



## Ports

### IN

- PN1 EtherCAT chassis LIGO D0902552-v3
- PN2 Name Plate LIGO D1102435-v1
- PN3 Rear Panel LIGO D1201340-v1

CAT5 Corner

### OUT

- PN5 Ethernet patch cable, 1'
- PN6 Ethernet patch cable, 1'

CAT5 Corner

### A/B/C/D

- PN8 Ethernet patch cable, 1'
- PN9 Ethernet patch cable, 1' Newark 21M5658
- PN11 DB15/male
- PN12 DB15/male
- PN13 DB15/male
- PN14 DB15/male Digi-Key A32503-ND

Shutter Logic

### E/F/G/H

- PN16 DB9/female
- PN17 DB9/female
- PN18 DB9/female
- PN19 DB9/female Digi-Key A32510-ND

Beam Diverter

- E9 Jack screw
- E10 Jack screw
- E11 Jack screw
- E12 Jack screw
- E13 Jack screw
- E14 Jack screw
- E15 Jack screw
- E16 Jack screw
- E17 Jack screw
- E18 Jack screw
- E19 Jack screw
- E20 Jack screw
- E21 Jack screw
- E22 Jack screw
- E23 Jack screw
- E24 Jack screw
- L-Com SDG450XS

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

## TBLOCK

- PN27 Terminal Block
- PN28 Terminal Block
- PN29 Terminal Block
- PN30 Terminal Block
- PN31 Terminal Block
- Digi-Key 277-1483-ND
- PN32 End Plate
- Digi-Key 277-1495-ND
- PN34 Terminal Block
- PN35 Terminal Block
- PN36 Terminal Block
- PN37 Terminal Block
- PN38 Terminal Block
- PN39 Jumper, 10pos
- PN40 Jumper, 10pos
- Digi-Key 277-1494-ND
- PN41 Terminal Block
- PN42 Terminal Block
- PN43 Terminal Block
- PN44 Terminal Block
- PN45 Terminal Block
- Digi-Key 277-1483-ND
- PN46 End Plate
- Digi-Key 277-1495-ND
- PN48 Terminal Block
- PN49 Terminal Block
- PN50 Terminal Block
- PN51 Terminal Block
- PN52 Terminal Block
- PN53 Jumper, 10pos
- PN54 Jumper, 10pos
- Digi-Key 277-1494-ND

## Slots

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11

- PN4 Adapter panel LIGO D0902557-v1
- PN7 DB37M adapter LIGO D0902569-v1
- PN10 DB37M adapter LIGO D0902569-v1
- PN15 DB25M adapter LIGO D0902567-v1
- PN20 DB25M adapter LIGO D0902567-v1
- PN21 M12 socket
- PN22 M12 socket
- PN23 M12 socket
- PN24 M12 socket Newark 08R3678
- PN25 DB37M adapter LIGO D0902569-v1
- PN26 DB37M adapter LIGO D0902569-v1
- PN33 DB37M adapter LIGO D0902569-v1
- PN47 DB37M adapter LIGO D0902569-v1
- PN55 TEC Driver LIGO D1201359-v1

- E1 #6-32 1/4" flat
- E2 #6-32 1/4" flat
- McMaster-Carr 91099A205
- E3 #6-32 1/4" flat
- E4 #6-32 1/4" flat
- McMaster-Carr 91099A205
- E5 #6-32 1/4" flat
- E6 #6-32 1/4" flat
- McMaster-Carr 91099A205
- E7 #6-32 1/4" flat
- E8 #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
- E29 #6-32 1/4" flat
- E30 #6-32 1/4" flat
- McMaster-Carr 91099A205
- E31 #6-32 1/4" flat
- E32 #6-32 1/4" flat
- McMaster-Carr 91099A205
- E33 #6-32 1/4" flat
- E34 #6-32 1/4" flat
- McMaster-Carr 91099A205

- Blank
- CM Sum A
- CM Sum B
- ALS Fiber Distribution
- VCO
- Temperature Sensors
- DC PDs ISCT6
- Auxiliary ISCT6
- DC PDs ISCT1
- Auxiliary ISCT1
- SHG Oven

- 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 Corner 5</b>		
Size B	Number <b>D1200132</b>	Revision <b>1</b>
Date: 10/18/2012	Sheet 1 of 4	
File: C:\Users\...\EtherCATCornerE1.SchDoc	Drawn By: Daniel Sigg	

