



# EZ-Glider Position Controller Torque Arm *Operating Instructions*

*Version 2  
April 12, 2010*



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## Features

Secure the assembly process by ensuring that every screw is in the correct location at the right torque.

Programmable sequence operation.

Detects - cross threading, omissions, unfinished rundowns and cycle complete.

Compatible with air and electric screwdrivers.

Password protection and wall mountable.

Can interface with most intelligent driver systems that store multiple torque programs and has external digital I/O control. Prevents cross threading and side load. Keeps tool perpendicular.

Reduces RMI (Repetitive Motion Injury) and CTS (Carpal Tunnel Syndrome) while boosting production.

With the ability to bend like an elbow, the torque arm provides agility to position the tool in a variety of positions for different applications. Arm can be set at an inclination of 0 , 22.5 & 45 .

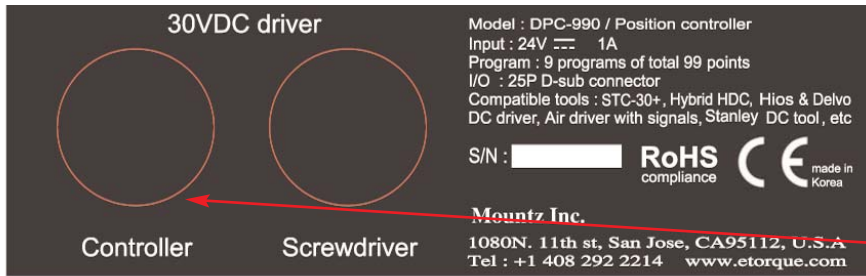
Provides smooth flexible range as the arm absorbs torque reactions from electric & air screwdrivers, angle nut runners, pulse tools, and pistol grip tools.

Quick and easy to setup. Self teaching and automation program mode.

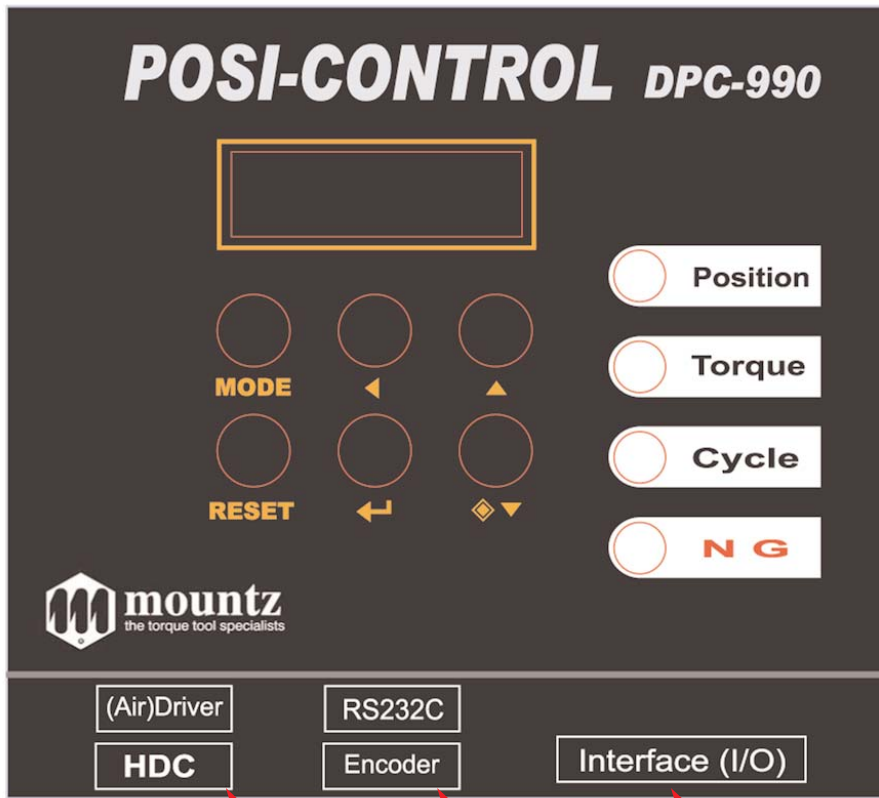
Programmable: Positioning Tolerance, Min. and Max. time for Poka Yoke control (automatic or manual) and 99 memory points

# Posi Control Display & External Connections

The Position Control Box allows the arm to be used with a variety assembly tools: Mountz E-DRIV electric screwdrivers, HIOS & Delvo electric screwdrivers, Mountz Hybrid Torque Control System, Air Screwdrivers, and DC Control Tools.



Plug In HIOS transformer and HIOS electric screwdriver



Power Input DC24v 1A

Power On/Off

STC30 Plus - Plug-in location

Hybrid of DC Tools (bottom location)

Encoder (bottom location)

Interface 25P i/O (bottom location)

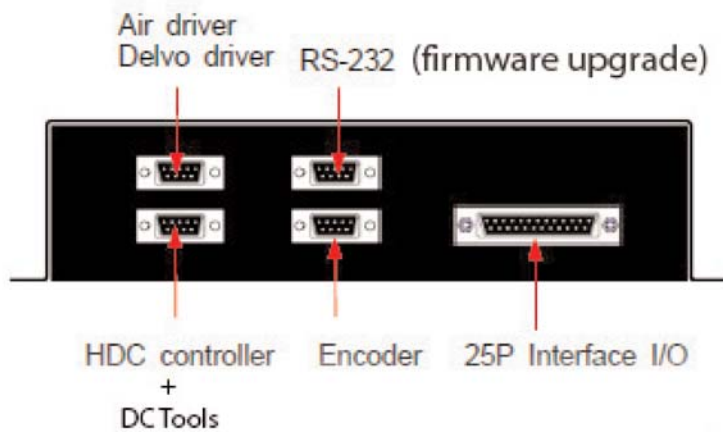
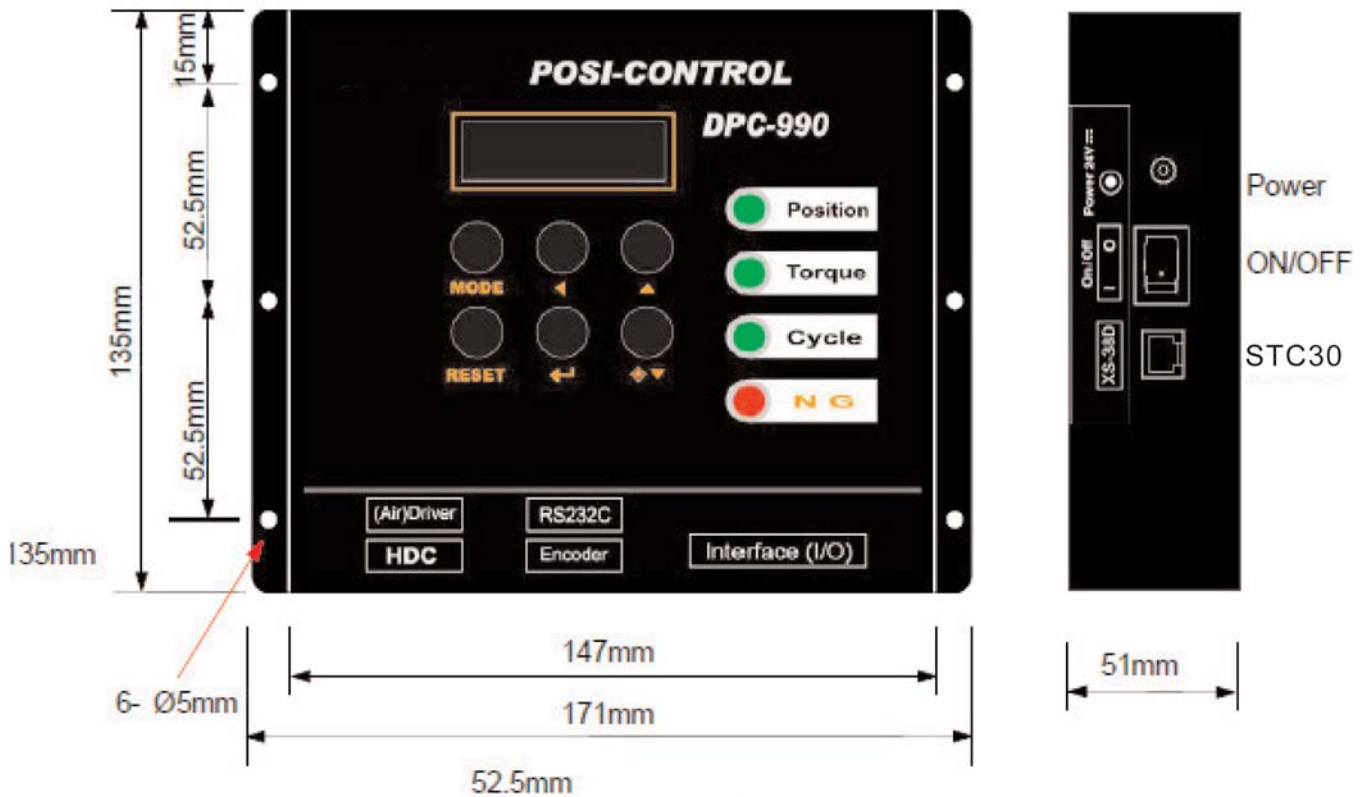
Air Screwdriver Plug-in location\* requires porting kit (top location)

