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	Sven-Erik Karlsson	187050		
MFB-ProfiBus DP converter PE1354FD Connect S7 to Veritron PAD 6 and Tyrak L				

1. GENERAL

The **PE1354FD** is a converter connected to ABB MasterFieldbus short distance bus (RS485) on one side and on **ProfibusDP** on the other side. The converter is operating at High or Low communication speed on the MFB.

The PE1354FD contains a 2-character display for status indication.

2. TECHNICAL DESCRIPTION

2.1 Dimension and mounting

To obtain the best immunity to electric noise the PE1354FD must be electrically connected to cubicle through 4 M5 screws in each corner (M5 Screw pos 220mm x135mm).

Dimensions

Size: 240mm x 145mm (w x h)

Required mounting deep: 35mm



2.2 Technical data

Auxiliary Power

+24V DC (12-30V DC), typical 120mA(3W), at startup 1A 10ms, Max fuse: 4A

Communication MasterFieldbus

RS-485

Transmission speeds 375kbit/s or 2mbit/S selected with DIP switch

Max cable length :short dist. <=25m

Cable type FLFR 3x2x0.34

PE1354FD act as Master on MasterfieldBus. Up to 16 Veritron PAD 6 or TYRAK L can be connected

Communication ProfiBus DP

RS485

Standard 9 pin D-SUB connector

Transmission speeds 9.6kbit/s to 12mbit/S auto detected.

Act as Profibus DP Slave

Environmental data

Operation +5..+40 degrees C., Storage -40..+70 degrees C.

2.3 Veritron Param for communication

[90] Communication monitoring time 1-250 (0,2-5s)

[93] Unit address for communication 0-250 (32 corresp to MFB addr 100, 64 correspond to 200...)

[94] Selection of communication board 0-6, Set 3 for selecting BX5001 with ABB Master (MP200)

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2.4 Strapping

DIPSW	POSITION	DEFAULT	FUNCTION
S1:1	On=1	ON	MFB bus number 0-7
S1:2	On=2	OFF	MFB bus number 0-7
S1:3	On=4	OFF	MFB bus number 0-7
S1:4		OFF	Not Used
S1:5		OFF	Off=PAD6 Mapping, On=TYRAKL Mapping
S1:6		OFF	On=Free Mapping set from Profibus User Parameters
S1:7		OFF	Not Used
S1:8	OFF=High	OFF	MFB low /high speed, Low=375 kbaud, High=2,0 MBaud

S1:5 and S1:6

Three different Mapping schemes can be selected

S1:5 and S1:6 OFF , Select Veritron PAD6 Mapping

S1:5 On and S1:6 Off, Select TYRAKL Mapping

S1:5 Off and S1:6 On, Select Free mapping

S1:1-3 This strapping must be set to MFB bus number 1-7.

2.5 TERMINATION of MFB bus

MasterFieldBus has 9 strapping in 3 groups for termination of the signal lines RTS, CLOCK, DATA. Insert all Strappings B2,B3 and B4 to make an Active Termination

STRAPPING	FUNCTION
B2:1	RTS-N Insert
B2:2	RST Insert
B2:3	RTS Insert
B3:1	CLK -N Insert
B3:2	CLK Insert
B3:3	CLK Insert
B4:1	DATA-N Insert
B4:2	DATA Insert
B4:3	DATA Insert

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2.6 Status display 2 digits

First digit shows actual MasterFieldBus node addr 0-F.

SECOND DIGIT	STATUS
0	No contact
1	Contact on ProfibusDP but no contact on MFB
-	Communication is OK

2.7 Status leds on Profibus DP-V1 module



Led	State	Description
1	Green	DP-V1 request currently executed
	Off	No DP-V1 request currently executed
2	Green	Bus online, data exchange possible
	Green flashing	Clear mode
	Red	Application stopped
	Off	Bus not on line.
3	Red	Bus offline.
	Off	Bus not offline.
4	Off	No diagnostic present.
	Red,Flashing 1Hz	Error in configuration data
	Red,Flashing 2Hz	Error in parameter data
	Red,Flashing 4Hz	Error in initiation of the Profibus comm.. Asic

