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Find the *Danaher Motion / IDC SmartStep-23* at our website: *Click HERE*

DANAHER MOTION

Application Note

Group	Drives	Date	12/3/2004
Series	IDC	Revised	2/7/2008
Element Group	Application	Revision	3
Element	Configure	Author	J. Coleman
		# Of Pages	3

Configuring IDC Step Drives for non-IDC Motors

Languages	Target Group	Status	Usage	International Restrictions checked = allowed to view
☑ English	☐ Basic	☐ In Process	☐ Internal	☑ U.S. Citizens
☐ German	☑ Normal	☑ Completed	☑ Public	Non-Restricted Countries, End
☐	☐ Specialist			☑ Uses, and End Users (www.bis.doc.gov)

About the Content:

This document contains current and inductance information for the NextStep, SmartStep, and Impulse drives as well as the winding data for the new IDC T-series step motors.

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NextStep

Current:

Set the current potentiometers on the drive to the current value of the motor.

Inductance:

Set the “Low / High mH” dip switch to OFF for high inductance and ON for low inductance.
Low (ON) inductance is less than 10 mH for 120VAC, and less than 40 mH for 240VAC.

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SmartStep

Use the Axis setup in Application Developer to set the motor parameters.

Current:

With 4-lead motors, the manufacturer's (bipolar) current rating translates directly to the SmartStep current setting.

With 6-lead (unipolar) motors, use 70% of the manufacturer's current rating.

For 8-lead motors, you have the choice of wiring the motor in series or parallel (see Motor Wiring drawing). In Series, set the current to the manufacturer's bipolar rating. In Parallel, double the bipolar current rating.

Inductance:

Motors above 10 mH are considered HIGH for SmartStep and SmartStep 23. Motors above 40 mH are considered HIGH for SmartStep-240.

With 4-lead motors, the manufacturer's inductance rating translates directly to the SmartStep inductance setting.

With 6-lead unipolar motors, use 4X the manufacturer's inductance rating.

For 8-lead (bi-filar wound) motors in series, set the inductance to 4X the manufacturer's rating. In parallel, use the manufacturer's rating.

The SmartStep works best with motors higher than 4 mH. The Motor Inductance parameter configures the drive for a high or low inductance motor.

Impulse

Current:

Current Output Range 0.75 - 4.0 Amps

With 4-lead motors, the manufacturer's (bipolar) current rating translates directly to the Impulse current setting.

For 8-lead motors, you have the choice of wiring the motor in series or parallel (see Motor Wiring drawing). In Series, set the current to the manufacturer's bipolar rating. In Parallel, double the bipolar current rating.

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6-lead motors may be used with the Impulse drive by leaving center-taps unconnected and using the two outside conductors of each phase. Do not connect the center-tap of a 6-lead motor to the Impulse. This will result in an overcurrent fault.

Inductance:

Motor Inductance Range 2 - 80 mH



Using a motor outside of this inductance range could damage the motor and the drive. There is no inductance setting in the drive.

New IDC T-Series Step Motor Winding Data

T-Series Motor Specs

V (Parallel wound)
T (Series wound)

	Current/Phase Amps	Inductance mH
T22T	0.77	65.5
T22V	1.5	17
T31T	1.4	50.1
T31V	2.8	12.5
T32T	1.6	69
T32V	3.2	17
T41T	2.8	36
T41V	5.6	9.1

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