Reer S.p.A.

Process data mapping

for M1S COM Master module

V3.0

(Addendum of Technical manual 8540780)



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Version history

Version	Date	Author(s)	Modifications
0.0	18/11/2021	Pedrotto	First issue
1.0	24/05/2022	Pedrotto	Added MVx speed data Added RFID Add Schematic Date informations to acyclic data.
2.0	07/04/2023	Rorato	Now all maps are described: 1) Without analog data and without speed data 2) With analog data and without speed data 3) Without analog data and with speed data 4) With analog data and with speed data
3.0	12/06/2026	Rorato	Added new MODBUS TCP register to: 1) Get the firmware version 2) Set customer serial number 3) Get customer serial number 4) Get reer serial number **Note:** valid from Firmware version > 3.0.0

EtherCAT

Map without analog data and without speed data

PDO predefined connection set

PDO Designation	Name	Length	Mapping Object
RxPDO 1	RxPDO 1	4 Byte	1600h
TxPDO 1	TxPDO 1	35 Byte	1A00h

Process data mapping (PDO)

RxPDO		Mapped object		Name
Index	Subindex	Index	Subindex	
1600h	01h	2101h	01h	Fieldbus input byte 0
1600h	02h	2101h	02h	Fieldbus input byte 1
1600h	03h	2101h	03h	Fieldbus input byte 2
1600h	04h	2101h	04h	Fieldbus input byte 3

TxPDO		Mapped object		Name
Index	Subindex	Index	Subindex	
1A00h	01h	2001h	01h	System status
1A00h	02h	2001h	02h	Reserved_2001_02
1A00h	03h	2001h	03h	Reserved_2001_03
1A00h	04h	2001h	04h	Reserved_2001_04
1A00h	05h	2201h	01h	Input status byte 0
1A00h	06h	2201h	02h	Input status byte 1
1A00h	07h	2201h	03h	Input status byte 2
1A00h	08h	2201h	04h	Input status byte 3
1A00h	09h	2201h	05h	Input status byte 4
1A00h	0Ah	2201h	06h	Input status byte 5
1A00h	0Bh	2201h	07h	Input status byte 6
1A00h	0Ch	2201h	08h	Input status byte 7
1A00h	0Dh	2201h	09h	Input status byte 8
1A00h	0Eh	2201h	0Ah	Input status byte 9
1A00h	0Fh	2201h	0Bh	Input status byte 10
1A00h	10h	2201h	0Ch	Input status byte 11
1A00h	11h	2201h	0Dh	Input status byte 12
1A00h	12h	2201h	0Eh	Input status byte 13
1A00h	13h	2201h	0Fh	Input status byte 14
1A00h	14h	2201h	10h	Input status byte 15
1A00h	15h	2201h	11h	Restart Input byte 0
1A00h	16h	2201h	12h	Restart Input byte 1
1A00h	17h	2201h	13h	Restart Input byte 2
1A00h	18h	2181h	01h	Fieldbus input byte 0 feedback
1A00h	19h	2181h	02h	Fieldbus input byte 1 feedback
1A00h	1Ah	2181h	03h	Fieldbus input byte 2 feedback
1A00h	1Bh	2181h	04h	Fieldbus input byte 3 feedback
1A00h	1Ch	2203h	01h	Probe status byte 0
1A00h	1Dh	2203h	02h	Probe status byte 1

TxPDO		Mapped object		Name
Index	**Subindex**	**Index**	**Subindex**	
1A00h	1Eh	2203h	03h	Probe status byte 2
1A00h	1Fh	2203h	04h	Probe status byte 3
1A00h	20h	2202h	01h	OSSD status byte 0
1A00h	21h	2202h	02h	OSSD status byte 1
1A00h	22h	2202h	03h	OSSD status byte 2
1A00h	23h	2202h	04h	OSSD status byte 3

Map with analog data and without speed data

PDO predefined connection set

PDO Designation	Name	Length	Mapping Object
RxPDO 1	RxPDO 1	4 Byte	1600h
TxPDO 1	TxPDO 1	99 Byte	1A00h

Process data mapping (PDO)

RxPDO		Mapped object		Name
Index	Subindex	Index	Subindex	
1600h	01h	2101h	01h	Fieldbus input byte 0
1600h	02h	2101h	02h	Fieldbus input byte 1
1600h	03h	2101h	03h	Fieldbus input byte 2
1600h	04h	2101h	04h	Fieldbus input byte 3

TxPDO		Mapped object		Name
Index	Subindex	Index	Subindex	
1A00h	01h	2001h	01h	System status
1A00h	02h	2001h	02h	Reserved_2001_02
1A00h	03h	2001h	03h	Reserved_2001_03
1A00h	04h	2001h	04h	Reserved_2001_04
1A00h	05h	2201h	01h	Input status byte 0
1A00h	06h	2201h	02h	Input status byte 1
1A00h	07h	2201h	03h	Input status byte 2
1A00h	08h	2201h	04h	Input status byte 3
1A00h	09h	2201h	05h	Input status byte 4
1A00h	0Ah	2201h	06h	Input status byte 5
1A00h	0Bh	2201h	07h	Input status byte 6
1A00h	0Ch	2201h	08h	Input status byte 7
1A00h	0Dh	2201h	09h	Input status byte 8
1A00h	0Eh	2201h	0Ah	Input status byte 9
1A00h	0Fh	2201h	0Bh	Input status byte 10
1A00h	10h	2201h	0Ch	Input status byte 11
1A00h	11h	2201h	0Dh	Input status byte 12
1A00h	12h	2201h	0Eh	Input status byte 13
1A00h	13h	2201h	0Fh	Input status byte 14
1A00h	14h	2201h	10h	Input status byte 15
1A00h	15h	2201h	11h	Restart Input byte 0
1A00h	16h	2201h	12h	Restart Input byte 1
1A00h	17h	2201h	13h	Restart Input byte 2
1A00h	18h	2181h	01h	Fieldbus input byte 0 feedback
1A00h	19h	2181h	02h	Fieldbus input byte 1 feedback
1A00h	1Ah	2181h	03h	Fieldbus input byte 2 feedback
1A00h	1Bh	2181h	04h	Fieldbus input byte 3 feedback
1A00h	1Ch	2203h	01h	Probe status byte 0
1A00h	1Dh	2203h	02h	Probe status byte 1
1A00h	1Eh	2203h	03h	Probe status byte 2
1A00h	1Fh	2203h	04h	Probe status byte 3
1A00h	20h	2202h	01h	OSSD status byte 0

TxPDO		Mapped object		Name
Index	**Subindex**	**Index**	**Subindex**	
1A00h	21h	2202h	02h	OSSD status byte 1
1A00h	22h	2202h	03h	OSSD status byte 2
1A00h	23h	2202h	04h	OSSD status byte 3
1A00h	24h	2204h	01h	Analog data float 0
1A00h	25h	2204h	02h	Analog data float 1
1A00h	26h	2204h	03h	Analog data float 2
1A00h	27h	2204h	04h	Analog data float 3
1A00h	28h	2204h	05h	Analog data float 4
1A00h	29h	2204h	06h	Analog data float 5
1A00h	2Ah	2204h	07h	Analog data float 6
1A00h	2Bh	2204h	08h	Analog data float 7
1A00h	2Ch	2204h	09h	Analog data float 8
1A00h	2Dh	2204h	0Ah	Analog data float 9
1A00h	2Eh	2204h	0Bh	Analog data float 10
1A00h	2Fh	2204h	0Ch	Analog data float 11
1A00h	30h	2204h	0Dh	Analog data float 12
1A00h	31h	2204h	0Eh	Analog data float 13
1A00h	32h	2204h	0Fh	Analog data float 14
1A00h	33h	2204h	10h	Analog data float 15