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

B2 EK1101 EtherCAT coupler w/ ID switch

B3 EL1124 4-channel digital input terminals, 5V

B4 EL2124 4-channel digital output terminals, 5V

B5 EL3104 4-channel analog input terminals, differential, 16 bits

B6 EL4134 4-channel analog output terminals, differential, 16 bits

B7 EL9190 Feed terminal, arbitrary voltage

B8 EL2124 4-channel digital output terminals, 5V

B9 EL2124 4-channel digital output terminals, 5V

B10 EL2124 4-channel digital output terminals, 5V

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

B12 EL3104 4-channel analog input terminals, differential, 16 bits

B13 EL3104 4-channel analog input terminals, differential, 16 bits

B14 EL9410 Power supply terminals for E-bus, diagnostics

B15 EL1124 4-channel digital input terminals, 5V

B16 EL2124 4-channel digital output terminals, 5V

B17 EL3104 4-channel analog input terminals, differential, 16 bits

B18 EL4134 4-channel analog output terminals, differential, 16 bits

B19 EL3692 2-channel high precision resistance terminal

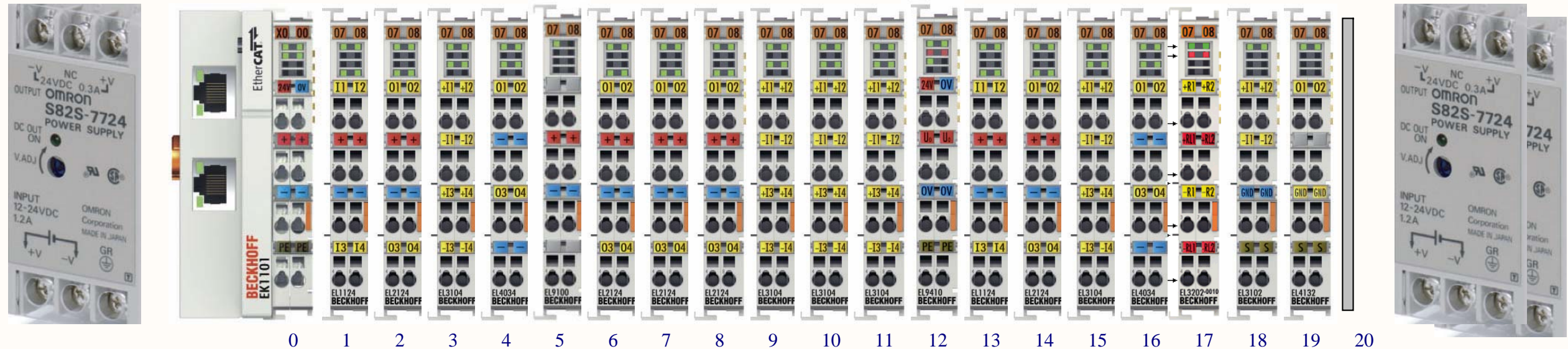
B20 EL3102 2-channel analog input terminals, differential, 16 bits

B21 EL4132 2-channel analog output terminals, differential, 16 bits

B22 EL9011 End cap

B23 5V/0.6A isolated DC-DC converter, Omron S82S-7305

B24 5V/0.6A isolated DC-DC converter, Omron S82S-7305



Ebus 24V — 24V

Power contacts 5V 5V 5V

DC\_1 Auxiliary DC PDs Auxiliary SHG Oven DC\_2 DC\_3

ISCT6 ISCT1

Power budget:

EL3104: 0.180 A (4x)

EL4134: 0.265 A (1x)

EL1124: 0.090 A (1x)

EL2124: 0.130 A (4x)

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1.595 A

Power budget:

EL3102: 0.170 A (1x)

EL3104: 0.180 A (1x)

EL3202: 0.190 A (1x)

EL4132: 0.210 A (1x)

EL4134: 0.265 A (1x)

EL1124: 0.090 A (1x)

EL2124: 0.130 A (1x)

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1.235 A

Title <b>EtherCAT Corner 5: Left Rail</b>		
Size B	Number <b>D1200132</b>	Revision <b>1</b>
Date:	10/18/2012	Sheet 3 of 4
File:	C:\Users\...\EtherCATCornerE2.SchDoc	Drawn By: Daniel Sigg

