allocated	-
7 / 1	<user-defined> ON		
7 / 2	<user-defined> OFF	not pre-allocated	-
7 / 3	<user-defined> ON		
7 / 4	<user-defined> OFF	not pre-allocated	-
7 / 5	<user-defined> ON		
7 / 6	<user-defined> OFF	not pre-allocated	-
7 / 7	<user-defined> ON		
8 / 0	<user-defined> OFF	not pre-allocated	-
8 / 1	<user-defined> ON		
8 / 2	<user-defined> OFF	not pre-allocated	-
8 / 3	<user-defined> ON		

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
8 / 4	<user-defined> OFF	not pre-allocated	-
8 / 5	<user-defined> ON		
8 / 6	<user-defined> OFF	not pre-allocated	-
8 / 7	<user-defined> ON		
9 / 0	<user-defined> OFF	not pre-allocated	-
9 / 1	<user-defined> ON		
9 / 2	<user-defined> OFF	not pre-allocated	-
9 / 3	<user-defined> ON		
9 / 4	<user-defined> OFF	not pre-allocated	-
9 / 5	<user-defined> ON		
9 / 6	<user-defined> OFF	not pre-allocated	-
9 / 7	<user-defined> ON		
10 / 0	<user-defined> OFF	not pre-allocated	-
10 / 1	<user-defined> ON		
10 / 2	<user-defined> OFF	not pre-allocated	-
10 / 3	<user-defined> ON		
10 / 4	<user-defined> OFF	not pre-allocated	-
10 / 5	<user-defined> ON		
10 / 6	<user-defined> OFF	not pre-allocated	-
10 / 7	<user-defined> ON		
11 / 0	<user-defined> OFF	not pre-allocated	-
11 / 1	<user-defined> ON		
11 / 2	<user-defined> OFF	not pre-allocated	-
11 / 3	<user-defined> ON		
11 / 4	<user-defined> OFF	not pre-allocated	-
11 / 5	<user-defined> ON		
11 / 6	<user-defined> OFF	not pre-allocated	-
11 / 7	<user-defined> ON		

2.1.2 Internal commands

- Ref. to chap. 1.5.1 for notes regarding Changing the setting group.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
12 / 0	Setting group A		-
12 / 1	Setting group A	Activation of setting group A	
12 / 2	Setting group B		-
12 / 3	Setting group B	Activation of setting group B	
12 / 4	Setting group C		-
12 / 5	Setting group C	Activation of setting group C	
12 / 6	Setting group D		-
12 / 7	Setting group D	Activation of setting group D	
13 / 0	<user-defined> OFF	not pre-allocated	-
13 / 1	<user-defined> ON		
13 / 2	<user-defined> OFF	not pre-allocated	-
13 / 3	<user-defined> ON		

2.1.3 Double commands

- Double commands with double-point indication as checkback indication can be routed on these positions as “Source system interface” using the **DIGSI Configuration matrix**.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
13 / 4	<user-defined> OFF	not pre-allocated	-
13 / 5	<user-defined> ON		
13 / 6	<user-defined> OFF	not pre-allocated	-
13 / 7	<user-defined> ON		

2.2 Message in input direction

2.2.1 Annunciations

2.2.1.1 Diagnosis

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
0 / 0	Device OK	1 = Update of the device replica in the SIPROTEC device completed after initial start or restart	51
0 / 1	ProtActive	1 = At least one protection function is active	52
0 / 2	Error Sum Alarm	1 = Error with a summary alarm	140
0 / 3	Alarm Sum Event	1 = Alarm Summary Event	160
0 / 4	Relay PICKUP	1 = Relay PICKUP	501
0 / 5	Relay TRIP	1 = Relay GENERAL TRIP command	511
0 / 6	<user-defined>	not pre-allocated	-
0 / 7	Data valid	1 = Data in the PROFIBUS-DP message are valid. (This indication is created by the PROFIBUS-DP slave; not available in DIGSI and not relocatable.)	-

2.2.1.2 Error messages synchronization

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
1 / 0	25 MonTimeExc	1 = 25-group 1: Monitoring time exceeded	222.2025.01
1 / 1	25 FG-Error	1 = 25 Multiple selection of funct.-groups	222.2096.01
1 / 2	25 Fail.Conf.	1 = 25 Failure in Configuration	222.2331.01
1 / 3	25 sup.asym.	1 = 25-supervision V1,V2 asymmetrical	222.2309.01
1 / 4	25 sup. α	1 = 25-supervision Alpha>	222.2310.01
1 / 5	<user-defined>	not pre-allocated	-
1 / 6	<user-defined>	not pre-allocated	-
1 / 7	<user-defined>	not pre-allocated	-
2 / 0	25-1 PaErr	1 = 25-group 1: Parameter not plausible	170.2097.01
2 / 1	25-2 PaErr	1 = 25-group 2: Parameter not plausible	170.2097.02
2 / 2	25-3 PaErr	1 = 25-group 3: Parameter not plausible	170.2097.03
2 / 3	25-4 PaErr	1 = 25-group 4: Parameter not plausible	170.2097.04
2 / 4	25-5 PaErr	1 = 25-group 5: Parameter not plausible	170.2097.05