Map without analog data and with speed data

PDO predefined connection set

PDO Designation	Name	Length	Mapping Object
RxPDO 1	RxPDO 1	4 Byte	1600h
TxPDO 1	TxPDO 1	131 Byte	1A00h

Process data mapping (PDO)

RxPDO		Mapped object		Name
Index	Subindex	Index	Subindex	
1600h	01h	2101h	01h	Fieldbus input byte 0
1600h	02h	2101h	02h	Fieldbus input byte 1
1600h	03h	2101h	03h	Fieldbus input byte 2
1600h	04h	2101h	04h	Fieldbus input byte 3

TxPDO		Mapped object		Name
Index	Subindex	Index	Subindex	
1A00h	01h	2001h	01h	System status
1A00h	02h	2001h	02h	Reserved_2001_02
1A00h	03h	2001h	03h	Reserved_2001_03
1A00h	04h	2001h	04h	Reserved_2001_04
1A00h	05h	2201h	01h	Input status byte 0
1A00h	06h	2201h	02h	Input status byte 1
1A00h	07h	2201h	03h	Input status byte 2
1A00h	08h	2201h	04h	Input status byte 3
1A00h	09h	2201h	05h	Input status byte 4
1A00h	0Ah	2201h	06h	Input status byte 5
1A00h	0Bh	2201h	07h	Input status byte 6
1A00h	0Ch	2201h	08h	Input status byte 7
1A00h	0Dh	2201h	09h	Input status byte 8
1A00h	0Eh	2201h	0Ah	Input status byte 9
1A00h	0Fh	2201h	0Bh	Input status byte 10
1A00h	10h	2201h	0Ch	Input status byte 11
1A00h	11h	2201h	0Dh	Input status byte 12
1A00h	12h	2201h	0Eh	Input status byte 13
1A00h	13h	2201h	0Fh	Input status byte 14
1A00h	14h	2201h	10h	Input status byte 15
1A00h	15h	2201h	11h	Restart Input byte 0
1A00h	16h	2201h	12h	Restart Input byte 1
1A00h	17h	2201h	13h	Restart Input byte 2
1A00h	18h	2181h	01h	Fieldbus input byte 0 feedback
1A00h	19h	2181h	02h	Fieldbus input byte 1 feedback
1A00h	1Ah	2181h	03h	Fieldbus input byte 2 feedback
1A00h	1Bh	2181h	04h	Fieldbus input byte 3 feedback
1A00h	1Ch	2203h	01h	Probe status byte 0
1A00h	1Dh	2203h	02h	Probe status byte 1
1A00h	1Eh	2203h	03h	Probe status byte 2
1A00h	1Fh	2203h	04h	Probe status byte 3
1A00h	20h	2202h	01h	OSSD status byte 0

TxPDO		Mapped object		Name
Index	**Subindex**	**Index**	**Subindex**	
1A00h	21h	2202h	02h	OSSD status byte 1
1A00h	22h	2202h	03h	OSSD status byte 2
1A00h	23h	2202h	04h	OSSD status byte 3
1A00h	34h	2205h	01h	Speed data float 0
1A00h	35h	2205h	02h	Speed data float 1
1A00h	36h	2205h	03h	Speed data float 2
1A00h	37h	2205h	04h	Speed data float 3
1A00h	38h	2205h	05h	Speed data float 4
1A00h	39h	2205h	06h	Speed data float 5
1A00h	3Ah	2205h	07h	Speed data float 6
1A00h	3Bh	2205h	08h	Speed data float 7
1A00h	3Ch	2205h	09h	Speed data float 8
1A00h	3Dh	2205h	0Ah	Speed data float 9
1A00h	3Eh	2205h	0Bh	Speed data float 10
1A00h	3Fh	2205h	0Ch	Speed data float 11
1A00h	40h	2205h	0Dh	Speed data float 12
1A00h	41h	2205h	0Eh	Speed data float 13
1A00h	42h	2205h	0Fh	Speed data float 14
1A00h	43h	2205h	10h	Speed data float 15
1A00h	44h	2205h	11h	Speed data float 16
1A00h	45h	2205h	12h	Speed data float 17
1A00h	46h	2205h	13h	Speed data float 18
1A00h	47h	2205h	14h	Speed data float 19
1A00h	48h	2205h	15h	Speed data float 20
1A00h	49h	2205h	16h	Speed data float 21
1A00h	4Ah	2205h	17h	Speed data float 22
1A00h	4Bh	2205h	18h	Speed data float 23

Map with analog data and with speed data

PDO predefined connection set

PDO Designation	Name	Length	Mapping Object
RxPDO 1	RxPDO 1	4 Byte	1600h
TxPDO 1	TxPDO 1	195 Byte	1A00h

Process data mapping (PDO)

RxPDO		Mapped object		Name
Index	Subindex	Index	Subindex	
1600h	01h	2101h	01h	Fieldbus input byte 0
1600h	02h	2101h	02h	Fieldbus input byte 1
1600h	03h	2101h	03h	Fieldbus input byte 2
1600h	04h	2101h	04h	Fieldbus input byte 3

TxPDO		Mapped object		Name
Index	Subindex	Index	Subindex	
1A00h	01h	2001h	01h	System status
1A00h	02h	2001h	02h	Reserved_2001_02
1A00h	03h	2001h	03h	Reserved_2001_03
1A00h	04h	2001h	04h	Reserved_2001_04
1A00h	05h	2201h	01h	Input status byte 0
1A00h	06h	2201h	02h	Input status byte 1
1A00h	07h	2201h	03h	Input status byte 2
1A00h	08h	2201h	04h	Input status byte 3
1A00h	09h	2201h	05h	Input status byte 4
1A00h	0Ah	2201h	06h	Input status byte 5
1A00h	0Bh	2201h	07h	Input status byte 6
1A00h	0Ch	2201h	08h	Input status byte 7
1A00h	0Dh	2201h	09h	Input status byte 8
1A00h	0Eh	2201h	0Ah	Input status byte 9
1A00h	0Fh	2201h	0Bh	Input status byte 10
1A00h	10h	2201h	0Ch	Input status byte 11
1A00h	11h	2201h	0Dh	Input status byte 12
1A00h	12h	2201h	0Eh	Input status byte 13
1A00h	13h	2201h	0Fh	Input status byte 14
1A00h	14h	2201h	10h	Input status byte 15
1A00h	15h	2201h	11h	Restart Input byte 0
1A00h	16h	2201h	12h	Restart Input byte 1
1A00h	17h	2201h	13h	Restart Input byte 2
1A00h	18h	2181h	01h	Fieldbus input byte 0 feedback
1A00h	19h	2181h	02h	Fieldbus input byte 1 feedback
1A00h	1Ah	2181h	03h	Fieldbus input byte 2 feedback
1A00h	1Bh	2181h	04h	Fieldbus input byte 3 feedback
1A00h	1Ch	2203h	01h	Probe status byte 0
1A00h	1Dh	2203h	02h	Probe status byte 1
1A00h	1Eh	2203h	03h	Probe status byte 2
1A00h	1Fh	2203h	04h	Probe status byte 3
1A00h	20h	2202h	01h	OSSD status byte 0

