

5LS050.X

Logic Scanner

Version: **1.00 (September 2006)**

All information contained in this manual is current as of its creation/publication. We reserve the right to change the contents of this manual without warning. The information contained herein is believed to be accurate as of the date of publication; however, Bernecker + Rainer Industrie-Elektronik Ges.m.b.H. makes no warranty, expressed or implied, with regards to the products or the documentation contained within this book. In addition, Bernecker + Rainer Industrie-Elektronik Ges.m.b.H. shall not be liable in the event of incidental or consequential damages in connection with or resulting from the furnishing, performance, or use of these products. The software names, hardware names, and trademarks used in this document are registered by the respective companies.





Chapter 1: General information

Chapter 2: General description

Chapter 3: Technical data

Figure index

Table index

Index







Chapter 1: General information	9
1. Manual history	9
Chapter 2: General description	11
1. 5LS050.X - variants	11
2. Logic scanner	11
Chapter 3: Technical data	13
1. Data sheets	13
1.1 5LS050.21-1	13
1.2 5LS050.26-1	14
1.3 5LS050.41-1	14
1.4 5LS050.61-1	15
1.5 5LS050.66-1 / 5LS050.66-2	16
1.6 5LS050.71-1	17
1.7 5LS050.72-1	18
1.8 5LS050.76-1	19
1.9 5LS050.77-1	20
2. Diagnostic interface	21
2.1 Pin assignments	21
2.2 Cable structure	21
3. Fieldbus interface	22
3.1 CANopen	22
3.1.1 Pin assignments	22
3.1.2 Status LEDs	22
3.2 ControlNet	23
3.2.1 Status LEDs	23
3.3 DeviceNet	24
3.3.1 Pin assignments	24
3.3.2 Status LEDs	24
3.4 Interbus	25
3.4.1 Pin assignments - master / slave (remote out)	25
3.4.2 Pin assignments - slave (remote in)	25
3.4.3 Status LEDs - master	26
3.4.4 Status LEDs - slave	27
3.5 Profibus DP	27
3.5.1 Pin assignments	28
3.5.2 Status LEDs	28
3.5.3 Profibus DP cables	29

Chapter 1 • General information

1. Manual history

Version	Date	Comment
1.00	September 2006	First version

Table 1: Manual history

Chapter 2 • General description

The 5LS050.X modules are used to connect fieldbus systems to the logic scanner. Up to two of these modules can be operated on one logic scanner.

1. 5LS050.X - variants

Model number	Fieldbus station
5LS050.21-1	Interbus slave
5LS050.26-1	Interbus master
5LS050.41-1	ControlNet slave
5LS050.61-1	Profibus DP slave
5LS050.66-1	Profibus DP master
5LS050.66-2	Profibus DP master
5LS050.71-1	CANopen slave
5LS050.72-1	DeviceNet slave
5LS050.76-1	CANopen master
5LS050.77-1	DeviceNet master

Table 2: 5LS050.X variants

2. Logic scanner

The 5LS050.X modules can be operated on the following logic scanners:

- 5LS251.60-2
- 5LS172.61
- 5LS187.61
- 5LS189.61

The modules must be connected with a ribbon cable in order for communication to be established between them.

Chapter 3 • Technical data

1. Data sheets

1.1 5LS050.21-1

General information	5LS050.21-1
Module type	Logic scanner add-on module
Power consumption	4.25 W
DPM	2 KB
Max. input data	10 words
Max. output data	10 words
Loop	Supported
Generation 4	Supported
Max. baud rate	500 kBaud
Interface component	SUPI 3
Operating temperature	0 - +55°C

Table 3: General information - 5LS050.21-1

Fieldbus interface IF1 (remote out)	5LS050.21-1
Type	1 x RS422
Design	9-pin DSUB socket
Electrical isolation	No
Baud rate	500 kBaud

Table 4: Diagnostics interface IF1: 5LS050.21-1

Fieldbus interface IF2 (remote in)	5LS050.21-1
Type	1 x RS422
Design	9-pin DSUB connector
Electrical isolation	Yes
Status indicators	RUN / ERR / RDY / STA