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
2 / 5	25-6 PaErr	1 = 25-group 6: Parameter not plausible	170.2097.06
2 / 6	25-7 PaErr	1 = 25-group 7: Parameter not plausible	170.2097.07
2 / 7	25-8 PaErr	1 = 25-group 8: Parameter not plausible	170.2097.08
3 / 0	<user-defined>	not pre-allocated	-
3 / 1	<user-defined>	not pre-allocated	-
3 / 2	<user-defined>	not pre-allocated	-
3 / 3	<user-defined>	not pre-allocated	-
3 / 4	<user-defined>	not pre-allocated	-
3 / 5	<user-defined>	not pre-allocated	-
3 / 6	<user-defined>	not pre-allocated	-
3 / 7	<user-defined>	not pre-allocated	-

2.2.1.3 Synchronization

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
4 / 0	25-1 activ	1 = 25 Function group 1 is active	170.2311.01
4 / 1	25-2 activ	1 = 25 Function group 2 is active	170.2311.02
4 / 2	25-3 activ	1 = 25 Function group 3 is active	170.2311.03
4 / 3	25-4 activ	1 = 25 Function group 4 is active	170.2311.04
4 / 4	25-5 activ	1 = 25 Function group 5 is active	170.2311.05
4 / 5	25-6 activ	1 = 25 Function group 6 is active	170.2311.06
4 / 6	25-7 activ	1 = 25 Function group 7 is active	170.2311.07
4 / 7	25-8 activ	1 = 25 Function group 8 is active	170.2311.08
5 / 0	25-1 meas.	1 = 25-group 1: measurement in progress	170.2022.01
5 / 1	25-2 meas.	1 = 25-group 2: measurement in progress	170.2022.02
5 / 2	25-3 meas.	1 = 25-group 3: measurement in progress	170.2022.03
5 / 3	25-4 meas.	1 = 25-group 4: measurement in progress	170.2022.04
5 / 4	25-5 meas.	1 = 25-group 5: measurement in progress	170.2022.05
5 / 5	25-6 meas.	1 = 25-group 6: measurement in progress	170.2022.06
5 / 6	25-7 meas.	1 = 25-group 7: measurement in progress	170.2022.07
5 / 7	25-8 meas.	1 = 25-group 8: measurement in progress	170.2022.08
6 / 0	25-1 BLOCK	1 = 25-group 1 is BLOCKED	170.0051.01
6 / 1	25-2 BLOCK	1 = 25-group 2 is BLOCKED	170.0051.02
6 / 2	25-3 BLOCK	1 = 25-group 3 is BLOCKED	170.0051.03
6 / 3	25-4 BLOCK	1 = 25-group 4 is BLOCKED	170.0051.04
6 / 4	25-5 BLOCK	1 = 25-group 5 is BLOCKED	170.0051.05
6 / 5	25-6 BLOCK	1 = 25-group 6 is BLOCKED	170.0051.06