TxPDO		Mapped object		Name
Index	**Subindex**	**Index**	**Subindex**	
1A00h	21h	2202h	02h	OSSD status byte 1
1A00h	22h	2202h	03h	OSSD status byte 2
1A00h	23h	2202h	04h	OSSD status byte 3
1A00h	24h	2204h	01h	Analog data float 0
1A00h	25h	2204h	02h	Analog data float 1
1A00h	26h	2204h	03h	Analog data float 2
1A00h	27h	2204h	04h	Analog data float 3
1A00h	28h	2204h	05h	Analog data float 4
1A00h	29h	2204h	06h	Analog data float 5
1A00h	2Ah	2204h	07h	Analog data float 6
1A00h	2Bh	2204h	08h	Analog data float 7
1A00h	2Ch	2204h	09h	Analog data float 8
1A00h	2Dh	2204h	0Ah	Analog data float 9
1A00h	2Eh	2204h	0Bh	Analog data float 10
1A00h	2Fh	2204h	0Ch	Analog data float 11
1A00h	30h	2204h	0Dh	Analog data float 12
1A00h	31h	2204h	0Eh	Analog data float 13
1A00h	32h	2204h	0Fh	Analog data float 14
1A00h	33h	2204h	10h	Analog data float 15
1A00h	34h	2205h	01h	Speed data float 0
1A00h	35h	2205h	02h	Speed data float 1
1A00h	36h	2205h	03h	Speed data float 2
1A00h	37h	2205h	04h	Speed data float 3
1A00h	38h	2205h	05h	Speed data float 4
1A00h	39h	2205h	06h	Speed data float 5
1A00h	3Ah	2205h	07h	Speed data float 6
1A00h	3Bh	2205h	08h	Speed data float 7
1A00h	3Ch	2205h	09h	Speed data float 8
1A00h	3Dh	2205h	0Ah	Speed data float 9
1A00h	3Eh	2205h	0Bh	Speed data float 10
1A00h	3Fh	2205h	0Ch	Speed data float 11
1A00h	40h	2205h	0Dh	Speed data float 12
1A00h	41h	2205h	0Eh	Speed data float 13
1A00h	42h	2205h	0Fh	Speed data float 14
1A00h	43h	2205h	10h	Speed data float 15
1A00h	44h	2205h	11h	Speed data float 16
1A00h	45h	2205h	12h	Speed data float 17
1A00h	46h	2205h	13h	Speed data float 18
1A00h	47h	2205h	14h	Speed data float 19
1A00h	48h	2205h	15h	Speed data float 20
1A00h	49h	2205h	16h	Speed data float 21
1A00h	4Ah	2205h	17h	Speed data float 22
1A00h	4Bh	2205h	18h	Speed data float 23

Vendor specific Objects

Object Index 2001h – System status

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED8	System status
02h	UNSIGNED8	Reserved_2001_02
02h	UNSIGNED8	Reserved_2001_03
02h	UNSIGNED8	Reserved_2001_04

Object Index 2003h – Errors data CPU 0

Object Type: Array

Subindex	Type	Name		
00h	UNSIGNED8	Number Of Entries		
01h	UNSIGNED8	Module name		
02h	UNSIGNED8	Error code	NETX_CORE_FAILURE	NETX_SW_FAILURE
03h	UNSIGNED8	Error address byte 0	NetX Core error code byte 0	NetX SW Auxiliary code byte 0
04h	UNSIGNED8	Error address byte 1	NetX Core error code byte 1	NetX SW Auxiliary code byte 1
05h	UNSIGNED8	Error address byte 2	NetX Core error code byte 2	NetX SW Auxiliary code byte 2
06h	UNSIGNED8	Error address byte 3	NetX Core error code byte 3	NetX SW Auxiliary code byte 3
07h	UNSIGNED8	CPU firmware version		
08h	UNSIGNED8	Extended code 0	0	0
09h	UNSIGNED8	Extended code 1		

Object Index 2004h – Errors data CPU 1

Object Type: Array

Subindex	Type	Name		
00h	UNSIGNED8	Number Of Entries		
01h	UNSIGNED8	Module name		
02h	UNSIGNED8	Error code	NETX_CORE_FAILURE	NETX_SW_FAILURE
03h	UNSIGNED8	Error address byte 0	NetX Core error code byte 0	NetX SW Auxiliary code byte 0
04h	UNSIGNED8	Error address byte 1	NetX Core error code byte 1	NetX SW Auxiliary code byte 1
05h	UNSIGNED8	Error address byte 2	NetX Core error code byte 2	NetX SW Auxiliary code byte 2
06h	UNSIGNED8	Error address byte 3	NetX Core error code byte 3	NetX SW Auxiliary code byte 3
07h	UNSIGNED8	CPU firmware version		
08h	UNSIGNED8	Extended code 0	0	0
09h	UNSIGNED8	Extended code 1		

Object Index 2005h – Input diagnostics

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED8	Diagnostic index 0
02h	UNSIGNED8	Diagnostic code 0
03h	UNSIGNED8	Diagnostic index 1
04h	UNSIGNED8	Diagnostic code 1
05h	UNSIGNED8	Diagnostic index 2
06h	UNSIGNED8	Diagnostic code 2
07h	UNSIGNED8	Diagnostic index 3
08h	UNSIGNED8	Diagnostic code 3
09h	UNSIGNED8	Diagnostic index 4
0Ah	UNSIGNED8	Diagnostic code 4
0Bh	UNSIGNED8	Diagnostic index 5
0Ch	UNSIGNED8	Diagnostic code 5
0Dh	UNSIGNED8	Diagnostic index 6
0Eh	UNSIGNED8	Diagnostic code 6
0Fh	UNSIGNED8	Diagnostic index 7
10h	UNSIGNED8	Diagnostic code 7
11h	UNSIGNED8	Diagnostic index 8
12h	UNSIGNED8	Diagnostic code 8
13h	UNSIGNED8	Diagnostic index 9
14h	UNSIGNED8	Diagnostic code 9
15h	UNSIGNED8	Diagnostic index 10
16h	UNSIGNED8	Diagnostic code 10
17h	UNSIGNED8	Diagnostic index 11
18h	UNSIGNED8	Diagnostic code 11
19h	UNSIGNED8	Diagnostic index 12
1Ah	UNSIGNED8	Diagnostic code 12
1Bh	UNSIGNED8	Diagnostic index 13
1Ch	UNSIGNED8	Diagnostic code 13
1Dh	UNSIGNED8	Diagnostic index 14
1Eh	UNSIGNED8	Diagnostic code 14
1Fh	UNSIGNED8	Diagnostic index 15
20h	UNSIGNED8	Diagnostic code 15

A maximum of 16 Input diagnostics are transferred, if more diagnostics are present on the system only the first 16 are available on the fieldbus

Object Index 2006h – OSSD diagnostics

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED8	Diagnostic index 0
02h	UNSIGNED8	Diagnostic code 0
03h	UNSIGNED8	Diagnostic index 1
04h	UNSIGNED8	Diagnostic code 1
05h	UNSIGNED8	Diagnostic index 2
06h	UNSIGNED8	Diagnostic code 2
07h	UNSIGNED8	Diagnostic index 3
08h	UNSIGNED8	Diagnostic code 3
09h	UNSIGNED8	Diagnostic index 4
0Ah	UNSIGNED8	Diagnostic code 4
0Bh	UNSIGNED8	Diagnostic index 5
0Ch	UNSIGNED8	Diagnostic code 5
0Dh	UNSIGNED8	Diagnostic index 6
0Eh	UNSIGNED8	Diagnostic code 6
0Fh	UNSIGNED8	Diagnostic index 7
10h	UNSIGNED8	Diagnostic code 7
11h	UNSIGNED8	Diagnostic index 8
12h	UNSIGNED8	Diagnostic code 8
13h	UNSIGNED8	Diagnostic index 9
14h	UNSIGNED8	Diagnostic code 9
15h	UNSIGNED8	Diagnostic index 10
16h	UNSIGNED8	Diagnostic code 10
17h	UNSIGNED8	Diagnostic index 11
18h	UNSIGNED8	Diagnostic code 11
19h	UNSIGNED8	Diagnostic index 12
1Ah	UNSIGNED8	Diagnostic code 12
1Bh	UNSIGNED8	Diagnostic index 13
1Ch	UNSIGNED8	Diagnostic code 13
1Dh	UNSIGNED8	Diagnostic index 14
1Eh	UNSIGNED8	Diagnostic code 14
1Fh	UNSIGNED8	Diagnostic index 15
20h	UNSIGNED8	Diagnostic code 15