RS-232C - firmware upgrade (top location)

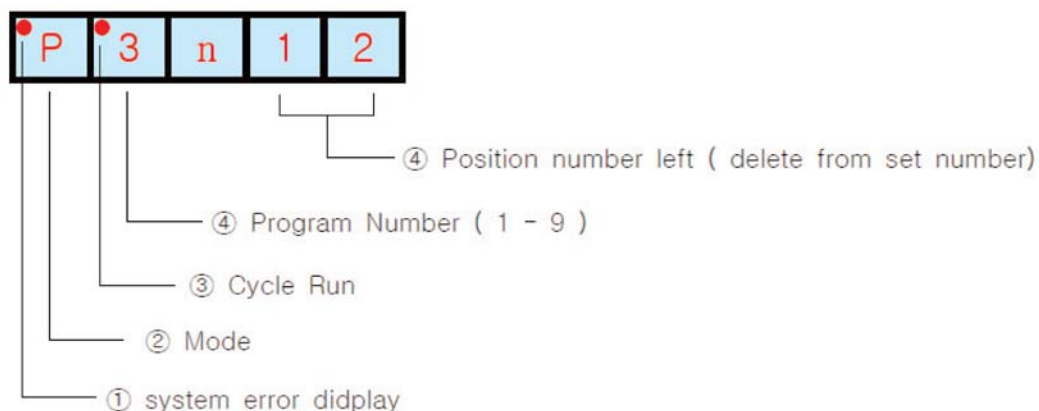
## Cable Chart For Connecting Tools to Posi Control DPC-990

Cable/Tool	Item #
STC30 Plus	260159
DC Tools	260160
Hybrid	260161
Air Tool Porting Kit	260162
DELVO DLC 1213 AD /CA /IF controller	260163

# Dimensions



## Operation



There are 5 modes. The initial mode is Operating mode.

Mode is changed from Operating to (Log In) to Program to Parameter to Edit by mode button.

**Operating mode:** Working mode

**Log-in mode:** To enter into Program, Parameter and Edit mode, it requires password.

The factory setting initial password is "0".

The password log-in is effective until the power off.

**Program mode:** Two possibilities :

1) Auto program : Just fasten screws on each position, Min/Max and position data will be saved automatically.

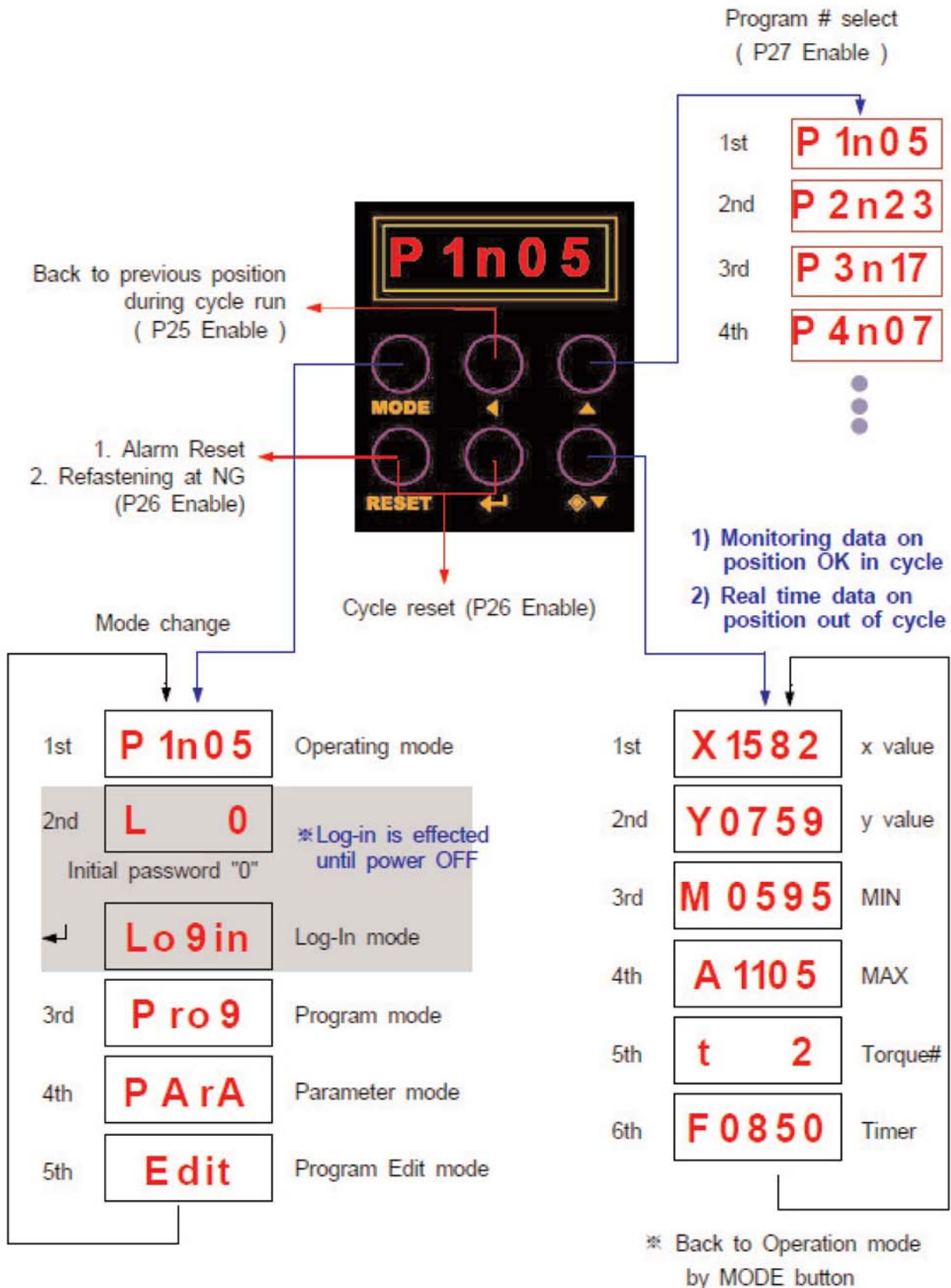
2) Manual program : Move to each position and select Torque preset # and press Enter button to save data.

