CHETA		Left Rail						
Name	**Color**	**Rail**	**Module**	**Number**	**Channel**	**Type**	**Adapter**	**Pin**
Power								
24V (routed through relay 1)	violet	L	EK1100	0	24V	P	R/5	12
0V	gray	L	EK1100	0	0V	P	TBLOCK	–V
24V (routed through relay 1)	violet	L	EK1100	0	+	P	R/5	12
0V	gray	L	EK1100	0	–	P	TBLOCK	–V
5V_0	red	L	EL9190	4	+	P	2	P10
5VRET_0	black	L	EL9190	4	–	P	TBLOCK	–V
24V (routed through relay 1)	violet	R	EL2612	11	12	P	1	P7
0V	gray	R	TBLOCK		0V	P	1	P8
24V (routed through relay 1)	violet	R	EL2612	11	12	P	2	P7
0V	gray	R	TBLOCK		0V	P	2	P8
Coupler								
Output	CAT5	L	EK1101	0	X2	Comm.	OUT	
Rotation/Linear Stages								
Encoder A: A (rotation)	brown	L	EL7342	1	A/top	BI	1	P4
Encoder A: B (rotation)	brown	L	EL7342	1	B/top	BI	1	P5
Encoder B: A (linear)	brown	L	EL7342	1	A/below	BI	2	P4
Encoder B: B (linear)	brown	L	EL7342	1	B/below	BI	2	P5
Input A (rotation)	brown	L	EL7342	1	I1	BI	1	P3
Input B (linear)	brown	L	EL7342	1	I2	BI	2	P3
Motor A1(*) (rotation)	violet	L	EL7342	2	A1	P	1	PWR/S
Motor A2(*) (rotation)	gray	L	EL7342	2	A2	P	1	PWR/P
Motor B1(*) (linear)	violet	L	EL7342	2	B1	P	2	PWR/S
Motor B2(*) (linear)	gray	L	EL7342	2	B2	P	2	PWR/P
24V(*)	violet	L	EL7342	2	+	P	L/12	+
0V(*)	gray	L	EL7342	2	–	P	L/12	–
Interlock Mon (rotation)	brown	L	EL1094	3	I1	BI	1	P9
Interlock Mon (linear)	brown	L	EL1094	3	I2	BI	2	P9
(empty)	brown	L	EL1094	3	I3	BI		
(empty)	brown	L	EL1094	3	I4	BI		
+EOR	brown	L	EL1124	5	I1	BI	2	P1
-EOR	brown	L	EL1124	5	I2	BI	2	P2
Indexer	brown	L	EL1124	5	I3	BI	2	P6
	brown	L	EL1124	5	I4	BI	2	

(*) AWG16, twist pairs
(**) Wrap twisted pair through a common mode choke, 10 turns, then connect to terminal block

CHETA		Right Rail						
Name	**Color**	**Rail**	**Module**	**Number**	**Channel**	**Type**	**Adapter**	**Pin**
Power								
24V	violet	R	EK1101	0	24V	P	TBLOCK	+V
0V	gray	R	EK1101	0	0V	P	TBLOCK	–V
5V_1	red	R	EK1101	0	+	P	DC_1	+V
5VRET_1	black	R	EK1101	0	–	P	DC_1	–V
5V_2	red	R	EL9190	6	+	P	DC_2	+V
5VRET_2	black	R	EL9190	6	–	P	DC_2	–V
5V_2	red	R	EL9190	6	+	P	10A	1
5VRET_2	black	R	EL9190	6	–	P	10A	9
5V_2	red	R	EL9190	6	+	P	10B	1
5VRET_2	black	R	EL9190	6	–	P	10B	9
Coupler								
Input	CAT5	R	EK1101	0	X1	Comm.	IN	
Output	CAT5	R	EK1101	0	X2	Comm.	R/0	X1
Laser/Flipper								
5V_1	red	R	EL1124	1	+	P	3	VCC
5VRET_1 (ENABLE ground)	black	R	EL1124	1	–	P	3	1
5VRET_1 (OK ground)	black	black	EL1124	1	–	P	3	4
5VRET_1 (Flipper ground)	black	black	EL1124	1	–	P	4	1
5VRET_1 (Flipper ground)	black	black	EL1124	1	–	P	4	2
5VRET_1 (Flipper ground)	black	black	EL1124	1	–	P	4	3
5VRET_1 (Flipper ground)	black	black	EL1124	1	–	P	4	4
OK	brown	R	EL1124	1	I1	BI	3	4
	brown	R	EL1124	1	I2	BI		
Flipper 1 IN	brown	R	EL1124	1	I3	BI	4	1
Flipper 2 IN	brown	R	EL1124	1	I4	BI	4	3
ENABLE	orange	R	EL2124	2	O1	BO	3	1
	orange	R	EL2124	2	O2	BO		
Flipper 1 OUT	orange	R	EL2124	2	O3	BO	4	2
Flipper 2 OUT	orange	R	EL2124	2	O4	BO	4	4
Current +	green	R	EL3104	3	+I1	AI	3	2
Current - (BNC ground)	white	R	EL3104	3	–I1	AI	3	2
Temp +	green	R	EL3104	3	+I2	AI	3	3
Temp - (BNC ground)	white	R	EL3104	3	–I2	AI	3	3
PD1 +	green	R	EL3104	3	+I3	AI	PD MON	1
PD1 -	white	R	EL3104	3	–I3	AI	PD MON	6
PD2 +	green	R	EL3104	3	+I4	AI	PD MON	2
PD2 -	white	R	EL3104	3	–I4	AI	PD MON	7
Temperature Sensors								
Temperature Supply 1 +	red	R	EL3202	4	+R1	AI	5	1-2
Temperature Supply 1 –	black	R	EL3202	4	–R1	AI	5	1-4
Temperature Readback 1 +	green	R	EL3202	4	+RL1	AI	5	1-1
Temperature Readback 1 –	white	R	EL3202	4	–RL1	AI	5	1-3
Temperature Supply 2 +	red	R	EL3202	4	+R2	AI	5	2-2
Temperature Supply 2 –	black	R	EL3202	4	–R2	AI	5	2-4
Temperature Readback 2 +	green	R	EL3202	4	+RL2	AI	5	2-1
Temperature Readback 2 –	white	R	EL3202	4	–RL2	AI	5	2-3
Motor Relay								
Relay 11	violet	R	EL2612	5	11	Contact	TBLOCK	+V
Relay 12 (see page 1)	violet	R	EL2612	5	12	Contact	L/0	24V
Relay 14 (empty)		R	EL2612	5	14	Contact		
Relay 21	violet	R	EL2612	5	21	Contact		
Relay 22 (see page 1)	violet	R	EL2612	5	22	Contact		
Relay 24 (empty)		R	EL2612	5	24	Contact		
Photodetectors								
DC3_RET	black	R	EL3602	7	COM	P	DC3	–V
DC PD1 +	green	R	EL3602	7	+I1	AI	10B	4
DC PD1 –	white	R	EL3602	7	–I1	AI	10B	12
QPD SUM +	green	R	EL3602	7	+I2	AI	10A	4
QPD SUM –	white	R	EL3602	7	–I2	AI	10A	12
QPD X +	green	R	EL3602	8	+I1	AI	10A	5
QPD X –	white	R	EL3602	8	–I1	AI	10A	13
QPD Y +	green	R	EL3602	8	+I2	AI	10A	6
QPD Y –	white	R	EL3602	8	–I2	AI	10A	11