A maximum of 16 OSSD diagnostics are transferred, if more diagnostics are present on the system only the first 16 are available on the fieldbus

Object Index 2007h – Project CRC and Schematic Date

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED8	Project CRC High byte
02h	UNSIGNED8	Project CRC Low byte
03h	UNSIGNED8	Schematic Date (Day)
04h	UNSIGNED8	Schematic Date (Month)
05h	UNSIGNED8	Schematic Date (Year, low byte)
06h	UNSIGNED8	Schematic Date (Year, high byte)
07h	UNSIGNED8	Schematic source: MCM (Value = 1) or MSD (Value = 0)

Object Index 2101h – Fieldbus inputs

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED8	Fieldbus input byte 0
02h	UNSIGNED8	Fieldbus input byte 1
03h	UNSIGNED8	Fieldbus input byte 2
04h	UNSIGNED8	Fieldbus input byte 3

Object Index 2181h – Fieldbus inputs feedback

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED8	Fieldbus input byte 0 feedback
02h	UNSIGNED8	Fieldbus input byte 1 feedback
03h	UNSIGNED8	Fieldbus input byte 2 feedback
04h	UNSIGNED8	Fieldbus input byte 3 feedback

Object Index 2201h – Input status

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED8	Input status byte 0
02h	UNSIGNED8	Input status byte 1
03h	UNSIGNED8	Input status byte 2
04h	UNSIGNED8	Input status byte 3
05h	UNSIGNED8	Input status byte 4
06h	UNSIGNED8	Input status byte 5
07h	UNSIGNED8	Input status byte 6
08h	UNSIGNED8	Input status byte 7
09h	UNSIGNED8	Input status byte 8
0Ah	UNSIGNED8	Input status byte 9
0Bh	UNSIGNED8	Input status byte 10
0Ch	UNSIGNED8	Input status byte 11
0Dh	UNSIGNED8	Input status byte 12
0Eh	UNSIGNED8	Input status byte 13
0Fh	UNSIGNED8	Input status byte 14
10h	UNSIGNED8	Input status byte 15
11h	UNSIGNED8	Restart Input byte 0
12h	UNSIGNED8	Restart Input byte 1
13h	UNSIGNED8	Restart Input byte 2

Object Index 2202h – OSSD status

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED8	OSSD status byte 0
02h	UNSIGNED8	OSSD status byte 1
03h	UNSIGNED8	OSSD status byte 2
04h	UNSIGNED8	OSSD status byte 3

Object Index 2203h – Probe status

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED8	Probe status byte 0
02h	UNSIGNED8	Probe status byte 1
03h	UNSIGNED8	Probe status byte 2
04h	UNSIGNED8	Probe status byte 3

Object Index 2204h – Analog data

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	REAL32	Analog data float 0
02h	REAL32	Analog data float 1
03h	REAL32	Analog data float 2
04h	REAL32	Analog data float 3
05h	REAL32	Analog data float 4
06h	REAL32	Analog data float 5
07h	REAL32	Analog data float 6
08h	REAL32	Analog data float 7
09h	REAL32	Analog data float 8
0Ah	REAL32	Analog data float 9
0Bh	REAL32	Analog data float 10
0Ch	REAL32	Analog data float 11
0Dh	REAL32	Analog data float 12
0Eh	REAL32	Analog data float 13
0Fh	REAL32	Analog data float 14
10h	REAL32	Analog data float 15

Object Index 2205h – Speed data

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	REAL32	Speed data float 0
02h	REAL32	Speed data float 1
03h	REAL32	Speed data float 2
04h	REAL32	Speed data float 3
05h	REAL32	Speed data float 4
06h	REAL32	Speed data float 5
07h	REAL32	Speed data float 6
08h	REAL32	Speed data float 7
09h	REAL32	Speed data float 8
0Ah	REAL32	Speed data float 9
0Bh	REAL32	Speed data float 10
0Ch	REAL32	Speed data float 11
0Dh	REAL32	Speed data float 12
0Eh	REAL32	Speed data float 13
0Fh	REAL32	Speed data float 14
10h	REAL32	Speed data float 15
11h	REAL32	Speed data float 16
12h	REAL32	Speed data float 17
13h	REAL32	Speed data float 18
14h	REAL32	Speed data float 19
15h	REAL32	Speed data float 20
16h	REAL32	Speed data float 21
17h	REAL32	Speed data float 22
18h	REAL32	Speed data float 23

Object Index 2008h – RFID1

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED16	RFID chain1

Object Index 2009h – RFID2

Object Type: Array

Subindex	Type	Name
00h	UNSIGNED8	Number Of Entries
01h	UNSIGNED16	RFID chain2

EtherNet/IP

Map without analog data and without speed data

Process data mapping (Class 1 Connection)

Assembly instance 96h (Connection point O->T Consuming Instance)

Byte offset	Size	Name
0	USINT	Fieldbus input byte 0
1	USINT	Fieldbus input byte 1
2	USINT	Fieldbus input byte 2
3	USINT	Fieldbus input byte 3

O->T connection type: Point-to-point

Assembly instance 64h (Connection point T->O Producing Instance)

Byte offset	Size	Name
0	USINT	System status
1	USINT	Reserved
2	USINT	Input status byte 0
3	USINT	Input status byte 1
4	USINT	Input status byte 2
5	USINT	Input status byte 3
6	USINT	Input status byte 4
7	USINT	Input status byte 5
8	USINT	Input status byte 6
9	USINT	Input status byte 7
10	USINT	Input status byte 8
11	USINT	Input status byte 9
12	USINT	Input status byte 10
13	USINT	Input status byte 11
14	USINT	Input status byte 12
15	USINT	Input status byte 13
16	USINT	Input status byte 14
17	USINT	Input status byte 15
18	USINT	Restart Input byte 0
19	USINT	Restart Input byte 1
20	USINT	Restart Input byte 2
21	USINT	Fieldbus input byte 0 feedback
22	USINT	Fieldbus input byte 1 feedback
23	USINT	Fieldbus input byte 2 feedback
24	USINT	Fieldbus input byte 3 feedback
25	USINT	Probe status byte 0
26	USINT	Probe status byte 1
27	USINT	Probe status byte 2
28	USINT	Probe status byte 3
29	USINT	OSSD status byte 0
30	USINT	OSSD status byte 1
31	USINT	OSSD status byte 2
32	USINT	OSSD status byte 3

Map with analog data and without speed data

Process data mapping (Class 1 Connection)

Assembly instance 96h (Connection point O->T Consuming Instance)

Byte offset	Size	Name
0	USINT	Fieldbus input byte 0
1	USINT	Fieldbus input byte 1
2	USINT	Fieldbus input byte 2
3	USINT	Fieldbus input byte 3

O->T connection type: Point-to-point

Assembly instance 64h (Connection point T->O Producing Instance)

Byte offset	Size	Name
0	USINT	System status
1	USINT	Reserved
2	USINT	Input status byte 0
3	USINT	Input status byte 1
4	USINT	Input status byte 2
5	USINT	Input status byte 3
6	USINT	Input status byte 4
7	USINT	Input status byte 5
8	USINT	Input status byte 6
9	USINT	Input status byte 7
10	USINT	Input status byte 8
11	USINT	Input status byte 9
12	USINT	Input status byte 10
13	USINT	Input status byte 11
14	USINT	Input status byte 12
15	USINT	Input status byte 13
16	USINT	Input status byte 14
17	USINT	Input status byte 15
18	USINT	Restart Input byte 0
19	USINT	Restart Input byte 1
20	USINT	Restart Input byte 2
21	USINT	Fieldbus input byte 0 feedback
22	USINT	Fieldbus input byte 1 feedback
23	USINT	Fieldbus input byte 2 feedback
24	USINT	Fieldbus input byte 3 feedback
25	USINT	Probe status byte 0
26	USINT	Probe status byte 1
27	USINT	Probe status byte 2
28	USINT	Probe status byte 3
29	USINT	OSSD status byte 0
30	USINT	OSSD status byte 1
31	USINT	OSSD status byte 2
32	USINT	OSSD status byte 3
33	REAL	Analog data float 0
37	REAL	Analog data float 1
41	REAL	Analog data float 2

Byte offset	Size	Name
45	REAL	Analog data float 3
49	REAL	Analog data float 4
53	REAL	Analog data float 5
57	REAL	Analog data float 6
61	REAL	Analog data float 7
65	REAL	Analog data float 8
69	REAL	Analog data float 9
73	REAL	Analog data float 10
77	REAL	Analog data float 11
81	REAL	Analog data float 12
85	REAL	Analog data float 13
89	REAL	Analog data float 14
93	REAL	Analog data float 15

T->O connection type: Point-to-point, Multicast.