**Parameter mode:** All parameters can be changed on Parameter mode except X/Y, Min/Max value and Torque #

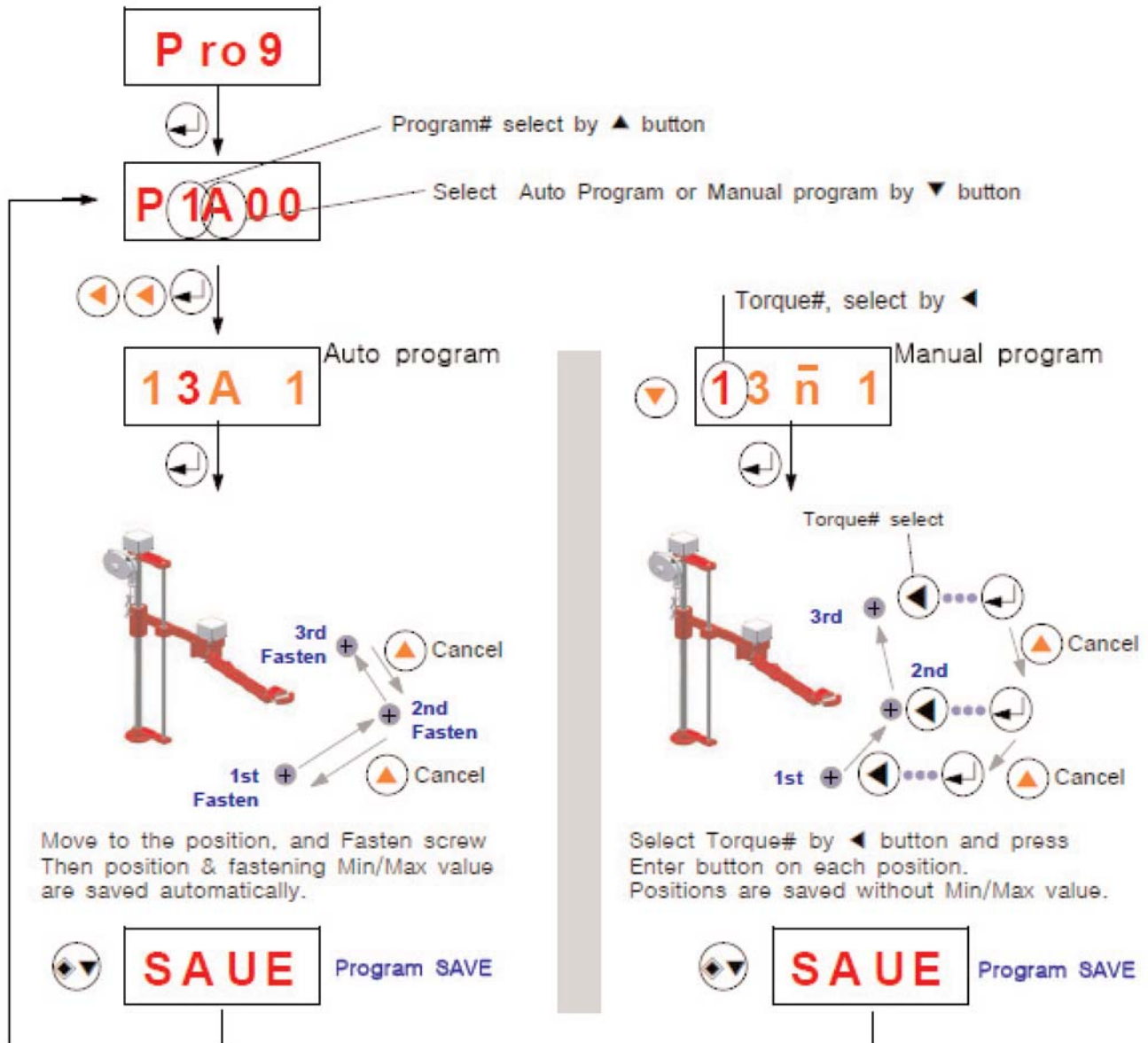
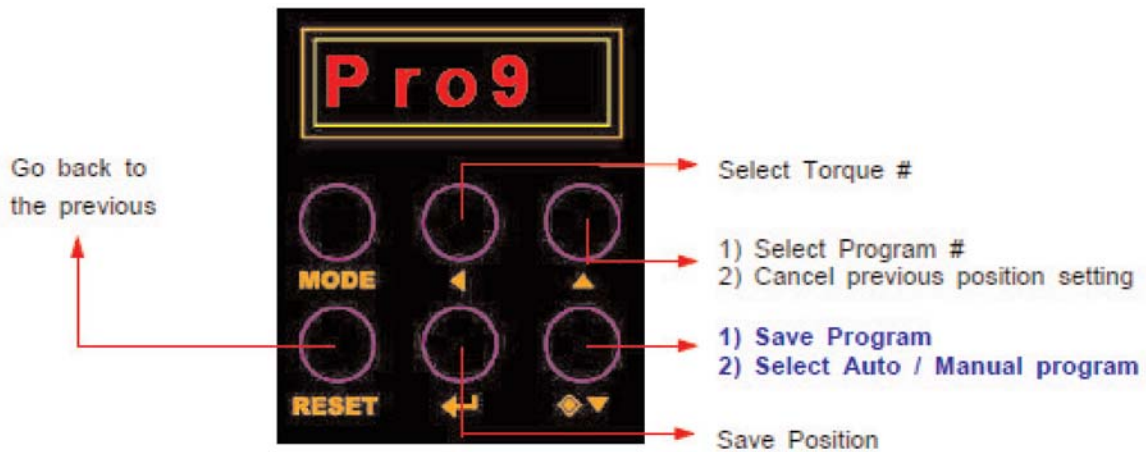
**Edit mode:** Min/Max value and Torque # can be changed on Edit mode.

Key button & FND display on each mode

# Operating Mode



# Program Mode



### 1) Auto Program

It is useful to program position with MIN / MAX fastening time setting for OK, NG. According to the percentage of fastening time on **P19 & P20 (see page 11)**, the posi controller calculate MIN & Max value from fastening time immediately after torque up.

Each Min/Max value can be edited on EDIT mode.

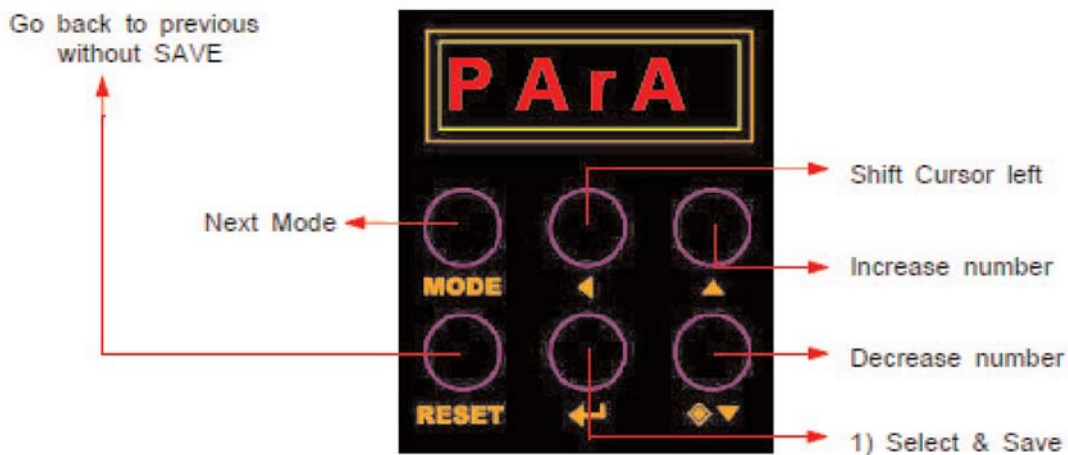
The torque # selecting is also allowed by manually with < button.

### 2) Manual Program

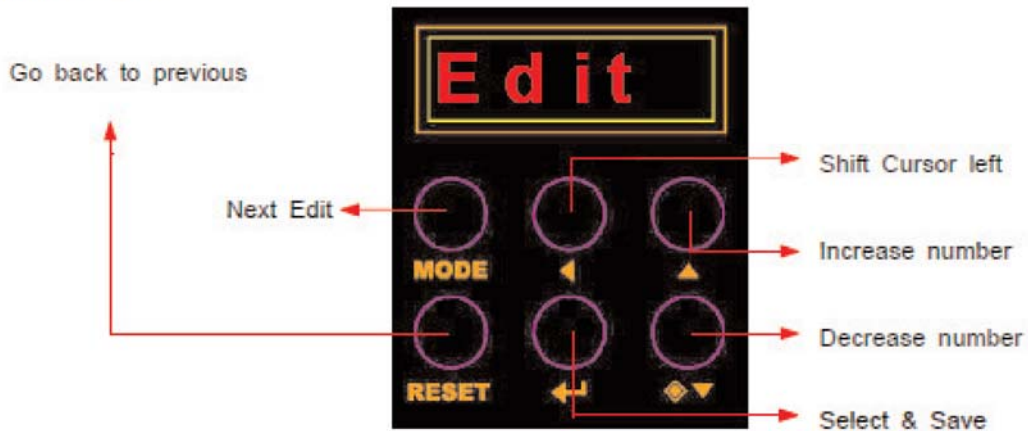
Move to the position, select torque # with < button on each position and press Enter to save it.

## Parameter Mode

Parameters except torque #, MIN/MAX value can be changed.



Torque #, Min/Max value on each position of each program can be changed on EDIT mode.



Select program# for edit

P 1n05

MODE x 3

E d i t



E 1n02

Move to the position which to be edited and press Enter button for choosing. Enter button is allowed on the Position OK



Target position for Edit  
2nd

MODE  
n̄ 0595

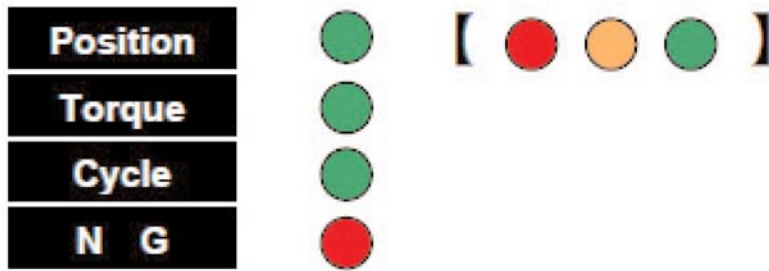
Edit MIN value (ms) by ▲▼, and save by Enter button

MODE  
A 1105

Edit MAX value (ms) by ▲▼, and save by Enter button

MODE  
t 2

Edit Torque # by ▲▼, and save by Enter button



1. Position LED

Red: Out of the target position

Orange: On the target area with the tolerance on P11

Green: On the target position with the tolerance on P12

2. Torque LED

Off: Default

Green: When it receives external torque UP signal, ON (0.2 sec) → Off

3. Cycle Complete

Off: Default

Green: After complete of cycle, green LED turns ON for 0.2 seconds and OFF

4. NG (Red)

- Fastening NG by min or max time setting with Mountz E-DRIV, HIOS or Delvo electric screwdrivers