Table 5: Fieldbus interface IF2: 5LS050.21-1

1.2 5LS050.26-1

General information	5LS050.26-1
Module type	Logic scanner add-on module
Power consumption	4.25 W
DPM	2 KB
Max. input data	256 words
Max. output data	256 words
Max. slaves	128
Max. bus segment level	12
Loop	Supported
Generation 4	Supported
Operating temperature	0 - +55°C

Table 6: General information - 5LS050.26-1

Diagnostic interface IF1	5LS050.26-1
Type	1 x RS232
Design	9-pin DSUB plug
Electrical isolation	No
Status indicators	RxD & TxD LEDs
Baud rate	9600

Table 7: Diagnostics interface IF1: 5LS050.26-1

Fieldbus interface IF2	5LS050.26-1
Type	1 x RS422
Design	9-pin DSUB socket
Electrical isolation	No
Status indicators	RUN / ERR / RDY / STA
Max. baud rate	500 kBaud
Interface component	IX1

Table 8: Fieldbus interface IF2: 5LS050.26-1

The last 1 kByte of the DPR is used to control the module.

1.3 5LS050.41-1

General information	5LS050.41-1
Module type	Logic scanner add-on module
Power consumption	4.25 W

Table 9: General information - 5LS050.41-1

General information	5LS050.41-1
DPR	2 KB
Max. input data	240 words
Max. output data	240 words
Operating temperature	0 - +55°C

Table 9: General information - 5LS050.41-1

Diagnostic interface IF1	5LS050.41-1
Type	1 x RS232
Design	9-pin DSUB plug
Electrical isolation	No
Status indicators	RxD & TxD LEDs
Baud rate	9600

Table 10: Diagnostics interface IF1: 5LS050.41-1

Fieldbus interface IF2	5LS050.41-1
Design	2 x NC connectors (75 Ohm)
Status indicators	RUN / RDY / CH_A / CH_B
Max. baud rate	500 MBaud

Table 11: Fieldbus interface IF2: 5LS050.41-1

1.4 5LS050.61-1

General information	5LS050.61-1
Module type	Logic scanner add-on module
Power consumption	4.25 W
DPM	2 KB
Max. input data	512 bytes
Max. output data	512 bytes
Operating temperature	0 - +55°C

Table 12: General information - 5LS050.61-1

Diagnostic interface IF1	5LS050.61-1
Type	1 x RS232
Design	9-pin DSUB plug
Electrical isolation	No
Status indicators	RxD & TxD LEDs
Baud rate	9600

Table 13: Diagnostics interface IF1: 5LS050.61-1

Fieldbus interface IF2	5LS050.61-1
Type	1 x RS485
Design	9-pin DSUB socket
Electrical isolation	Yes
Status indicators	RUN / ERR / STA / RDY
Baud rates	Depends on the distance
9.6 kBit/s	1200 m
19.2 kBit/s	1200 m
45.45 kBit/s	1200 m
94.75 kBit/s	1200 m
187.5 kBit/s	10001000 m
500 kBit/s	400 m
1500 kBit/s	200 m
3000 kBit/s	100 m
6000 kBit/s	100 m
12000 kBit/s	100 m
Interface component	SPC 3

Table 14: Fieldbus interface IF2: 5LS050.61-1

1.5 5LS050.66-1 / 5LS050.66-2

General information	5LS050.66-1	5LS050.66-2
Module type	Logic scanner add-on module	
Power consumption	4.25 W	
DPM	8 KB	2 KB
Max. input data	3.5 KB	512 bytes
Max. output data	3.5 KB	512 bytes
Max. slaves	125	
Operating temperature	0 - +55°C	

Table 15: General information - 5LS050.66-1 / 5LS050.66-2

Diagnostic interface IF1	5LS050.66-1 / 5LS050.66-2
Type	1 x RS232
Design	9-pin DSUB plug
Electrical isolation	No
Status indicators	RxD & TxD LEDs
Baud rate	9600

Table 16: Diagnostics interface IF1: 5LS050.66-1 / 5LS050.66-2

Fieldbus interface IF2	5LS050.66-1 / 5LS050.66-2
Type	1 x RS485
Design	9-pin DSUB socket
Electrical isolation	Yes

