CENTROID™

159 Gates Road, Howard, PA 16841 USA

(814) 353-9290

www.shopcentroidcnc.com

"All-in-1-DC" Single Board DC Servo CNC Controller

Includes Motion Control CPU, **On-board 3-axis DC servo motor drive** (expandable to 6 axis total) , 16 IN 9 Relay OUT CNC PLC and Spindle Control CNC software sold separately, Centroid "Pro" CNC12 license or "Ultimate". see website for details.

CNC PC choices:

Use your Windows 10/11 PC and your Touch Screen LCD

*must meet minimum performance requirements, you install software.

OR:

All-in-One Touchscreen PC
Windows 10/11 pre configured, & CNC12 "Free" installed.
#15022

OR:

Centroid mini CNC PC
#15023
Windows 10/11 pre configured, & CNC12 "Free" installed.

& your Touch Screen LCD display

OR:

Touch Screen CENTROID CNC Console

Two console variations to choose from
- CNC console w/ built-in NUC CNCPC (#13181)
- Panel Mount w/ NUC CNCPC (#13934)
See console brochure for list of options and accessories: www.centroidcnc.com/downloads.htm

Optional Operator's Control Panel #11077)

Ethernet Cable to PC

Optional **Wireless** MPG Control Pendant (#9606) Requires v4.16+ and Pro License

Optional **Wired** Manual Pulse Generator (MPG) (#11069)

Additional Encoders or Scales

16 PLC Inputs

Spindle Control

Auto Tool Set
- **TT-4** (#15134)
- **TT-1** (#15207)

Touch Probe
KP-3 (#14944)
KP-1 (#15460)

Allin1DC
(#14999)

Encoder Cables

9 Fused Relay Outputs

Centroid CNC Control Software
CNC12 Mill(#15002) or Lathe(#15003) Pro License
CNC12 Mill(#15004) or Lathe(#15005) Ultimate License

Console, Display, & Cabinet opt. mounting hardware
6' Conduit and Cable package* for console (#11028)
Custom Length Console Cable for over 6ft **call** (#14025)
Console mounting arm kit (2,3,4,5' Straight or 2.5 Z) (#13933)
Console to Arm mounting hardware w/swivel mount (#14752)
Console to Arm mounting hardware (direct mount) (#13932)
Console Rolling Floor Stand (#8445)

Related Hardware and Cable kits
Operators Pendant mounting hardware (#10491)
MPG internal cable 20' w/bulkhead con. (#11086)
Probe internal cable 6' w/bulkhead con. (#11211)
Operators control panel internal cable 20' (#11029)
OEM/DIY console cable connector set (#13138)

1 2 3
Servo Motor Cables

Use your DC Servo Motors
Up to 40 in lb (4.52 Nm)

-OR-

Add CENTROID DC Servo motors
(encoders and cable installed, 180 VDC max)
No transformer needed
- 16 in-lb w/16ft cable: (#10667)
- 29 in-lb w/16ft cable: (#10816)**
- 40 in-lb w/16ft cable: (#10935)**
- Motor Cable (custom lengths over 16ft (4.8m)):
- 7 in-lb, 10 in-lb and 40 in-lb w/brake also available, call for $

Encoders for existing motor encoder upgrade or replacement use
- 2000 line (8000 counts per rev.) differential quadrature encoders available sizes: fits over 6mm, 1/4", 3/8", 1/2" shaft:
- 10,000 line (40,000 counts per rev.) differential quadrature encoders: fits over 6mm shaft

DC Power Supply "Cap and Bridge combo" (No Transformer, use your own):
110 VAC (#10766), 220VAC/440VAC (#10767), 220 VAC 3 Phase
110 VAC to 117 VDC Power Supply with Transformer (#10537)
220 / 440 VAC to 117 VDC Power Supply (#10010)

* Pre assembled, standard length: 6 ft. of conduit combined with 16' of cable.

Optional I/O Expansion Boards
Add up to 4 in any combination
for up to **272 IN / 272 OUT**
Note: The Allin1DC includes enough pre con-figured I/O for typical milling machine/lathe applications,optional expansion boards are available for complex retrofits requiring additional I/O above and beyond the included I/O.

PLC Add 1616
16 Inputs (5, 12, 24 VDC)
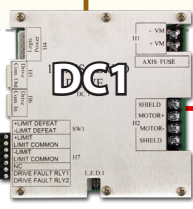16 Relay Outputs
(#11025)

Add4AD4DA
4 Digital to Analog Outputs
4 Analog to Digital Inputs
(#11141)

PLCAdd6464
(#11212)
64 Inputs 5V non isolated
64 Outputs Open Collector

Optional **DC1**
Single Axis DC Servo Drive
Add a 4th, 5th or 6th axis!
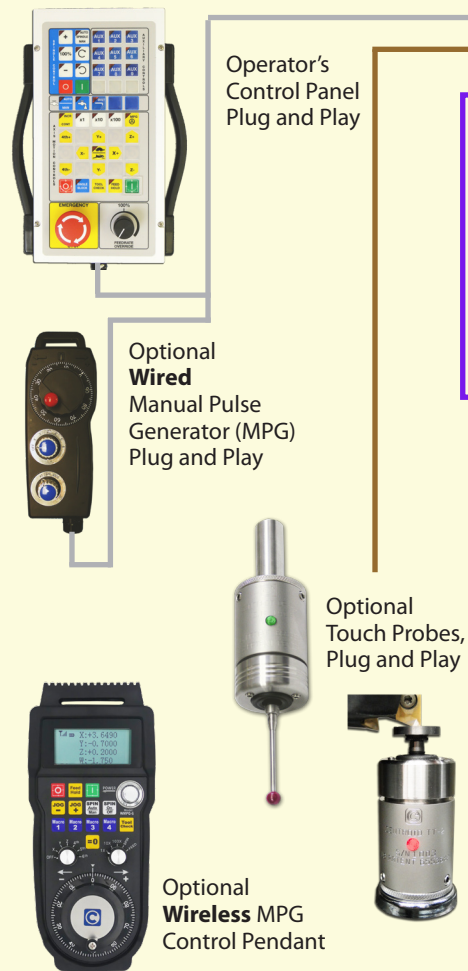**For up to 6 axes total**
(#11112)