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2.8 Connections

TERMINAL	FUNCTION
P1	R-N MasterFieldbus RS485, Not used for VERITRON
P2	R MasterFieldbus RS485, Not used for VERITRON
P3	CLOCK-N MasterFieldbus RS485, Not used for VERITRON
P4	CLOCK MasterFieldbus RS485, Not used for VERITRON
P5	DATA-N MasterFieldbus RS485
P6	DATA MasterFieldbus RS485
P7	Cable screen
P11	Chassi
P12	+24V
P13	0V
P14	CABLE SCREEN
9 pole Dsub Female	ProfiBus DPV1
3	B-Line
4	RTS
5	GND Bus Used for termination
6	5V Bus Used for bus termination
8	A-Line
9 pole Dsub Female	Service aid
2	Txd RS232
3	Rxd RS232
5	0V

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2.9 GSD file and configuration

The GSD file PE1354FD.GSD shall be used for the configuration.

The Field device name is "PE1364FD PROFIBUS DP-V1".

Use one device for each PE1354FD unit. Set the Profibus Node addr to same value as the rotary switches on the PE1354FD unit.

Use following Module configuration

Slot	Module/DP ID	OrderNumber	I Address	Q Address	Description
1	112	IN/OUT: 1 word	1..2	0..1	Comm Status/control word
2	116	IN/OUT: 5 words	3..12	2..11	MFB node 0 data 1)
3	116	N/OUT: 5 words	13..22	12..21	MFB node 1 data 1)
4	116	N/OUT: 5 words	23..32	22..31	MFB node 2 data 1)
5	116	N/OUT: 5 words	33..42	32..41	MFB node 3 data 1)
6	116	N/OUT: 5 words	43..52	42..51	MFB node 4 data 1)
7	116	N/OUT: 5 words	53..62	52..61	MFB node 5 data 1)
8	116	N/OUT: 5 words	63..72	62..71	MFB node 6 data 1)
9	116	N/OUT: 5 words	73..82	72..81	MFB node 7 data 1)
10	116	N/OUT: 5 words	83..92	82..91	MFB node 8 data 1)
11	116	N/OUT: 5 words	93..102	92..101	MFB node 9 data 1)
12	116	N/OUT: 5 words	103..112	102..111	MFB node 10 data 1)
13	116	N/OUT: 5 words	113..122	112..121	MFB node 11 data 1)
14	116	N/OUT: 5 words	123..132	122..131	MFB node 12 data 1)
15	116	N/OUT: 5 words	133..142	132..141	MFB node 13 data 1)
16	116	N/OUT: 5 words	143..152	142..151	MFB node 14 data 1)
17	116	N/OUT: 5 words	153..162	152..161	MFB node 15 data 1)

1) If free mapping not is selected

2.10 Status and Control word

The first input addr is the Communication status word. This 16 bits data shows the status of MasterFieldBus nodes Veritron PAD 6 or TYRAK L.

Bit 0 is status for addr 0 and bit 15 is status for addr 15.

If bit is 1 the communication to this node is ok.

The first output addr is the Communication control word. This 16 bits data enable the Masterfieldbus communication for node 0..15.

If bit is set to 1 the communication to Veritron PAD6 or TYRAK L will start.

Bit 0 will start communication to MFB addr 0 and Bit 15 will start communication to MFB addr 15.

The Profibus Master must set the bits to start the communication to the drives..

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2.11 Mapping of Signals from Veritron PAD6 to Profibus (Dipsw S1:5 and 6 Off)

