

Chapter 3

TERMINAL DESCRIPTION

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TERMINAL DESCRIPTION

Control Terminals

Terminal	Function	Description	Notes
1	Tacho Feedback	Motor Mounted Tachogenerator Input Terminal.	200V dc Max.
2	0V-Signal Common	Control Signal Reference.	Must NOT be Earthed (Grounded).
3	Run	Digital Input to Enable Controller. Connect to 0V to Run in Speed. Connect to + 10V to Run in Current.	Input Impedance -> 20k Ohm
4	Speed Setpoint	Analogue Input, 0v to +10V = 0 to 100% Speed.	Input Impedance - 66k Ohm
5	+10V Reference	Analogue Output, +10V Reference for Speed and Current Setpoints.	Load - 2mA
6	Current Limit	Analogue Input, 0 to +10V=0 to 100% Current	Input Impedance - 100k Ohm



WARNING!

This is a non-isolated product. The control connections are not isolated from the AC supply. Any connection to earth or use of earth (ground) referenced components either deliberately or unintentionally will cause permanent damage to the controller.

3-2 Terminal Description

Power Terminals

The product may be connected phase - to - phase provided the resultant voltage does not exceed the maximum supply voltage specified.

Terminal	Function	Description	Notes
L1 (L)	AC Input Live	AC Supply Terminal Line 1 or Live	
L2 (N)	AC Input Neutral	AC Supply Terminal Line 2 or Neutral	
F+	Field Positive	Field Output Positive	
F-	Field Negative	Field Output Negative	
A-	Armature Negative	Armature Output Negative	
A+	Armature Positive	Armature Output Positive	
Grd 	Protective Earth (Ground)	Drive Module Protective Earth (Ground)	
Grd 	Protective Earth (Ground)	Motor Protective Earth (Ground)	

Auxiliary Terminals

* The power must be supplied from an independent power supply which is not earth (ground) referenced.

Terminal	Function	Description	Notes
A1	Auxiliary Supply	Auxiliary Relay Supply	+16V at 10mA
A2	0V - Signal Common	Signal Reference	Must not be earthed (grounded)
A3	Zero Speed	Zero Speed Output	24V at 50mA open Collector *
A4	Health	Health Output	24V at 50mA open Collector *
A5	Zero Speed Level	Zero Speed Output Level Trim	For other levels see Table 3.1
A6	Auxiliary Setpoint	Auxiliary Direct Speed Setpoint	+10V @ 100K Full Speed Input

Table 3.1

External Resistor	Terminal Volts at Zero Speed	180Va	90Va
--	10.75V	6%	12%
4k7	5.5V	3%	6%
2k2	2.5V	2%	4%
1k	2V	1%	2%

The zero speed detector operates from the Controller Output voltage, the default level is set to 6% of 180V dc.

Switches

Switch	Off	On
SW1	Imax. 506 - 0.25 to 1.5A Imax. 507 - 0.5 to 3.0A Imax. 508 - 1.0 to 6.0A	Imax. 506 - 0.5 to 3.0A Imax. 507 - 1.0 to 6.0A Imax. 508 - 2.0 to 12.0A
SW2	½ Speed Demand	Full Speed Demand
SW3	¼ Speed Feedback	Full Speed Feedback
SW4	Tacho Feedback	Armature Feedback

Potentiometers

P1	RAMP UP	Setpoint ramp adjustment clockwise to increase time.
P2	RAMP DOWN	Setpoint ramp adjustment clockwise to increase time.
P3	SPEED STABILITY	Speed loop stability clockwise increase response.
P4	CURRENT CALIBRATION	Output current calibration clockwise to increase output.
P5	IR COMPENSATION	Speed droop compensation armature voltage feedback.
P6	MINIMUM SPEED	Clockwise to increase compensation. Minimum speed at zero setpoint. (Can also be used as zero speed trim anticlockwise to reduce speed at zero setpoint).
P7	MAXIMUM SPEED	Maximum speed calibration clockwise to increase speed.

LEDs

POWER-ON	Indicates power supply is present on terminals. (Note:- This LED does not indicate that the <u>CORRECT</u> voltage is applied).
HEALTH	When illuminated the controller is unhealthy due to either an overcurrent trip or a stall trip condition. Should normally be "OFF".

3-4 Terminal Description