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
6 / 6	25-7 BLOCK	1 = 25-group 7 is BLOCKED	170.0051.07
6 / 7	25-8 BLOCK	1 = 25-group 8 is BLOCKED	170.0051.08
7 / 0	25 V1>V2<	1 = 25 Condition V1> V2< fulfilled	222.2027.01
7 / 1	25 V1<V2>	1 = 25 Condition V1< V2> fulfilled	222.2028.01
7 / 2	25 V1<V2<	1 = 25 Condition V1< V2< fulfilled	222.2029.01
7 / 3	25 Vdiff ok	1 = 25 Voltage difference (Vdiff) okay	222.2030.01
7 / 4	25 fdiff ok	1 = 25 Frequency difference (fdiff) okay	222.2031.01
7 / 5	25 αdiff ok	1 = 25 Angle difference (alphadiff) okay	222.2032.01
7 / 6	25 f1>>	1 = 25 Frequency f1 > fmax permissible	222.2033.01
7 / 7	25 f1<<	1 = 25 Frequency f1 < fmin permissible	222.2034.01
8 / 0	25 f2>>	1 = 25 Frequency f2 > fmax permissible	222.2035.01
8 / 1	25 f2<<	1 = 25 Frequency f2 < fmin permissible	222.2036.01
8 / 2	25 V1>>	1 = 25 Voltage V1 > Vmax permissible	222.2037.01
8 / 3	25 V1<<	1 = 25 Voltage V1 < Vmin permissible	222.2038.01
8 / 4	25 V2>>	1 = 25 Voltage V2 > Vmax permissible	222.2039.01
8 / 5	25 V2<<	1 = 25 Voltage V2 < Vmin permissible	222.2040.01
8 / 6	25 V2>V1	1 = 25 Vdiff too large (V2>V1)	222.2090.01
8 / 7	25 V2<V1	1 = 25 Vdiff too large (V2<V1)	222.2091.01
9 / 0	25 f2>f1	1 = 25 fdiff too large (f2>f1)	222.2092.01
9 / 1	25 f2<f1	1 = 25 fdiff too large (f2<f1)	222.2093.01
9 / 2	25 α2>α1	1 = 25 alphadiff too large (α2>α1)	222.2094.01
9 / 3	25 α2<α1	1 = 25 alphadiff too large (α2<α1)	222.2095.01
9 / 4	25 synchron 1	1 = 25 Synchronization condition 1 okay	222.2302.01
9 / 5	25 synchron 2	1 = 25 Synchronization condition 2 okay	222.2303.01
9 / 6	<user-defined>	not pre-allocated	-
9 / 7	<user-defined>	not pre-allocated	-
10 / 0	<user-defined>	not pre-allocated	-
10 / 1	<user-defined>	not pre-allocated	-
10 / 2	<user-defined>	not pre-allocated	-
10 / 3	<user-defined>	not pre-allocated	-
10 / 4	<user-defined>	not pre-allocated	-
10 / 5	<user-defined>	not pre-allocated	-
10 / 6	<user-defined>	not pre-allocated	-
10 / 7	<user-defined>	not pre-allocated	-
11 / 0	25 CloseRel 1	1 = 25 Release of Close Command 1-1	170.2300.01
11 / 1	25 CloseRel 2	1 = 25 Release of Close Command 2-1	170.2301.01
11 / 2	25 CloseRel 1	1 = 25 Release of Close Command 1-2	170.2300.02
11 / 3	25 CloseRel 2	1 = 25 Release of Close Command 2-2	170.2301.02

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
11 / 4	25 CloseRel 1	1 = 25 Release of Close Command 1-3	170.2300.03
11 / 5	25 CloseRel 2	1 = 25 Release of Close Command 2-3	170.2301.03
11 / 6	25 CloseRel 1	1 = 25 Release of Close Command 1-4	170.2300.04
11 / 7	25 CloseRel 2	1 = 25 Release of Close Command 2-4	170.2301.04
12 / 0	25 CloseRel 1	1 = 25 Release of Close Command 1-5	170.2300.05
12 / 1	25 CloseRel 2	1 = 25 Release of Close Command 2-5	170.2301.05
12 / 2	25 CloseRel 1	1 = 25 Release of Close Command 1-6	170.2300.06
12 / 3	25 CloseRel 2	1 = 25 Release of Close Command 2-6	170.2301.06
12 / 4	25 CloseRel 1	1 = 25 Release of Close Command 1-7	170.2300.07
12 / 5	25 CloseRel 2	1 = 25 Release of Close Command 2-7	170.2301.07
12 / 6	25 CloseRel 1	1 = 25 Release of Close Command 1-8	170.2300.08
12 / 7	25 CloseRel 2	1 = 25 Release of Close Command 2-8	170.2301.08
13 / 0	25 V2 down	1 = 25 decrease voltage V2	222.2324.01
13 / 1	25 V2 up	1 = 25 increase voltage V2	222.2325.01
13 / 2	25 f2 down	1 = 25 decrease frequency f2	222.2326.01
13 / 3	25 f2 up	1 = 25 increase frequency f2	222.2327.01

2.2.1.4 Single-point indications and taggings

- Single-point indications, protection annunciations and taggings (internal single-point indications) can be routed on these position as “Destination system interface” using the **`DIGSI Configuration matrix`**.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
13 / 4	<user-defined>	not pre-allocated	-
13 / 5	<user-defined>	not pre-allocated	-
13 / 6	<user-defined>	not pre-allocated	-
13 / 7	<user-defined>	not pre-allocated	-
14 / 0	<user-defined>	not pre-allocated	-
14 / 1	<user-defined>	not pre-allocated	-
14 / 2	<user-defined>	not pre-allocated	-
14 / 3	<user-defined>	not pre-allocated	-
14 / 4	<user-defined>	not pre-allocated	-
14 / 5	<user-defined>	not pre-allocated	-
14 / 6	<user-defined>	not pre-allocated	-
14 / 7	<user-defined>	not pre-allocated	-
15 / 0	<user-defined>	not pre-allocated	-
15 / 1	<user-defined>	not pre-allocated	-
15 / 2	<user-defined>	not pre-allocated	-

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
15 / 1	<user-defined>	not pre-allocated	-
15 / 2	<user-defined>	not pre-allocated	-
15 / 3	<user-defined>	not pre-allocated	-
15 / 4	<user-defined>	not pre-allocated	-
15 / 5	<user-defined>	not pre-allocated	-
15 / 5	<user-defined>	not pre-allocated	-
15 / 7	<user-defined>	not pre-allocated	-
16 / 0	<user-defined>	not pre-allocated	-
16 / 1	<user-defined>	not pre-allocated	-
16 / 2	<user-defined>	not pre-allocated	-
16 / 3	<user-defined>	not pre-allocated	-
16 / 4	<user-defined>	not pre-allocated	-
16 / 5	<user-defined>	not pre-allocated	-
16 / 6	<user-defined>	not pre-allocated	-
16 / 7	<user-defined>	not pre-allocated	-