Node number Par [93]	VERITRON Name	MP200 Name	ProfiBus address	
			Index	Full name
For all nodes	NodeStatusWord		IW00	M00_IW00
32 (100)	Not used	PBIND1	IW02	M01_IW00
	AK3 Speed feedback	I4IND1 High word	IW04	M01_IW02
	AK4 Select. feedback	I4IND1 Low word	IW06	M01_IW04
	AK1 Status Word	RIND2	IW08	M01_IW06
	AK2 Fault Word	RIND6	IW10	M02_IW08
33 (101)	Not used	PBIND1	IW12	M02_IW00
	AK3 Speed feedback	I4IND1 High word	IW14	M02_IW02
	AK4 Select. feedback	I4IND1 Low word	IW16	M02_IW04
	AK1 Status Word	RIND2	IW18	M02_IW06
	AK2 Fault Word	RIND6	IW20	M02_IW08
34 (102)	Not used	PBIND1	IW22	M03_IW00
	AK3 Speed feedback	I4IND1 High word	IW24	M03_IW02
	AK4 Select. feedback	I4IND1 Low word	IW26	M03_IW04
	AK1 Status Word	RIND2	IW28	M03_IW06
	AK2 Fault Word	RIND6	IW30	M03_IW08
35 (103)	Not used	PBIND1	IW32	M04_IW00
	AK3 Speed feedback	I4IND1 High word	IW34	M04_IW02
	AK4 Select. feedback	I4IND1 Low word	IW36	M04_IW04
	AK1 Status Word	RIND2	IW38	M04_IW06
	AK2 Fault Word	RIND6	IW40	M04_IW08
36 (104)	Not used	PBIND1	IW42	M05_IW00
	AK3 Speed feedback	I4IND1 High word	IW44	M05_IW02
	AK4 Select. feedback	I4IND1 Low word	IW46	M05_IW04
	AK1 Status Word	RIND2	IW48	M05_IW06
	AK2 Fault Word	RIND6	IW50	M05_IW08
37 (105)	Not used	PBIND1	IW52	M06_IW00
	AK3 Speed feedback	I4IND1 High word	IW54	M06_IW02
	AK4 Select. feedback	I4IND1 Low word	IW56	M06_IW04
	AK1 Status Word	RIND2	IW58	M06_IW06
	AK2 Fault Word	RIND6	IW60	M06_IW08
38 (106)	Not used	PBIND1	IW62	M07_IW00
	AK3 Speed feedback	I4IND1 High word	IW64	M07_IW02
	AK4 Select. feedback	I4IND1 Low word	IW66	M07_IW04
	AK1 Status Word	RIND2	IW68	M07_IW06
	AK2 Fault Word	RIND6	IW70	M07_IW08
39 (107)	Not used	PBIND1	IW72	M08_IW00
	AK3 Speed feedback	I4IND1 High word	IW74	M08_IW02
	AK4 Select. feedback	I4IND1 Low word	IW76	M08_IW04
	AK1 Status Word	RIND2	IW78	M08_IW06
	AK2 Fault Word	RIND6	IW80	M08_IW08

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Mapping of Signals from Veritron PAD6 to Profibus (Dipsw S1:5 and 6 Off)

Node number Par [93]	VERITRON Name	MP200 Name	ProfiBus address	
			Index	Full name
40 (108)	Not used	PBIND1	IW82	M09_IW00
	AK3 Speed feedback	I4IND1 High word	IW84	M09_IW02
	AK4 Select. feedback	I4IND1 Low word	IW86	M09_IW04
	AK1 Status Word	RIND2	IW88	M09_IW06
	AK2 Fault Word	RIND6	IW90	M09_IW08
41 (109)	Not used	PBIND1	IW92	M10_IW00
	AK3 Speed feedback	I4IND1 High word	IW94	M10_IW02
	AK4 Select. feedback	I4IND1 Low word	IW96	M10_IW04
	AK1 Status Word	RIND2	IW98	M10_IW06
	AK2 Fault Word	RIND6	IW100	M10_IW08
42 (110)	Not used	PBIND1	IW102	M11_IW00
	AK3 Speed feedback	I4IND1 High word	IW104	M11_IW02
	AK4 Select. feedback	I4IND1 Low word	IW106	M11_IW04
	AK1 Status Word	RIND2	IW108	M11_IW06
	AK2 Fault Word	RIND6	IW110	M11_IW08
43 (111)	Not used	PBIND1	IW112	M12_IW00
	AK3 Speed feedback	I4IND1 High word	IW114	M12_IW02
	AK4 Select. feedback	I4IND1 Low word	IW116	M12_IW04
	AK1 Status Word	RIND2	IW118	M12_IW06
	AK2 Fault Word	RIND6	IW120	M12_IW08
44 (112)	Not used	PBIND1	IW122	M13_IW00
	AK3 Speed feedback	I4IND1 High word	IW124	M13_IW02
	AK4 Select. feedback	I4IND1 Low word	IW126	M13_IW04
	AK1 Status Word	RIND2	IW128	M13_IW06
	AK2 Fault Word	RIND6	IW130	M13_IW08
45 (113)	Not used	PBIND1	IW132	M14_IW00
	AK3 Speed feedback	I4IND1 High word	IW134	M14_IW02
	AK4 Select. feedback	I4IND1 Low word	IW136	M14_IW04
	AK1 Status Word	RIND2	IW138	M14_IW06
	AK2 Fault Word	RIND6	IW140	M14_IW08
46 (114)	Not used	PBIND1	IW142	M15_IW00
	AK3 Speed feedback	I4IND1 High word	IW144	M15_IW02
	AK4 Select. feedback	I4IND1 Low word	IW146	M15_IW04
	AK1 Status Word	RIND2	IW148	M15_IW06
	AK2 Fault Word	RIND6	IW150	M15_IW08
47 (115)	Not used	PBIND1	IW152	M16_IW00
	AK3 Speed feedback	I4IND1 High word	IW154	M16_IW02
	AK4 Select. feedback	I4IND1 Low word	IW156	M16_IW04
	AK1 Status Word	RIND2	IW158	M16_IW06
	AK2 Fault Word	RIND6	IW160	M16_IW08