- All errors from external signal from Hybrid or DC tool

P #	Name	Specification	Default
P01-P09	Program #	Save sequential target positions on P1-9	0
P11	Position area tolerance	Tolerance of area for Orange LED Input : 0.1 – 10.0 (unit %)	5
P12	Position OK tolerance	Tolerance of x,y positions to the target Input : 0.1 – 10.0 (unit %)	2
P13	Position Buzzer	Buzzer sound on the target position 0 : Disable 1 : Enable	1
P14	Cycle complete Buzzer	Buzzer sound on the target position 0 : Disable 1 : Enable	1
P15	Program type	Program type is selected 0 : Non sequential positions 1 : Sequential positions (Default)	1
P16	Tool select	Select the connected tool 1 : Hybrid HDC controller 2 : Stanley & Other DC Tools 3 : STC30 (4.2 or prior) signal port 4 : Hios 5 : Air driver with Start trigger signal + motor RUN signal 6 : Delvo & Other low voltage Electric Tools 7: STC30 v4.3 or STC40	1
P17	T1 (Air driver) Trigger start	T1 Minimum time set 0 – 9999 ms	0
P18	T1 (Air driver) Shut off	T2 Minimum time set 0 – 9999 ms	30
P19	MIN fastening time percentage	Percentage (%) from fastening time for Auto programming 0 – 100 (%) "0" : No use	50
P20	MAX fastening time	Percentage (%) from fastening time for Auto programming 100 -200 (%) "0" : No use	130

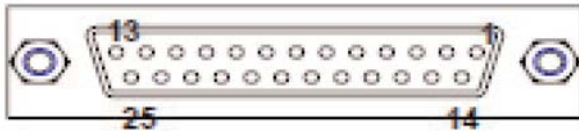
P21	Cycle reset by I/O	Cycle reset by I/O Disable : 0 Enable : 1	1
P22	Number of refastening	Number of refastening on a position 1 – 9	1
P23	Refastening Enable	Refastening enable Disable : 0 Enable : 1	1
P24	Skip a position	Skip one position declared NG to the next one without refastening Disable : 0 Enable : 1	0
P25	Back to previous	Back to previous position by < button Disable : 0 Enable : 1 Note : P23 must be 0 (disable)	1
P26	Reset button on front panel	Reset button front panel for 1) Reset 2) Cycle reset (Reset + Enter) Disable : 0 Enable : 1	1
P27	Program select on front panel	Program select by < button Disable : 0 Enable : 1	1
P28	NG signal output time duration	Time duration setting of NG output signal. 0.1 - 2.0 seconds	1
P51	Password	Password for Log in can be Changed 0 - 9999	0
P52	Parameter Intialize	Every parameter change to the factory intial setting.  Key in “77” and press Enter for intializing .	0
P53	Software version	Software version display can be changed	

## Error Code Display

Error	Error Description	Solution
101	Fastening time is lower than Min. Value	Pattern error / Reset
102	Fastening time is over than Max. Value	Pattern error / Reset
103	Error signal from external tool	Auto Reset without signal
200	Parameter Read Error	System error / Reset
201	Check sum error	Com error / Reset

## Interface

The configuration of the 25P I/O port is for remote control



### Input to Controller

#### Pin # Configuration

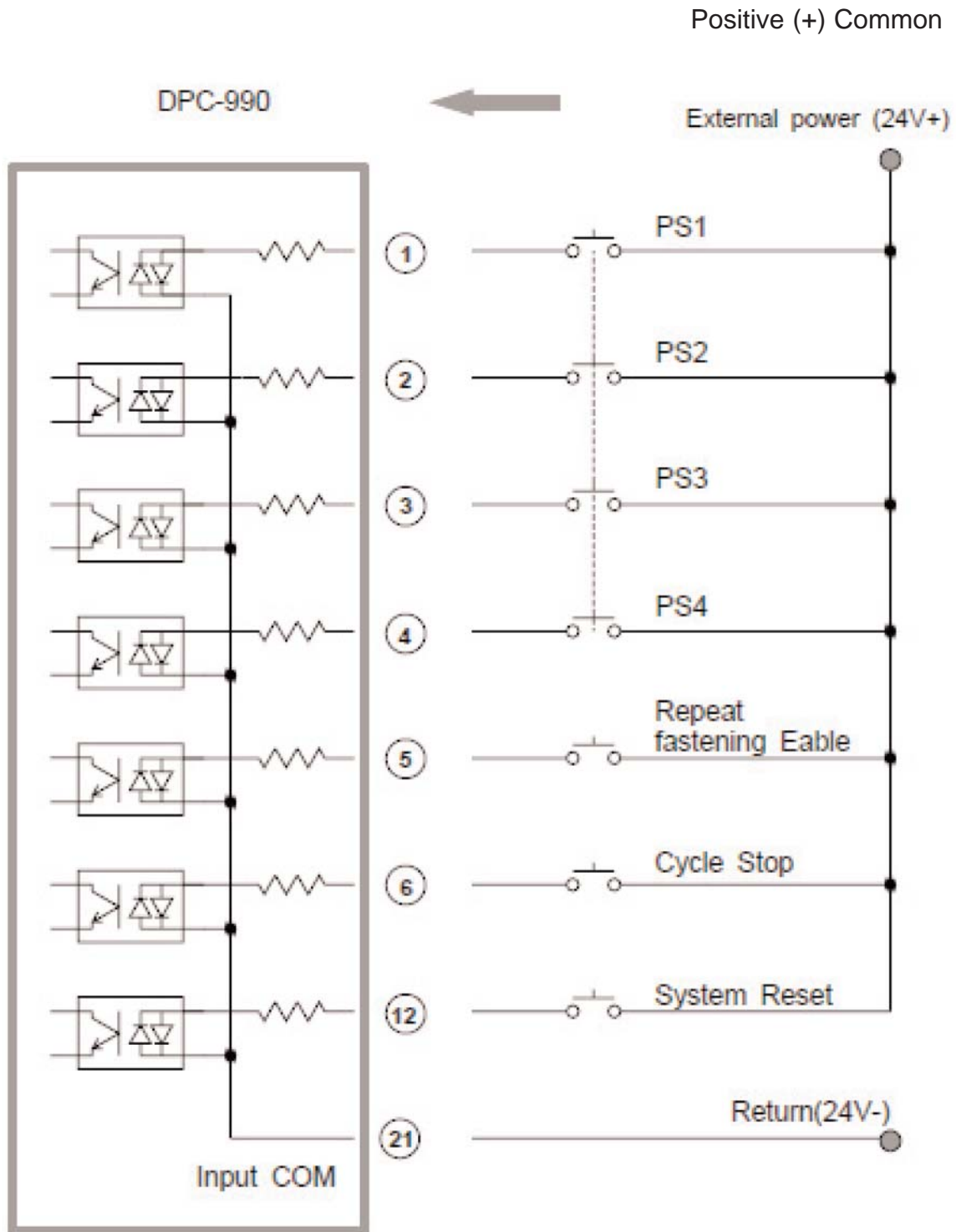
1	PS1 (Program Selecting)
2	PS2 (Program Selecting)
3	PS3 (Program Selecting)
4	PS4 (Program Selecting)
5	Repeat Fastening Enable
6	Cycle Stop & Reset
12	Reset

