

Toolhead Connectors			
Connector	Cable ID	Len (m)	Segments

Toolhead	1	1.7																																																												
Component	<table><tr><th>HE0</th><th>LH0</th><th>FH0</th><th>FH1</th><th colspan="2">ME</th><th>TH0</th><th colspan="2">ABL</th></tr><tr><td>Pin Number</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr><tr><td>Pin Name</td><td>VIN</td><td>VIN</td><td>VIN</td><td>VIN</td><td>E1_A</td><td>E1_B</td><td>AS</td><td>VIN</td><td>SRV</td><td>AS</td></tr><tr><td>Pin Name</td><td>GND</td><td>GND</td><td>GND</td><td>GND</td><td>E2_A</td><td>E2_B</td><td>AS_GND</td><td>GND</td><td>AS_GND</td><td>Unused</td></tr><tr><td>Pin Number</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr></table>									HE0	LH0	FH0	FH1	ME		TH0	ABL		Pin Number	1	2	3	4	5	6	7	8	9	10	Pin Name	VIN	VIN	VIN	VIN	E1_A	E1_B	AS	VIN	SRV	AS	Pin Name	GND	GND	GND	GND	E2_A	E2_B	AS_GND	GND	AS_GND	Unused	Pin Number	11	12	13	14	15	16	17	18	19	20
HE0	LH0	FH0	FH1	ME		TH0	ABL																																																							
Pin Number	1	2	3	4	5	6	7	8	9	10																																																				
Pin Name	VIN	VIN	VIN	VIN	E1_A	E1_B	AS	VIN	SRV	AS																																																				
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Pin Number	11	12	13	14	15	16	17	18	19	20																																																				

SPI	SPI	1.7																
Component			<table><tr><th colspan="3">SPI</th></tr><tr><td>1</td><td>2</td><td>3</td></tr><tr><td>3.3V</td><td>SCLK</td><td>MOSI</td></tr><tr><td>GND</td><td>CS</td><td>MISO</td></tr><tr><td>4</td><td>5</td><td>6</td></tr></table>	SPI			1	2	3	3.3V	SCLK	MOSI	GND	CS	MISO	4	5	6
SPI																		
1	2	3																
3.3V	SCLK	MOSI																
GND	CS	MISO																
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Pin Number																		
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Other Connectors										
Connector	Cable ID	Len(m)	Segments							
Gantry Motion	2	1.35m	1.5m	1.5m						
			SX	MX						
			1	2	3					
			AS	E1_A	E1_B					
			AS_GND	E2_A	E2_B					
			4	5	6					
Other	3	0.5m	0.6m	1.5m	1.2m		0.9m	1.2m		
			TB	SY	SZ	MY	MZ	LC0		
			1	2	3	4	5	6	7	8
			AS	AS	AS	E1_A	E1_B	E1_A	E1_B	VIN
			AS_GND	AS_GND	AS_GND	E2_A	E2_B	E2_A	E2_B	GND
			9	10	11	12	13	14	15	16
Chamber	4	0.5m	0.9m	1.2m						
			TC	FC0	FC1	(Unused)				
			1	2	3	4				
			AS	VIN	VIN	-				
			AS_GND	GND	GND	-				
			5	6	7	8				

Pin Mapping				
Segment	Pin Name	In ID	In Pin	Out Pin
HE0	VIN	1	1	1
	GND	1	11	2
LH0	VIN	1	2	1
	GND	1	12	2
FH0	VIN	1	3	1
	GND	1	13	2
FH1	VIN	1	4	1
	GND	1	14	2
ME	E1_A	1	5	1
	E1_B	1	6	2
	E2_A	1	15	3
	E2_B	1	16	4
TH0	AS	1	7	1
	AS_GND	1	17	2
ABL	VIN	1	8	1
	GND	1	18	2
	SRV	1	9	3
	AS	1	10	4
	AS_GND	1	19	5
SPI	3.3V	SPI	1	1
	GND	SPI	4	4
	SCLK	SPI	2	2
	CS	SPI	5	5
	MOSI	SPI	3	3
	MISO	SPI	6	6

Endpoints				
Toolhead	HE0		ME	
	1		1	2
	VIN		E1_A	E1_B
	GND		E2_A	E2_B
	2		3	4
FH0			FH1	
1	2		1	2
VIN	GND		VIN	GND
ABL				
1	2	3	4	5
VLO	GND	SRV	AS	AS_GND
TH0			LH0	
1	2		1	2
AS	AS_GND		VIN	GND
SPI				
1	2	3		
3.3V	SCLK	MOSI		
GND	CS	MISO		
4	5	6		

Pin Mapping				
Segment	Pin Name	In ID	In Pin	Out Pin
SX	AS	2	1	1
	AS_GND	2	4	2
MX	E1_A	2	2	1
	E1_B	2	3	2
	E2_A	2	5	3
	E2_B	2	6	4
TB	AS	3	1	1
	AS_GND	3	9	2
SY	AS	3	2	1
	AS_GND	3	10	2
SZ	AS	3	3	1
	AS_GND	3	11	2
MY	E1_A	3	4	1
	E1_B	3	5	2
	E2_A	3	12	3
	E2_B	3	13	4
MZ	E1_A	3	6	1
	E1_B	3	7	2
	E2_A	3	14	3
	E2_B	3	15	4
LC0	VIN	3	8	1
	GND	3	16	2
TC	AS	4	1	1
	AS_GND	4	5	2
FC0	VIN	4	2	1
	GND	4	6	2
FC1	VIN	4	3	1
	GND	4	7	2
(Unused)	-	4	4	-
	-	4	8	-

Endpoints			
SX		MX	
1 AS	2 AS_GND	1 E1_A	2 E1_B
		E2_A	E2_B
		3	4
Gantry Motion			

SY		MY	
1 AS	2 AS_GND	1 E1_A	2 E1_B
		E2_A	E2_B
		3	4
SZ		MZ	
1 AS	2 AS_GND	1 E1_A	2 E1_B
		E2_A	E2_B
		3	4
Rear Motion			

Other Connectors	
TB	
1 AS	2 AS_GND
LC0	
1 VIN	2 GND

Chamber	
TC	
1 AS	2 AS_GND
FC0	
1 VIN	2 GND
FC1	
1	2