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2.12 Mapping of Signals from Profibus to Veritron PAD6 (Dipsw S1:5 and 6 Off)

Node number Par [93]	VERITRON Name	MP200 Name	ProfiBus address	
			Index	Full name
For all nodes	NodeEnable control	word	QW00	M00_QW00
32 (100)	Not used	PBORD1	QW02	M01_QW00
	EK4 Additional refer.	PBORD2	QW04	M01_QW02
	EK1 Control Word	RORD1	QW06	M01_QW04
	EK3 Reference 1	RORD2	QW08	M01_QW06
	EK2 Reference 2	RORD6	QW10	M02_QW08
33 (101)	Not used	PBORD1	QW12	M02_QW00
	EK4 Additional refer.	PBORD2	QW14	M02_QW02
	EK1 Control Word	RORD1	QW16	M02_QW04
	EK3 Reference 1	RORD2	QW18	M02_QW06
	EK2 Reference 2	RORD6	QW20	M02_QW08
34 (102)	Not used	PBORD1	QW22	M03_QW00
	EK4 Additional refer.	PBORD2	QW24	M03_QW02
	EK1 Control Word	RORD1	QW26	M03_QW04
	EK3 Reference 1	RORD2	QW28	M03_QW06
	EK2 Reference 2	RORD6	QW30	M03_QW08
35 (103)	Not used	PBORD1	QW32	M04_QW00
	EK4 Additional refer.	PBORD2	QW34	M04_QW02
	EK1 Control Word	RORD1	QW36	M04_QW04
	EK3 Reference 1	RORD2	QW38	M04_QW06
	EK2 Reference 2	RORD6	QW40	M04_QW08
36 (104)	Not used	PBORD1	QW42	M05_QW00
	EK4 Additional refer.	PBORD2	QW44	M05_QW02
	EK1 Control Word	RORD1	QW46	M05_QW04
	EK3 Reference 1	RORD2	QW48	M05_QW06
	EK2 Reference 2	RORD6	QW50	M05_QW08
37 (105)	Not used	PBORD1	QW52	M06_QW00
	EK4 Additional refer.	PBORD2	QW54	M06_QW02
	EK1 Control Word	RORD1	QW56	M06_QW04
	EK3 Reference 1	RORD2	QW58	M06_QW06
	EK2 Reference 2	RORD6	QW60	M06_QW08
38 (106)	Not used	PBORD1	QW62	M07_QW00
	EK4 Additional refer.	PBORD2	QW64	M07_QW02
	EK1 Control Word	RORD1	QW66	M07_QW04
	EK3 Reference 1	RORD2	QW68	M07_QW06
	EK2 Reference 2	RORD6	QW70	M07_QW08
39 (107)	Not used	PBORD1	QW72	M08_QW00
	EK4 Additional refer.	PBORD2	QW74	M08_QW02
	EK1 Control Word	RORD1	QW76	M08_QW04
	EK3 Reference 1	RORD2	QW78	M08_QW06
	EK2 Reference 2	RORD6	QW80	M08_QW08

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Mapping of Signals from Profibus to Veritron PAD6 (Dipsw S1:5 and 6 Off)