2.2.1.5 Internal commands (checkback indications)

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
17 / 0	Group A	1 = Setting group A is active	-
17 / 1	Group B	1 = Setting group B is active	-
17 / 2	Group C	1 = Setting group C is active	-
17 / 3	Group D	1 = Setting group D is active	-

2.2.1.6 Double-point indications

- Double-point indications (e.g. checkback indications of double commands) can be routed on these positions as “Destination system interface” using the **DIGSI Configuration matrix**.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
17 / 4	<user-defined> OFF	not pre-allocated	-
17 / 5	<user-defined> ON		
17 / 6	<user-defined> OFF	not pre-allocated	-
17 / 7	<user-defined> ON		

2.2.2 Measured values

- The measured values are transferred as secondary values.
- Measured values are only available at use of standard mapping 3-1.

Offset	Designation of the SIPROTEC objects	Comments	Scaling (32767 corresponds to...)	Internal object no.
18	V1 =	Measured value V1	3276.7 V	25044
20	V2 =	Measured value V2	3276.7 V	25045
22	f1 =	Measured value f1	327.67 Hz	25046
24	f2 =	Measured value f2	327.67 Hz	25047
26	dV =	Measured value dV	3276.7 V	25048
28	df =	Measured value df	327.67 Hz	25049
30	dα =	Measured value dα	327.67 °	25050
32	<user-defined>	not pre-allocated	-	-
34	<user-defined>	not pre-allocated	-	-
36	<user-defined>	not pre-allocated	-	-
38	<user-defined>	not pre-allocated	-	-
40	<user-defined>	not pre-allocated	-	-
42	<user-defined>	not pre-allocated	-	-

Standard mapping 3-3

3

This chapter describes the data in the PROFIBUS-DP messages between the PROFIBUS-DP master and the SIPROTEC devices 7VE61 and 7VE63 if standard mapping 3-3 ist selected.

3.1 Message in output direction

3.1.1 Event list

- Information regarding the handshake bytes as well as the retrieval methods of the event list via PROFIBUS-DP can be found in the manual “SIPROTEC Communication module, PROFIBUS-DP - Communication profile”.

Offset	Designation	Comments	Internal object no.
0	Control_O	Handshake byte for event list via PROFIBUS-DP	-
1	SPARE	reserved for future use (the value at this position is ignored)	-

3.1.2 Double commands

- Double commands with double-point indication as checkback indication can be routed on these positions as “Source system interface” using the **DIGSI Configuration matrix**.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
2 / 0	<user-defined> OFF	not pre-allocated	-
2 / 1	<user-defined> ON		
2 / 2	<user-defined> OFF	not pre-allocated	-
2 / 3	<user-defined> ON		

3.1.3 Internal commands

- Ref. to chap. 1.5.1 for notes regarding Changing the setting group.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
2 / 4	<user-defined> OFF	not pre-allocated	-
2 / 5	<user-defined> ON		
2 / 6	<user-defined> OFF	not pre-allocated	-
2 / 7	<user-defined> ON		
3 / 0	Setting group A		-
3 / 1	Setting group A	Activation of setting group A	
3 / 2	Setting group B		-
3 / 3	Setting group B	Activation of setting group B	

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
3 / 4	Setting group C		-
3 / 5	Setting group C	Activation of setting group C	
3 / 6	Setting group D		-
3 / 7	Setting group D	Activation of setting group D	

3.1.4 Single commands and taggings

- Single commands and taggings can be routed on these positions as “Source system interface” using the **`DIGSI Configuration matrix`**.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
4 / 0	<user-defined> OFF	not pre-allocated	-
4 / 1	<user-defined> ON		
4 / 2	<user-defined> OFF	not pre-allocated	-
4 / 3	<user-defined> ON		
4 / 4	<user-defined> OFF	not pre-allocated	-
4 / 5	<user-defined> ON		
4 / 6	<user-defined> OFF	not pre-allocated	-
4 / 7	<user-defined> ON		
5 / 0	<user-defined> OFF	not pre-allocated	-
5 / 1	<user-defined> ON		
5 / 2	<user-defined> OFF	not pre-allocated	-
5 / 3	<user-defined> ON		
5 / 4	<user-defined> OFF	not pre-allocated	-
5 / 5	<user-defined> ON		
5 / 6	<user-defined> OFF	not pre-allocated	-
5 / 7	<user-defined> ON		
6 / 0	<user-defined> OFF	not pre-allocated	-
6 / 1	<user-defined> ON		
6 / 2	<user-defined> OFF	not pre-allocated	-
6 / 3	<user-defined> ON		
6 / 4	<user-defined> OFF	not pre-allocated	-
6 / 5	<user-defined> ON		
6 / 6	<user-defined> OFF	not pre-allocated	-
6 / 7	<user-defined> ON		
7 / 0	<user-defined> OFF	not pre-allocated	-
7 / 1	<user-defined> ON		