### Output from Controller (24 VDC, 50mA max)

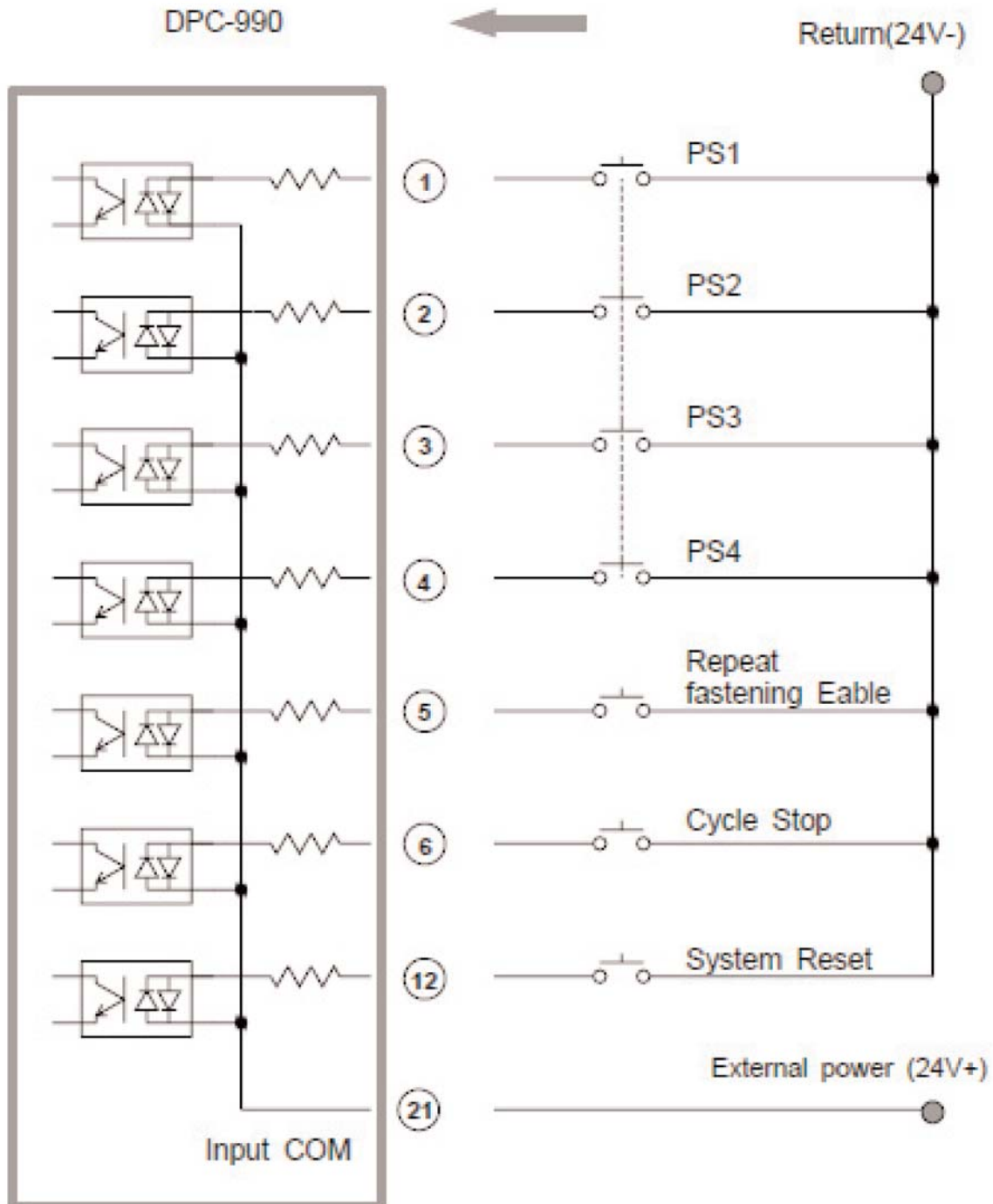
#### Pin # Configuration

7	Position Ok
8	Motor Run
9	Torque Up
10	Alarm (Error)
11	Cycle Complete
21	Input COM
22	Input COM
23	Output COM
24	Output COM

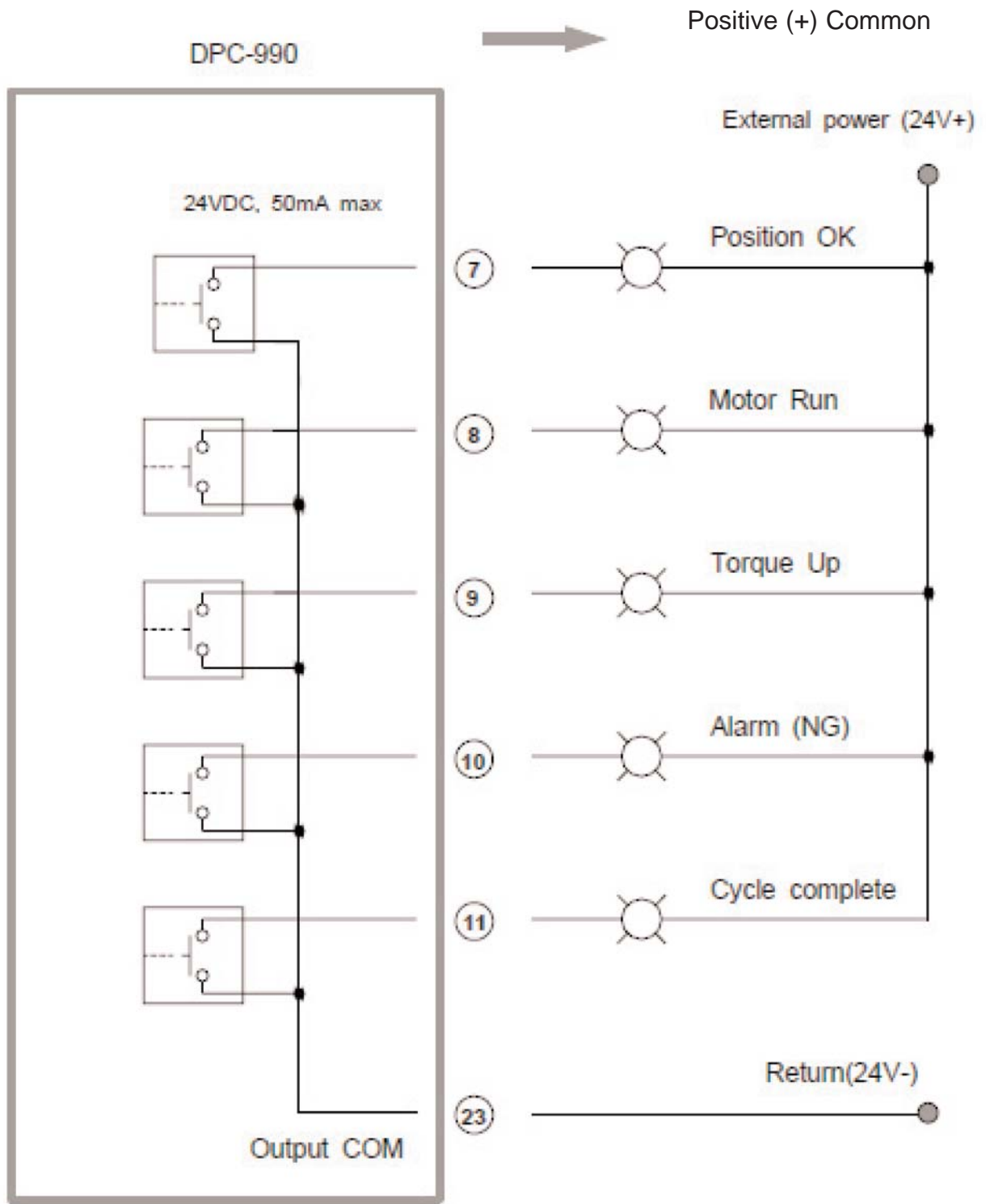
## 25P I/O Interface (INPUT)