Table 17: Fieldbus interface IF2: 5LS050.66-1 / 5LS050.66-2

Fieldbus interface IF2	5LS050.66-1 / 5LS050.66-2
Status indicators	RUN / ERR / STA / RDY
Baud rates 9.6 kBit/s 19.2 kBit/s 45.45 kBit/s 94.75 kBit/s 187.5 kBit/s 500 kBit/s 1500 kBit/s 3000 kBit/s 6000 kBit/s 12000 kBit/s	Depends on the distance 1200 m 1200 m 1200 m 1200 m 1000 m 400 m 200 m 100 m 100 m 100 m
Interface component	ASPC2

Table 17: Fieldbus interface IF2: 5LS050.66-1 / 5LS050.66-2

The last 1 kByte of the DPR is used to control the module.

1.6 5LS050.71-1

General information	5LS050.71-1
Module type	Logic scanner add-on module
Power consumption	4.25 W
DPR	2 KB
Max. input data	255 bytes
Max. output data	255 bytes
Min. boot up	Supported
Emergency messages	Supported
Life guarding	Supported
Operating temperature	0 - +55°C

Table 18: General information - 5LS050.71-1

Diagnostic interface IF1	5LS050.71-1
Type	1 x RS232
Design	9-pin DSUB connector
Electrical isolation	No
Status indicators	RxD & TxD LEDs
Baud rate	9600

Table 19: Diagnostics interface IF1: 5LS050.71-1

Fieldbus interface IF2	5LS050.71-1
Type	CAN interface
Design	9-pin DSUB connector

Table 20: Fieldbus interface IF2: 5LS050.71-1

Fieldbus interface IF2	5LS050.71-1
Electrical isolation	Yes
Status indicators	RUN / ERR / RDY / STA
Baud rate 20 kBit/s 125 kBit/s 250 kBit/s 500 kBit/s 1000 kBit/s	Depends on the length 1000 m 500 m 250 m 100 m 40 m
Interface component	SJA 1000

Table 20: Fieldbus interface IF2: 5LS050.71-1

1.7 5LS050.72-1

General information	5LS050.72-1
Module type	Logic scanner add-on module
Power consumption	4.25 W
DPR	2 KB
Max. input data	255 bytes
Max. output data	255 bytes
Operating temperature	0 - +55°C

Table 21: General information - 5LS050.72-1

Diagnostic interface IF1	5LS050.72-1
Type	1 x RS232
Design	9-pin DSUB plug
Electrical isolation	No
Status indicators	RxD & TxD LEDs
Baud rate	9600

Table 22: Diagnostics interface IF1: 5LS050.72-1

Fieldbus interface IF2	5LS050.72-1
Type	CAN interface
Design	5-pin Phoenix (Combicon)
Electrical isolation	Yes
Status indicators	RUN / NET/ RDY / MOD
Max. baud rate	500 kBaud
Interface component	SJA 1000

Table 23: Fieldbus interface IF2: 5LS050.72-1

1.8 5LS050.76-1

General information	5LS050.76-1
Module type	Logic scanner add-on module
Power consumption	4.25 W
DPM	8 KB
Max. input data	3.5 KB
Max. output data	3.5 KB
Max. nodes	126
Min. boot up	Supported
Emergency messages	Supported
Life guarding	Supported
Operating temperature	0 - +55°C

Table 24: General information - 5LS050.76-1

Diagnostic interface IF1	5LS050.76-1
Type	1 x RS232
Design	9-pin DSUB connector
Electrical isolation	No
Status indicators	RxD & TxD LEDs
Baud rate	9600

Table 25: Diagnostics interface IF1: 5LS050.76-1

Fieldbus interface IF2	5LS050.76-1
Type	CAN interface
Design	9-pin DSUB connector
Electrical isolation	Yes
Status indicators	RUN / ERR / RDY / STA
Baud rate	Depends on the length
20 kBit/s	1000 m
125 kBit/s	500 m
250 kBit/s	250 m
500 kBit/s	100 m
1000 kBit/s	40 m
Interface component	SJA 1000

Table 26: Fieldbus interface IF2: 5LS050.76-1

The last 1 kByte of the DPR is used to control the module.

