

Ports

IN	OUT	A/B	
PN2 EtherCAT chassis LIGO D0902552-v3	PN6 Ethernet patch cable, 1'	PN9 Ethernet patch cable, 1'	PN12 DB15/male
PN3 Name Plate LIGO D1600506-v1	PN7 Ethernet patch cable, 1'	PN10 Ethernet patch cable, 1' Newark 21M5658	PN13 DB15/male Digi-Key A32503-ND
PN4 Rear Panel LIGO D1700022-v2	CAT5 Squeezer	CAT5 Squeezer	PZT Driver

E9	Jack screw
E10	Jack screw
E11	Jack screw
E12	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

PN19 Terminal Block	PN25 Terminal Block	PN33 Terminal Block	PN40 Terminal Block
PN20 Terminal Block	PN26 Terminal Block	PN34 Terminal Block	PN41 Terminal Block
PN21 Terminal Block	PN27 Terminal Block	PN35 Terminal Block	PN42 Terminal Block
PN22 Terminal Block	PN28 Terminal Block	PN36 Terminal Block	PN43 Terminal Block
PN23 Terminal Block	PN29 Terminal Block	PN37 Terminal Block	PN44 Terminal Block
Digi-Key 277-1483-ND		Digi-Key 277-1483-ND	
	PN30 Jumper, 10pos		PN45 Jumper, 10pos
PN24 End Plate	PN31 Jumper, 10pos	PN38 End Plate	PN46 Jumper, 10pos
Digi-Key 277-1495-ND	Digi-Key 277-1494-ND	Digi-Key 277-1495-ND	Digi-Key 277-1494-ND

Slots

1	2	3	4	5	6	7	8	9	10	11	12
PN1 Adapter panel LIGO D0902557-v1	PN5 TEC Driver LIGO D1201359-v1	PN8 TEC Driver LIGO D1201359-v1	PN11 DB25M adapter LIGO D0902567-v1	PN14 DB37M adapter LIGO D0902569-v1	PN15 DB37M adapter LIGO D0902569-v1	PN16 DB25F adapter LIGO D0902568-v1	PN17 DB37F adapter LIGO D0902568-v1	PN18 DB37M adapter LIGO D0902569-v1	PN32 DB37M adapter LIGO D0902569-v1	PN39 DB25F adapter LIGO D0902568-v1	PN47 DB25F adapter LIGO D0902568-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	E13 #6-32 1/4" flat E14 #6-32 1/4" flat McMaster-Carr 91099A205	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
Blank	OPO Oven	SHG Oven	VCXO	CM A/1	CM A/2	Delay A	Delay B	CM B/1	CM B/2	Delay C	Delay D

Title EtherCAT Squeezer 2		
Size B	Number D1600507	Revision 1
Date:	6/6/2017	Sheet 1 of 4
File:	D:\Users\...\EtherCATSqueezerB1.SchDoc Drawn By:Daniel Sigg	

A

B

C

D

A

B

C

D

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

B5
EL4134
4-channel analog output terminals, differential, 16 bits

B6
EL1124
4-channel digital input terminals, 5V

B7
EL2124
4-channel digital output terminals, 5V

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
EL2124
4-channel digital output terminals, 5V

B12
EL2124
4-channel digital output terminals, 5V

B13
EL9410
Power supply terminals for E-bus, diagnostics

B14
EL2124
4-channel digital output terminals, 5V

B15
EL2124
4-channel digital output terminals, 5V

B16
EL2124
4-channel digital output terminals, 5V

B17
EL2124
4-channel digital output terminals, 5V

B18
EL2124
4-channel digital output terminals, 5V

B19
EL9190
Feed terminal, arbitrary voltage

B20
EL2124
4-channel digital output terminals, 5V

B21
EL2124
4-channel digital output terminals, 5V

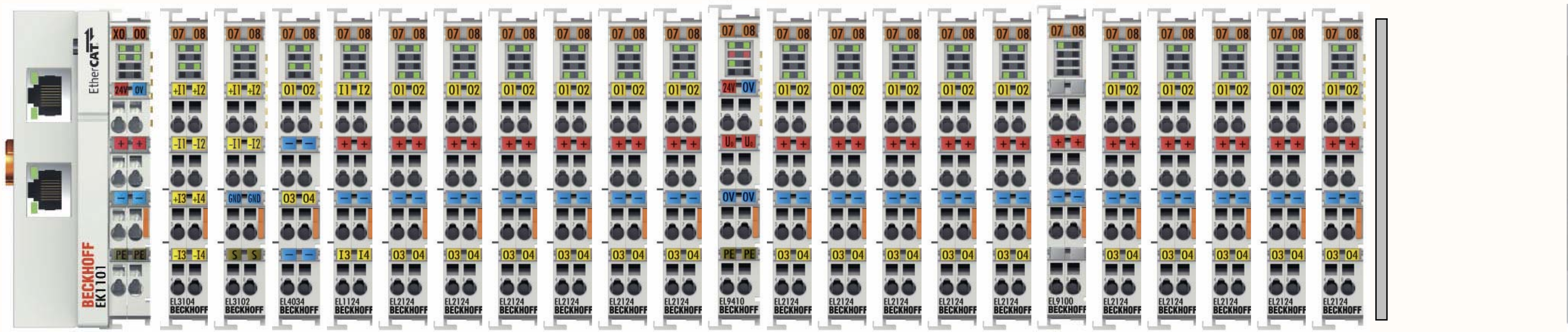
B22
EL2124
4-channel digital output terminals, 5V