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
7 / 2	<user-defined> OFF	not pre-allocated	-
7 / 3	<user-defined> ON		
7 / 4	<user-defined> OFF	not pre-allocated	-
7 / 5	<user-defined> ON		
7 / 6	<user-defined> OFF	not pre-allocated	-
7 / 7	<user-defined> ON		
8 / 0	<user-defined> OFF	not pre-allocated	-
8 / 1	<user-defined> ON		
8 / 2	<user-defined> OFF	not pre-allocated	-
8 / 3	<user-defined> ON		
8 / 4	<user-defined> OFF	not pre-allocated	-
8 / 5	<user-defined> ON		
8 / 6	<user-defined> OFF	not pre-allocated	-
8 / 7	<user-defined> ON		
9 / 0	<user-defined> OFF	not pre-allocated	-
9 / 1	<user-defined> ON		
9 / 2	<user-defined> OFF	not pre-allocated	-
9 / 3	<user-defined> ON		
9 / 4	<user-defined> OFF	not pre-allocated	-
9 / 5	<user-defined> ON		
9 / 6	<user-defined> OFF	not pre-allocated	-
9 / 7	<user-defined> ON		
10 / 0	<user-defined> OFF	not pre-allocated	-
10 / 1	<user-defined> ON		
10 / 2	<user-defined> OFF	not pre-allocated	-
10 / 3	<user-defined> ON		
10 / 4	<user-defined> OFF	not pre-allocated	-
10 / 5	<user-defined> ON		
10 / 6	<user-defined> OFF	not pre-allocated	-
10 / 7	<user-defined> ON		
11 / 0	<user-defined> OFF	not pre-allocated	-
11 / 1	<user-defined> ON		
11 / 2	<user-defined> OFF	not pre-allocated	-
11 / 3	<user-defined> ON		
11 / 4	<user-defined> OFF	not pre-allocated	-
11 / 5	<user-defined> ON		
11 / 6	<user-defined> OFF	not pre-allocated	-
11 / 7	<user-defined> ON		

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
12 / 0	<user-defined> OFF	not pre-allocated	-
12 / 1	<user-defined> ON		
12 / 2	<user-defined> OFF	not pre-allocated	-
12 / 3	<user-defined> ON		
12 / 4	<user-defined> OFF	not pre-allocated	-
12 / 5	<user-defined> ON		
12 / 6	<user-defined> OFF	not pre-allocated	-
12 / 7	<user-defined> ON		
13 / 0	<user-defined> OFF	not pre-allocated	-
13 / 1	<user-defined> ON		
13 / 2	<user-defined> OFF	not pre-allocated	-
13 / 3	<user-defined> ON		
13 / 4	<user-defined> OFF	not pre-allocated	-
13 / 5	<user-defined> ON		
13 / 6	<user-defined> OFF	not pre-allocated	-
13 / 7	<user-defined> ON		
14 / 0	<user-defined> OFF	not pre-allocated	-
14 / 1	<user-defined> ON		
14 / 2	<user-defined> OFF	not pre-allocated	-
14 / 3	<user-defined> ON		
14 / 4	<user-defined> OFF	not pre-allocated	-
14 / 5	<user-defined> ON		
14 / 6	<user-defined> OFF	not pre-allocated	-
14 / 7	<user-defined> ON		
15 / 0	<user-defined> OFF	not pre-allocated	-
15 / 1	<user-defined> ON		
15 / 2	<user-defined> OFF	not pre-allocated	-
15 / 3	<user-defined> ON		
15 / 4	<user-defined> OFF	not pre-allocated	-
15 / 5	<user-defined> ON		
15 / 6	<user-defined> OFF	not pre-allocated	-
15 / 7	<user-defined> ON		

3.2 Message in input direction

3.2.1 Annunciations

3.2.1.1 Double-point indications

- Double-point indications (e.g. checkback indications of double commands) can be routed on these positions as “Destination system interface” using the **DIGSI Configuration matrix**.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
0 / 0	<user-defined> OFF	not pre-allocated	-
0 / 1	<user-defined> ON		
0 / 2	<user-defined> OFF	not pre-allocated	-
0 / 3	<user-defined> ON		

3.2.1.2 Single-point indications and taggings

- Single-point indications (e.g. checkback indications of single commands), protection annunciations and taggings (internal single-point indications) can be routed on these position as “Destination system interface” using the **DIGSI Configuration matrix**.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
0 / 4	<user-defined>	not pre-allocated	-
0 / 5	<user-defined>	not pre-allocated	-
0 / 6	<user-defined>	not pre-allocated	-
0 / 7	<user-defined>	not pre-allocated	-
1 / 0	<user-defined>	not pre-allocated	-
1 / 1	<user-defined>	not pre-allocated	-
1 / 2	<user-defined>	not pre-allocated	-
1 / 3	<user-defined>	not pre-allocated	-

