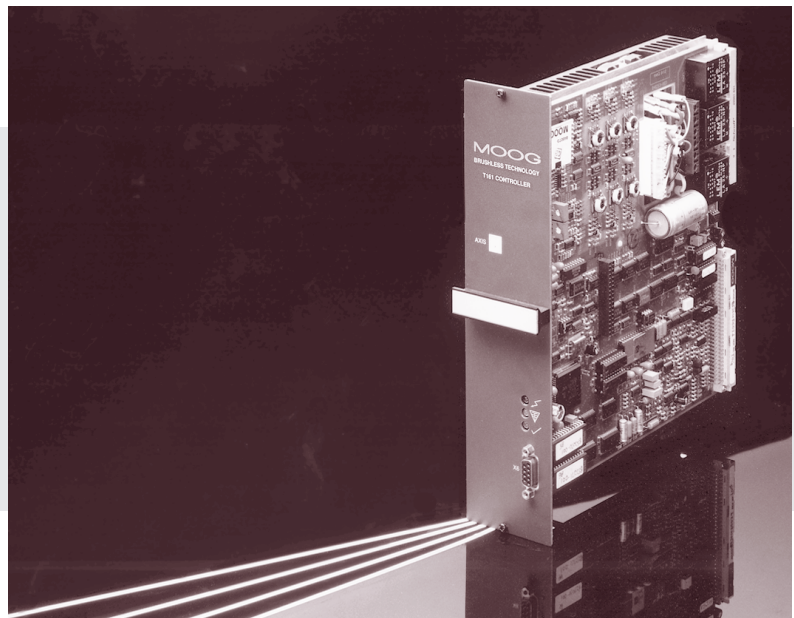


MOOG

T161 Series

Rack Mount Digital Brushless Motor Controller



CE

CONTROLLER AND POWER SUPPLY SYSTEM FEATURES

Microprocessor Based

Standard Euro Rack (6U) 19 Inch Rack

1, 2, 3, 4 or 6 Axes PCB Backplanes

Simple Set-Up and Tuning with Hand Held Terminal

PC Set-Up via "WinDrive" Graphical User Interface

Software or "MOOGTERM" Software.

RS232/RS485 Serial Port

Compact Size

1 Phase or 3 Phase Operation

Direct 220 VAC Line Operation

Custom Configurations Available - Consult Factory

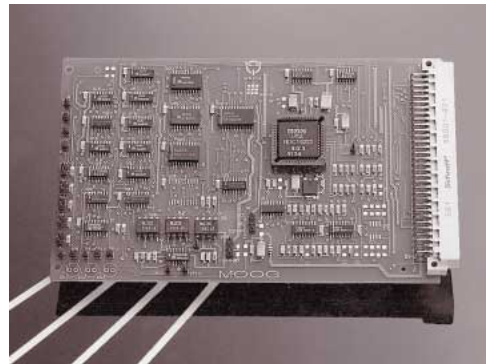
CONTROLLER FEATURES

Sinusoidal Three Phase Drive
 Built-In Heat Sink
 Programmable Velocity or Current Control
 Diagnostics, Function Generator for Tuning
 Resolver Based System
 Quick Change Modular Construction
 Extended Function Card (Option)
 - Programmable Encoder Simulator
 Programmable Analog Test Points
 Configuration Stored In Non-Volatile E²PROM

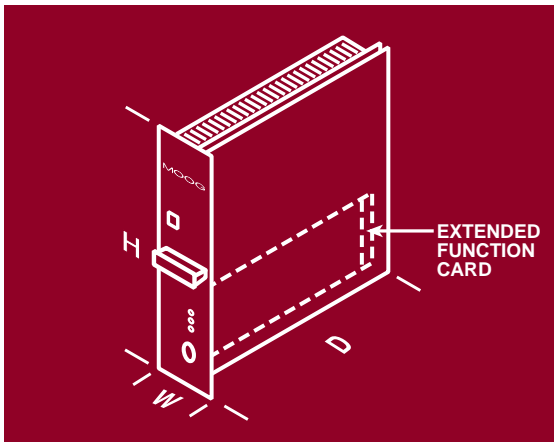
Extended Function Card
 Optional Encoder Simulator

CONTROLLER PROTECTION

Watchdog Timer
 Power Supply Fault Monitor
 Over Current
 Short Circuit
 Motor Temperature
 Controller Overtemperature
 Feedback Loss
 Commutation Fault
 Logic Voltage