Map without analog data and with speed data

Process data mapping (Class 1 Connection)

Assembly instance 96h (Connection point O->T Consuming Instance)

Byte offset	Size	Name
0	USINT	Fieldbus input byte 0
1	USINT	Fieldbus input byte 1
2	USINT	Fieldbus input byte 2
3	USINT	Fieldbus input byte 3

O->T connection type: Point-to-point

Assembly instance 64h (Connection point T->O Producing Instance)

Byte offset	Size	Name
0	USINT	System status
1	USINT	Reserved
2	USINT	Input status byte 0
3	USINT	Input status byte 1
4	USINT	Input status byte 2
5	USINT	Input status byte 3
6	USINT	Input status byte 4
7	USINT	Input status byte 5
8	USINT	Input status byte 6
9	USINT	Input status byte 7
10	USINT	Input status byte 8
11	USINT	Input status byte 9
12	USINT	Input status byte 10
13	USINT	Input status byte 11
14	USINT	Input status byte 12
15	USINT	Input status byte 13
16	USINT	Input status byte 14
17	USINT	Input status byte 15
18	USINT	Restart Input byte 0
19	USINT	Restart Input byte 1
20	USINT	Restart Input byte 2
21	USINT	Fieldbus input byte 0 feedback
22	USINT	Fieldbus input byte 1 feedback
23	USINT	Fieldbus input byte 2 feedback
24	USINT	Fieldbus input byte 3 feedback
25	USINT	Probe status byte 0
26	USINT	Probe status byte 1
27	USINT	Probe status byte 2
28	USINT	Probe status byte 3
29	USINT	OSSD status byte 0
30	USINT	OSSD status byte 1
31	USINT	OSSD status byte 2
32	USINT	OSSD status byte 3
33	REAL	Speed data 0

Byte offset	Size	Name
37	REAL	Speed data 1
41	REAL	Speed data 2
45	REAL	Speed data 3
49	REAL	Speed data 4
53	REAL	Speed data 5
57	REAL	Speed data 6
61	REAL	Speed data 7
65	REAL	Speed data 8
69	REAL	Speed data 9
73	REAL	Speed data 10
77	REAL	Speed data 11
81	REAL	Speed data 12
85	REAL	Speed data 13
89	REAL	Speed data 14
93	REAL	Speed data 15
97	REAL	Speed data 16
101	REAL	Speed data 17
105	REAL	Speed data 18
109	REAL	Speed data 19
113	REAL	Speed data 20
117	REAL	Speed data 21
121	REAL	Speed data 22
125	REAL	Speed data 23

T->O connection type: Point-to-point, Multicast.

Map with analog data and with speed data

Process data mapping (Class 1 Connection)

Assembly instance 96h (Connection point O->T Consuming Instance)

Byte offset	Size	Name
0	USINT	Fieldbus input byte 0
1	USINT	Fieldbus input byte 1
2	USINT	Fieldbus input byte 2
3	USINT	Fieldbus input byte 3

O->T connection type: Point-to-point

Assembly instance 64h (Connection point T->O Producing Instance)

Byte offset	Size	Name
0	USINT	System status
1	USINT	Reserved
2	USINT	Input status byte 0
3	USINT	Input status byte 1
4	USINT	Input status byte 2
5	USINT	Input status byte 3
6	USINT	Input status byte 4
7	USINT	Input status byte 5
8	USINT	Input status byte 6
9	USINT	Input status byte 7
10	USINT	Input status byte 8
11	USINT	Input status byte 9
12	USINT	Input status byte 10
13	USINT	Input status byte 11
14	USINT	Input status byte 12
15	USINT	Input status byte 13
16	USINT	Input status byte 14
17	USINT	Input status byte 15
18	USINT	Restart Input byte 0
19	USINT	Restart Input byte 1
20	USINT	Restart Input byte 2
21	USINT	Fieldbus input byte 0 feedback
22	USINT	Fieldbus input byte 1 feedback
23	USINT	Fieldbus input byte 2 feedback
24	USINT	Fieldbus input byte 3 feedback
25	USINT	Probe status byte 0
26	USINT	Probe status byte 1
27	USINT	Probe status byte 2
28	USINT	Probe status byte 3
29	USINT	OSSD status byte 0
30	USINT	OSSD status byte 1
31	USINT	OSSD status byte 2
32	USINT	OSSD status byte 3
33	REAL	Analog data float 0
37	REAL	Analog data float 1
41	REAL	Analog data float 2

Byte offset	Size	Name
45	REAL	Analog data float 3
49	REAL	Analog data float 4
53	REAL	Analog data float 5
57	REAL	Analog data float 6
61	REAL	Analog data float 7
65	REAL	Analog data float 8
69	REAL	Analog data float 9
73	REAL	Analog data float 10
77	REAL	Analog data float 11
81	REAL	Analog data float 12
85	REAL	Analog data float 13
89	REAL	Analog data float 14
93	REAL	Analog data float 15
97	REAL	Speed data 0
101	REAL	Speed data 1
105	REAL	Speed data 2
109	REAL	Speed data 3
113	REAL	Speed data 4
117	REAL	Speed data 5
121	REAL	Speed data 6
125	REAL	Speed data 7
129	REAL	Speed data 8
133	REAL	Speed data 9
137	REAL	Speed data 10
141	REAL	Speed data 11
145	REAL	Speed data 12
149	REAL	Speed data 13
153	REAL	Speed data 14
157	REAL	Speed data 15
161	REAL	Speed data 16
165	REAL	Speed data 17
169	REAL	Speed data 18
173	REAL	Speed data 19
177	REAL	Speed data 20
181	REAL	Speed data 21
185	REAL	Speed data 22
189	REAL	Speed data 23

T->O connection type: Point-to-point, Multicast.

Assembly instance 05h (Configuration Data)

Set this instance to size 0

Supported trigger types: Cyclic

Explicit messaging

To access Errors data, Input diagnostics, OSSD diagnostic and Project CRC / Date the service 0x0E (Get attribute single) shall be used.