3.2.1.3 Setting group

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
1 / 4	Group A	1 = Setting group A is active	-
1 / 5	Group B	1 = Setting group B is active	-
1 / 6	Group C	1 = Setting group C is active	-
1 / 7	Group D	1 = Setting group D is active	-

3.2.1.4 Diagnosis

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
2 / 0	Device OK	1 = Update of the device replica in the SIPROTEC device completed after initial start or restart	51
2 / 1	ProtActive	1 = At least one protection function is active	52
2 / 2	<user-defined>	not pre-allocated	-
2 / 3	Error Sum Alarm	1 = Error with a summary alarm	140
2 / 4	Alarm Sum Event	1 = Alarm Summary Event	160
2 / 5	Relay PICKUP	1 = Relay PICKUP	501
2 / 6	Relay TRIP	1 = Relay GENERAL TRIP command	511
2 / 7	Data valid	1 = Data in the PROFIBUS-DP message are valid. (This indication is created by the PROFIBUS-DP slave; not available in DIGSI and not relocatable.)	-

3.2.1.5 Error messages synchronization

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
3 / 0	25 MonTimeExc	1 = 25-group 1: Monitoring time exceeded	222.2025.01
3 / 1	25 FG-Error	1 = 25 Multiple selection of funct.-groups	222.2096.01
3 / 2	25 Fail.Conf.	1 = 25 Failure in Configuration	222.2331.01
3 / 3	25 sup.asym.	1 = 25-supervision V1,V2 asymmetrical	222.2309.01
3 / 4	25 sup. α	1 = 25-supervision Alpha>	222.2310.01
3 / 5	<user-defined>	not pre-allocated	-
3 / 6	<user-defined>	not pre-allocated	-
3 / 7	<user-defined>	not pre-allocated	-
4 / 0	25-1 PaErr	1 = 25-group 1: Parameter not plausible	170.2097.01
4 / 1	25-2 PaErr	1 = 25-group 2: Parameter not plausible	170.2097.02
4 / 2	25-3 PaErr	1 = 25-group 3: Parameter not plausible	170.2097.03
4 / 3	25-4 PaErr	1 = 25-group 4: Parameter not plausible	170.2097.04
4 / 4	25-5 PaErr	1 = 25-group 5: Parameter not plausible	170.2097.05
4 / 5	25-6 PaErr	1 = 25-group 6: Parameter not plausible	170.2097.06
4 / 6	25-7 PaErr	1 = 25-group 7: Parameter not plausible	170.2097.07
4 / 7	25-8 PaErr	1 = 25-group 8: Parameter not plausible	170.2097.08
5 / 0	<user-defined>	not pre-allocated	-
5 / 1	<user-defined>	not pre-allocated	-

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
5 / 2	<user-defined>	not pre-allocated	-
5 / 3	<user-defined>	not pre-allocated	-
5 / 4	<user-defined>	not pre-allocated	-
5 / 5	<user-defined>	not pre-allocated	-
5 / 6	<user-defined>	not pre-allocated	-
5 / 7	<user-defined>	not pre-allocated	-

3.2.1.6 Synchronization

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
6 / 0	25-1 activ	1 = 25 Function group 1 is active	170.2311.01
6 / 1	25-2 activ	1 = 25 Function group 2 is active	170.2311.02
6 / 2	25-3 activ	1 = 25 Function group 3 is active	170.2311.03
6 / 3	25-4 activ	1 = 25 Function group 4 is active	170.2311.04
6 / 4	25-5 activ	1 = 25 Function group 5 is active	170.2311.05
6 / 5	25-6 activ	1 = 25 Function group 6 is active	170.2311.06
6 / 6	25-7 activ	1 = 25 Function group 7 is active	170.2311.07
6 / 7	25-8 activ	1 = 25 Function group 8 is active	170.2311.08
7 / 0	25-1 meas.	1 = 25-group 1: measurement in progress	170.2022.01
7 / 1	25-2 meas.	1 = 25-group 2: measurement in progress	170.2022.02
7 / 2	25-3 meas.	1 = 25-group 3: measurement in progress	170.2022.03
7 / 3	25-4 meas.	1 = 25-group 4: measurement in progress	170.2022.04
7 / 4	25-5 meas.	1 = 25-group 5: measurement in progress	170.2022.05
7 / 5	25-6 meas.	1 = 25-group 6: measurement in progress	170.2022.06
7 / 6	25-7 meas.	1 = 25-group 7: measurement in progress	170.2022.07
7 / 7	25-8 meas.	1 = 25-group 8: measurement in progress	170.2022.08
8 / 0	25-1 BLOCK	1 = 25-group 1 is BLOCKED	170.0051.01
8 / 1	25-2 BLOCK	1 = 25-group 2 is BLOCKED	170.0051.02
8 / 2	25-3 BLOCK	1 = 25-group 3 is BLOCKED	170.0051.03
8 / 3	25-4 BLOCK	1 = 25-group 4 is BLOCKED	170.0051.04
8 / 4	25-5 BLOCK	1 = 25-group 5 is BLOCKED	170.0051.05
8 / 5	25-6 BLOCK	1 = 25-group 6 is BLOCKED	170.0051.06
8 / 6	25-7 BLOCK	1 = 25-group 7 is BLOCKED	170.0051.07
8 / 7	25-8 BLOCK	1 = 25-group 8 is BLOCKED	170.0051.08
9 / 0	25 V1>V2<	1 = 25 Condition V1> V2< fulfilled	222.2027.01
9 / 1	25 V1<V2>	1 = 25 Condition V1< V2> fulfilled	222.2028.01
9 / 2	25 V1<V2<	1 = 25 Condition V1< V2< fulfilled	222.2029.01

