



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

This EtherCAT chassis uses copper only.  
Mount the modular adapters to the front panel.  
Using CAT5 patch cables:

- Connect the front panel input to the input of the first coupler (left rail).
- Connect the front panel output to the output of the last coupler (right rail).
- Connect the output of the first coupler to the input of the second one.
- Connect the output of the second coupler to the input of the third one.

### Ports

**IN**

**OUT**

**A**

**B**

**C**

PN1  
EtherCAT chassis  
LIGO  
D0902552-v3

PN5  
Ethernet patch cable, 1'

PN8  
Ethernet patch cable, 1'

PN11  
DB9/female  
Digi-Key  
A32510-ND

PN13  
DB15/male  
Digi-Key  
A32503-ND

PN15  
DB9/female  
Digi-Key  
A32510-ND

PN2  
Name Plate  
LIGO  
D1101978-v1

PN6  
Ethernet patch cable, 1'

PN9  
Ethernet patch cable, 1'  
Newark  
21M5658

E9 Jack screw  
E10 Jack screw

E11 Jack screw  
E12 Jack screw

E13 Jack screw  
E14 Jack screw

L-Com  
SDG450XS

PN3  
Rear Panel (alt)  
LIGO  
D1101977-v2

**CAT5  
End**

**CAT5  
End**

**Beam  
Diverter**

**Shutter  
Logic**

**Hartmann  
Sensor**

### TBLOCK

PN19 Terminal Block	PN26 Terminal Block	PN34 Terminal Block	PN40 Terminal Block
PN20 Terminal Block	PN27 Terminal Block	PN35 Terminal Block	PN41 Terminal Block
PN21 Terminal Block	PN28 Terminal Block	PN36 Terminal Block	PN42 Terminal Block
PN22 Terminal Block	PN29 Terminal Block	PN37 Terminal Block	PN43 Terminal Block
PN23 Terminal Block	PN30 Terminal Block	PN38 Terminal Block	PN44 Terminal Block
Digi-Key 277-1483-ND		Digi-Key 277-1483-ND	
	PN31 Jumper, 10pos		PN45 Jumper, 10pos
	PN32 Jumper, 10pos		PN46 Jumper, 10pos
PN24 End Plate Digi-Key 277-1495-ND	Digi-Key 277-1494-ND	PN39 End Plate Digi-Key 277-1495-ND	Digi-Key 277-1494-ND

### Slots

**1**

**2**

**3**

**4**

**5**

**6**

**7**

**8**

**9**

**10**

**11**

**12**

PN4  
Picomotor adapter  
LIGO  
D1100419-v3

PN7  
Picomotor adapter  
LIGO  
D1100419-v3

PN10  
Adapter panel  
LIGO  
D0902557-v1

PN12  
Adapter panel  
LIGO  
D0902557-v1

PN14  
Adapter panel  
LIGO  
D0902557-v1

PN16  
DB37M adapter  
LIGO  
D0902569-v1

PN17  
DB37M adapter  
LIGO  
D0902569-v1

PN18  
DB37M adapter  
LIGO  
D0902569-v1

PN25  
DB37M adapter  
LIGO  
D0902569-v1

PN33  
DB37M adapter  
LIGO  
D0902569-v1

PN47  
DB37M adapter  
LIGO  
D0902569-v1

PN48  
Prometheus Interface  
LIGO  
D1102087-v1

E1 Jack screw

E5 Jack screw

E2 Jack screw

E6 Jack screw

E3 Jack screw

E7 Jack screw

E4 Jack screw

E8 Jack screw

L-Com  
SDG450XS

E15 #6-32 1/4" flat  
E16 #6-32 1/4" flat  
McMaster-Carr  
91099A205

E17 #6-32 1/4" flat  
E18 #6-32 1/4" flat  
McMaster-Carr  
91099A205

E19 #6-32 1/4" flat  
E20 #6-32 1/4" flat  
McMaster-Carr  
91099A205

E21 #6-32 1/4" flat  
E22 #6-32 1/4" flat  
McMaster-Carr  
91099A205

E23 #6-32 1/4" flat  
E24 #6-32 1/4" flat  
McMaster-Carr  
91099A205

E25 #6-32 1/4" flat  
E26 #6-32 1/4" flat  
McMaster-Carr  
91099A205

E27 #6-32 1/4" flat  
E28 #6-32 1/4" flat  
McMaster-Carr  
91099A205

**Picomotor**

**Picomotor**

**Blank**

**Blank**

**Blank**

**Auxiliary**

**PZT Mirrors TCS  
Laser Temp.  
PD Mon.**

**RF Amp**

**DC  
Photodiodes**

**LSC  
Demod**

**Laser  
Diagnostics**

Title <b>EtherCAT End 2</b>		
Size B	Number <b>D1100682</b>	Revision <b>2</b>
Date: 10/19/2012	Sheet 1 of 4	
File: C:\Users\...\EtherCATEndB1.SchDoc	Drawn By: Daniel Sigg	