NAME	CLASS	INSTANCE	ATTRIBUTE	LENGTH (BYTE)	ACCESS TYPE
FIELDBUS INPUTS	A2h	101h	05h	4	Get
SYSTEM I/O	A2h	01h	05h	33	Get
ANALOG DATA	A2h	204h	05h	64	Get
ERRORS DATA CPU 0	A2h	03h	05h	9	Get
ERRORS DATA CPU 1	A2h	04h	05h	9	Get
INPUT DIAGNOSTICS	A2h	05h	05h	32	Get
OSSD DIAGNOSTICS	A2h	06h	05h	32	Get
***PROJECT CRC / DATE**	A2h	07h	05h	7	Get
RFID1	A2h	08h	05h	2	Get
RFID2	A2h	09h	05h	2	Get

***** Project CRC/Date details

Byte 0	Project CRC High byte
Byte 1	Project CRC Low byte
Byte 2	Schematic Date (Day)
Byte 3	Schematic Date (Month)
Byte 4	Schematic Date (Year, low byte)
Byte 5	Schematic Date (Year, high byte)
Byte 6	Schematic source: MCM (Value = 1) or MSD (Value = 0)

Modbus TCP/IP

Register mapping

Write Single/Multiple Holding Registers (6x,16x) Fieldbus Inputs

Register(s)	Size	Name
000h Low byte	UINT8	Fieldbus input byte 0
000h High byte	UINT8	Fieldbus input byte 1
001h Low byte	UINT8	Fieldbus input byte 2
001h High byte	UINT8	Fieldbus input byte 3
002h Low byte	UINT16	Low 16 bit value of customer serial number
002h High byte		
003h Low byte	UINT16	High 16 bit value of customer serial number
003h High byte		

Note: Register 002h and 003h form the 32 bit customer serial number

Holding Registers (3x,4x) System I/O

Register(s)	Size	Name
400h Low byte	UINT8	System status
400h High byte	UINT8	Reserved
401h Low byte	UINT8	Input status byte 0
401h High byte	UINT8	Input status byte 1
402h Low byte	UINT8	Input status byte 2
402h High byte	UINT8	Input status byte 3
403h Low byte	UINT8	Input status byte 4
403h High byte	UINT8	Input status byte 5
404h Low byte	UINT8	Input status byte 6
404h High byte	UINT8	Input status byte 7
405h Low byte	UINT8	Input status byte 8
405h High byte	UINT8	Input status byte 9
406h Low byte	UINT8	Input status byte 10
406h High byte	UINT8	Input status byte 11
407h Low byte	UINT8	Input status byte 12
407h High byte	UINT8	Input status byte 13
408h Low byte	UINT8	Input status byte 14
408h High byte	UINT8	Input status byte 15
409h Low byte	UINT8	Restart Input byte 0
409h High byte	UINT8	Restart Input byte 1
40Ah Low byte	UINT8	Restart Input byte 2
40Ah High byte	UINT8	Reserved
40Bh Low byte	UINT8	Fieldbus input feedback byte 0
40Bh High byte	UINT8	Fieldbus input feedback byte 1
40Ch Low byte	UINT8	Fieldbus input feedback byte 2
40Ch High byte	UINT8	Fieldbus input feedback byte 3

Register(s)	Size	Name
40Dh Low byte	UINT8	Probe status byte 0
40Dh High byte	UINT8	Probe status byte 1
40Eh Low byte	UINT8	Probe status byte 2
40Eh High byte	UINT8	Probe status byte 3
40Fh High byte	UINT8	OSSD status byte 0
40Fh Low byte	UINT8	OSSD status byte 1
410h High byte	UINT8	OSSD status byte 2
410h Low byte	UINT8	OSSD status byte 3

Holding Registers (3x,4x) Analog Data / Speed Data

Register(s)	Size	Name
411h-412h	FLOAT	Analog data float 0
413h-414h	FLOAT	Analog data float 1
415h-416h	FLOAT	Analog data float 2
417h-418h	FLOAT	Analog data float 3
419h-41Ah	FLOAT	Analog data float 4
41Bh-41Ch	FLOAT	Analog data float 5
41Dh-41Eh	FLOAT	Analog data float 6
41Fh-420h	FLOAT	Analog data float 7
421h-422h	FLOAT	Analog data float 8
423h-424h	FLOAT	Analog data float 9
425h-426h	FLOAT	Analog data float 10
427h-428h	FLOAT	Analog data float 11
429h-42Ah	FLOAT	Analog data float 12
42Bh-42Ch	FLOAT	Analog data float 13
42Dh-42Eh	FLOAT	Analog data float 14
42Fh-430h	FLOAT	Analog data float 15
431h-432h	FLOAT	Speed data 0
433h-434h	FLOAT	Speed data 1
435h-436h	FLOAT	Speed data 2
437h-438h	FLOAT	Speed data 3
439h-43Ah	FLOAT	Speed data 4
43Bh-43Ch	FLOAT	Speed data 5
43Dh-43Eh	FLOAT	Speed data 6
43Fh-440h	FLOAT	Speed data 7
441h-442h	FLOAT	Speed data 8
443h-444h	FLOAT	Speed data 9
445h-446h	FLOAT	Speed data 10
447h-448h	FLOAT	Speed data 11
449h-44Ah	FLOAT	Speed data 12
44Bh-44Ch	FLOAT	Speed data 13
44Dh-44Eh	FLOAT	Speed data 14
44Fh-450h	FLOAT	Speed data 15
451h-452h	FLOAT	Speed data 16
453h-454h	FLOAT	Speed data 17
455h-456h	FLOAT	Speed data 18
457h-458h	FLOAT	Speed data 19
459h-45Ah	FLOAT	Speed data 20
45Bh-45Ch	FLOAT	Speed data 21

Register(s)	Size	Name
45Dh-45Eh	FLOAT	Speed data 22
45Fh-460h	FLOAT	Speed data 23

Holding Registers (3x,4x) Errore CPU 0 / Errore CPU 1

Register(s)	Size	Name
500h Low byte	UINT8	Error CPU0 – Module
500h High byte	UINT8	Error CPU0 – Error code
501h-502h	UINT32	Error CPU0 – Error address
503h Low byte	UINT8	Error CPU0 – Firmware version
503h High byte	UINT8	Error CPU0 – Extended code 0
504h Low byte	UINT8	Error CPU0 – Extended code 1
510h Low byte	UINT8	Error CPU1 – Module
510h High byte	UINT8	Error CPU1 – Error code
511h-512h	UINT32	Error CPU1 – Error address
513h Low byte	UINT8	Error CPU1 – Firmware version
513h High byte	UINT8	Error CPU1 – Extended code 0
514h Low byte	UINT8	Error CPU1 – Extended code 1

Holding Registers (3x,4x) Input Diagnostics

Register(s)	Size	Name
600h Low byte	UINT8	Input diagnostics index 1
600h High byte	UINT8	Input diagnostics code 1
601h Low byte	UINT8	Input diagnostics index 2
601h High byte	UINT8	Input diagnostics code 2
602h Low byte	UINT8	Input diagnostics index 3
602h High byte	UINT8	Input diagnostics code 3
603h Low byte	UINT8	Input diagnostics index 4
603h High byte	UINT8	Input diagnostics code 4
604h Low byte	UINT8	Input diagnostics index 5
604h High byte	UINT8	Input diagnostics code 5
605h Low byte	UINT8	Input diagnostics index 6
605h High byte	UINT8	Input diagnostics code 6
606h Low byte	UINT8	Input diagnostics index 7
606h High byte	UINT8	Input diagnostics code 7
607h Low byte	UINT8	Input diagnostics index 8
607h High byte	UINT8	Input diagnostics code 8
608h Low byte	UINT8	Input diagnostics index 9
608h High byte	UINT8	Input diagnostics code 9
609h Low byte	UINT8	Input diagnostics index 10
609h High byte	UINT8	Input diagnostics code 10
60Ah Low byte	UINT8	Input diagnostics index 11
60Ah High byte	UINT8	Input diagnostics code 11
60Bh Low byte	UINT8	Input diagnostics index 12
60Bh High byte	UINT8	Input diagnostics code 12
60Ch Low byte	UINT8	Input diagnostics index 13
60Ch High byte	UINT8	Input diagnostics code 13
60Dh Low byte	UINT8	Input diagnostics index 14
60Dh High byte	UINT8	Input diagnostics code 14
60Eh Low byte	UINT8	Input diagnostics index 15
60Eh High byte	UINT8	Input diagnostics code 15
60Fh Low byte	UINT8	Input diagnostics index 16
60Fh High byte	UINT8	Input diagnostics code 16