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
9 / 3	25 Vdiff ok	1 = 25 Voltage difference (Vdiff) okay	222.2030.01
9 / 4	25 fdiff ok	1 = 25 Frequency difference (fdiff) okay	222.2031.01
9 / 5	25 αdiff ok	1 = 25 Angle difference (alphadiff) okay	222.2032.01
9 / 6	25 f1>>	1 = 25 Frequency f1 > fmax permissible	222.2033.01
9 / 7	25 f1<<	1 = 25 Frequency f1 < fmin permissible	222.2034.01
10 / 0	25 f2>>	1 = 25 Frequency f2 > fmax permissible	222.2035.01
10 / 1	25 f2<<	1 = 25 Frequency f2 < fmin permissible	222.2036.01
10 / 2	25 V1>>	1 = 25 Voltage V1 > Vmax permissible	222.2037.01
10 / 3	25 V1<<	1 = 25 Voltage V1 < Vmin permissible	222.2038.01
10 / 4	25 V2>>	1 = 25 Voltage V2 > Vmax permissible	222.2039.01
10 / 5	25 V2<<	1 = 25 Voltage V2 < Vmin permissible	222.2040.01
10 / 6	25 V2>V1	1 = 25 Vdiff too large (V2>V1)	222.2090.01
10 / 7	25 V2<V1	1 = 25 Vdiff too large (V2<V1)	222.2091.01
11 / 0	25 f2>f1	1 = 25 fdiff too large (f2>f1)	222.2092.01
11 / 1	25 f2<f1	1 = 25 fdiff too large (f2<f1)	222.2093.01
11 / 2	25 α2>α1	1 = 25 alphadiff too large (α2>α1)	222.2094.01
11 / 3	25 α2<α1	1 = 25 alphadiff too large (α2<α1)	222.2095.01
11 / 4	25 synchron 1	1 = 25 Synchronization condition 1 okay	222.2302.01
11 / 5	25 synchron 2	1 = 25 Synchronization condition 2 okay	222.2303.01
11 / 6	<user-defined>	not pre-allocated	-
11 / 7	<user-defined>	not pre-allocated	-
12 / 0	<user-defined>	not pre-allocated	-
12 / 1	<user-defined>	not pre-allocated	-
12 / 2	<user-defined>	not pre-allocated	-
12 / 3	<user-defined>	not pre-allocated	-
12 / 4	<user-defined>	not pre-allocated	-
12 / 5	<user-defined>	not pre-allocated	-
12 / 6	<user-defined>	not pre-allocated	-
12 / 7	<user-defined>	not pre-allocated	-
13 / 0	25 CloseRel 1	1 = 25 Release of Close Command 1-1	170.2300.01
13 / 1	25 CloseRel 2	1 = 25 Release of Close Command 2-1	170.2301.01
13 / 2	25 CloseRel 1	1 = 25 Release of Close Command 1-2	170.2300.02
13 / 3	25 CloseRel 2	1 = 25 Release of Close Command 2-2	170.2301.02
13 / 4	25 CloseRel 1	1 = 25 Release of Close Command 1-3	170.2300.03
13 / 5	25 CloseRel 2	1 = 25 Release of Close Command 2-3	170.2301.03
13 / 6	25 CloseRel 1	1 = 25 Release of Close Command 1-4	170.2300.04
13 / 7	25 CloseRel 2	1 = 25 Release of Close Command 2-4	170.2301.04
14 / 0	25 CloseRel 1	1 = 25 Release of Close Command 1-5	170.2300.05