Node number Par [93]	VERITRON Name	MP200 Name	ProfiBus address	
			Index	Full name
40 (108)	Not used	PBORD1	QW82	M09_QW00
	EK4 Additional refer.	PBORD2	QW84	M09_QW02
	EK1 Control Word	RORD1	QW86	M09_QW04
	EK3 Reference 1	RORD2	QW88	M09_QW06
	EK2 Reference 2	RORD6	QW90	M09_QW08
41 (109)	Not used	PBORD1	QW92	M10_QW00
	EK4 Additional refer.	PBORD2	QW94	M10_QW02
	EK1 Control Word	RORD1	QW96	M10_QW04
	EK3 Reference 1	RORD2	QW98	M10_QW06
	EK2 Reference 2	RORD6	QW100	M10_QW08
42 (110)	Not used	PBORD1	QW102	M11_QW00
	EK4 Additional refer.	PBORD2	QW104	M11_QW02
	EK1 Control Word	RORD1	QW106	M11_QW04
	EK3 Reference 1	RORD2	QW108	M11_QW06
	EK2 Reference 2	RORD6	QW110	M11_QW08
43 (111)	Not used	PBORD1	QW112	M12_QW00
	EK4 Additional refer.	PBORD2	QW114	M12_QW02
	EK1 Control Word	RORD1	QW116	M12_QW04
	EK3 Reference 1	RORD2	QW118	M12_QW06
	EK2 Reference 2	RORD6	QW120	M12_QW08
44 (112)	Not used	PBORD1	QW122	M13_QW00
	EK4 Additional refer.	PBORD2	QW124	M13_QW02
	EK1 Control Word	RORD1	QW126	M13_QW04
	EK3 Reference 1	RORD2	QW128	M13_QW06
	EK2 Reference 2	RORD6	QW130	M13_QW08
45 (113)	Not used	PBORD1	QW132	M14_QW00
	EK4 Additional refer.	PBORD2	QW134	M14_QW02
	EK1 Control Word	RORD1	QW136	M14_QW04
	EK3 Reference 1	RORD2	QW138	M14_QW06
	EK2 Reference 2	RORD6	QW140	M14_QW08
46 (114)	Not used	PBORD1	QW142	M15_QW00
	EK4 Additional refer.	PBORD2	QW144	M15_QW02
	EK1 Control Word	RORD1	QW146	M15_QW04
	EK3 Reference 1	RORD2	QW148	M15_QW06
	EK2 Reference 2	RORD6	QW150	M15_QW08
47 (115)	Not used	PBORD1	QW152	M16_QW00
	EK4 Additional refer.	PBORD2	QW154	M16_QW02
	EK1 Control Word	RORD1	QW156	M16_QW04
	EK3 Reference 1	RORD2	QW158	M16_QW06
	EK2 Reference 2	RORD6	QW160	M16_QW08

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2.13 Mapping of Signals from TYRAK L to Profibus (Dipsw S1:5 On and S1:6 Off)

Node number Par [93]	TYRAK L Name	ProfiBus address	
		Index	Full name
For all nodes	NodeStatusWord	IW00	M00_IW00
32 (100)	PBIND1	IW02	M01_IW00
	PBIND2	IW04	M01_IW02
	PBIND4	IW06	M01_IW04
	RIND5	IW08	M01_IW06
	RIND6	IW10	M02_IW08
33 (101)	PBIND1	IW12	M02_IW00
	PBIND2	IW14	M02_IW02
	PBIND4	IW16	M02_IW04
	RIND5	IW18	M02_IW06
	RIND6	IW20	M02_IW08
34 (102)	PBIND1	IW22	M03_IW00
	PBIND2	IW24	M03_IW02
	PBIND4	IW26	M03_IW04
	RIND5	IW28	M03_IW06
	RIND6	IW30	M03_IW08
35 (103)	PBIND1	IW32	M04_IW00
	PBIND2	IW34	M04_IW02
	PBIND4	IW36	M04_IW04
	RIND5	IW38	M04_IW06
	RIND6	IW40	M04_IW08
36 (104)	PBIND1	IW42	M05_IW00
	PBIND2	IW44	M05_IW02
	PBIND4	IW46	M05_IW04
	RIND5	IW48	M05_IW06
	RIND6	IW50	M05_IW08
37 (105)	PBIND1	IW52	M06_IW00
	PBIND2	IW54	M06_IW02
	PBIND4	IW56	M06_IW04
	RIND5	IW58	M06_IW06
	RIND6	IW60	M06_IW08
38 (106)	PBIND1	IW62	M07_IW00
	PBIND2	IW64	M07_IW02
	PBIND4	IW66	M07_IW04
	RIND5	IW68	M07_IW06
	RIND6	IW70	M07_IW08
39 (107)	PBIND1	IW72	M08_IW00
	PBIND2	IW74	M08_IW02
	PBIND4	IW76	M08_IW04
	RIND5	IW78	M08_IW06
	RIND6	IW80	M08_IW08