1.9 5LS050.77-1

General information	5LS050.77-1
Module type	Logic scanner add-on module
Power consumption	4.25 W
DPM	8 KB
Max. input data	3.5 KB
Max. output data	3.5 KB
Max. slaves	63
Operating temperature	0 - +55°C

Table 27: General information - 5LS050.77-1

Diagnostic interface IF1	5LS050.77-1
Type	1 x RS232
Design	9-pin DSUB plug
Electrical isolation	No
Status indicators	RxD & TxD LEDs
Baud rate	9600

Table 28: Diagnostics interface IF1: 5LS050.77-1

Fieldbus interface IF2	5LS050.77-1
Type	CAN interface
Design	5-pin Phoenix (Combicon)
Electrical isolation	Yes
Status indicators	RUN / NET/ RDY / MOD
Max. baud rate	500 kBaud
Interface component	SJA 1000

Table 29: Fieldbus interface IF2: 5LS050.77-1

The last 1 kByte of the DPR is used to control the module.

2. Diagnostic interface

Not on module 5LS050.21-1 (Interbus slave).

The structure of the diagnostic interface IF1 (not modem capable) is identical for all 3EX450.X variants. The signal states of RxD and TxD are displayed with the status LEDs. If the sliding switch indicates IF1, then the online interface is active. If it indicates the fieldbus interface, then the configuration interface is active.

RxD LED (yellow): Status of received data

TxD LED (yellow): Status of transfer data

2.1 Pin assignments

PIN	Signal	Description
1	NC	
2	RXD	Receive data
3	TxD	Transmit data
4	NC	
5	GND	Ground
6	NC	
7	NC	
8	NC	
9	NC	
Shield	Ground (mounting rail)	Shield on plug housing

Table 30: Pin assignments - diagnostics cable

2.2 Cable structure

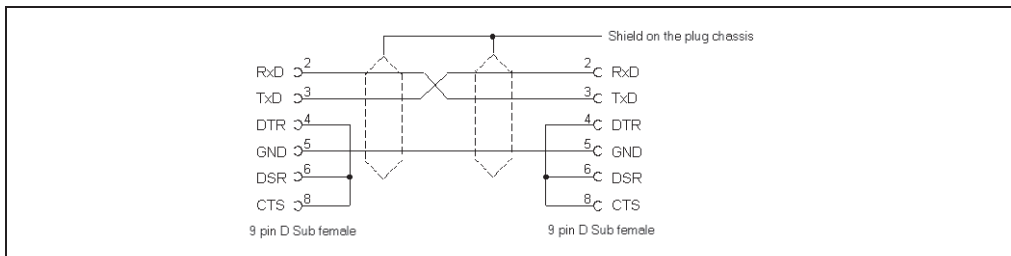


Figure 1: Structure - diagnostics cable

3. Fieldbus interface

3.1 CANopen

Description of the fieldbus interface for the following modules:

- 5LS050.71-1 (CANopen slave)
- 5LS050.76-1 (CANopen master)

3.1.1 Pin assignments

PIN	Signal	Description
2	CAN_L	CAN_L bus line
3	CAN_GND	CAN ground line
7	CAN_H	CAN_H bus line

Table 31: Pin assignments - CANopen cable

3.1.2 Status LEDs

Four LEDs are available for diagnostics:

RUN LED (green): Fieldbus communication status
 RDY LED (yellow): CPU module status
 ERR LED (red): Communication line error
 STA LED (yellow): Master/Slave data exchange

LED	State	LED meaning
RDY	On	Module ready
	Cyclic blinking	Bootstrap loader active
	Irregular blinking	Hardware or system error
	Off	Hardware defect
RUN	On	Communication running
	Cyclic blinking	Communication stopped
	Irregular blinking	Missing or faulty configuration
	Off	No communication
ERR	On	CANopen error
	Off	No error
STA	IN	Module sending data
	Off	Module not sending data

