



Mount the terminal block on spare DIN rail space.  
Use the terminal block to distribute the 24V supply.

This EtherCAT chassis uses fiber.  
Mount the modular couplers into the front panel.  
Mount a fiber feedthrough adapter to the rear panel port 1.  
Using LC-to-SC fiber patch cables:  
- Connect the third coupler input and output (right rail) to rear panel slot 1 (SM).  
- Connect the EK1521 to the rear panel port 1 (MM).  
Using CAT5 patch cables:  
- Connect the front panel input to the input of the AB9000 input.  
- Connect the AB9000 output to first coupler (left rail).  
- Connect the end extension to the EL6692 input.  
- Connect the EL6692 output to the rear panel port 1.  
- Connect the remote extension to rear panel slot 1.

### Ports

#### IN

#### OUT

#### 1

#### 2

PN1  
EtherCAT chassis  
LIGO  
D0902552-v3

PN2  
Name Plate  
LIGO  
D1100667-v1

PN7  
Modular coupler  
L-Com  
ECF504-SC5E

PN8  
Ethernet patch cable, 1'  
Newark  
21M5658

PN11  
Modular coupler

PN12  
Ethernet patch cable, 3'  
Newark  
21M5874

PN14  
Fiber LC-LC coupler  
L-com  
FOA-550A

PN15  
Fiber coupler panel adapter

PN16  
Fiber coupler panel adapter  
LIGO  
D1100095-v2

PN17  
Fiber patch cable, LC-SC  
L-Com  
FODSC50-LC-01

PN19  
Adapter panel  
LIGO  
D1100108-v1

PN21  
Fiber patch cable, LC-SC

PN22  
Fiber patch cable, LC-SC  
L-Com  
SFODSC-LC-01

PN23  
Ethernet patch cable, 1'

PN24  
Ethernet patch cable, 3'