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Mapping of Signals from TYRAK L to Profibus (Dipsw S1:5 On and S1:6 Off)

Node number Par [93]	TYRAK L Name	ProfiBus address	
		Index	Full name
40 (108)	PBIND1	IW82	M09_IW00
	PBIND2	IW84	M09_IW02
	PBIND4	IW86	M09_IW04
	RIND5	IW88	M09_IW06
	RIND6	IW90	M09_IW08
41 (109)	PBIND1	IW92	M10_IW00
	PBIND2	IW94	M10_IW02
	PBIND4	IW96	M10_IW04
	RIND5	IW98	M10_IW06
	RIND6	IW100	M10_IW08
42 (110)	PBIND1	IW102	M11_IW00
	PBIND2	IW104	M11_IW02
	PBIND4	IW106	M11_IW04
	RIND5	IW108	M11_IW06
	RIND6	IW110	M11_IW08
43 (111)	PBIND1	IW112	M12_IW00
	PBIND2	IW114	M12_IW02
	PBIND4	IW116	M12_IW04
	RIND5	IW118	M12_IW06
	RIND6	IW120	M12_IW08
44 (112)	PBIND1	IW122	M13_IW00
	PBIND2	IW124	M13_IW02
	PBIND4	IW126	M13_IW04
	RIND5	IW128	M13_IW06
	RIND6	IW130	M13_IW08
45 (113)	PBIND1	IW132	M14_IW00
	PBIND2	IW134	M14_IW02
	PBIND4	IW136	M14_IW04
	RIND5	IW138	M14_IW06
	RIND6	IW140	M14_IW08
46 (114)	PBIND1	IW142	M15_IW00
	PBIND2	IW144	M15_IW02
	PBIND4	IW146	M15_IW04
	RIND5	IW148	M15_IW06
	RIND6	IW150	M15_IW08
47 (115)	PBIND1	IW152	M16_IW00
	PBIND2	IW154	M16_IW02
	PBIND4	IW156	M16_IW04
	RIND5	IW158	M16_IW06
	RIND6	IW160	M16_IW08

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2.14 Mapping of Signals from Profibus to TYRAK L (Dipsw S1:5 On and S1:6 Off)

Node number Par [93]	TYRAK L Name	ProfiBus address	
		Index	Full name
For all nodes	NodeEnable control word	QW00	M00_QW00
32 (100)	PBOARD1	QW02	M01_QW00
	PBOARD2	QW04	M01_QW02
	RORD1	QW06	M01_QW04
	RORD2	QW08	M01_QW06
	RORD6	QW10	M02_QW08
33 (101)	PBOARD1	QW12	M02_QW00
	PBOARD2	QW14	M02_QW02
	RORD1	QW16	M02_QW04
	RORD2	QW18	M02_QW06
	RORD6	QW20	M02_QW08
34 (102)	PBOARD1	QW22	M03_QW00
	PBOARD2	QW24	M03_QW02
	RORD1	QW26	M03_QW04
	RORD2	QW28	M03_QW06
	RORD6	QW30	M03_QW08
35 (103)	PBOARD1	QW32	M04_QW00
	PBOARD2	QW34	M04_QW02
	RORD1	QW36	M04_QW04
	RORD2	QW38	M04_QW06
	RORD6	QW40	M04_QW08
36 (104)	PBOARD1	QW42	M05_QW00
	PBOARD2	QW44	M05_QW02
	RORD1	QW46	M05_QW04
	RORD2	QW48	M05_QW06
	RORD6	QW50	M05_QW08
37 (105)	PBOARD1	QW52	M06_QW00
	PBOARD2	QW54	M06_QW02
	RORD1	QW56	M06_QW04
	RORD2	QW58	M06_QW06
	RORD6	QW60	M06_QW08
38 (106)	PBOARD1	QW62	M07_QW00
	PBOARD2	QW64	M07_QW02
	RORD1	QW66	M07_QW04
	RORD2	QW68	M07_QW06
	RORD6	QW70	M07_QW08
39 (107)	PBOARD1	QW72	M08_QW00
	PBOARD2	QW74	M08_QW02
	RORD1	QW76	M08_QW04
	RORD2	QW78	M08_QW06
	RORD6	QW80	M08_QW08

