
1 Description

The Digistart D3 has jog forward and jog reverse as a standard feature. During jogging, motor torque is fixed and the jog speed is 11% of the motor full load speed in both directions. Details of the standard jog function are provided in the User Manual.

In some applications, the available motor torque may not be sufficient to breakaway and accelerate the motor to jog speed. In these cases, you can use the following method for jog forward control. By using the primary and secondary motor data, jog forward operation is independent of normal motor operation.

**NOTE**

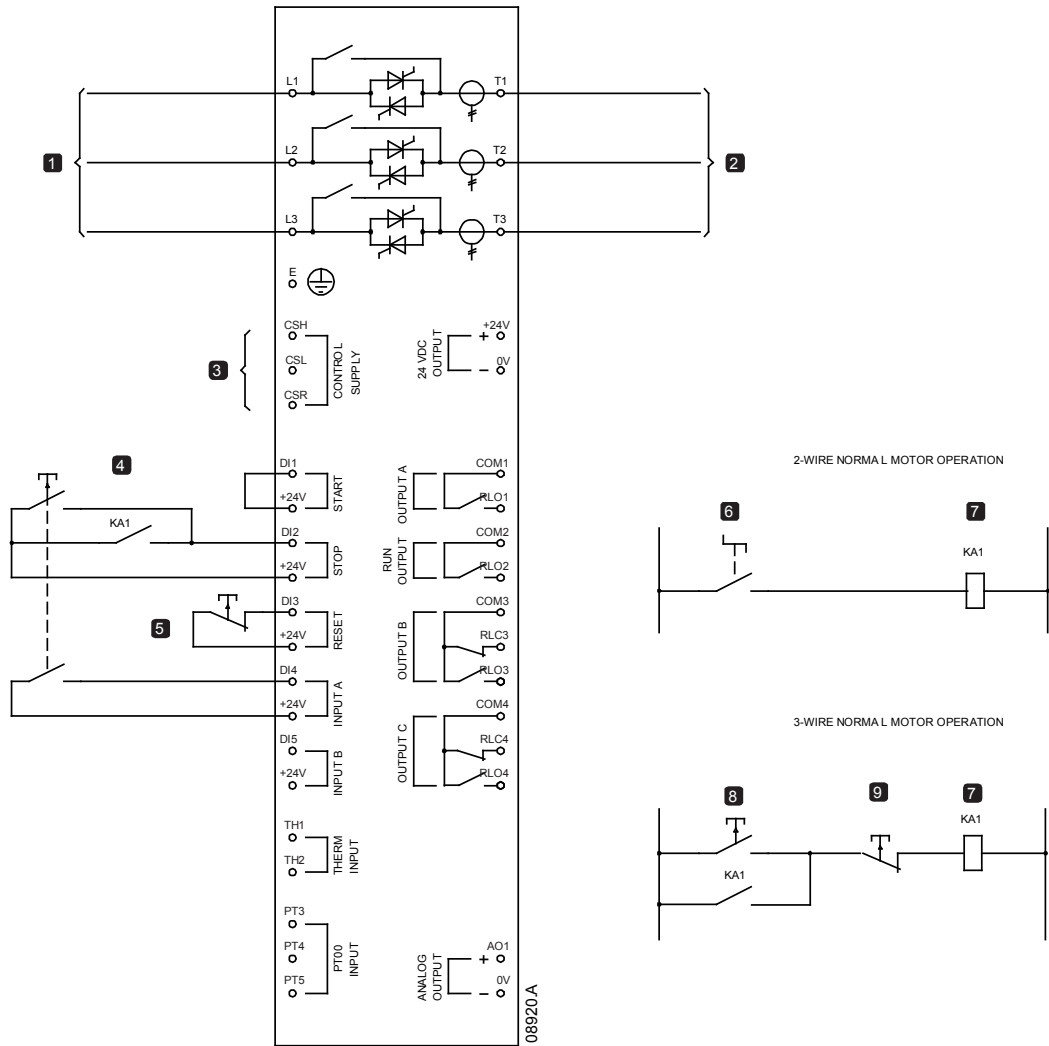
This control method can only be used for jogging in the forward direction using an individual single speed motor.

APPLICATION NOTE

2 Electrical Installation

The Digistart D3 must be in Remote mode. Normal motor operation is controlled using the two-wire or three-wire (pushbutton) method. Jog forward operation is controlled using a momentary, normally-open pushbutton – close to jog and open to stop.

Use the Digistart D3 programmable Input A (DI4, +24V) for motor set select (Pr 3A Input A Function). Normal motor operation is controlled using the primary motor data. Jog forward operation is controlled using the secondary motor data.



1	Mains supply
2	To motor
3	Control voltage
4	Jog forward pushbutton
5	Reset pushbutton

6	Start/Stop switch
7	Start relay
8	Start pushbutton
9	Stop pushbutton

3 Commissioning

For normal motor operation, use the settings for the primary motor.

For jog forward operation, use the settings for the secondary motor. Suggested settings are as follows:

Pr	Parameter Name	Default setting	Recommended setting	Comments
11A	<i>Motor FLC-2</i>	Model dependent	As required	Should match Pr 1A <i>Motor FLC</i>
11B	<i>Dual Thermal Model</i>	Single	(default)	
11C	<i>Locked Rotor Current-2</i>	0m:10s	(default)	
11D	<i>Locked Rotor Time-2</i>	600%	(default)	
11E	<i>Motor Service Factor-2</i>	105%	(default)	
12A	<i>Start Mode-2</i>	Adaptive Control	Constant Current	Set for the required acceleration rate from motor standstill to full jog speed. A higher setting will provide a slower rate of jog acceleration.
12B	<i>Current Limit-2</i>	350%	As required	Set to the minimum level required to maintain jog speed. A higher setting will provide a faster jog speed. NOTE if this is set too high, the motor could accelerate to normal running speed during jog.
12C	<i>Initial Current-2</i>	350%	As required	Set to the minimum level required to cause motor rotation when a jog command is given.
12D	<i>Start Ramp-2</i>	0m:10s	As required	Set to the minimum level required to cause motor rotation when a jog command is given.
12E	<i>Adaptive Start Profile-2</i>	Constant Acceleration	(default)	
12F	<i>Kickstart Level-2</i>	500%	(default)	
12G	<i>Kickstart Time-2</i>	0000ms	(default)	
12H	<i>Stop Mode-2</i>	Coast to stop	(default)	Brake option can be used if required.
12I	<i>Stop Time-2</i>	0m:00s	(default)	If Brake is used, set as required.
12K	<i>Adaptive Stop Profile-2</i>	Constant Deceleration	(default)	
12L	<i>Adaptive Control Gain-2</i>	75%	(default)	
12M	<i>Brake Torque-2</i>	20%	(default)	If Brake is used, set as required.
12N	<i>Brake Time-2</i>	1s	(default)	

4 Key Considerations

- Only the current limit start control method can be used for jog forward operation. For normal motor operation, any available start control method can be used, including Adaptive Acceleration Control.
- If any single jog forward operation is intended to exceed 20 seconds, you will have to increase the setting of Pr 5B *Excess Start Time-2*.
- When selecting an Digistart D3 for this jog forward control method, the total starts per hour should include the number of normal starts plus the number of jog operations per hour.
- This jog control method can be used with in-line (three-wire) or Inside delta (six-wire) motor connection.
- The Digistart D3 Brake function can be used with this control method.