

Basic CNC Controller Stages - by Savvas Papasavva (www.miscpro.com)

Note that wire size and lengths are written on illustrations.

Stage	Item No.	Parts	QTY	
<i>FIT FANS TO ENCLOSURE</i>				
1	47	RS PRO ABS, Wall Box, IP65, 195mm x 400 mm x 300 mm	1	Cut hole up to 86mm wide
1	56	RS PRO, 24 V dc, DC Axial Fan, 92.5 x 92.5 x 25mm, 66.3m ³ /h, 1.9W	2	
1	46	PUR Fan Filter for 92mm Fan	2	
1	29	Fan Mounting Screws, 16mm	8	
<i>CABLE GLANDS</i>				
2	10	Cable Gland Black, M12 IP68	1	
2	11	Cable Gland Black, M16 IP68	4	
<i>FRONT PANEL COMPONENTS</i>				
3	52	RS PRO Green, Red - Spring Return, 22mm Cutout, Double	1	
3	54	RS PRO Light Block - White, 24 V ac/dc	1	
3	35	Idec YW Emergency Stop Push Button Panel Mount, 22mm Cutout, 2NC, IP65	1	Optional extra
3	34	Idec CW Series Contact Block - 1NC	1	
3	51	RS PRO Flush Yellow - Spring Return, 22mm Cutout, Round	1	
3	48	RS PRO Contact Block - NC	2	
3	50	RS PRO Flush Green - Spring Return, 22mm Cutout, Round	1	
3	49	RS PRO Contact Block - SPNO	2	
3	55	RS PRO Red Pilot Light Head, 22.5mm Cutout	1	
3	53	RS PRO Light Block - Red, 240 V ac	1	
3	1	ABL Sursum 1 Gang Plug Socket, 13A, Type G - British, Outdoor Use	1	
3	39	M4x15mm Socket Screws, Washers and Locking Nuts	4	
<i>USB PANEL MOUNT</i>				
4	65	USB Male to Female Panel Mount Extension Cable, 90 Degree Angled Micro 5 Pin	1	
4	64	USB Adapter Mount, 3D Printed	1	
4	37	M3x12mm Socket Screws	2	

POWER CABLE TO ENCLOSURE

5	58	Schurter C22 Panel Mount IEC Connector Male, 16A, 250 V	1	
5	38	M3x15mm Countersunk Screws, Washers and Locking Nuts	2	

Not shown on illustrations

PSU, DUET & DISTRIBUTION BLOCK MOUNTS

6	9	Brass Hex Standoff, Male/Female, 10mm, M3 x M3	8	
6	15	DIN-rail 35x7.5mmx130mm	1	
6	23	Distribution Block Mount, 3D Printed	1	
6	26	Duet 2 Wifi Mount, 3D Printed	1	
6	40	M4x8mm Socket Screw	4	
6	42	Meanwell LRS350-24 LED DRIVER, 24V DC	1	
6	43	MHS012 Mounting Brackets 19x16x15mm MEAN WELL	4	
6	59	Self Tapping Screws	6	

WIRE TRUNKING TO BACK PLATE

7	59	Self Tapping Screws	2	
7	61	Slotted Panel Trunking - Open Slot, W25 mm x D37.5mm, L1m, PVC	1	Cut to 235mm

FIT LOWER DIN RAIL & COMPONENTS

8	12	Circuit Breaker, 10A 1 Pole Type C Miniature	1	
8	14	DIN rail adapter - PTFIX-NS35 - 3274054	2	Up to 235mm long
8	16	DIN-rail 35x7.5x230mm	1	
8	22	Distribution block - PTFIX 6X2,5 GN - 3273272	1	
8	20	Distribution block - PTFIX 6X2,5 BN - 3273274	2	
8	21	Distribution block - PTFIX 6X2,5 BU - 3273266	2	
8	28	Eaton Bussmann Series, 10A Ceramic Cartridge Fuse, 10 x 38mm	1	
8	36	Lovato Rail Mount Fuse Holder	1	
8	41	Mean Well MDR Switch Mode DIN Rail Power Supply 85 → 264V ac Input, 24V dc Output, 420mA 10W	1	
8	59	Self Tapping Screws	2	
8	60	Siemens SIRIUS Innovation 3RT2 3 Pole Contactor - 9 A, 24 V dc Coil, 3NO, 4 kW	1	Optional
8	63	Surge Suppressor Unit, 24 V dc, Clip On Mount	1	
8	66	Wago, 24V dc SPDT Relay Socket, DIN Rail 788	1	

WIRE AC POWER

9	31	Forked Crimp, Red, 3.7mm, Insulated	16
9	7	Bootlace Ferrules, 1.5mm	13
9	6	Bootlace Ferrules 1.0mm	8

WIRE LATCHING ON/OFF & E-STOP WIRING

10	8	Bootlace Ferrules, 2x1.0mm	2
10	30	Forked Crimp, Blue, 3.7mm, Insulated	2
10	31	Forked Crimp, Red, 3.7mm, Insulated	10

FIT DUET 2 WIFI +

11	25	Duet 2 WIFI Controller	1
11	9	Brass Hex Standoff, Male/Female, 10mm, M3 x M3	4
11	33	Heatsink, 26.5K/W, 14 x 14 x 10mm, Adhesive Foil	5
11	18	Distribution block - PTFIX 2X1,5 WH - 1045936	10
11	17	Distribution block - PTFIX 2X1,5 BK - 1045937	10
11	13	DIN rail adapter - PTFIX 1,5-NS35AD - 1049498	4
11	19	Distribution block - PTFIX 6/12X2,5 GY - 3273352	1
11	14	DIN rail adapter - PTFIX-NS35 - 3274054	1

WIRE DUET TO BUTTONS / RELAY

12	44	Molex KK Crimp Terminals to KK Crimp Terminals, 300mm	20
12	3	Bootlace Ferrules 0.34mm	18
12	4	Bootlace Ferrules 0.5mm	8
12	6	Bootlace Ferrules 1.0mm	2
12	31	Forked Crimp, Red, 3.7mm, Insulated	2

WIRE POWER CABLE SOCKET

13	57	Schurter C21 Right Angle Cable Mount IEC Connector Socket, 16A, 250 V - 866-2631	1	Not shown on illustrations
13	24	Doncaster Cables SY Cable 1.5mm x 3 Core x 10m Coil - 76158	1	

WIRE STEPPER MOTORS

14	2	Alpha Wire 4 Core Screened Industrial Cable, 0.81 mm ² (CE, CSA, UL) Grey 30m Reel - 168-1234	1
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14	45	Nema 23 Stepper Motor, 1.8deg 1.9Nm (269oz.in) 2.8A 3.2V 57x57x76mm 4 Wires	4
14	62	Spring Lever Connectors, In Line, 2 Pole, 32A, 49211	8
14	5	Bootlace Ferrules 0.75mm	20
14	3	Bootlace Ferrules 0.34mm	16
14	32	Heat Shrink 6.5m x 9.5mm, 40mm	8
14	27	Earth Sleeving, PVC, Green / Yellow, 3mm x various lengths	1