Holding Registers (3x,4x) Output diagnostics

Register(s)	Size	Name
610h Low byte	UINT8	Output diagnostics index 1
610h High byte	UINT8	Output diagnostics code 1
611h Low byte	UINT8	Output diagnostics index 2
611h High byte	UINT8	Output diagnostics code 2
612h Low byte	UINT8	Output diagnostics index 3
612h High byte	UINT8	Output diagnostics code 3
613h Low byte	UINT8	Output diagnostics index 4
613h High byte	UINT8	Output diagnostics code 4
614h Low byte	UINT8	Output diagnostics index 5
614h High byte	UINT8	Output diagnostics code 5
615h Low byte	UINT8	Output diagnostics index 6
615h High byte	UINT8	Output diagnostics code 6
616h Low byte	UINT8	Output diagnostics index 7
616h High byte	UINT8	Output diagnostics code 7
617h Low byte	UINT8	Output diagnostics index 8
617h High byte	UINT8	Output diagnostics code 8
618h Low byte	UINT8	Output diagnostics index 9
618h High byte	UINT8	Output diagnostics code 9
619h Low byte	UINT8	Output diagnostics index 10
619h High byte	UINT8	Output diagnostics code 10
61Ah Low byte	UINT8	Output diagnostics index 11
61Ah High byte	UINT8	Output diagnostics code 11
61Bh Low byte	UINT8	Output diagnostics index 12
61Bh High byte	UINT8	Output diagnostics code 12
61Ch Low byte	UINT8	Output diagnostics index 13
61Ch High byte	UINT8	Output diagnostics code 13
61Dh Low byte	UINT8	Output diagnostics index 14
61Dh High byte	UINT8	Output diagnostics code 14
61Eh Low byte	UINT8	Output diagnostics index 15
61Eh High byte	UINT8	Output diagnostics code 15
61Fh Low byte	UINT8	Output diagnostics index 16
61Fh High byte	UINT8	Output diagnostics code 16

Holding Registers (3x,4x) Project CRC and schematic date

Register(s)	Size	Name
620h Low byte	UINT8	Project CRC High byte
620h High byte	UINT8	Project CRC Low byte
621h Low byte	UINT8	Schematic Date (Day)
621h High byte	UINT8	Schematic Date (Month)
622h Low byte	UINT8	Schematic Date (Year, low byte)
622h High byte	UINT8	Schematic Date (Year, high byte)
623h Low byte	UINT8	Schematic source: MCM (Value = 1) or MSD (Value = 0)
623h High byte	UINT8	Reserved

Holding Registers (3x,4x) RFID Chain 1 / RFID Chain 2

Register(s)	Size	Name
630h	UINT16	RFID1
631h	UINT16	RFID2

Holding Registers (3x,4x) 32 bit customer serial number

Register(s)	Size	Name
640h	UINT16	Low 16 bit customer serial number
641h	UINT16	High 16 bit customer serial number

Holding Registers (3x,4x) 32 bit ReeR serial number

Register(s)	Size	Name
642h	UINT16	Low 16 bit customer serial number
643h	UINT16	High 16 bit customer serial number

Holding Registers (3x,4x) Device firmware version

Register(s)	Size	Name
645h	UINT16	Firmware version (MAJOR)
646h	UINT16	Firmware version (MINOR)
647h	UINT16	Firmware version (BUILD)

Coils mapping

Coils addresses (1x, 2x, 5x, 15x)

Data	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0
Fieldbus Input byte 0	0x0007	0x0006	0x0005	0x0004	0x0003	0x0002	0x0001	0x0000
Fieldbus Input byte 1	0x000F	0x000E	0x000D	0x000C	0x000B	0x000A	0x0009	0x0008
Fieldbus Input byte 2	0x0017	0x0016	0x0015	0x0014	0x0013	0x0012	0x0011	0x0010
Fieldbus Input byte 3	0x001F	0x001E	0x001D	0x001C	0x001B	0x001A	0x0019	0x0018
System Status	0x0107	0x0106	0x0105	0x0104	0x0103	0x0102	0x0101	0x0100
Input Status byte 0	0x010F	0x010E	0x010D	0x010C	0x010B	0x010A	0x0109	0x0108
Input Status byte 1	0x0117	0x0116	0x0115	0x0114	0x0113	0x0112	0x0111	0x0110
Input Status byte 2	0x011F	0x011E	0x011D	0x011C	0x011B	0x011A	0x0119	0x0118
Input Status byte 3	0x0127	0x0126	0x0125	0x0124	0x0123	0x0122	0x0121	0x0120
Input Status byte 4	0x012F	0x012E	0x012D	0x012C	0x012B	0x012A	0x0129	0x0128
Input Status byte 5	0x0137	0x0136	0x0135	0x0134	0x0133	0x0132	0x0131	0x0130
Input Status byte 6	0x013F	0x013E	0x013D	0x013C	0x013B	0x013A	0x0139	0x0138
Input Status byte 7	0x0147	0x0146	0x0145	0x0144	0x0143	0x0142	0x0141	0x0140
Input Status byte 8	0x014F	0x014E	0x014D	0x014C	0x014B	0x014A	0x0149	0x0148
Input Status byte 9	0x0157	0x0156	0x0155	0x0154	0x0153	0x0152	0x0151	0x0150
Input Status byte 10	0x015F	0x015E	0x015D	0x015C	0x015B	0x015A	0x0159	0x0158
Input Status byte 11	0x0167	0x0166	0x0165	0x0164	0x0163	0x0162	0x0161	0x0160
Input Status byte 12	0x016F	0x016E	0x016D	0x016C	0x016B	0x016A	0x0169	0x0168
Input Status byte 13	0x0177	0x0176	0x0175	0x0174	0x0173	0x0172	0x0171	0x0170
Input Status byte 14	0x017F	0x017E	0x017D	0x017C	0x017B	0x017A	0x0179	0x0178
Input Status byte 15	0x0187	0x0186	0x0185	0x0184	0x0183	0x0182	0x0181	0x0180
Restart input byte 0	0x018F	0x018E	0x018D	0x018C	0x018B	0x018A	0x0189	0x0188
Restart input byte 1	0x0197	0x0196	0x0195	0x0194	0x0193	0x0192	0x0191	0x0190
Restart input byte 2	0x019F	0x019E	0x019D	0x019C	0x019B	0x019A	0x0199	0x0198
Fieldbus input feedback byte 0	0x01A7	0x01A6	0x01A5	0x01A4	0x01A3	0x01A2	0x01A1	0x01A0
Fieldbus input feedback byte 1	0x01AF	0x01AE	0x01AD	0x01AC	0x01AB	0x01AA	0x01A9	0x01A8
Fieldbus input feedback byte 2	0x01B7	0x01B6	0x01B5	0x01B4	0x01B3	0x01B2	0x01B1	0x01B0
Fieldbus input feedback byte 3	0x01BF	0x01BE	0x01BD	0x01BC	0x01BB	0x01BA	0x01B9	0x01B8
Probe status byte 0	0x01C7	0x01C6	0x01C5	0x01C4	0x01C3	0x01C2	0x01C1	0x01C0
Probe status byte 1	0x01CF	0x01CE	0x01CD	0x01CC	0x01CB	0x01CA	0x01C9	0x01C8
Probe status byte 2	0x01D7	0x01D6	0x01D5	0x01D4	0x01D3	0x01D2	0x01D1	0x01D0
Probe status byte 3	0x01DF	0x01DE	0x01DD	0x01DC	0x01DB	0x01DA	0x01D9	0x01D8