PN26  
D-Sub cable, DB9, female

PN27  
D-Sub cable, DB9, female  
Digi-Key  
H7SXH-0906G-ND

PN28  
D-Sub cable, DB9, male

PN29  
D-Sub cable, DB9, male  
Digi-Key  
H7PXH-0906G-ND

PN31 IDC socket, 10pin

PN32 IDC socket, 10pin

PN33 IDC socket, 10pin

PN34 IDC socket, 10pin  
Digi-Key  
MKC10A-ND

PN35  
D-sub screw/retainer  
L-Com  
SDF1

### TBLOCK

PN43 Terminal Block

PN44 Terminal Block

PN45 Terminal Block

PN46 Terminal Block

PN47 Terminal Block

Digi-Key  
277-1483-ND

PN48 End Plate  
Digi-Key  
277-1495-ND

PN49 Terminal Block

PN50 Terminal Block

PN51 Terminal Block

PN52 Terminal Block

PN53 Terminal Block

PN54 Jumper, 10pos

PN55 Jumper, 10pos  
Digi-Key  
277-1494-ND

#### CAT5 End

#### CAT5 End

#### MM Fiber End

#### Blank

### Slots

#### 1

#### 2

#### 3

#### 4

#### 5

#### 6

#### 7

#### 8

#### 9

PN3  
Adapter panel  
LIGO  
D1100665-v1

PN4  
Modular coupler

PN5  
Fiber LC-LC coupler  
L-Com  
FOA-801

PN6  
Fiber LC-LC coupler  
L-Com  
FOA-801

PN9  
Adapter panel  
LIGO  
D1100662-v1

PN10  
DB37M adapter  
LIGO  
D0902569-v1

E1 #6-32 1/4" flat

E2 #6-32 1/4" flat

McMaster-Carr  
91099A205

PN13  
Adapter panel  
LIGO  
D0902557-v1

PN18  
Adapter panel  
LIGO  
D0902557-v1

PN20  
Adapter panel  
LIGO  
D0902557-v1

PN25  
Adapter panel  
LIGO  
D0902557-v1

PN30  
Adapter panel  
LIGO  
D1102314-v1

PN56  
Modular coupler

PN57  
Modular coupler

PN36  
Adapter panel  
LIGO  
D1100793-v2

PN37 M12 socket

PN38 M12 socket

PN39 M12 socket

PN40 M12 socket  
Newark  
08R3678

PN41  
Adapter panel  
LIGO  
D1100661-v1

PN42  
Serial adapter  
LIGO  
D1100638-v1

E3 #6-32 1/4" flat

E4 #6-32 1/4" flat

McMaster-Carr  
91099A205

E5 #2 3/8" pan

E6 #2 3/8" pan

E7 #2 3/8" pan

E8 #2 3/8" pan

McMaster-Carr  
90272A079

E9 #2 washer

E10 #2 washer

E11 #2 nut

E12 #2 nut

E13 #2 nut

E14 #2 nut

McMaster-Carr  
90480A003

E15 #2 washer

E16 #2 washer

E17 #2 washer

E18 #2 washer

E19 #2 washer

E20 #2 washer

McMaster-Carr  
90126A501

E21 #2 lock washer

E22 #2 lock washer

E23 #2 lock washer

E24 #2 lock washer

McMaster-Carr  
98449A500

#### Fiber/Ext.

#### Safety Contacts

#### Blank

#### Blank

#### Blank

#### Blank

#### Modbus

#### Temperature Sensors

#### Serial Concentrator

Fiber/Ext.:  
SM Fiber from corner  
SM Fiber corner ext.  
CAT5 corner ext.

M12	Color	PT100
1	brown	RL+
2	white	R+
3	blue	RL-
4	black	R-

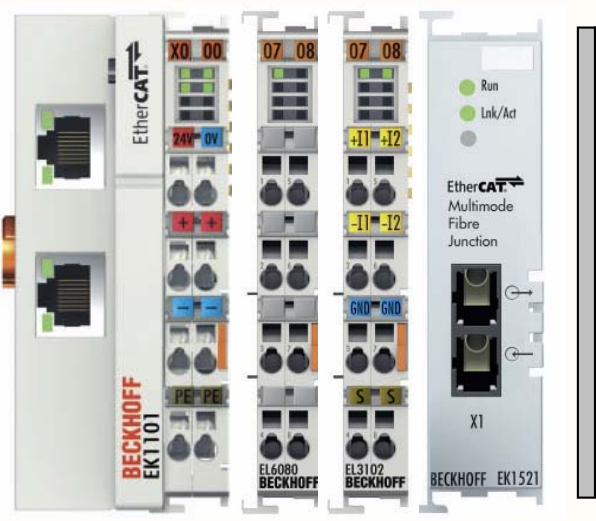
External Senso:  
for example  
Newark 35M2405  
& 15M4877

Title <b>EtherCAT 4km Remote Access End</b>		
Size B	Number <b>D1100619</b>	Revision <b>2</b>
Date: 1/25/2012	Sheet 1 of 4	
File: C:\Users\...\EtherCAT4kmEnd1.SchDoc	Drawn By: Daniel Sigg	

B13  
AB9000  
HMS  
Anybus X-gateway EtherCAT/Modbus



B1  
EK1101  
EtherCAT coupler w/ ID switch



B2  
EL6080  
Memory terminal 128 kbyte

B3  
EL3202  
2-channel input terminal PT100 (RTD)

B4  
EK1521  
1-port multimode fiber optic EtherCAT junction

B5  
EL9011  
End cap

0 1 2 3 4

Ebus 24V  
Power contacts 24V

End  
EtherCAT

End  
Temp.

Power budget:  
EL6080: 0.130 A  
EK1521: 0.400 A  
EL3202: 0.190 A  
EK1110: 0.125 A  
-----  
0.845 A

Title		<b>Remote Access End: Left Rail</b>	
Size	Number	Revision	
B	<b>D1100619</b>		<b>2</b>
Date:	1/25/2012	Sheet 2 of 4	
File:	C:\Users\...\EtherCAT4kmEnd2.SchDoc	Drawn By: Daniel Sigg	

1

2

3

4

5

6

A

A

B

B

C

C

D

D

Ebus                    24V  
 Power contacts        24V

### Expansion Room

Title		<b>Remote Access End: Middle Rail</b>	
Size	Number	Revision	
B	<b>D1100619</b>	<b>2</b>	
Date:	1/25/2012	Sheet 3 of 4	
File:	C:\Users\...\EtherCAT4kmEnd3.SchDoc	Drawn By: Daniel Sigg	