Table 32: Status LED meanings for CANopen

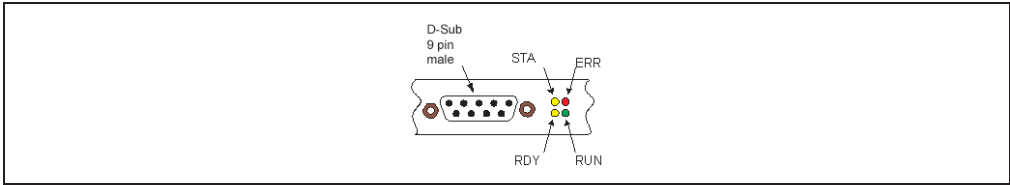


Figure 2: Status LEDs - CANopen

3.2 ControlNet

Description of the fieldbus interface for the following modules:

- 5LS050.41-1 (ControlNet slave)

3.2.1 Status LEDs

Four LEDs are available for diagnostics:

- RUN LED (green): Fieldbus communication status
- RDY LED (yellow): CPU module status
- ERR LED (green): Communication line error
- STA LED (green): Master/Slave data exchange

LED	State	LED meaning
RDY	On	Module ready
	Cyclic blinking	Bootstrap loader active
	Irregular blinking	Hardware or system error
	Off	Hardware defect
RUN	On	Communication running
	Cyclic blinking	Communication stopped
	Irregular blinking	Missing or faulty configuration
	Off	No communication
CH_A	Blinking	Cable error
	Off	Channel turned off
CH_B	On	Channel OK
	Blinking	Network timing error
	Off	Channel turned off

Table 33: Status LED meanings for ControlNet

Both LEDs are only off if there is no power or during a RESET.

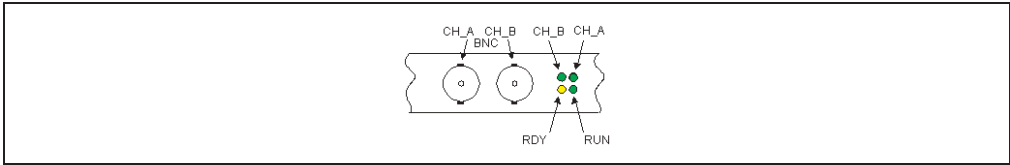


Figure 3: Status LEDs - ControlNet

3.3 DeviceNet

Description of the fieldbus interface for the following modules:

- 5LS050.72-1 (DeviceNet slave)
- 5LS050.77-1 (DeviceNet master)

3.3.1 Pin assignments

PIN	Color	Signal	Description
1	Black	V-	Reference potential - DeviceNet power supply
2	Blue	CAN_L	CAN low signal
3		Drain	Shield
4	White	CAN_H	CAN high signal
5	Red	V+	+24V DeviceNet power supply

Table 34: Pin assignments - DeviceNet cable

3.3.2 Status LEDs

Four LEDs are available for diagnostics:

- RUN LED (green): Fieldbus communication status
- RDY LED (yellow): CPU module status
- NET LED (green): Connection error
- MOD LED (yellow): Module status

LED	State	LED meaning
RDY	On	Module ready
	Cyclic blinking	Bootstrap loader active
	Irregular blinking	Hardware or system error
	Off	Hardware defect
RUN	On	Communication running
	Cyclic blinking	Communication stopped
	Irregular blinking	Missing or faulty communication
	Off	No communication

Table 35: Status LED meanings for DeviceNet

LED	State	LED meaning
NET	On	Critical connection error
	Blinking	Time monitoring error
	Off	No operating voltage
MOD	On	Device ready
	Blinking	Device in stand-by
	Off	No operating voltage