Data	BIT 7	BIT 6	BIT 5	BIT 4	BIT 3	BIT 2	BIT 1	BIT 0
OSSD status byte 0	0x01E7	0x01E6	0x01E5	0x01E4	0x01E3	0x01E2	0x01E1	0x01E0
OSSD status byte 1	0x01EF	0x01EE	0x01ED	0x01EC	0x01EB	0x01EA	0x01E9	0x01E8
OSSD status byte 2	0x01F7	0x01F6	0x01F5	0x01F4	0x01F3	0x01F2	0x01F1	0x01F0
OSSD status byte 3	0x01FF	0x01FE	0x01FD	0x01FC	0x01FB	0x01FA	0x01F9	0x01F8
RFID Chain 1 Status low byte	0x0207	0x0206	0x0205	0x0204	0x0203	0x0202	0x0201	0x0200
RFID Chain 1 Status high byte	0x020F	0x020E	0x020D	0x020C	0x020B	0x020A	0x0209	0x0208
RFID Chain 2 Status low byte	0x0217	0x0216	0x0215	0x0214	0x0213	0x0212	0x0211	0x0210
RFID Chain 2 Status high byte	0x021F	0x021E	0x021D	0x021C	0x021B	0x021A	0x0219	0x0218

PROFINET RT

Process data mapping

Module Fieldbus input

Byte offset	Data direction[1]	Size	Name
0	In	UINT8	Fieldbus input byte 0
1	In	UINT8	Fieldbus input byte 1
2	In	UINT8	Fieldbus input byte 2
3	In	UINT8	Fieldbus input byte 3

Module System I/O

Byte offset	Data direction	Size	Name
0	Out	UINT8	System status
1	Out	UINT8	Reserved
2	Out	UINT8	Input status byte 0
3	Out	UINT8	Input status byte 1
4	Out	UINT8	Input status byte 2
5	Out	UINT8	Input status byte 3
6	Out	UINT8	Input status byte 4
7	Out	UINT8	Input status byte 5
8	Out	UINT8	Input status byte 6
9	Out	UINT8	Input status byte 7
10	Out	UINT8	Input status byte 8
11	Out	UINT8	Input status byte 9
12	Out	UINT8	Input status byte 10
13	Out	UINT8	Input status byte 11
14	Out	UINT8	Input status byte 12
15	Out	UINT8	Input status byte 13
16	Out	UINT8	Input status byte 14
17	Out	UINT8	Input status byte 15
18	Out	UINT8	Restart Input byte 0
19	Out	UINT8	Restart Input byte 1
20	Out	UINT8	Restart Input byte 2
21	Out	UINT8	Fieldbus input byte 0 feedback
22	Out	UINT8	Fieldbus input byte 1 feedback
23	Out	UINT8	Fieldbus input byte 2 feedback
24	Out	UINT8	Fieldbus input byte 3 feedback
25	Out	UINT8	Probe status byte 0
26	Out	UINT8	Probe status byte 1
27	Out	UINT8	Probe status byte 2
28	Out	UINT8	Probe status byte 3
29	Out	UINT8	OSSD status byte 0
30	Out	UINT8	OSSD status byte 1
31	Out	UINT8	OSSD status byte 2
32	Out	UINT8	OSSD status byte 3

[1] Direction from the Mosaic point of view

Module Analog data

NOTE: this data are in Little Endian format

Byte offset	Data direction	Size	Name
0	Out	FLOAT	Analog data float 0
4	Out	FLOAT	Analog data float 1
8	Out	FLOAT	Analog data float 2
12	Out	FLOAT	Analog data float 3
16	Out	FLOAT	Analog data float 4
20	Out	FLOAT	Analog data float 5
24	Out	FLOAT	Analog data float 6
28	Out	FLOAT	Analog data float 7
32	Out	FLOAT	Analog data float 8
36	Out	FLOAT	Analog data float 9
40	Out	FLOAT	Analog data float 10
44	Out	FLOAT	Analog data float 11
48	Out	FLOAT	Analog data float 12
52	Out	FLOAT	Analog data float 13
56	Out	FLOAT	Analog data float 14
60	Out	FLOAT	Analog data float 15

Module Speed data

NOTE: this data are in Little Endian format

Byte offset	Data direction	Size	Name
0	Out	FLOAT	Speed data float 0
4	Out	FLOAT	Speed data float 1
8	Out	FLOAT	Speed data float 2
12	Out	FLOAT	Speed data float 3
16	Out	FLOAT	Speed data float 4
20	Out	FLOAT	Speed data float 5
24	Out	FLOAT	Speed data float 6
28	Out	FLOAT	Speed data float 7
32	Out	FLOAT	Speed data float 8
36	Out	FLOAT	Speed data float 9
40	Out	FLOAT	Speed data float 10
44	Out	FLOAT	Speed data float 11
48	Out	FLOAT	Speed data float 12
52	Out	FLOAT	Speed data float 13
56	Out	FLOAT	Speed data float 14
60	Out	FLOAT	Speed data float 15
64	Out	FLOAT	Speed data float 16
68	Out	FLOAT	Speed data float 17
72	Out	FLOAT	Speed data float 18
76	Out	FLOAT	Speed data float 19
80	Out	FLOAT	Speed data float 20
84	Out	FLOAT	Speed data float 21
88	Out	FLOAT	Speed data float 22
92	Out	FLOAT	Speed data float 23

Module Analog and Speed data

NOTE: this data are in Little Endian format

Byte offset	Data direction	Size	Name
0	Out	FLOAT	Analog data float 0
4	Out	FLOAT	Analog data float 1
8	Out	FLOAT	Analog data float 2
12	Out	FLOAT	Analog data float 3
16	Out	FLOAT	Analog data float 4
20	Out	FLOAT	Analog data float 5
24	Out	FLOAT	Analog data float 6
28	Out	FLOAT	Analog data float 7
32	Out	FLOAT	Analog data float 8
36	Out	FLOAT	Analog data float 9
40	Out	FLOAT	Analog data float 10
44	Out	FLOAT	Analog data float 11
48	Out	FLOAT	Analog data float 12
52	Out	FLOAT	Analog data float 13
56	Out	FLOAT	Analog data float 14
60	Out	FLOAT	Analog data float 15
64	Out	FLOAT	Speed data 0
68	Out	FLOAT	Speed data 1
72	Out	FLOAT	Speed data 2
76	Out	FLOAT	Speed data 3
80	Out	FLOAT	Speed data 4
84	Out	FLOAT	Speed data 5
88	Out	FLOAT	Speed data 6
92	Out	FLOAT	Speed data 7
96	Out	FLOAT	Speed data 8
100	Out	FLOAT	Speed data 9
104	Out	FLOAT	Speed data 10
108	Out	FLOAT	Speed data 11
112	Out	FLOAT	Speed data 12
116	Out	FLOAT	Speed data 13
120	Out	FLOAT	Speed data 14
124	Out	FLOAT	Speed data 15
128	Out	FLOAT	Speed data 16
132	Out	FLOAT	Speed data 17
136	Out	FLOAT	Speed data 18
140	Out	FLOAT	Speed data 19
144	Out	FLOAT	Speed data 20
148	Out	FLOAT	Speed data 21
152	Out	FLOAT	Speed data 22
156	Out	FLOAT	Speed data 23

Record Data read/write services

Name	Slot	Index	Length (byte)	Access type
Error data CPU0	00h	02h	9	Get
Error data CPU1	00h	03h	9	Get
Input diagnostics	00h	04h	32	Get
OSSD diagnostics	00h	05h	32	Get
*Project CRC / Date	00h	06h	7	Get
RFID1	00h	07h	2	Get
RFID2	00h	08h	2	Get

* Project CRC/Date details

Byte 0	Project CRC High byte
Byte 1	Project CRC Low byte
Byte 2	Schematic Date (Day)
Byte 3	Schematic Date (Month)
Byte 4	Schematic Date (Year, low byte)
Byte 5	Schematic Date (Year, high byte)
Byte 6	Schematic source: MCM (Value = 1) or MSD (Value = 0)