B23
EL2124
4-channel digital output terminals, 5V

B24
EL2124
4-channel digital output terminals, 5V

B25
EL9011
End cap

B26
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 23 24 25 26

Ebus 24V
Power contacts 5V

24V
5V

—
5V

DC_1 Common mode servo B Delay line phase shifter C/D DC_2

Power budget:
EL3104: 0.130 A (2x)
EL4234: 0.265 A (1x)
EL1124: 0.090 A (1x)
EL2124: 0.130 A (7x)

1.395 A

Power budget:
EL2124: 0.130 A (10x)

1.300 A

Title		
EtherCAT Squeezer 2: Left Rail		
Size	Number	Revision
B	D1600507	1
Date:	6/6/2017	Sheet 2 of 4
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A

B

C

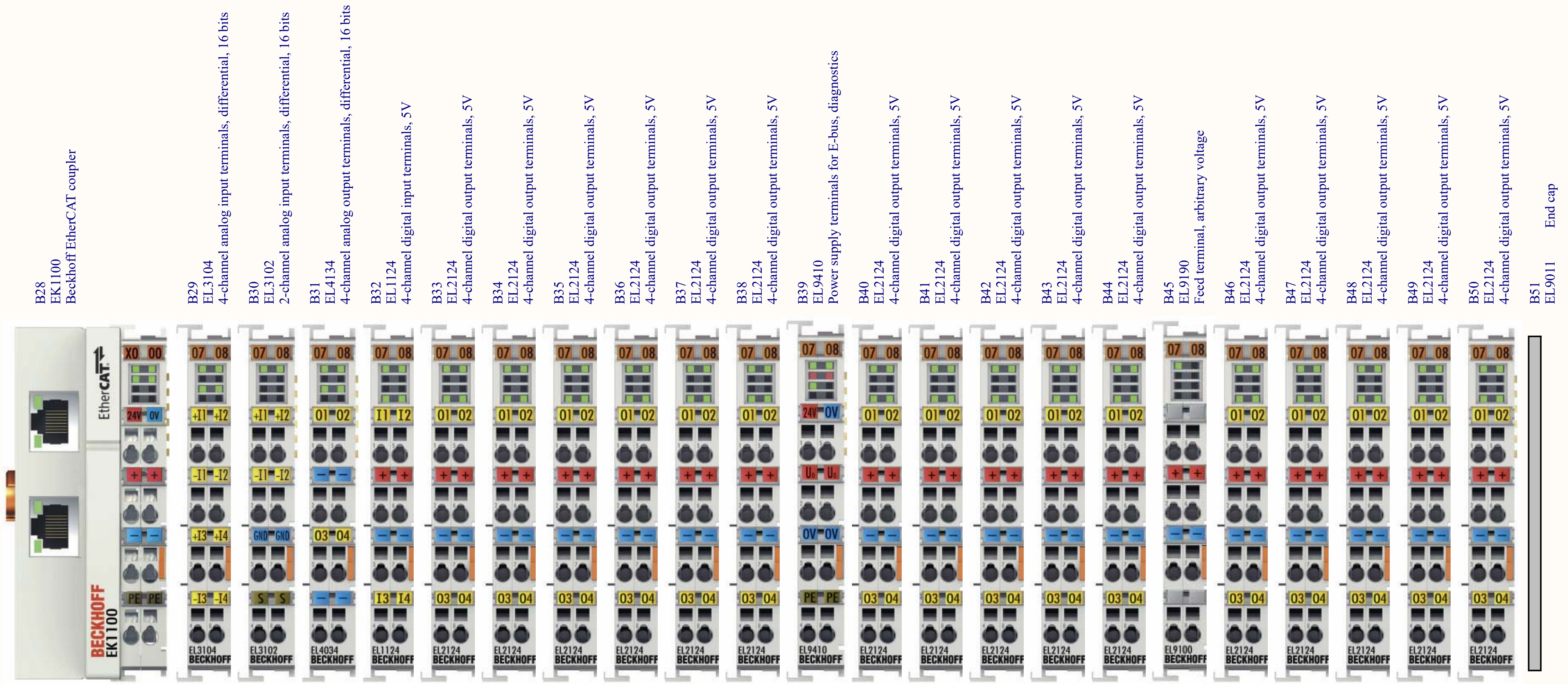
D

A

B

C

D



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

Ebus 24V
Power contacts 5V

24V
5V

—
5V

DC_3 Common mode servo A Delay line phase shifter A/B DC_4

Power budget:
 EL3104: 0.130 A (2x)
 EL4234: 0.265 A (1x)
 EL1124: 0.090 A (1x)
 EL2124: 0.130 A (7x)