Table 35: Status LED meanings for DeviceNet

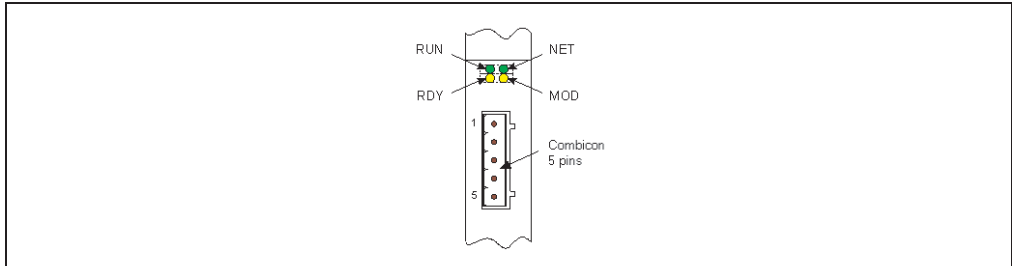


Figure 4: Status LEDs - DeviceNet

3.4 Interbus

3.4.1 Pin assignments - master / slave (remote out)

PIN	Signal	Description
S		Ground
1	DO2	Send data line +
2	DI2	Receive data line +
3	GND2	Equalizing conductor
4		
5	Udd	Logic voltage - 5V
6	/DO2	Send data line -
7	/DI2	Receive data line -
8		
9	BCI	Bus connection on

Table 36: Pin assignments - Interbus cable master / slave (remote out)

3.4.2 Pin assignments - slave (remote in)

PIN	Signal	Description
S		Ground

Table 37: Pin assignments - Interbus cable slave (remote in)

PIN	Signal	Description
1	DO1	Receive data line +
2	DI1	Send data line +
3	GND1	Equalizing conductor
4		
5		
6	/DO1	Receive data line -
7	/DI1	Send data line -

Table 37: Pin assignments - Interbus cable slave (remote in)

3.4.3 Status LEDs - master

The master has four LEDs are for diagnostics:

RUN LED (green): Fieldbus communication status
 RDY LED (yellow): CPU module status
 ERR LED (red): Connection error
 STA LED (yellow): Unused

LED	State	Description
RDY	On	Module ready
	Cyclic blinking	Bootstrap loader active
	Irregular blinking	Hardware or system error
	Off	Hardware defect
RUN	On	Communication running
	Cyclic blinking	Communication stopped
	Irregular blinking	Configuration error
	Off	No communication
ERR	On	Interbus error
	Off	No error
STA	On	Unused
	Off	Unused

Table 38: Status LED meanings for Interbus master

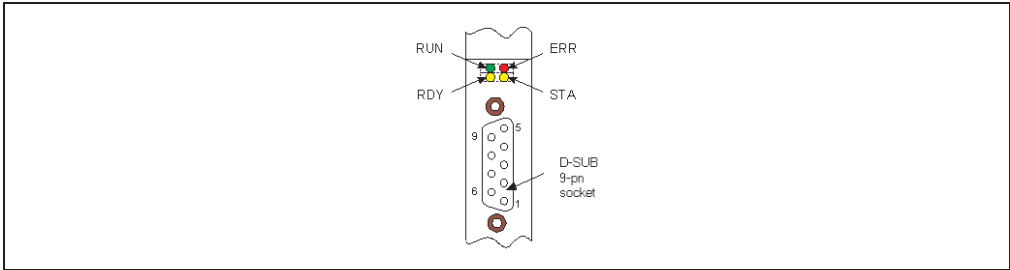


Figure 5: Status LEDs - Interbus master

3.4.4 Status LEDs - slave

Color and meaning of slave's status LEDs:

LED	State	Description
ERR	On	Configuration error
	Off	Configuration OK
UL	On	Supply voltage OK
	Off	Supply voltage too low
RC	On	Arriving remote bus connection with no errors
	Off	No connection to the preceding device
BA	On	Data packets active
	Off	No data exchange with Interbus

Table 39: Status LED meanings for Interbus slave

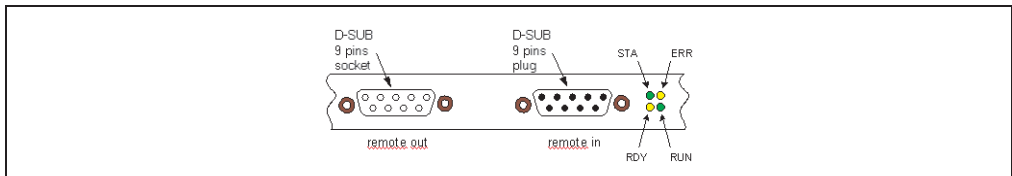


Figure 6: Status LEDs - Interbus slave

3.5 Profibus DP

Description of the fieldbus interface for the following modules:

