AUTOTUNE

- In the configure drive menu, set Autotune to ON
- On the keypad, press L/R for LOCAL mode
- Ensure that the motor shaft is not allowed to rotate
- Press RUN. Drive will begin autotuning.
- When the drive stops and no error message is displayed on the MMI, the autotune was successful.
- Go to MENU LEVEL\SAVE PARAMETERS and save your settings.

SETUP PARAMETERS

Under MENU LEVEL\SETUP PARAMETERS, there are several submenus where you can enter setup parameters. They are:
Ramps, Auxiliary I/O, Op Station, Jog/Slack, Raise-Lower, Special Blocks, Field Control, Current Profile, Inverse Time, Stop Rates, Calibration, Inhibit Alarms, Current Loop, Speed Loop, Standstill, Setpoint sum 1.

ALARMS

Under MENU LEVEL\ALARM STATUS, you may view the active and last alarm status.

PASSWORD

Under MENU LEVEL\PASSWORD, you may enter a password to protect against unauthorized access to the drive setup parameters. Refer to the 590+ product manual for details.

CONFIGURE I/O

Under MENU LEVEL\SYSTEM\CONFIGURE I/O, you may connect and disconnect internal block diagram connections, to use special functions like PID, winder blocks, diameter block, etc., and to tag analog and digital I/O to selected points inside the drive to suit your application

SERIAL LINKS

Under MENU LEVEL\SERIAL LINKS, you may access parameters related to Techboxes, the system port (P3), and all the PNO configuration parameters.

Associated Literature
590+ DRV Product Manual HA470388Uxxx

EUROTHERM DRIVES

590+DRV Quick Start

frame 2
165 Amps

Visit us at www.eurothermdrives.com
USA: (704) 588-3246 UK: +44 (0)1903 737000
HA470388U200 Issue 3

BEFORE YOU START

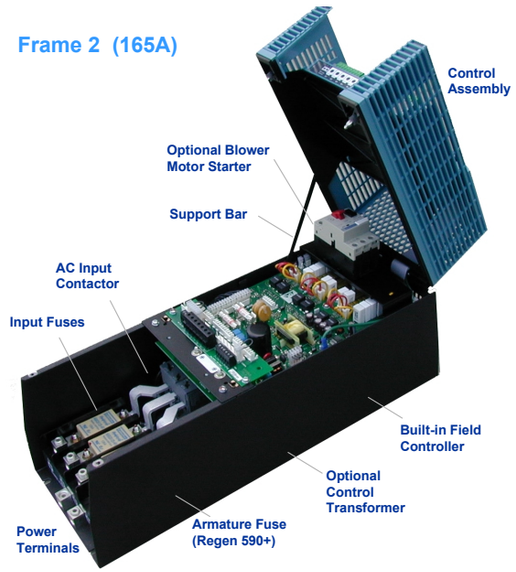
This document covers the steps necessary for a basic start up of the 590+DRV drive. Drive start ups should be performed by qualified electrical technicians who are familiar with DC drives and their applications. For detailed safety, installation, advanced features and applications on the 590+, refer to the Product Manual.

Ensure that all local electric codes are met while installing the drive. Check that all live parts are covered to protect against electric shock and that unexpected rotation of the motor will not result in bodily harm or injury.

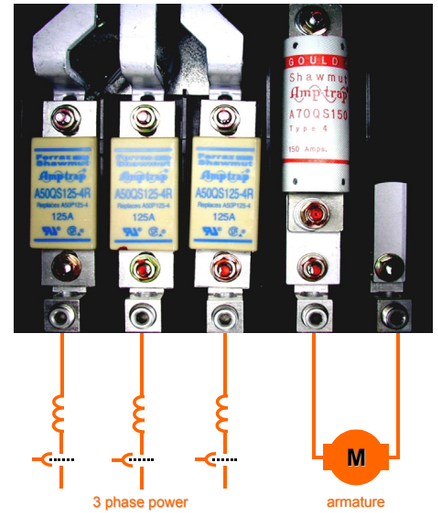
This document expects that the drive is already installed in its intended location and that all relevant installation procedures have been followed. Please ensure that the drive has adequate ventilation so that ambient temperature does not exceed 45°C (112°F) under normal operating conditions.

To access the bottom layer, slide off the bottom terminal cover and unfasten the two retaining screws. Hinge the plastic body upwards and engage the support bar.

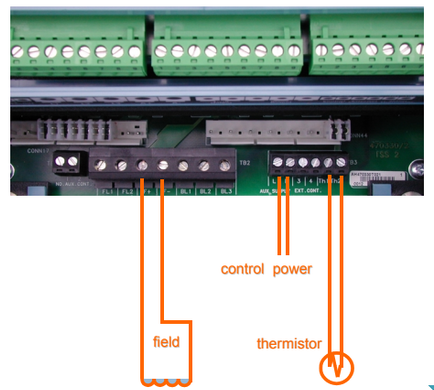
Frame 2 (165A)