SPECIFICATIONS



Model	Height	Width	Depth
T161-901 T161-902 T161-903	10.35 in. [262.9]	2.40 in. [61.0]	9.75 in. [247.7]
T161-904	10.35 in. [262.9]	3.60 in. [91.44]	9.75 in. [247.7]

Output Ratings (A rms)

Model	Continuous*	Peak*
T161-901	3.0	5.0
T161-902	5.0	10.0
T161-903	8.0	20.0
T161-904	12.0	40.0

Switching Frequency:
 10KHz (-001, -002), 5KHz (-003, -004)

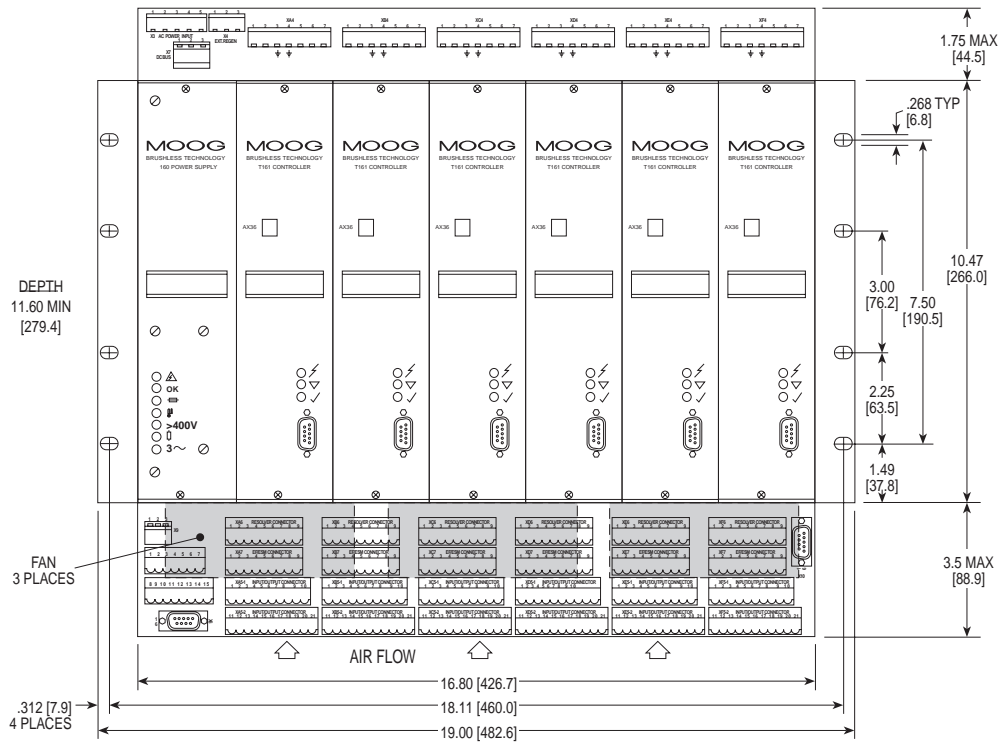
Operating Temperature:
 0° - 55°C ambient

Weight:
 5.0 lbs. [2.3 kg] (-901, -902, -903)
 7.6 lbs. [3.5 kg] (-904)

***NOTE:**
 Fan tray minimum 300 C.F.M. [8.49 Cubic Meters/Minute]
 Total Required at 2.0 Inches Water Column [.469 kPa].
 Refer to installation drawing for fan installation specifications.

Unless otherwise specified, dimensions in brackets are in millimeters.

TOP/BOTTOM CONNECTION BACKPLANE INSTALLATION



- X3**
- 1 ○ / //
 - 2 ○ Ø1 } 220VAC
 - 3 ○ Ø2 } 50/60 Hz
 - 4 ○ Ø3
 - 5 ○ / //

- X4**
- 1 ○ PIN 1 | EXT
 - 2 ○ PIN 2 | REGEN
 - 3 ○ / //

- X6**
- 1 ○ CANBUS +
 - 2 ○ CANBUS -
 - 3 ○ RS485 +
 - 4 ○ RS485 -
 - 5 ○ / //
 - 6 ○ / //
 - 7 ○ NC
 - 8 ○ NC
 - 9 ○ VCC