- 5LS050.61-1 (Profibus DP slave)
- 5LS050.66-1 (Profibus DP master)
- 5LS050.66-2 (Profibus DP master)

3.5.1 Pin assignments

PIN	Signal	Description
S	Ground	
3	RxD/TxD-P	Receive/Send data - P (B connection on the plug)
4	CNTR-A	Repeater control
5	DGND	Data reference potential
6	VP	Supply voltage +
8	RxD / TxD-N	Receive/Send data - N (A connection on the plug)

Table 40: Pin assignments - Profibus DP cable

3.5.2 Status LEDs

Four LEDs are available for diagnostics:

- RUN LED (green): Fieldbus communication status
- RDY LED (yellow): CPU module status
- ERR LED (red): Connection error
- STA LED (yellow): Module status

LED	State	Description
RDY	On	Module ready
	Cyclic blinking	Bootstrap loader active
	Irregular blinking	Hardware or system error
	Off	Hardware defect
RUN	On	Communication running
	Cyclic blinking	Communication stopped
	Irregular blinking	Missing or faulty communication
	Off	No communication
ERR	On	Profibus error
	Off	No error
STA	On	Sending data or token
	Off	No token

Table 41: Status LED meanings for Profibus DP

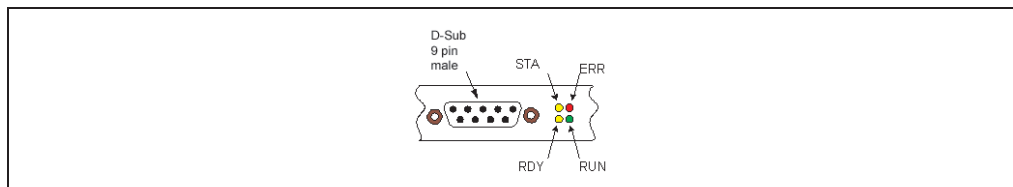


Figure 7: Status LEDs - Profibus DP

3.5.3 Profibus DP cables

Profibus DP cables use terminating resistors at the beginning and end of the bus cable. For baud rates greater than 1.5 MBaud, special Profibus plugs that allow additional inductivity should be used.

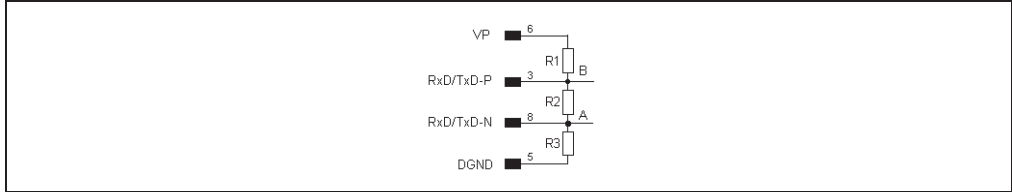


Figure 8: Terminating resistance - Profibus DP cable

The master can be connected anywhere in the Profibus DP network. Up to 32 Profibus devices can be connected to one another in a single segment.

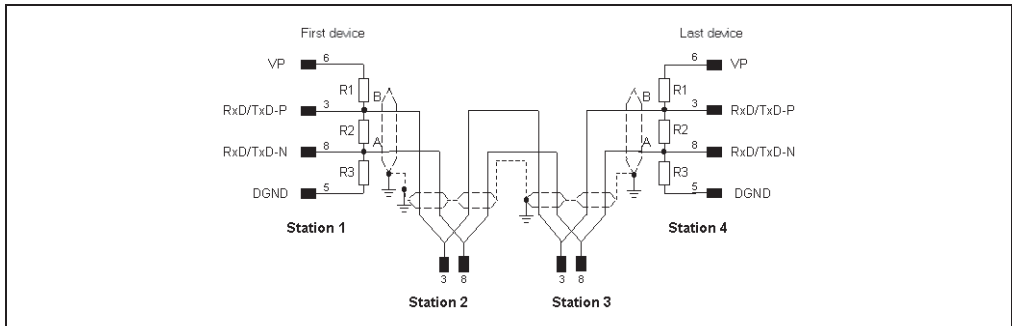


Figure 9: Structure of Profibus DP cable (with 4 stations)