B25 (B27)  
5V/0.6A isolated DC-DC converter, Omron S82S-7305

B26 (B28)  
EK1100  
Beckhoff EtherCAT coupler

B27 (B29)  
EL3104  
4-channel analog input terminals, differential, 16 bits

B28 (B30)  
EL3104  
4-channel analog input terminals, differential, 16 bits

B29 (B31)  
EL3104  
4-channel analog input terminals, differential, 16 bits

B30 (B32)  
EL4132  
2-channel analog output terminals, differential, 16 bits

B31 (B33)  
EL1124  
4-channel digital input terminals, 5V

B32 (B34)  
EL2124  
4-channel digital output terminals, 5V

B33 (B35)  
EL3202-0010  
2-channel high precision input terminal PT100 (RTD)

B34 (B36)  
EL9190  
Feed terminal, arbitrary voltage

B35 (B37)  
EL2124  
4-channel digital output terminals, 5V

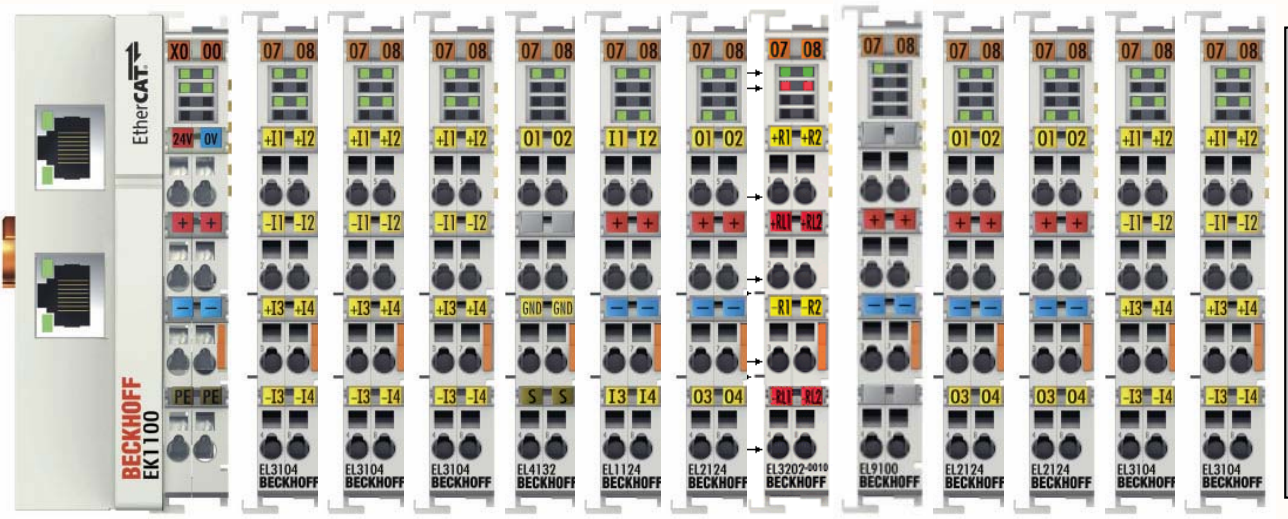
B36 (B38)  
EL2124  
4-channel digital output terminals, 5V

B37 (B39)  
EL3104  
4-channel analog input terminals, differential, 16 bits

B38 (B40)  
EL3104  
4-channel analog input terminals, differential, 16 bits

B39 (B41)  
EL9011  
End cap

B40 (B42)  
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

Ebus 24V —  
Power contacts 5V 5V

DC\_4 RF Fiber Dist. Temp. DC PDs ISCT6  
Low Noise VCO DC\_5

Power budget:  
EL1124: 0.090 A (1x)  
EL2124: 0.130 A (3x)  
EL3104: 0.180 A (5x)  
EL3202: 0.190 A (1x)  
EL4134: 0.265 A (1x)  
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1.745 A

Title <b>EtherCAT Corner 5: Middle Rail</b>		
Size B	Number <b>D1200132</b>	Revision <b>1</b>
Date: 10/18/2012	Sheet 4 of 4	
File: C:\Users\...\EtherCATCornerE3.SchDoc	Drawn By: Daniel Sigg	

