PLCs wiring examples.

CM0-TB32M terminal block layout

Below is the layout of the terminal block connectors. The PLC connections are in red and the X connections are inputs and Y connections are outputs.

A1 (X00)	A2 (X02)	A3 (X04)	A4 (X06)	A5 (COM)	A6 (X08)	A7 (X0A	A8 (X0C)	A9 (X0E)	A10 (COM)	A11 (Y00)	A12 (Y02)	A13 (Y04)	A14 (Y06)	A15 (DC	A16 (Y08)	A17 (Y0A	A18 (Y0C	A19 (Y0E)	A20 (GND
B1 (X01)	B2 (X03)	B3 (X05)	B4 (X07)	B5 (COM)	B6 (X09)	B7 (X0B)	B8 (X0D)	B9 (X0F)	B10 (COM)	B11 (Y01)	B12 (Y03)	B13 (Y05)	B14 (Y07)	B15 (DC	B16 (Y09)	B17 (Y0B	B18 (Y0D	B19 (Y0F)	B20 (GND

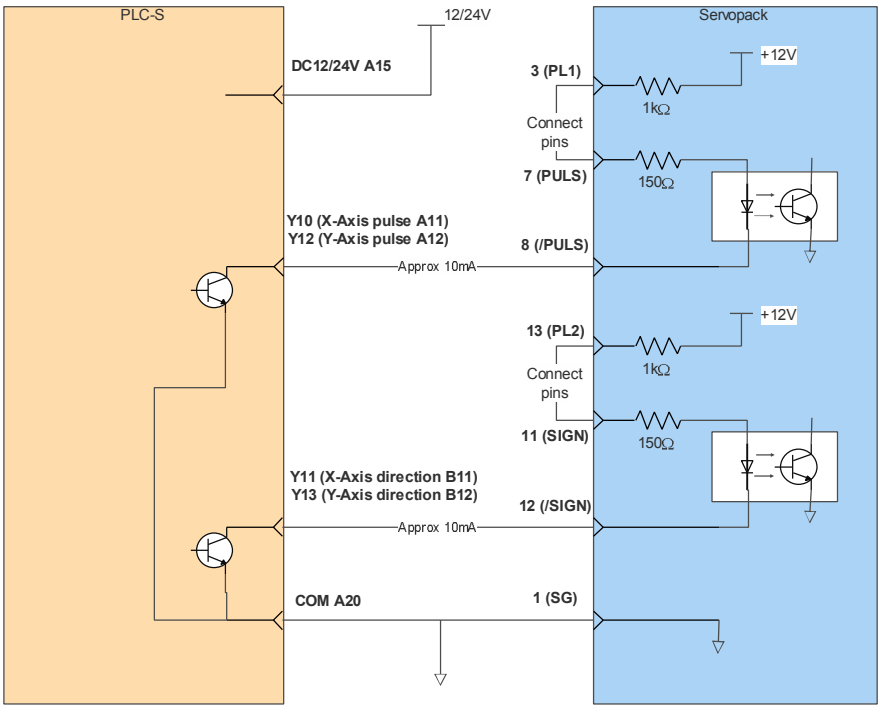
Direct PLC connection

For a super compact installation the PLC can be wired directly from the 20way IDC connectors on the front panel. This can be made up from components relatively easily of the factory CM0-SCB15M controller cable can be used with the terminal connector block cut off. Wiring diagram for this cable and colours are as below.

Pin #	Base Color	Dot type	Controller Pin
1	Pink	Red	Y18
2	Pink	Black	Y19
3	Pink	4 Red	Y1A
4	Pink	4 Black	Y1B
5	Pink	3 Red	Y1C
6	Pink	3 Black	Y1D
7	Pink	2 Red	Y1E
8	Pink	2 Black	Y1F
9	Pink	1 Red	GND COM
10	Pink	1 Black	GND COM
11	White	Red	Y10
12	White	Black	Y11
13	White	4 Red	Y12
14	White	4 Black	Y13
15	White	3 Red	Y14
16	White	3 Black	Y15
17	White	2 Red	Y16
18	White	2 Black	Y17
19	White	1 Red	12/24V
20	White	1 Black	12/24V
21	Yellow	Red	X08
22	Yellow	Black	X09
23	Yellow	4 Red	X0A
24	Yellow	4 Black	X0B
25	Yellow	3 Red	X0C
26	Yellow	3 Black	X0D
27	Yellow	2 Red	X0E
28	Yellow	2 Black	X0F
29	Yellow	1 Red	COM
30	Yellow	1 Black	COM
31	Orange	Red	X00
32	Orange	Black	X01
33	Orange	4 Red	X02
34	Orange	4 Black	X03
35	Orange	3 Red	X04
36	Orange	3 Black	X05
37	Orange	2 Red	X06
38	Orange	2 Black	X07
39	Orange	1 Red	COM
40	Orange	1 Black	COM