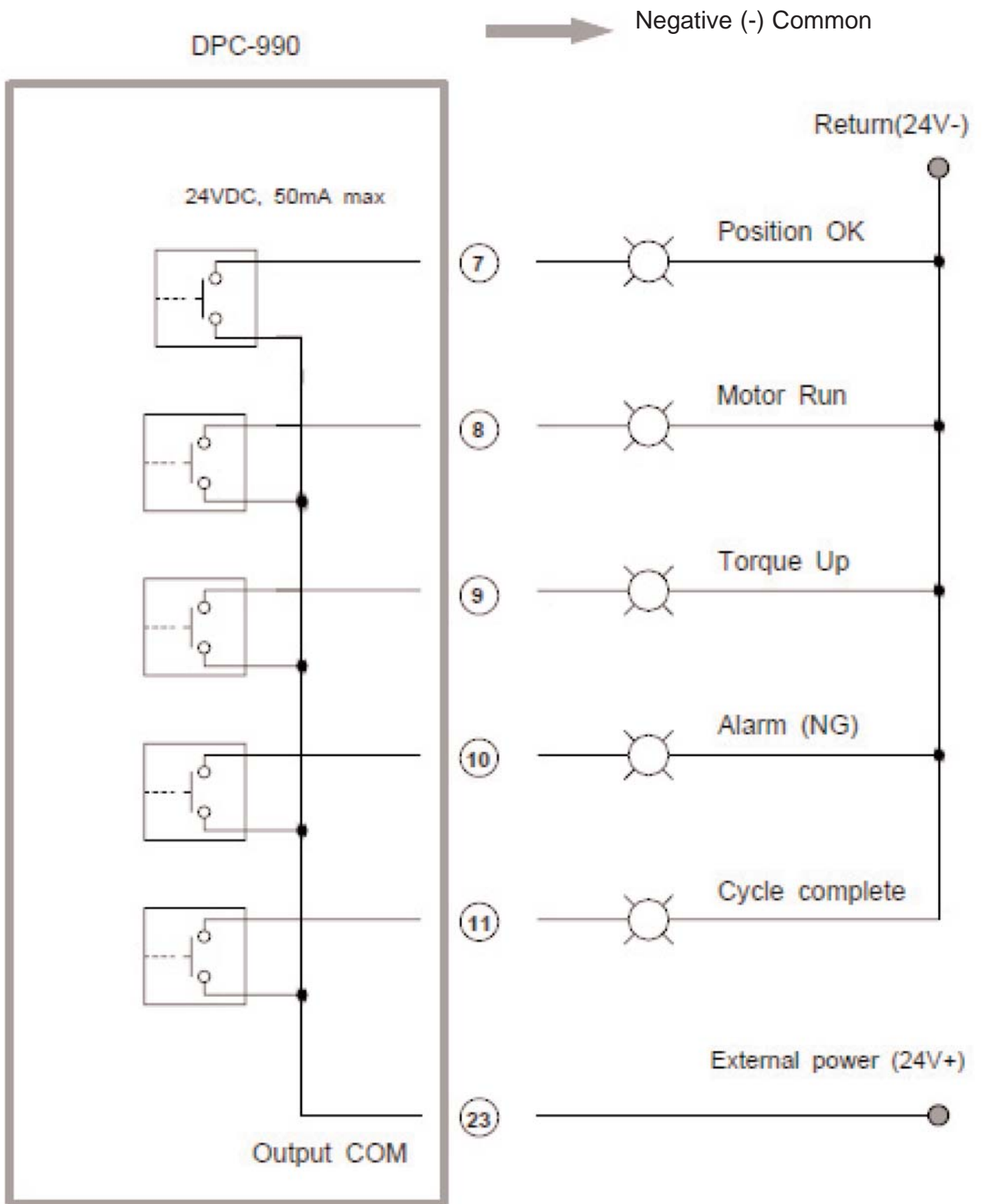


Negative (-) Common

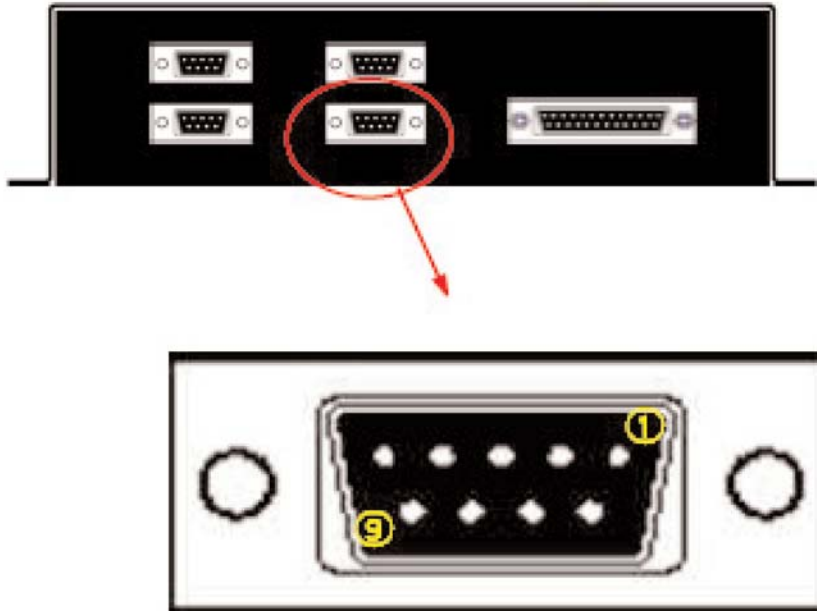


# 25P I/O Interface (OUTPUT)





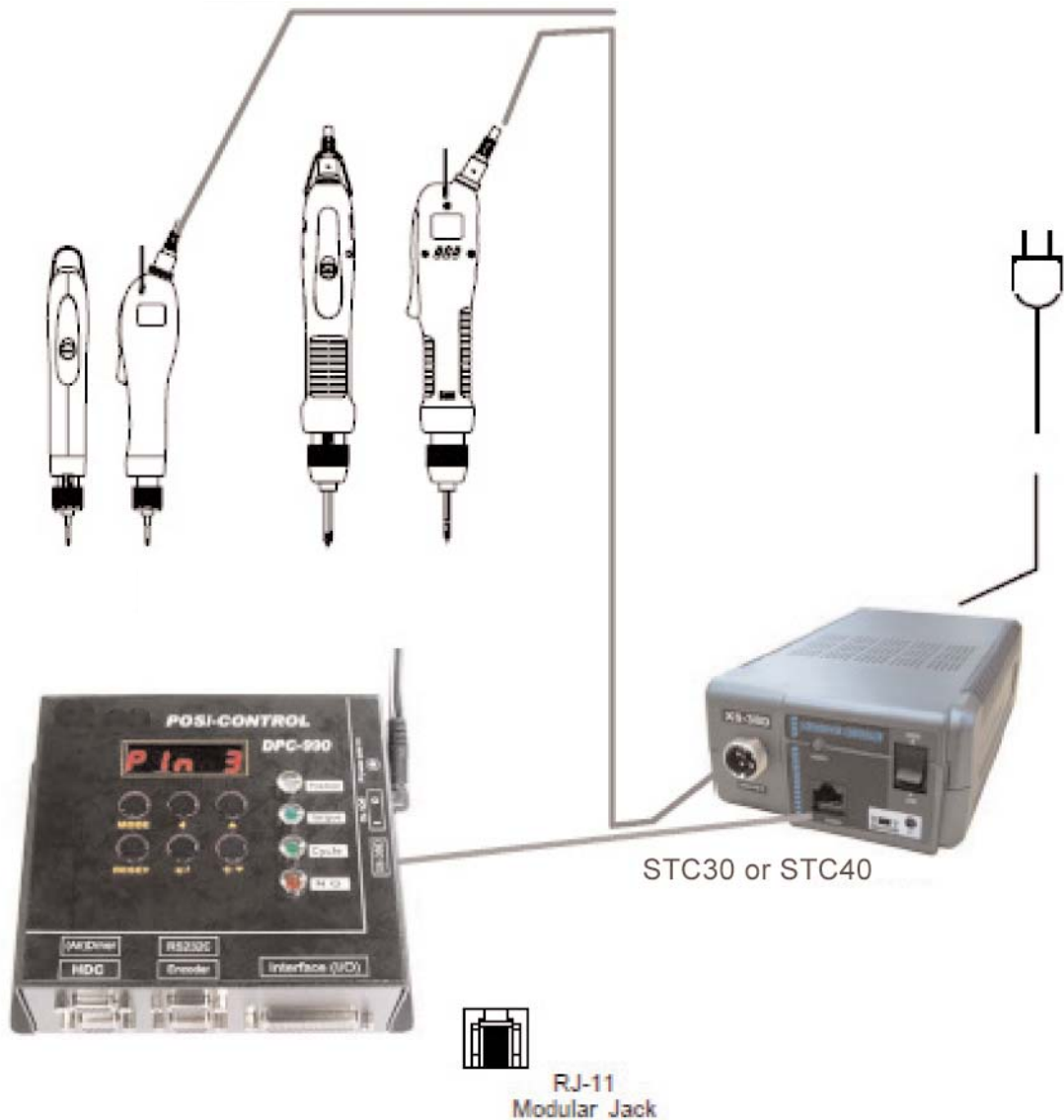
## Encoder Connection



Pin #	Name	I/O	Wire	Specification
7	DC24V+	IN	Brown	Sensor (X Axis)
2	Encoder Out X	In	Black	Sensor (X Axis)
4	DC24V-	In	Blue	Sensor (X Axis)
8	DC24V+	IN	Brown	Sensor (Y Axis)
3	Encoder Out Y	In	Black	Sensor (Y Axis)
5	DC24V-	In	Blue	Sensor (Y Axis)
1	Not Used			
6	Not Used			
9	Not Used			

**Screwdriver connection  
with STC30 and STC40 Transformer**

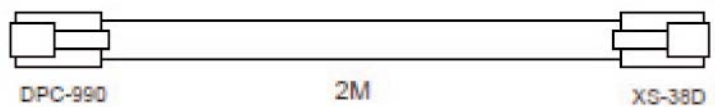
For STC30 Plus 4.2 or prior models - **P16: select no. 3**  
 For STC40 Plus 4.3 or STC40 models- **P16: select no. 7**



**POSI Controller DPC-990**

- Cable Pin connection
- 1 - 6
  - 2 - 5
  - 3 - 4
  - 4 - 3
  - 5 - 2
  - 6 - 1

■ Connection Cable (14-801120)

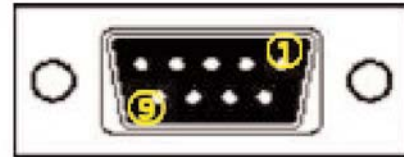
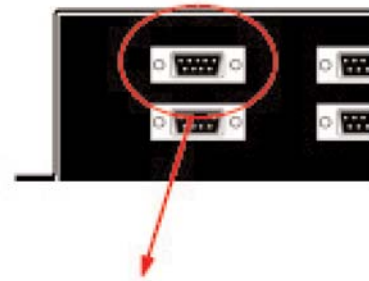