- X10** ³
- 1 ○ CANBUS +
 - 2 ○ CANBUS -
 - 3 ○ RS485 +
 - 4 ○ RS485 -
 - 5 ○ / //
 - 6 ○ / //
 - 7 ○ NC
 - 8 ○ NC
 - 9 ○ VCC

- X5-1**
- 1 ○ +24V EXT } BRAKE POWER
 - 2 ○ -24V EXT } SUPPLY (OPTION)
 - 3 ○ +24V EXT } DC EXT LOGIC
 - 4 ○ -24V EXT } POWER (OPTION)
 - 5 ○ RLY PIN 1 } PWR SPly
 - 6 ○ RLY PIN 2 } OK (+-)
 - 7 ○ / //

- X5-2**
- 8 ○ +5V
 - 9 ○ +15V
 - 10 ○ -15V
 - 11 ○ ANALOG GND
 - 12 ○ DIGITAL GND
 - 13 ○ RLY PIN 1 } SYSTEM READY
 - 14 ○ RLY PIN 2 } (+-) (OPTION) ¹
 - 15 ○ GROUP AUTOMAN MODE (OPTION)

- X7**
- 1 ○ DC BUS+
 - 2 ○ DC BUS-
 - 3 ○ / //

- X9**
- 1 ○ Ø1 } FAN(S)
 - 2 ○ Ø2 } 220 VAC
 - 3 ○ / // } 50/60 Hz

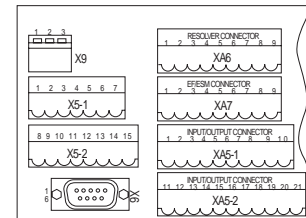
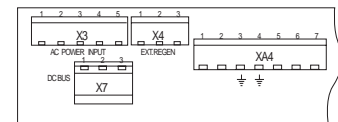
- X#7** ²
- 5 ○ ESM + | VEXT
 - 1 ○ ESM - | PWR
 - 8 ○ A } SPLY
 - 4 ○ A/
 - 7 ○ B
 - 3 ○ B/
 - 6 ○ MARKER
 - 2 ○ MARKER/
 - 9 ○ / //

- X#6** ²
- 1 ○ SIN +
 - 2 ○ MOT THRM
 - 3 ○ COS +
 - 4 ○ REF +
 - 5 ○ DGND
 - 6 ○ SIN -
 - 7 ○ / // (SHLD)
 - 8 ○ COS -
 - 9 ○ DGND (REF-)

- X#5-1** ²
- 1 ○ RLY PIN 1 } AXIS
 - 2 ○ RLY PIN 2 } OK (+-)
 - 3 ○ PRGM ANLG TP OUTPUT
 - 4 ○ I DC CURRENT MONITOR
 - 5 ○ ANLG GND
 - 6 ○ CW LIMIT SW
 - 7 ○ CCW LIMIT SW
 - 8 ○ / //
 - 9 ○ AUTO/MAN MODE
 - 10 ○ DRIVE ENABLE

- X#5-2** ²
- 11 ○ / //
 - 12 ○ TORQ/VEL SELECT
 - 13 ○ EXT V +
 - 14 ○ EXT GND
 - 15 ○ RLY PIN 1 } THERM LIM
 - 16 ○ RLY PIN 2 } ACT (+-)
 - 17 ○ TORQUE LIMIT +
 - 18 ○ TORQUE LIMIT -
 - 19 ○ REF IN +
 - 20 ○ REF IN -
 - 21 ○ ESM AN VEL (OPTION)

- X#4** ²
- 1 ○ BRAKE + } AXIS
 - 2 ○ BRAKE - } BRAKE (OPTION)
 - 3 ○ / //
 - 4 ○ / //
 - 5 ○ ØA MOTOR
 - 6 ○ ØB MOTOR
 - 7 ○ ØC MOTOR



NOTES:

- ¹ SYSTEM READY IS A FAULT INDICATOR FOR THE POWER SUPPLY AND ANY OF THE 6 CONTROLLER AXES (OPTION).
- ² THESE CONNECTORS ARE IDENTICAL FOR EACH OF THE 6 CONTROLLER AXES. EX. FOR AXIS A. X#1 = XA1 FOR AXIS B. X#1 = XB1
- ³ WHEN USING MULTIPLE RACK SYSTEMS REFER TO USER MANUAL FOR PROPER RS 485 TERMINATIONS.

Unless otherwise specified, dimensions in brackets are in millimeters.