B1 5V/0.6A isolated DC-DC converter, Omron S82S-7305

B2 EK1101 EtherCAT coupler w/ ID switch

B3 EL3104 4-channel analog input terminals, differential, 16 bits

B4 EL3104 4-channel analog input terminals, differential, 16 bits

B5 EL1124 4-channel digital input terminals, 5V

B6 EL9190 Feed terminal, arbitrary voltage

B7 EL3104 4-channel analog input terminals, differential, 16 bits

B8 EL3104 4-channel analog input terminals, differential, 16 bits

B9 EL1124 4-channel digital input terminals, 5V

B10 EL9190 Feed terminal, arbitrary voltage

B11 EL3104 4-channel analog input terminals, differential, 16 bits

B12 EL1124 4-channel digital input terminals, 5V

B13 EL9190 Feed terminal, arbitrary voltage

B14 EL3104 4-channel analog input terminals, differential, 16 bits

B15 EL3104 4-channel analog input terminals, differential, 16 bits

B16 EL4134 4-channel analog output terminals, differential, 16 bits

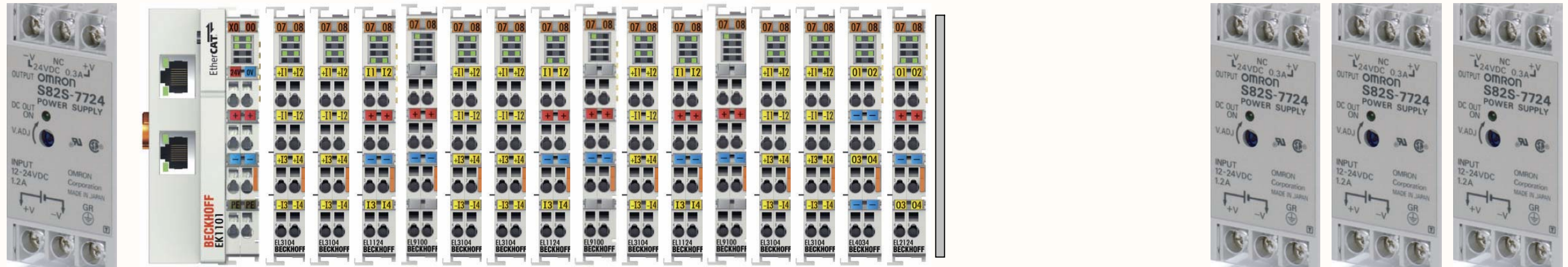
B17 EL2124 4-channel digital output terminals, 5V

B18 EL9011 End cap

B19 5V/0.6A isolated DC-DC converter, Omron S82S-7305

B20 5V/0.6A isolated DC-DC converter, Omron S82S-7305

B21 5V/0.6A isolated DC-DC converter, Omron S82S-7305



Ebus	24V	—	—	—
Power contacts	5V	5V	5V	5V

DC_1	Laser	Demod	RF Amp	TCS/HWS	DC_2	DC_3	DC_4
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Power budget:  
 EL3104: 0.180 A (7x)  
 EL4134: 0.265 A (1x)  
 EL1124: 0.090 A (3X)  
 EL2124: 0.130 A (1x)  
 -----  
 1.925 A

Title		<b>EtherCAT End 2: Left Rail</b>	
Size	Number	Revision	
B	<b>D1100682</b>	2	
Date:	10/19/2012	Sheet 2 of 4	
File:	C:\Users\...\EtherCATEndB2.SchDoc	Drawn By: Daniel Sigg	