A

B

C

D

A

B

C

D

B41 (B46)  
5V/0.6A isolated DC-DC converter, Omron S82S-7305

B42 (B44)  
EK1100  
Beckhoff EtherCAT coupler

B43 (B46)  
EL7332  
2-channel DC motor output stage 24 V DC, 1 A

B44 (B46)  
EL1094  
4-channel digital input terminals, 24V, n-type

B45 (B47)  
EL7332  
2-channel DC motor output stage 24 V DC, 1 A

B46 (B48)  
EL1094  
4-channel digital input terminals, 24V, n-type

B47 (B49)  
EL1094  
4-channel digital input terminals, 24V, n-type

B48 (B50)  
EL2008  
8-channel digital output terminals, 24V

B49 (B51)  
EL1094  
4-channel digital input terminals, 24V, n-type

B50 (B52)  
EL2008  
8-channel digital output terminals, 24V

B51 (B53)  
EL3104  
4-channel analog input terminals, differential, 16 bits

B52 (B54)  
EL4134  
4-channel analog output terminals, differential, 16 bits

B53 (B55)  
EL9410  
Power supply terminals for E-bus, diagnostics

B54 (B56)  
EL3104  
4-channel analog input terminals, differential, 16 bits

B55 (B57)  
EL4132  
2-channel analog output terminals, differential, 16 bits

B56 (B58)  
EL1124  
4-channel digital input terminals, 5V

B57 (B59)  
EL2124  
4-channel digital output terminals, 5V

B58 (B60)  
EL2124  
4-channel digital output terminals, 5V

B59 (B61)  
EL2124  
4-channel digital output terminals, 5V

B60 (B62)  
EL2124  
4-channel digital output terminals, 5V

B61 (B63)  
EL2124  
4-channel digital output terminals, 5V

B62 (B64)  
EL9410  
Power supply terminals for E-bus, diagnostics

B63 (B66)  
EL3104  
4-channel analog input terminals, differential, 16 bits

B64 (B66)  
EL4132  
2-channel analog output terminals, differential, 16 bits

B65 (B67)  
EL1124  
4-channel digital input terminals, 5V

B66 (B68)  
EL2124  
4-channel digital output terminals, 5V

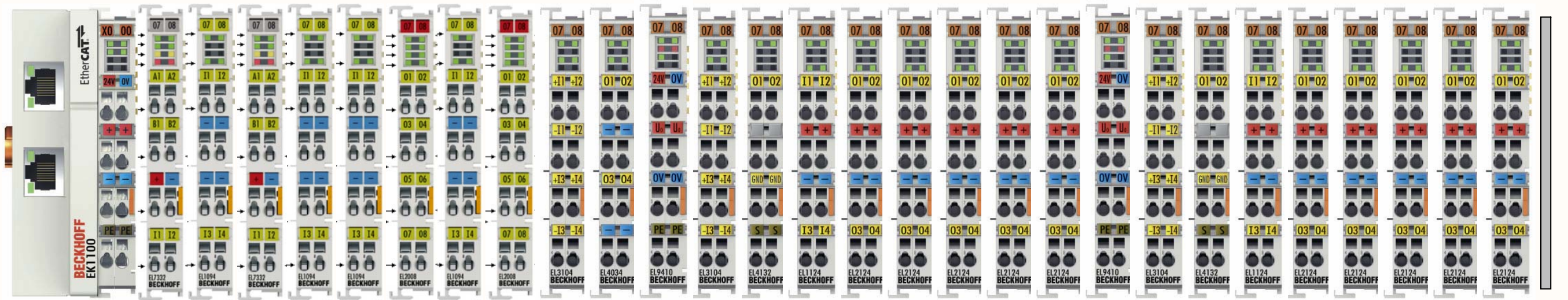
B67 (B69)  
EL2124  
4-channel digital output terminals, 5V

B68 (B70)  
EL2124  
4-channel digital output terminals, 5V

B69 (B71)  
EL2124  
4-channel digital output terminals, 5V

B70 (B72)  
EL2124  
4-channel digital output terminals, 5V

B71 (B73)  
EL9011  
End cap



0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29

Ebus 24V  
Power contacts 24V

24V  
5V  
24V  
5V

DC\_6 Beam Diverter Shutter CM Sum A CM Sum B

Power budget:  
EL7332: 0.140 A (2x)  
EL1094: 0.090 A (4x)  
EL2008: 0.110 A (2x)  
EL3104: 0.180 A (1x)  
EL4134: 0.265 A (1x)  
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1.305 A

Power budget:  
EL3104: 0.180 A (1x)  
EL4132: 0.210 A (1x)  
EL2124: 0.130 A (5x)  
EL1124: 0.090 A (1x)  
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1.130 A

Power budget:  
EL3104: 0.180 A (1x)  
EL4132: 0.210 A (1x)  
EL2124: 0.130 A (5x)  
EL1124: 0.090 A (1x)  
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1.130 A

Title <b>EtherCAT Corner 5: Right Rail</b>		
Size B	Number <b>D1200132</b>	Revision <b>1</b>
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