 1.395 A

Power budget:
 EL2124: 0.130 A (10x)

 1.300 A

Title		
EtherCAT Squeezezer 2: Middle Rail		
Size	Number	Revision
B	D1600507	1
Date:	6/6/2017	Sheet 3 of 4
File:	D:\Users\...\EtherCATSqueezezerB3.SchDoc Drawn By:Daniel Sigg	

A

B

C

D

A

B

C

D

B53
5V/0.6A isolated DC-DC converter, Omron S82S-7305

B54
EK1100
Beckhoff EtherCAT coupler

B55
EL3104
4-channel analog input terminals, differential, 16 bits

B56
EL4134
4-channel analog output terminals, differential, 16 bits

B57
EL1124
4-channel digital input terminals, 5V

B58
EL2124
4-channel digital output terminals, 5V

B59
EL9190
Feed terminal, arbitrary voltage

B60
EL3104
4-channel analog input terminals, differential, 16 bits

B61
EL4134
4-channel analog output terminals, differential, 16 bits

B62
EL1124
4-channel digital input terminals, 5V

B63
EL2124
4-channel digital output terminals, 5V

B64
EL9410
Power supply terminals for E-bus, diagnostics

B65
EL3692
2-channel high precision resistance terminal

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

B67
EL4132
2-channel analog output terminals, differential, 16 bits

B68
EL9190
Feed terminal, arbitrary voltage

B69
EL3104
4-channel analog input terminals, differential, 16 bits

B70
EL3104
4-channel analog input terminals, differential, 16 bits

B71
EL4132
2-channel analog output terminals, differential, 16 bits

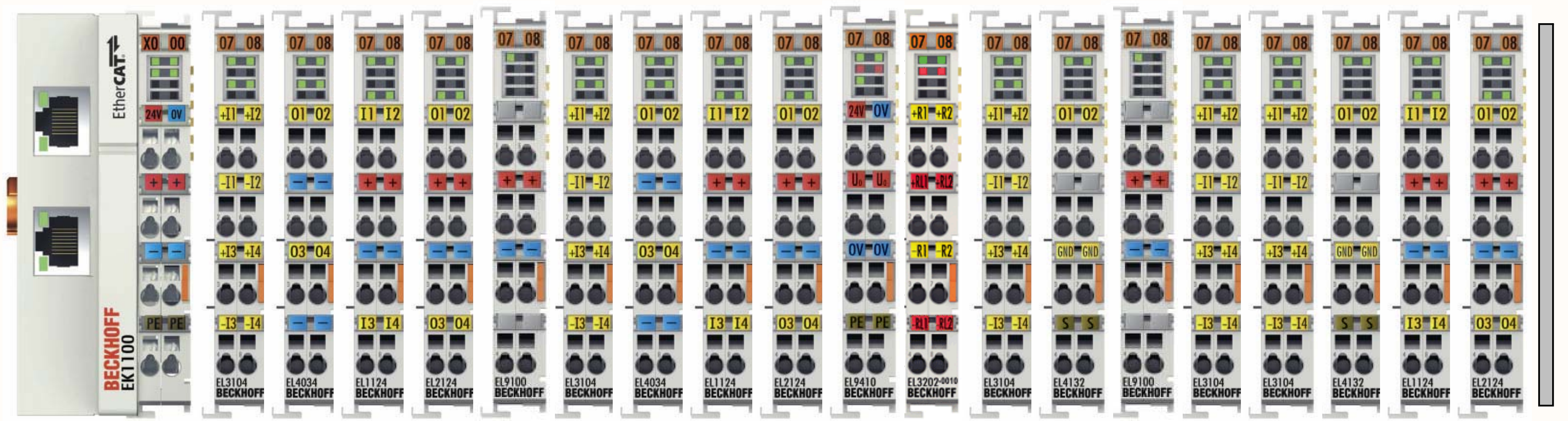
B72
EL1124
4-channel digital input terminals, 5V

B73
EL2124
4-channel digital output terminals, 5V

B74
EL9011
End cap

B75
5V/0.6A isolated DC-DC converter, Omron S82S-7305

B76
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
Power contacts

24V — 24V —
5V 5V 24V 5V

DC_5

PZT Driver A

PZT Driver B

SHG/OPO
Oven

VCXO

DC_6

DC_7

Power budget:
EL3104: 0.130 A (2x)
EL4134: 0.265 A (2x)
EL1124: 0.090 A (2x)
EL2124: 0.130 A (2x)

1.230 A

Power budget:
EL3104: 0.130 A (3x)
EL3692: 0.220 A (1x)
EL4132: 0.210 A (2x)
EL1124: 0.090 A (1x)
EL2124: 0.130 A (1x)

1.250 A

Title		
EtherCAT Squeezer 2: Right Rail		
Size	Number	Revision
B	D1600507	1
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