Objective

514C Quick Set-Up

Note: Text in bold are default switch settings.

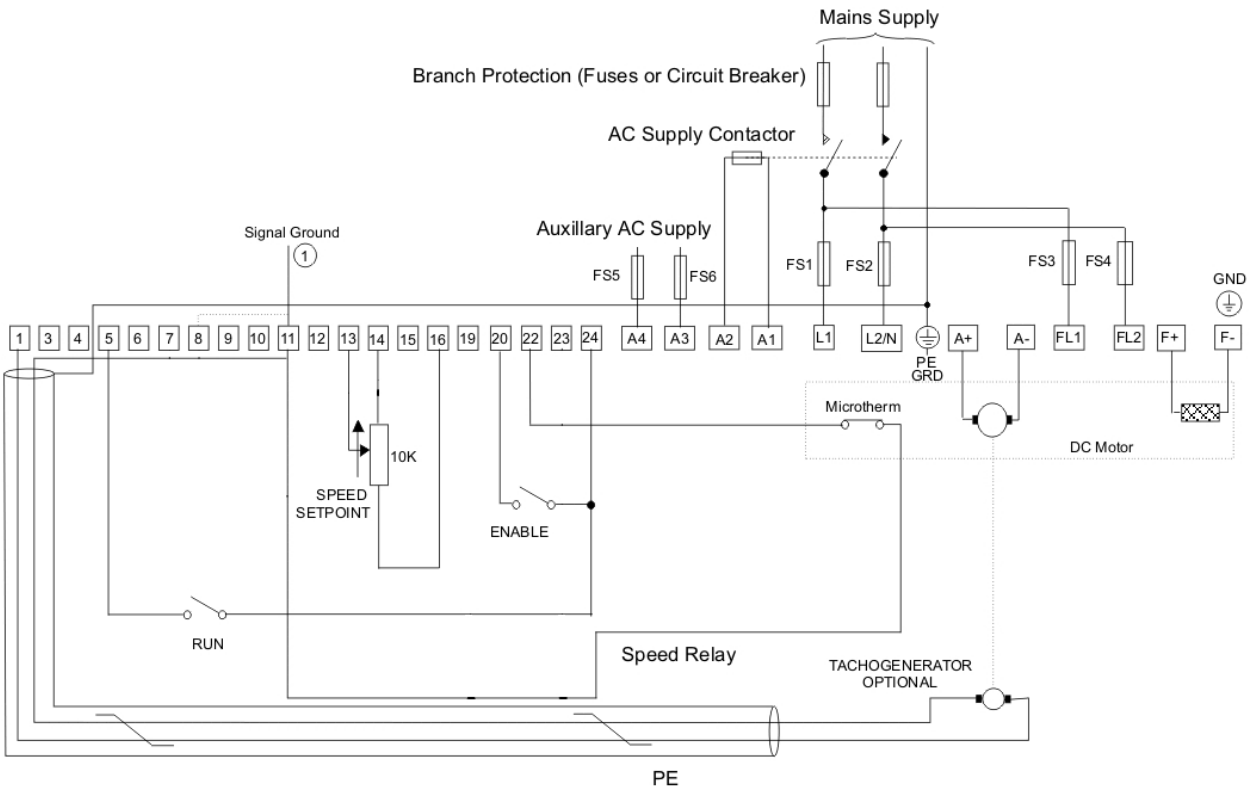
Power connections:

Single phase supply to L1 and L2/N

Motor armature to A+ and A-

Motor field to F+ and F-

Basic Wiring Diagram: Below are the minimum connections required to run the drive in speed control mode with a tachometer. If you are not using a tachometer, ignore the tachometer connections and set SW1/3 to the "ON" position.



(1) It is recommended that the "0V/common" be connected to protective earth/ground for safety reasons. In a system comprising of more than one controller, the 0V/common" signals should be connected together and joined to protective earth/ground at **one** point only.

If you have questions, please call the Product Support Group at (704) 588-3246.

Switch and potentiometer settings

SPEED FEEDBACK

SW1/1	SW1/2	FEEDBACK VOLTAGE	
OFF	ON	10 - 25V	USE P10 TO TRIM
ON	ON	25 - 75V	MAXIMUM SPEED
OFF	OFF	75 - 125V	TO REQUIRED
ON	OFF	125 - 325V	VALUE

TABLE 4.1 Full speed tachogenerator/armature feedback voltage.