4 5 6

"All-In-1-DC" CNC Controller: A complete CNC control contained on one printed circuit board.

Includes **built-in 3-axis Digitial DC Servo drive**, a preconfigured CNC PLC with 16 Inputs and 9 Relay Outputs, and Analog out Spindle Control.
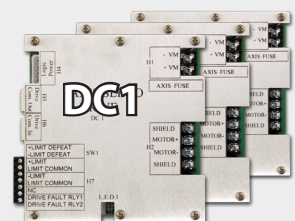Optional Expansion boards for more complex machines with automatic tool changers, 4,5,6 axis, slaved axes and multi spindles.
Allin1DC eliminates cables, connectors and power supplies and simplifies installation while providing robust performance.
Runs with CENTROID Mill or Lathe CNC software on a Windows 10/11 PC*

159 Gates Road, Howard, PA 16841 USA
(814) 353-9290
www.shopcentroidcnc.com

Ethernet Cable to Windows PC*

Operator's Control Panel Plug and Play

Optional **Wired** Manual Pulse Generator (MPG) Plug and Play

Optional Touch Probes, Plug and Play
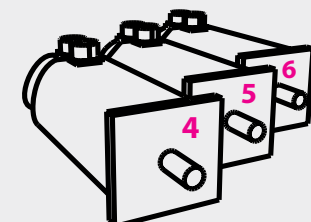
Optional **Wireless** MPG Control Pendant

Six Servo Motor Encoder Inputs. Direct Encoder feeback to Motion Control CPU and DC Servo Drive for true closed loop CNC control operation.
Any spare inputs can be used with Spindle Encoder for Rigid Tapping and Constant Surface Speed, Scales, Dual MPG's etc.

16 PLC Inputs, preprogrammed for typical CNC machine tool inputs such as: Limit Switches, Home Switches, Gear range indicators, Hi/Lo range indicator, E stop, Lube level sensor, Spindle Fault, etc. User definable and editable for custom installations. User configurable voltage and polarity.

Allows fully programmable spindle speed control with a simple connection to a wide variety of AC motor Inverters. User selectable: 0-5, 0-10, +-5, +-10 vdc output. User selectable 4 range Analog Input .

6 Encoder/Scale Inputs

16 PLC Inputs

Analog Spindle OUT/IN

Allin1DC

9 Fused Relay Outputs

Built-in: Hi-Performance DSP CNC Motion Control CPU

Optional DC1: Single Axis DC Servo Drive. Add up to three DC1's for a total of 6 axes

Plug and Play Digital Drive Communication

Built-in: 3-axis DC Servo Motor Drive up to 180 VDC & 15 amps per axis!

Preprogrammed Relay Outputs greatly simplify CNC control machine tool integration and reduce wiring, connections and asscociated parts and labor cost. Use our standard included PLC programs or create/modify your own for limitless custom applications. Preprogrammed for a wide variety of typical cnc machine tool functions such as: Lube pump control, Flood pump, mister solenoid, and anything you want to control automatically with G&M codes.

DC servo power into Allin1DC

Centroid's renowned Digital DC Servo motor drive has been combined with Centroid's MPU11 DSP CNC motion control CPU along with integrated PLC and Spindle control into one powerful compact CNC motion controller: The "All-in-One-DC"

Control a wide variety of DC Servo motors rated anywhere from 20 to 180 VDC max voltage and from 6-15 amps (continuous). With user selectable, per axis: 6, 9, 12, or 15 amp limit.

Use exisiting DC Servo Motors when upgrading older CNC machinery OR Use new CENTROID DC Servo Motors. Encoder upgrade kits available for older Servo Motors.

DC OUT

110, 220 380, 440 VAC IN

DC Servo Motor Power Supply: Reuse existing DC servo motor power transformer OR directly rectify 110 VAC when using Centroid DC Servo Motors, eliminating need for transformer when 110 VAC is available. Convenient "CAP and Bridge" power combo board available for either case.

Optional I/O Expansion Boards
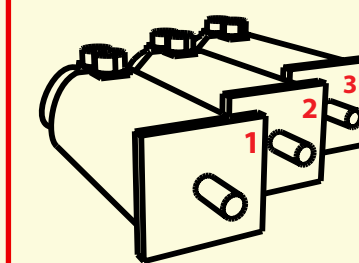Add up to 4 in any combination Up to 80 In / 73 Out

Note: The All-in-One DC includes enough preconfigured I/O for typical milling machine/router/lathe applications,optional expansion boards are available for complex retrofits requiring additional I/O above and beyond the included I/O.

Add4AD4DA
4 Digital to Analog Outputs
4 Analog to Digital Inputs

PLC Add 1616
16 Inputs (5, 12, 24 VDC)
16 Relay Outputs