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Mapping of Signals from Profibus to TYRAK L (Dipsw S1:5 On and S1:6 Off)

Node number Par [93]	TYRAK L Name	ProfiBus address	
		Index	Full name
40 (108)	PBORD1	QW82	M09_QW00
	PBORD2	QW84	M09_QW02
	RORD1	QW86	M09_QW04
	RORD2	QW88	M09_QW06
	RORD6	QW90	M09_QW08
41 (109)	PBORD1	QW92	M10_QW00
	PBORD2	QW94	M10_QW02
	RORD1	QW96	M10_QW04
	RORD2	QW98	M10_QW06
	RORD6	QW100	M10_QW08
42 (110)	PBORD1	QW102	M11_QW00
	PBORD2	QW104	M11_QW02
	RORD1	QW106	M11_QW04
	RORD2	QW108	M11_QW06
	RORD6	QW110	M11_QW08
43 (111)	PBORD1	QW112	M12_QW00
	PBORD2	QW114	M12_QW02
	RORD1	QW116	M12_QW04
	RORD2	QW118	M12_QW06
	RORD6	QW120	M12_QW08
44 (112)	PBORD1	QW122	M13_QW00
	PBORD2	QW124	M13_QW02
	RORD1	QW126	M13_QW04
	RORD2	QW128	M13_QW06
	RORD6	QW130	M13_QW08
45 (113)	PBORD1	QW132	M14_QW00
	PBORD2	QW134	M14_QW02
	RORD1	QW136	M14_QW04
	RORD2	QW138	M14_QW06
	RORD6	QW140	M14_QW08
46 (114)	PBORD1	QW142	M15_QW00
	PBORD2	QW144	M15_QW02
	RORD1	QW146	M15_QW04
	RORD2	QW148	M15_QW06
	RORD6	QW150	M15_QW08
47 (115)	PBORD1	QW152	M16_QW00
	PBORD2	QW154	M16_QW02
	RORD1	QW156	M16_QW04
	RORD2	QW158	M16_QW06
	RORD6	QW160	M16_QW08

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2.15 Free Mapping of Signals from Profibus to TYRAK L (Dipsw S1:5 Off and S1:6 On)

Mapping is specified in Profibus User Parameters.
 When free mapping is selected it is possible to send and receive more data from Tyrak L drive.
 Mapping is the same for all TYRAK L connected to one PE1354FD unit.
 If up to 5 Integers are mapped in each direction it is possible to connect up to 16 TYRAK L drives to one PE1354FD.
 Total number of Integers word in each direction is 80.

This table shows max number of TYRAK L for different number of Integer words Mapped

Mapped number of Integer words in each direction	Max number of TYRAK L connected to one PE1354FD
5	16
6	13
7	11
8	10
10	8
11	7
13	6
16	5

User Parameter Settings for Free Mapping

ORD Map Signal 1..4 Specify the first signal to send to TYRAK L Drive
ORD Signals 1..4 Specify number of consecutive Integer words in this block
 Up to 5 blocks of signals to TYRAL L can be defined
 Set 0 in ORD Signals if the block is not used.

IND Map Signal 1..4 Specify the first signal to receive from TYRAK L Drive
IND Signals 1..4 Specify number of consecutive Integer words in this block
 Up to 5 blocks of signals from TYRAL L can be defined
 .Set 0 in IND Signals if the block is not used.