Example:

(a) Customer wishes to run motor at 1500rpm with a 60V/1000rpm tachogenerator.
Feedback voltage = 90V.
From Table 4.1 set SW1 OFF SW2 OFF adjust P10 to give desired speed.

(b) Customer wishes to run motor at 2000rpm with 320V armature.
Feedback voltage = 320V
From Table 4.1 set SW1 ON SW2 OFF adjust P10 to give desired speed.

Note:- It is necessary to set these switches for both tachogenerator and armature voltage feedback.

GENERAL PURPOSE SWITCHES

SW1/3	Speed Feedback	(OFF)	Tachogenerator Feedback for Speed Control.
		(ON)	Armature Voltage Feedback for Speed Control.
SW1/4	Zero Output	**(OFF)**	Zero Speed Output.
		(ON)	Zero Setpoint Output.
SW1/5	Current Meter	**(OFF)**	Bipolar Output.
		(ON)	Modulus Output.
SW1/6	Ramp Isolate	**(OFF)**	Ramp Connected.(Must be OFF for Speed Mode)
		(ON)	Ramp Isolated.
SW1/7	Standstill Logic	**(OFF)**	Disabled.
		(ON)	Enabled.
SW1/8	Current Demand	(OFF)	T18 = Current Demand Input. (Must be ON for Speed Mode)
		(ON)	T18 = Current Demand Output.
SW1/9	Contactor Drop Out on Over-Current	**(OFF)**	Contactor Drops Out on Over Current trip
		(ON)	Contactor does not Drop Out on Over Current trip

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SW1/10	Setpoint Comparator.	(OFF)	Total Setpoint.
		(ON)	Ramped Setpoint Input.

***Default switch settings are in bold**

CURRENT CALIBRATION

Current Calibration is achieved using the BCD switches SW2, 3 and 4 where SW2 represents the 'Tens'; SW3 represents the 'Units' and SW4 represents the 'Tenths'. Thus a 16.5 amp calibration is achieved by setting switch SW2 to 1, SW3 to 6, and SW4 to 5.

Please note that incorrect adjustment of these switches will cause excessive current to flow which may cause damage to the motor and the controller. The absolute maximum setting which can be set is 39.9 amps, this exceeds the Maximum Controller rating in all builds.

Potentiometers

P1	Ramp Up Rate	Rotate Clockwise for Faster Acceleration to Set Speed. (Linear :- 1 to 40 seconds)	Default Setting: Midway	540/1 P1
P2	Ramp Down Rate	Rotate Clockwise for Faster Deceleration to Set Speed. (Linear :- 1 to 40 seconds)	Midway	540/1 P2
P3	Speed Loop Proportional	Optimises Speed Loop Stability by increasing gain.	Midway	540/1 P5
P4	Speed Loop Integral	Optimises Speed Loop Stability by increasing integral time constant.	Midway	540/1 P6
P5	I Limit	Rotate Clockwise to increase Maximum Output Current. With no additional connection to Torque / Current Limit Terminal T7, the Upper Limit is 110%. To achieve the 150% maximum connect T7 to +7.5V.	90% Clockwise	540/1 P7
P6	Current Loop Proportional	Optimises Current Loop Stability by increasing gain.	Midway	540/1 P8
P7	Current Loop Integral	Optimises Current Loop Stability by increasing integral time constant.	Anti-Clockwise	540/1 P9
P8	IR Compensation	Optimises speed regulation against load change when using Armature Voltage Feedback. Rotate Clockwise to increase compensation and reduce regulation. (Excessive adjustment may lead to instability)	Anti-Clockwise	
P9	DO NOT USE	Pending Change.		

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P10	Maximum Speed	Controls Maximum Motor Speed. Rotate clockwise to increase maximum speed.	Midway	540/1 P10
P11	Zero Speed Offset	Adjusts Zero for Zero Speed Setpoint.	Approx-imately Midway	540/1 P3
P12	Zero Speed Sense Threshold	Adjusts the Zero Speed sense Level for the Zero Speed relay and Standstill Logic if selected.	Anti-Clockwise	540/1 P4

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