1

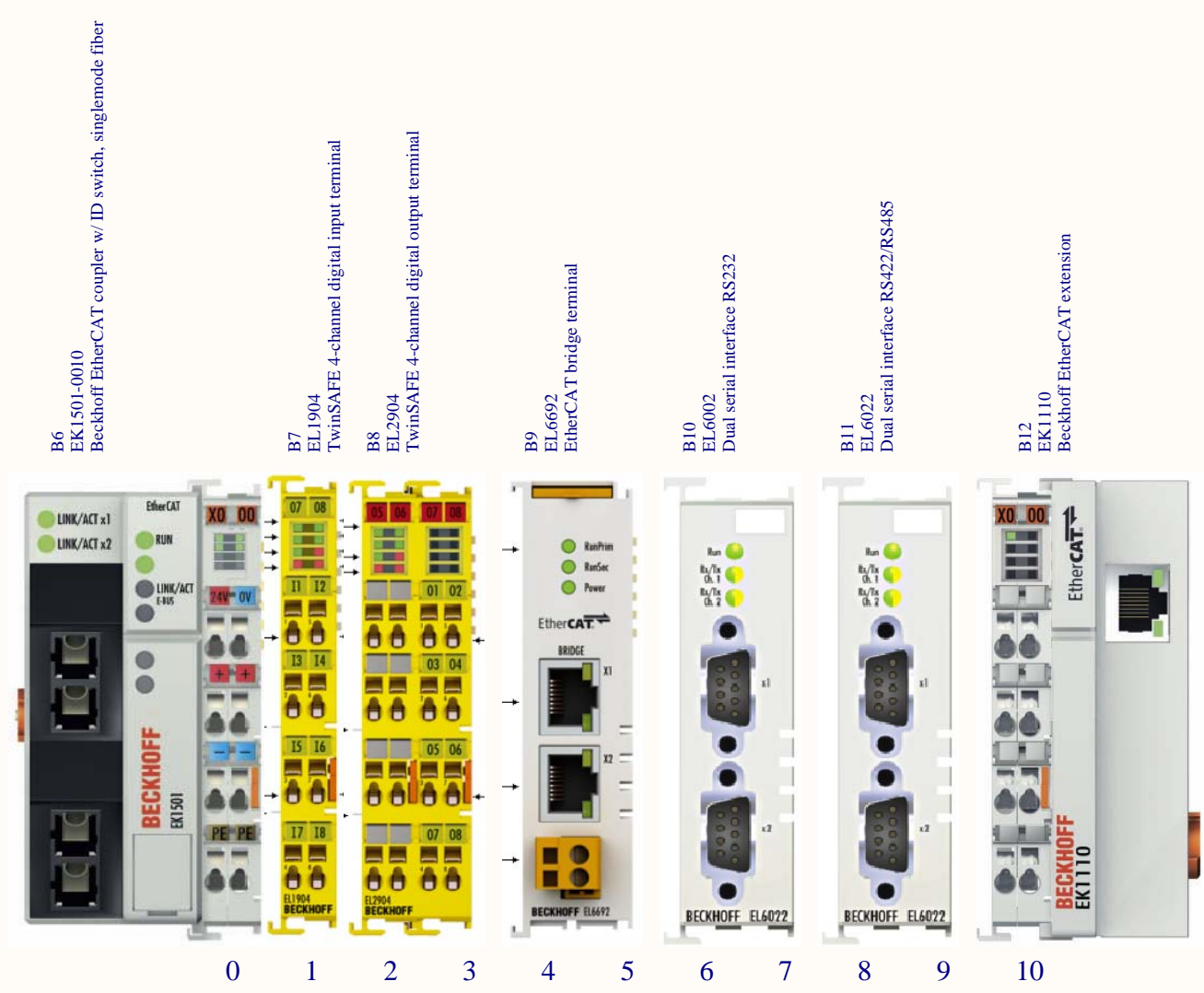
2

3

4

5

6



B6  
EK1501-0010  
Beckhoff EtherCAT coupler w/ ID switch, singlemode fiber

B7  
EL1904  
TwinSAFE 4-channel digital input terminal

B8  
EL2904  
TwinSAFE 4-channel digital output terminal

B9  
EL6692  
EtherCAT bridge terminal

B10  
EL6002  
Dual serial interface RS232

B11  
EL6022  
Dual serial interface RS422/RS485

B12  
EK1110  
Beckhoff EtherCAT extension

Ebus 24V  
Power contacts 24V

Corner EtherCAT      Safety      End EtherCAT      RS232 RS422      Remote corner extension

Power budget:  
 EL1904: 0.200 A  
 EL2904: 0.221 A  
 EL6692: 0.120 A  
 EL6002: 0.170 A  
 EL6022: 0.350 A  
 EK1110: 0.125 A  
 -----  
 1.016 A

Title			<b>Remote Access End: Right Rail</b>		
Size	Number			Revision	
B	D1100619			2	
Date:	1/25/2012	Sheet 4 of 4			
File:	C:\Users\...\EtherCAT4kmEnd4.SchDoc	Drawn By: Daniel Sigg			