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This table specify the ORD and IND Signal Index

ORD Map Signal	Signal Name in TYRAK L
0	No signals selected
2	PBORD1
4	PBORD2
6	I4ORD1 High word
8	I4ORD1 Low word
10	RORD1
12	RORD2
14	RORD3
16	RORD4
18	RORD5
20	RORD6
22	RORD7
24	RORD8
26	RORD9
28	RORD10
30	RORD11
32	RORD12
34	RORD13
36	RORD14
38	I4ORD2 High word
40	I4ORD2 Low word
IND Map Signal	Signal Name in TYRAK L
0	No signals selected
2	PBIND1
4	PBIND2
6	PBIND3
8	PBIND4
10	PBIND5
12	I4IND1 High word
14	I4IND1 Low word
16	RIND1
18	RIND2
20	RIND3
22	RIND4
24	RIND5
26	RIND6
28	RIND7
30	RIND8
32	RIND9

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2.15.1 Example1 of free mapping

This example will show how a free configuration can be done.

We like to have 9 Integer words from TYRAK L and 10 integer words to TYRAK L.

For this example the following signals are configured. Tyrak node 0,1,2,3,4 5, 6,7 are used.

PBORD1,PBORD2,RORD1,RORD2,RORD3,RORD6,RORD11,RORD12,RORD13,RORD14

PBIND1,PBIND2,PBIND4,I4IND1H,I4IND1L,RIND3,RIND4,RIND5,RIND6

Input and output area are set to same size = max of input and output. In this example it will be 10 words for each node, both input and output area.

Table show User parameter settings for this example.

User Param name	Param value	Description
MFB Node Select	255	Enable comm. To node 0-7 set bit to enable node
ORD Map Signal 1	2	Select start at PBORD1
ORD Signals 1	2	Select: PBORD1 ,PBORD2
ORD Map Signal 2	10	Select start at RORD1
ORD Signals 2	3	Select RORD1,RORD2,RORD3
ORD Map Signal 3	20	Select start at RORD6
ORD Signals 3	1	Select RORD6
ORD Map Signal 4	30	Select start at RORD11
ORD Signals 4	4	Select RORD11,RORD12,RORD13,RORD14
IND Map Signal 1	2	Select start at PBIND1
IND Signals 1	2	Select: PBIND1 ,PBIND2
IND Map Signal 2	8	Select start at PBIND4
IND Signals 2	1	Select PBIND4
IND Map Signal 3	12	Select start at I4IND1H
IND Signals 3	2	Select I4INDH,I4INDL
IND Map Signal 4	20	Select start at RIND3
IND Signals 4	4	Select RIND3,RIND4,RIND5,RIND6

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2.15.2 Example2 of free mapping

This example will show how a free configuration can be done.

We like to have 9 Integer words from TYRAK L and 10 integer words to TYRAK L.

For this example the following signals are configured. Tyrak node 0,1,2,3,4 5, 6,7 are used.

PBORD1,PBORD2,RORD1,RORD2,RORD3,RORD6,RORD11,RORD12,RORD13,RORD14

PBIND1,PBIND2,PBIND4,I4IND1H,I4IND1L,RIND3,RIND4,RIND5,RIND6

Input and output area are set to same size = max of input and output. In this example it will be 10 words for each node, both input and output area.

Table show User parameter settings for this example.

User Param name	Param value	Description
MFB Node Select	255	Enable comm. To node 0-7 set bit to enable node
ORD Map Signal 1	2	Select start at PBORD1
ORD Signals 1	2	Select: PBORD1 ,PBORD2
ORD Map Signal 2	10	Select start at RORD1
ORD Signals 2	3	Select RORD1,RORD2,RORD3
ORD Map Signal 3	20	Select start at RORD6
ORD Signals 3	1	Select RORD6
ORD Map Signal 4	30	Select start at RORD11
ORD Signals 4	4	Select RORD11,RORD12,RORD13,RORD14
IND Map Signal 1	2	Select start at PBIND1
IND Signals 1	2	Select: PBIND1 ,PBIND2
IND Map Signal 2	8	Select start at PBIND4
IND Signals 2	1	Select PBIND4
IND Map Signal 3	12	Select start at RIND11
IND Signals 3	2	Select RIND11,RIND12
IND Map Signal 4	0	
IND Signals 4	0	

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Function

Error handling

When ProfiBus communication node failure then the MFB communication for corresponding nodes are stopped. The PE1354FD display will indicate 0 for all nodes.

Signal delay estimation

Measuring of signal delay time TYRAK L / ProfiBus Master Configuration with 8 nodes. Total delay is calculated to 36mS for 8 nodes. Cycle time in Drive and Controller is not included.