POWER CONNECTIONS

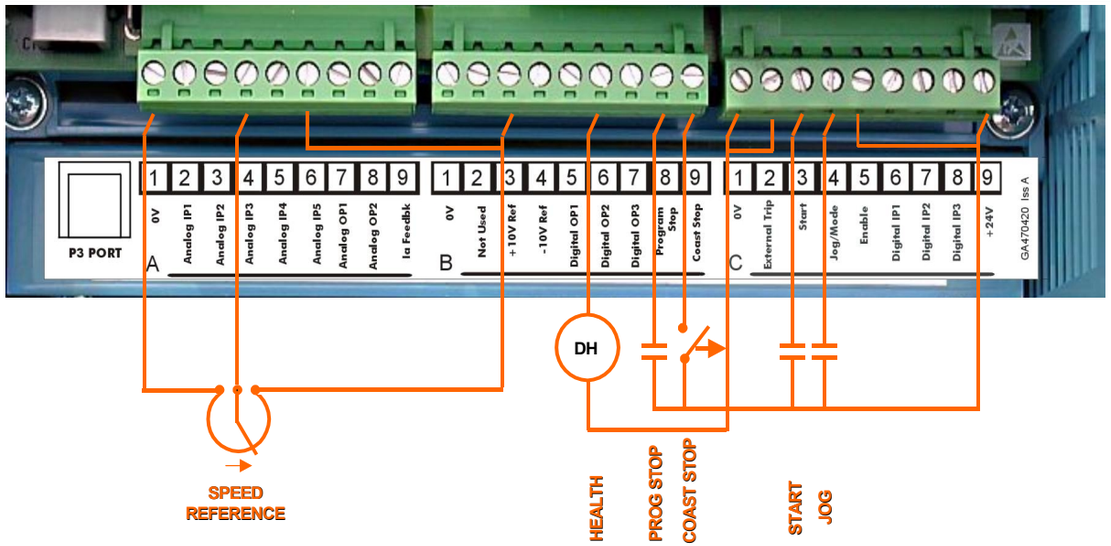


- 3-phase supply to L1, L2, L3
- Motor armature to A+, A-
- Motor fields to F+, F-
- Motor thermistor to Th1, Th2
- Control supply to L, N of Control 115/230VAC. (not necessary with control transformer option)
- Blower to BL1, BL2, BL3, if fitted



Reference

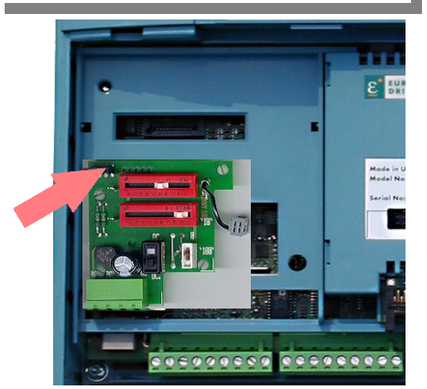
Sequencing



- Speed potentiometer across A1 (low), B3(high), A4(wiper) OR
- External 2-wire speed reference between A1(-) and A4(+)
- Jumper A6 to B3

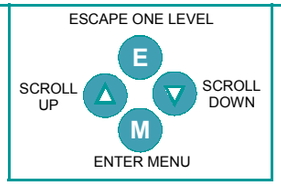
- E-Stop relay n.o. contact between B8, C9
- E-Stop relay n.o. TDD contact between B9, C9
- Jumper C1 and C2 if no external trip contact
- Jumper C5 and C9 for internal enable contact
- Start contact between C3 and C9
- Jog contact between C4 and C9
- Health relay coil (24V) between B6(+) and C1(-)

Speed Feedback



- Armature Voltage is the default speed feedback mode and does not require a feedback card.
- Four feedback cards are available. Analog Tach, encoder, acrylic microtach and glass microtach.
- Select the correct feedback card. Install it on the feedback header, shown by the arrow in the figure. Ensure all standoffs are securely snapped in place
- On the analog tach card, set switch settings in Units, Tens and Hundred, corresponding to tachometer output voltage at maximum speed
- DC Analog Tach: G3(+), G4(-). Set switch to DC
- AC Analog Tach: G1, G2. Set switch to AC
- Encoder: E1=0V, E2=+, E3,E4=A, ~~A~~, E5,E6=B, ~~B~~
- Microtach: C1=0V, C9=24V, F1=fiberoptic receive

POWER ON



Calibration

All calibration is done in software, through the keypad

The 590+ can also be calibrated using the programming tool software

DIGITAL DC DRIVE DC 4Q 165A	This is the power-up welcome screen
M DC 4Q 165A MENU LEVEL	Press the M key to get to MENU LEVEL
M MENU LEVEL DIAGNOSTICS	Press M. You are in MENU LEVEL, at DIAGNOSTICS
▲ MENU LEVEL CONFIGURE DRIVE	Up arrow to get to CONFIGURE DRIVE menu
M CONFIGURE DRIVE CONFIGURE ENABLE	Press M and up arrow to ENABLE drive configuration All 7 LEDs blink in Configuration mode. Press E when done
▼ NOM MOTOR VOLTS	Using the Up & Down arrows, enter rated motor voltage
▼ ARMATURE CURRENT	Enter rated motor armature current
▼ FIELD CURRENT	Enter rated field current. Skip if field is in Voltage mode
▼ FLD. CTRL MODE	Toggle between voltage and current modes
▼ FLD. VOLTS RATIO	If in voltage mode: Ratio = (field volts/AC supply)*100 Example: For a 300V field and 460V supply: Ratio = 300/460*100 = 65%
▼ MAIN CURR. LIMIT	Enter desired current limit setting. Usually 100%
▼ AUTOTUNE	Leave this OFF. Autotune after calibration is complete
▼ SPEED FBK SELECT	Choose from Armature Volts/Analog Tach/Encoder
▼ ENCODER LINES	Enter the pulses per rev. rating of the encoder
▼ ENCODER RPM	Enter the max speed here. Corresponds to 100% speed
▼ ENCODER SIGN	Change the polarity of the encoder signal
▼ SPD. INT TIME	Speed loop integral gain
▼ SPD. PROP GAIN	Speed loop proportional gain

- Set CONFIGURE ENABLE to DISABLE. The drive will display “CALIBRATING”
- Under MENU LEVEL/PARAMETER SAVE, press the M and UP to save your settings