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
14 / 1	25 CloseRel 2	1 = 25 Release of Close Command 2-5	170.2301.05
14 / 2	25 CloseRel 1	1 = 25 Release of Close Command 1-6	170.2300.06
14 / 3	25 CloseRel 2	1 = 25 Release of Close Command 2-6	170.2301.06
14 / 4	25 CloseRel 1	1 = 25 Release of Close Command 1-7	170.2300.07
14 / 5	25 CloseRel 2	1 = 25 Release of Close Command 2-7	170.2301.07
14 / 6	25 CloseRel 1	1 = 25 Release of Close Command 1-8	170.2300.08
14 / 7	25 CloseRel 2	1 = 25 Release of Close Command 2-8	170.2301.08
15 / 0	25 V2 down	1 = 25 decrease voltage V2	222.2324.01
15 / 1	25 V2 up	1 = 25 increase voltage V2	222.2325.01
15 / 2	25 f2 down	1 = 25 decrease frequency f2	222.2326.01
15 / 3	25 f2 up	1 = 25 increase frequency f2	222.2327.01

3.2.1.7 Single-point indications and taggings

- Single-point indications, protection annunciations and taggings (internal single-point indications) can be routed on these position as “Destination system interface” using the **`DIGSI Configuration matrix`**.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
15 / 4	<user-defined>	not pre-allocated	-
15 / 5	<user-defined>	not pre-allocated	-
15 / 6	<user-defined>	not pre-allocated	-
15 / 7	<user-defined>	not pre-allocated	-
16 / 0	<user-defined>	not pre-allocated	-
16 / 1	<user-defined>	not pre-allocated	-
16 / 2	<user-defined>	not pre-allocated	-
16 / 3	<user-defined>	not pre-allocated	-
16 / 4	<user-defined>	not pre-allocated	-
16 / 5	<user-defined>	not pre-allocated	-
16 / 6	<user-defined>	not pre-allocated	-
16 / 7	<user-defined>	not pre-allocated	-
17 / 0	<user-defined>	not pre-allocated	-
17 / 1	<user-defined>	not pre-allocated	-
17 / 2	<user-defined>	not pre-allocated	-
17 / 3	<user-defined>	not pre-allocated	-
17 / 4	<user-defined>	not pre-allocated	-
17 / 5	<user-defined>	not pre-allocated	-
17 / 6	<user-defined>	not pre-allocated	-
17 / 7	<user-defined>	not pre-allocated	-

3.2.2 Measured values

- The measured values are transferred as secondary values.

Offset	Designation of the SIPROTEC objects	Comments	Scaling (32767 corresponds to...)	Internal object no.
18	V1 =	Measured value V1	3276.7 V	25044
20	V2 =	Measured value V2	3276.7 V	25045
22	f1 =	Measured value f1	327.67 Hz	25046
24	f2 =	Measured value f2	327.67 Hz	25047
26	dV =	Measured value dV	3276.7 V	25048
28	df =	Measured value df	327.67 Hz	25049
30	dα =	Measured value dα	327.67 °	25050
32	<user-defined>	not pre-allocated	-	-
34	<user-defined>	not pre-allocated	-	-
36	<user-defined>	not pre-allocated	-	-
38	<user-defined>	not pre-allocated	-	-
40	<user-defined>	not pre-allocated	-	-
42	<user-defined>	not pre-allocated	-	-

3.2.3 Event list

- Information regarding the handshake bytes as well as the retrieval methods of the event list via PROFIBUS-DP can be found in the manual “SIPROTEC Communication module, PROFIBUS-DP - Communication profile”.

Offset	Designation of the SIPROTEC objects	Comments	Internal object no.
44	Control_I	Handshake byte for event list via PROFIBUS-DP	-
45	SPARE	reserved for future use (the value 0 is transmitted at this position)	-
46	Message block #1	Identification #1	-
47		Value #1	
48 - 55		Time stamp #1	
56	Message block #2	Identification #2	-
57		Value #2	
58 - 65		Time stamp #2	
66	Message block #3	Identification #3	-
67		Value #3	
68 - 75		Time stamp #3	

Glossary

CFC	Continuous Function Chart
DC	Double command
DDB file / GSD file	The DDB file contains the Device Data Base (technical characteristics) of the PROFIBUS-DP communication module (PROFIBUS-DP slave). This file is required for configuration of the PROFIBUS-DP master and is supplied together with DIGSI.
DIGSI	Parameterization system / parameterization software for SIPROTEC devices
DP	Double-point indication
Input data / Input direction	Data from the PROFIBUS-DP slave to the PROFIBUS-DP master.
Octet	Term from EN 50170, one octet corresponds to 8 bits.
OLM	Optical Link Module
Output data / Output direction	Data from the PROFIBUS-DP master to the PROFIBUS-DP slave.
PNO	PROFIBUS Nutzerorganisation (PROFIBUS International Organization)
PROFIBUS-DP	PROFIBUS - Decentralized Peripherals
PSE	PROFIBUS interface module with (electrical) isolated RS485 interface for the SIPROTEC devices from Siemens.
PSO	PROFIBUS interface module with fibre-optical interface for the SIPROTEC devices from Siemens.
SC	Single command
SP	Single-point indication

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