**\* Same connection cable to the Scout**

**Screwdriver connection with Delvo screwdriver**

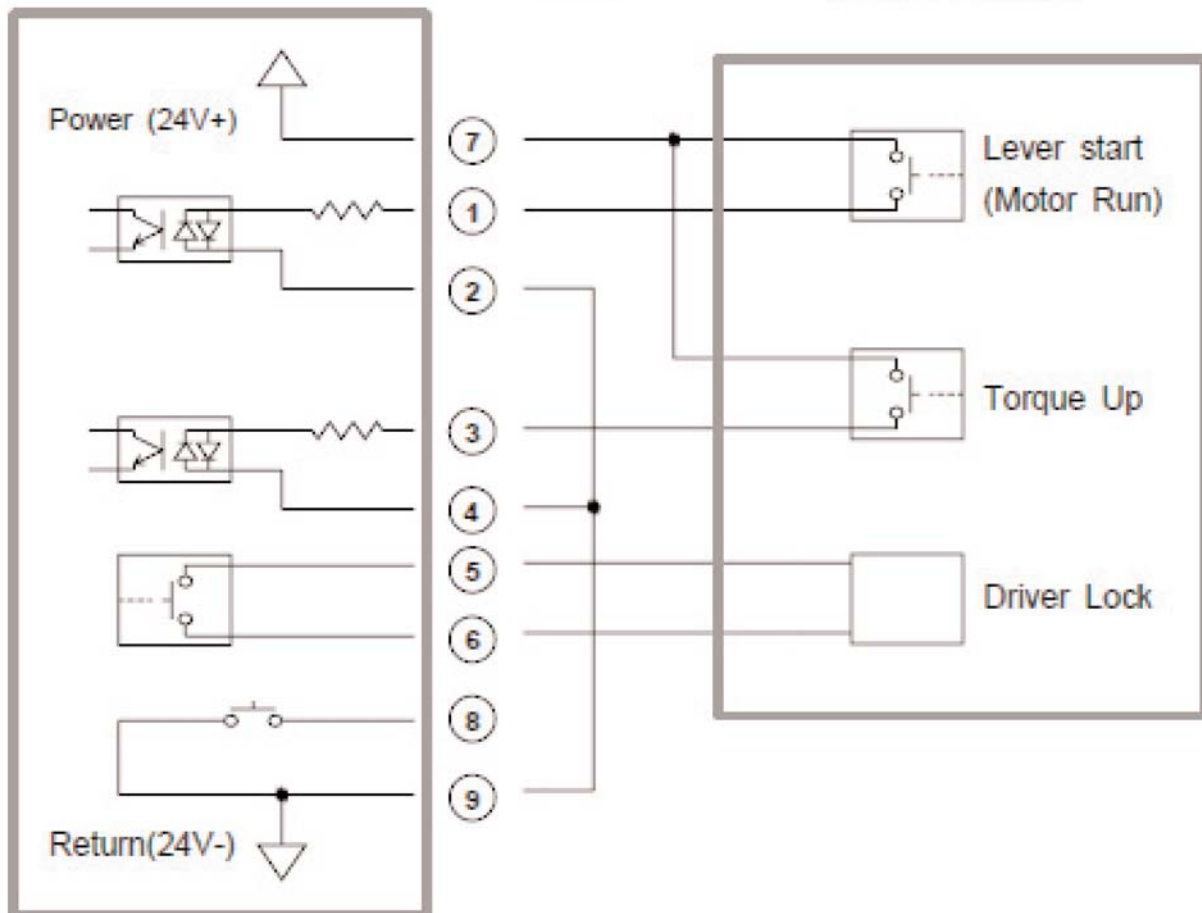
P16: select no 6

Pin	Name	I/O
1	Lever Start	IN
2	Lever Start (Return)	IN
3	Torque Up	IN
4	Torque Up (Return)	IN
5	Driver Lock	Out
6	Driver Lock (Return)	Out
7	DC24+	
8	Solenoid	Out
9	DC24V Return	



DPC-990 AIR Driver port

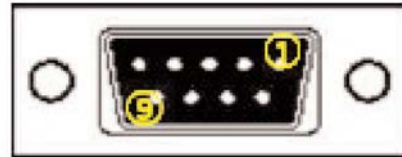
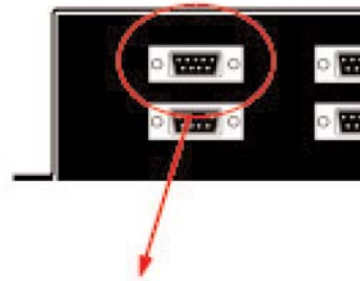
Delvo Controller



Air driver with two signals

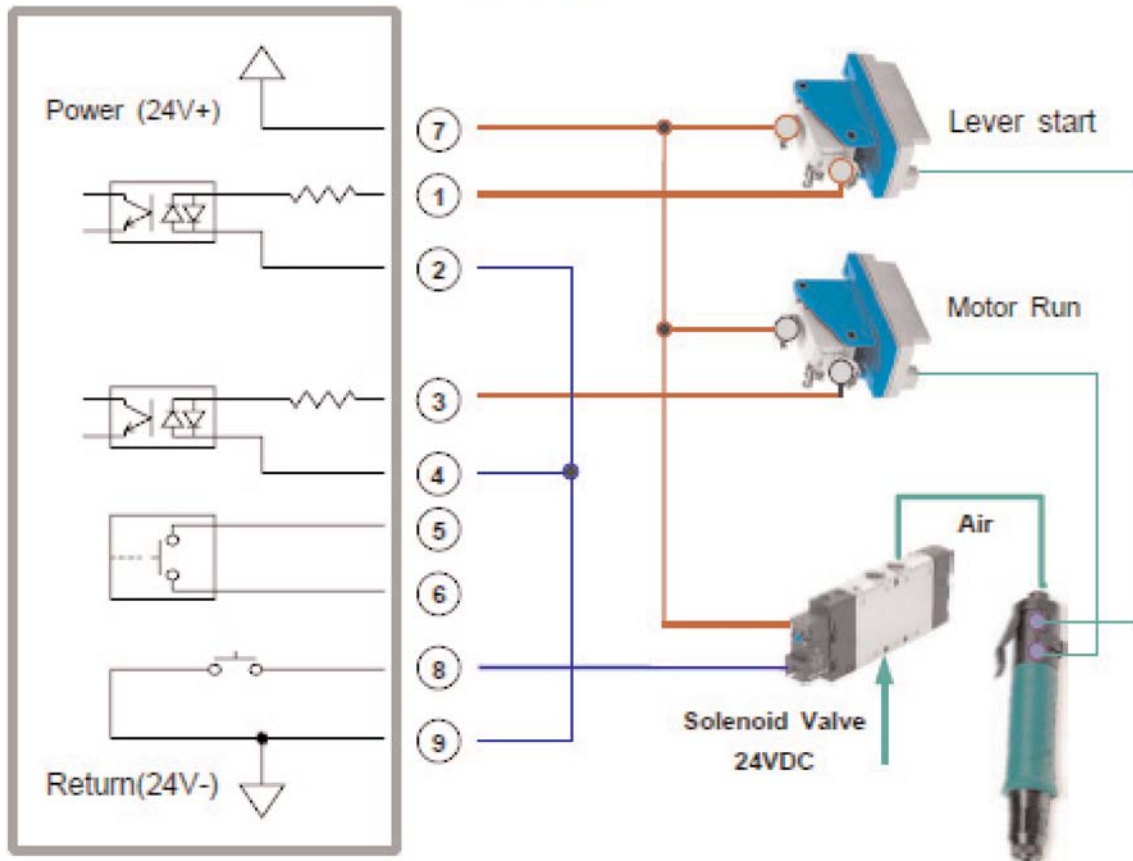
P16: select no 5

Pin	Name	I/O
1	Lever Start	IN
2	Lever Start (Return)	IN
3	Torque Up	IN
4	Torque Up (Return)	IN
5	Driver Lock	Out
6	Driver Lock (Return)	Out
7	DC24+	
8	Solenoid	Out
9	DC24V Return	