Figure 1: Structure - diagnostics cable	21
Figure 2: Status LEDs - CANopen	23
Figure 3: Status LEDs - ControlNet	24
Figure 4: Status LEDs - DeviceNet	25
Figure 5: Status LEDs - Interbus master	27
Figure 6: Status LEDs - Interbus slave	27
Figure 7: Status LEDs - Profibus DP	28
Figure 8: Terminating resistance - Profibus DP cable	29
Figure 9: Structure of Profibus DP cable (with 4 stations)	29

Table 1:	Manual history	9
Table 2:	5LS050.X variants	11
Table 3:	General information - 5LS050.21-1	13
Table 4:	Diagnostics interface IF1: 5LS050.21-1	13
Table 5:	Fieldbus interface IF2: 5LS050.21-1	13
Table 6:	General information - 5LS050.26-1	14
Table 7:	Diagnostics interface IF1: 5LS050.26-1	14
Table 8:	Fieldbus interface IF2: 5LS050.26-1	14
Table 9:	General information - 5LS050.41-1	14
Table 10:	Diagnostics interface IF1: 5LS050.41-1	15
Table 11:	Fieldbus interface IF2: 5LS050.41-1	15
Table 12:	General information - 5LS050.61-1	15
Table 13:	Diagnostics interface IF1: 5LS050.61-1	15
Table 14:	Fieldbus interface IF2: 5LS050.61-1	16
Table 15:	General information - 5LS050.66-1 / 5LS050.66-2	16
Table 16:	Diagnostics interface IF1: 5LS050.66-1 / 5LS050.66-2	16
Table 17:	Fieldbus interface IF2: 5LS050.66-1 / 5LS050.66-2	16
Table 18:	General information - 5LS050.71-1	17
Table 19:	Diagnostics interface IF1: 5LS050.71-1	17
Table 20:	Fieldbus interface IF2: 5LS050.71-1	17
Table 21:	General information - 5LS050.72-1	18
Table 22:	Diagnostics interface IF1: 5LS050.72-1	18
Table 23:	Fieldbus interface IF2: 5LS050.72-1	18
Table 24:	General information - 5LS050.76-1	19
Table 25:	Diagnostics interface IF1: 5LS050.76-1	19
Table 26:	Fieldbus interface IF2: 5LS050.76-1	19
Table 27:	General information - 5LS050.77-1	20
Table 28:	Diagnostics interface IF1: 5LS050.77-1	20
Table 29:	Fieldbus interface IF2: 5LS050.77-1	20
Table 30:	Pin assignments - diagnostics cable	21
Table 31:	Pin assignments - CANopen cable	22
Table 32:	Status LED meanings for CANopen	22
Table 33:	Status LED meanings for ControlNet	23
Table 34:	Pin assignments - DeviceNet cable	24
Table 35:	Status LED meanings for DeviceNet	24
Table 36:	Pin assignments - Interbus cable master / slave (remote out)	25
Table 37:	Pin assignments - Interbus cable slave (remote in)	25
Table 38:	Status LED meanings for Interbus master	26
Table 39:	Status LED meanings for Interbus slave	27
Table 40:	Pin assignments - Profibus DP cable	28
Table 41:	Status LED meanings for Profibus DP	28

Ziffern

5LS050.21-1	13
5LS050.26-1	14
5LS050.41-1	14
5LS050.61-1	15
5LS050.66-1	16
5LS050.66-2	16
5LS050.71-1	17
5LS050.72-1	18
5LS050.76-1	19
5LS050.77-1	20

C

CANopen	22
ControlNet	23

D

DeviceNet	24
Diagnostic interface	21

F

Fieldbus interface	22
--------------------------	----

I

Interbus	25
----------------	----

P

Profibus DP	27
-------------------	----