PLCs to Yaskawa analogue/pulse servo

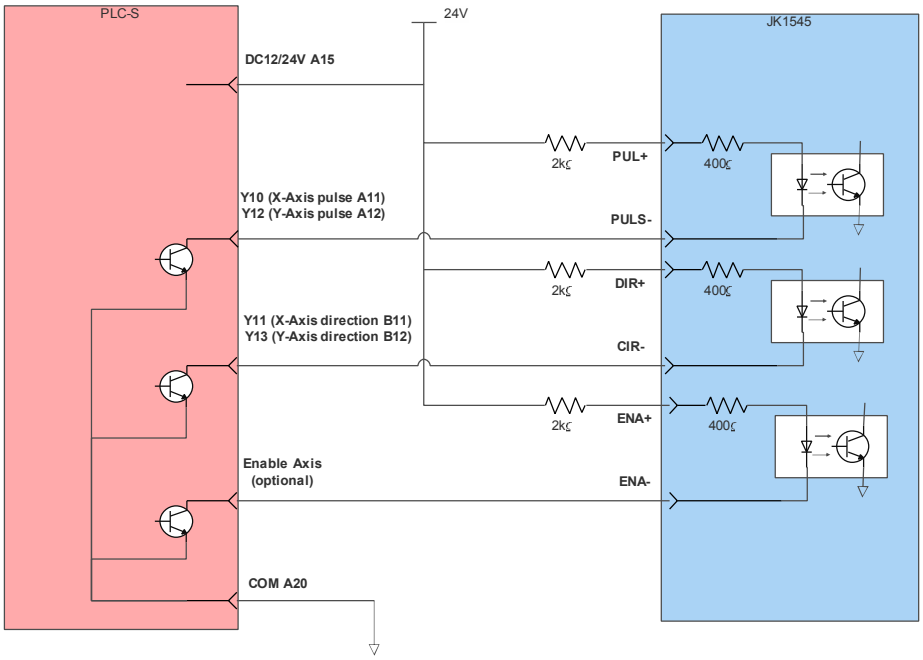
It is recommended to use the built in servo power supply for the pulse and direction signal. This ensures the correct current in the pulse and direction circuit. Excessive current can damaged the servo and or the PLC.



The above circuit is does not including a servo on signal. Use the servo electronic gearing function to turn the pulses into real world units.

PLCs to stepper

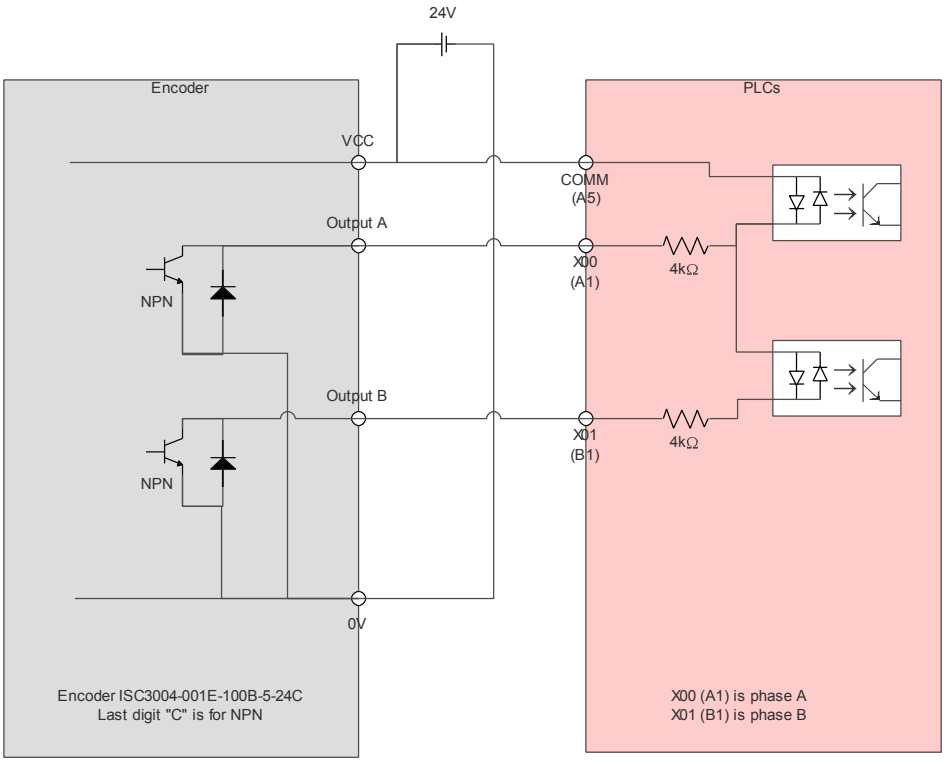
A stepper is generally similar to the servo example and care must also be taken with the current draw. 2kΩ resistors are common and work well with the JK1545 stepper driver.



The enable circuit is similar to the servo on functionality but reverse logic. The stepper will run without this connected but the motor windings will be energised as long as the stepper driver is powered. The enable circuit can be used to de energise the stepper motor when not moving or holding to reduce motor heating and conserve energy.

PLCs to NPN encoder

Below is a typical wiring diagram for an NPN encoder connected to the PLCs high speed counter.



A PNP encoder will need the power supply polarity reversed. A push, pull (or totem pole) encoder will also work with either polarity.