DPC-990 AIR Driver port

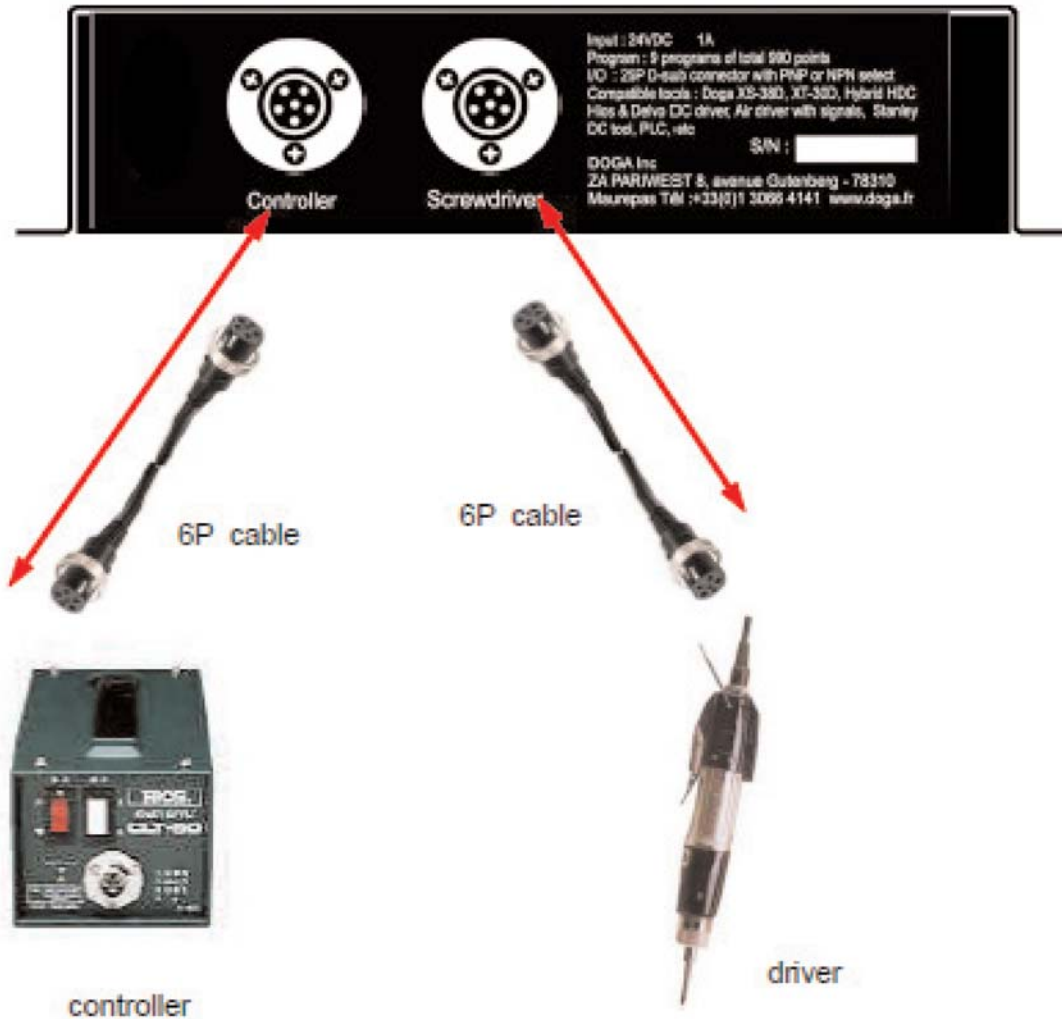
Air Driver wiring



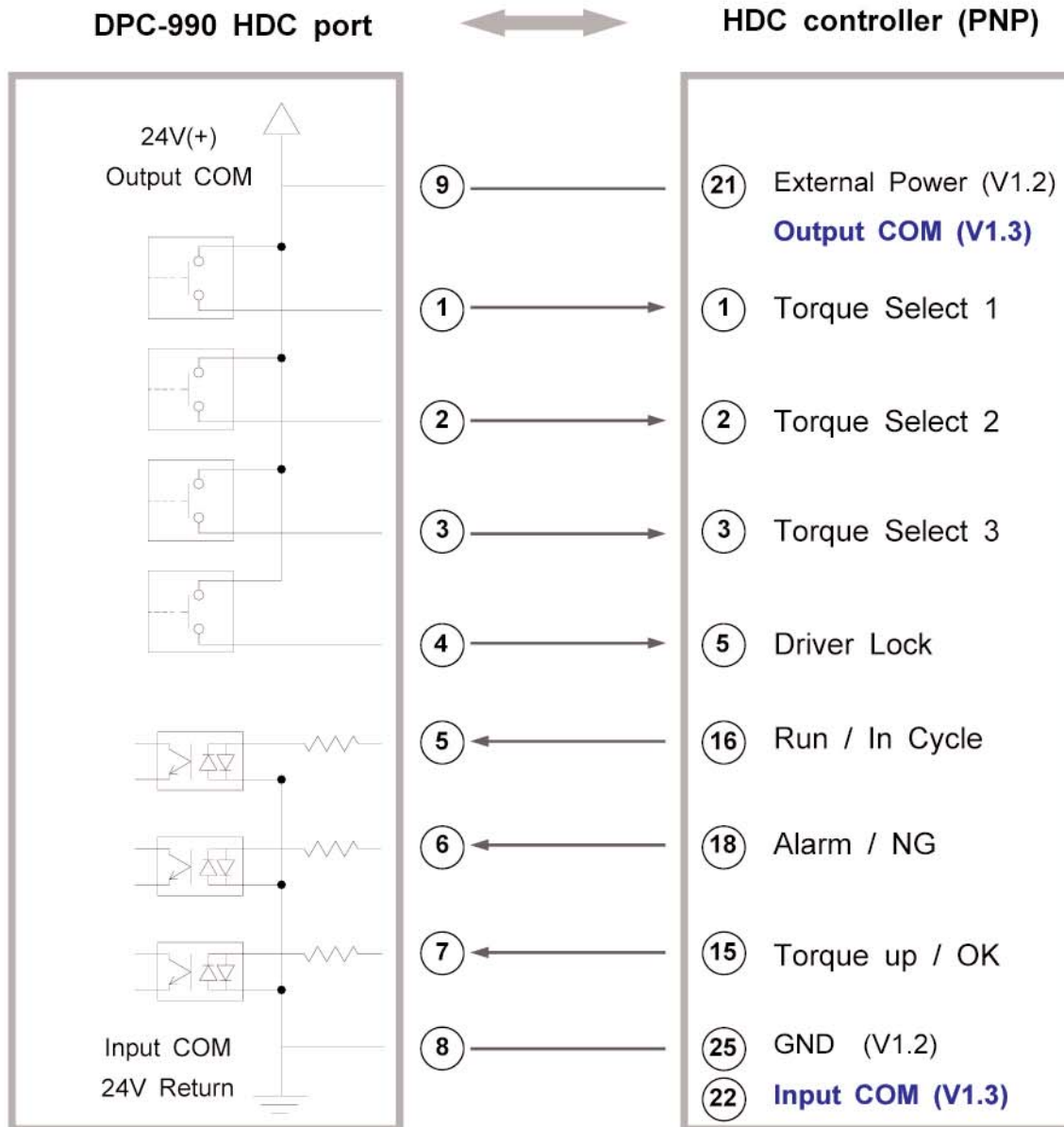
For connecting air tools to Posi-Control DPC-990, it requires Air Tool Porting Kit Item # **260162**

Hios controller & electric screwdriver

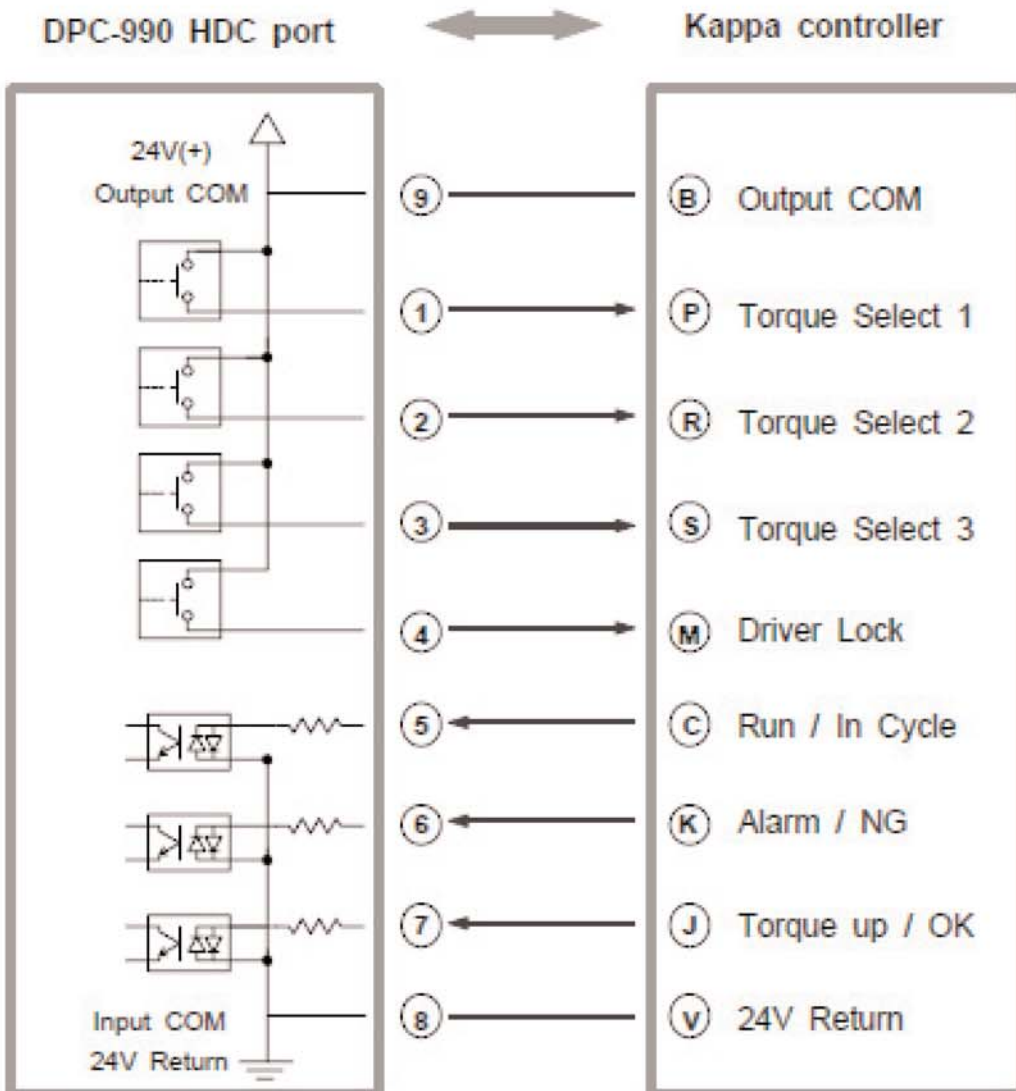
P16 : select no. "4"



# Wiring of HDC-40i (PNP Hybrid driver)



Wiring of KAPPA controller (Stanley Tool & Other DC Tools)



**\* Caution**  
 Don't connect A&B (on Kappa manual)

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