B22  
5V/0.6A isolated DC-DC converter, Omron S82S-7305

B23  
EK1100  
Beckhoff EtherCAT coupler

B24  
EL3104  
4-channel analog input terminals, differential, 16 bits

B25  
EL3104  
4-channel analog input terminals, differential, 16 bits

B26  
EL3104  
4-channel analog input terminals, differential, 16 bits

B27  
EL3104  
4-channel analog input terminals, differential, 16 bits

B28  
EL4132  
2-channel analog output terminals, differential, 16 bits

B29  
EL9190  
Feed terminal, arbitrary voltage

B30  
EL1124  
4-channel digital input terminals, 5V

B31  
EL2124  
4-channel digital output terminals, 5V

B32  
EL3104  
4-channel analog input terminals, differential, 16 bits

B33  
EL4134  
4-channel analog output terminals, differential, 16 bits

B34  
EL9410  
Power supply terminals for E-bus

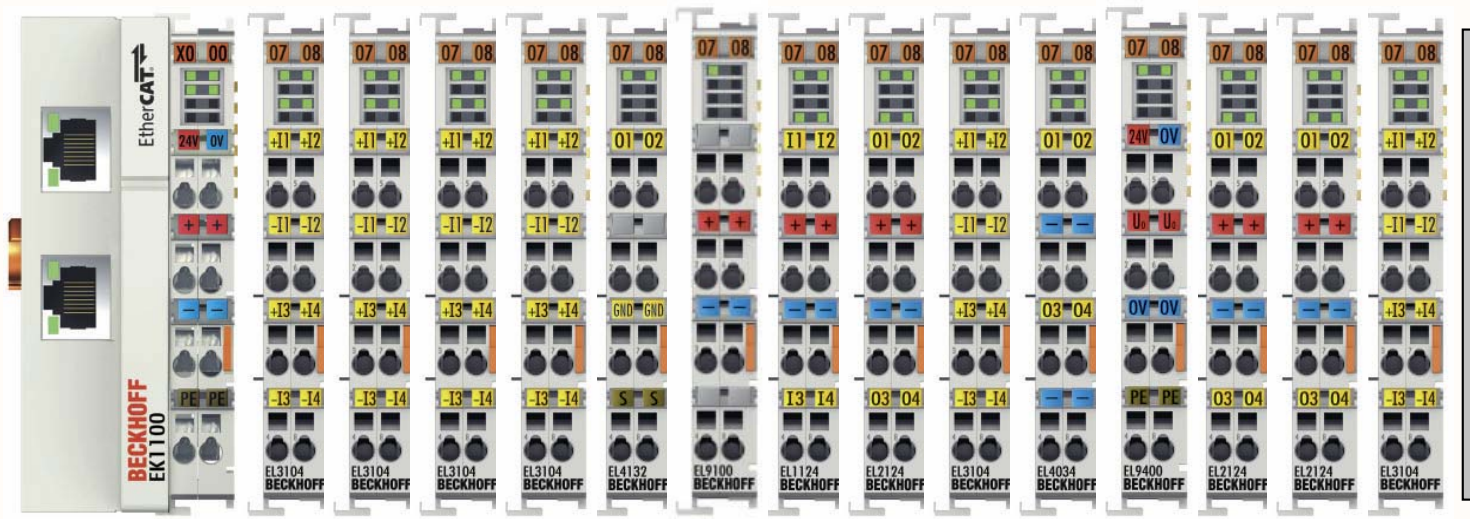
B35  
EL2124  
4-channel digital output terminals, 5V

B36  
EL2124  
4-channel digital output terminals, 5V

B37  
EL3104  
4-channel analog input terminals, differential, 16 bits

B38 (B39)  
EL9011  
End cap

B39 (B40)  
5V/0.6A isolated DC-DC converter, Omron S82S-7305



0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22

Ebus 24V — 24V  
Power contacts — 5V 5V

DC\_5 PZT Mirrors Laser Temp DC Photodiodes  
Monitor PDs Auxiliary

DC\_6

Power budget:  
EL1124: 0.090 A  
EL2124: 0.130 A  
EL3104: 0.180 A (5x)  
EL4132: 0.210 A  
EL4134: 0.265 A  
-----  
1.595 A

Power budget:  
EL2124: 0.130 A (2x)  
EL3104: 0.180 A (1x)  
-----  
0.440 A

Title <b>EtherCAT End 2: Middle Rail</b>		
Size B	Number <b>D1100682</b>	Revision <b>2</b>
Date: 10/19/2012	Sheet 3 of 4	
File: C:\Users\...\EtherCATEndB3.SchDoc	Drawn By: Daniel Sigg	

