

Important User Information

VXM-1J Jog / Autoreverse Controller
User's Guide

CAUTION:

Controller and AC power supply should be operating in a well ventilated area. Do not use in a wet, dirty, or explosive environment. In industrial environments, repackaging into a NEMA grade enclosure is required. Do not disconnect motor while running. Keep Motor and Limit cables minimum of 2" apart. Only operate with designated motor. Do not alter cables in any way without first consulting Velmex



CAUTION:
MOTOR(S) GET HOT WHEN RUNNING. Motor(s) must be mounted to a metal surface to dissipate internal heat.

Motors mounted to Velmex actuators/positioners will usually provide sufficient heat dissipation. Motor surface temperature should not exceed 152° F (70° C.) In continuous duty applications when the motor is not mounted to a suitable heat dissipating device, motor surface temperature could exceed 152° F (70° C.)

WARNING:

TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT ATTEMPT TO REMOVE COVERS ON POWER SUPPLY OR CONTROLLER. THERE ARE NO USER SERVICEABLE PARTS INSIDE. Any servicing should be done by Velmex qualified service personnel.

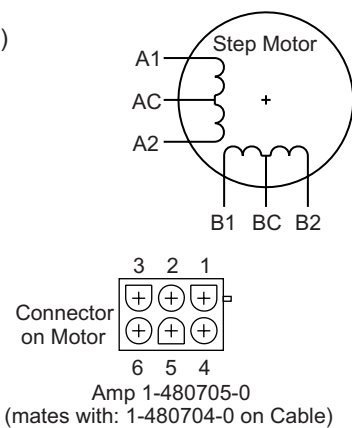
Features

- Simple Variable Speed/Direction Operation
- More Precise than Legacy AC/DC Controls
- 100% Standalone Operation (No Computer Required)
- Up to 6000:1 Speed Ratio
- Autoreverse Teach for Start Point, Reverse Point, and Speed
- Variable or Fixed Speeds each Direction
- Switchless Reversing for Longest Cycle Life & Highest Accuracy
- Automatic Referencing to Limit Switch for Absolute Repeatability
- Switchable Continuous and Momentary Jogging / Reversing
- Low Cost, Reliable Brushless, Stepping Motor Operation
- Trigger Pulse Output at Reversing Points**
- Digitally Controlled Speeds for Precision Scanning
- Can be User reconfigured for different Size Motors**
- Auto-detects presence of (N/C to run) Limit Switches

Motor Wiring (for Velmex installed step motors)

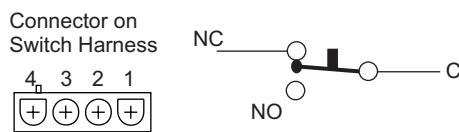
Pin	Motor	Cable (6 wire)	Slo-Syn	Vexta	Pacific Scientific*
1	BC	W	W	W	W/Y & W/R
2	B2	Gn	Gn	Bu	R
3	AC	Bk	Bk	Y	W/Bk & W/O
4	A2	Or	W/R	Bk	O
5	A1	R	R	Gn	Bk
6	B1	Bu	W/Gn	R	Y

* 8 lead motor with wires combined at AC and BC for 6 lead configuration



Limit Switch Wiring

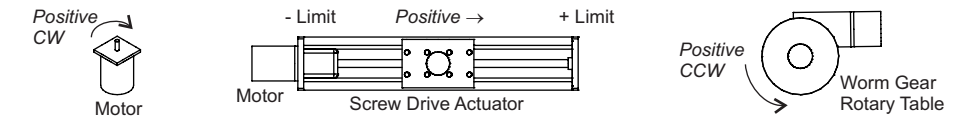
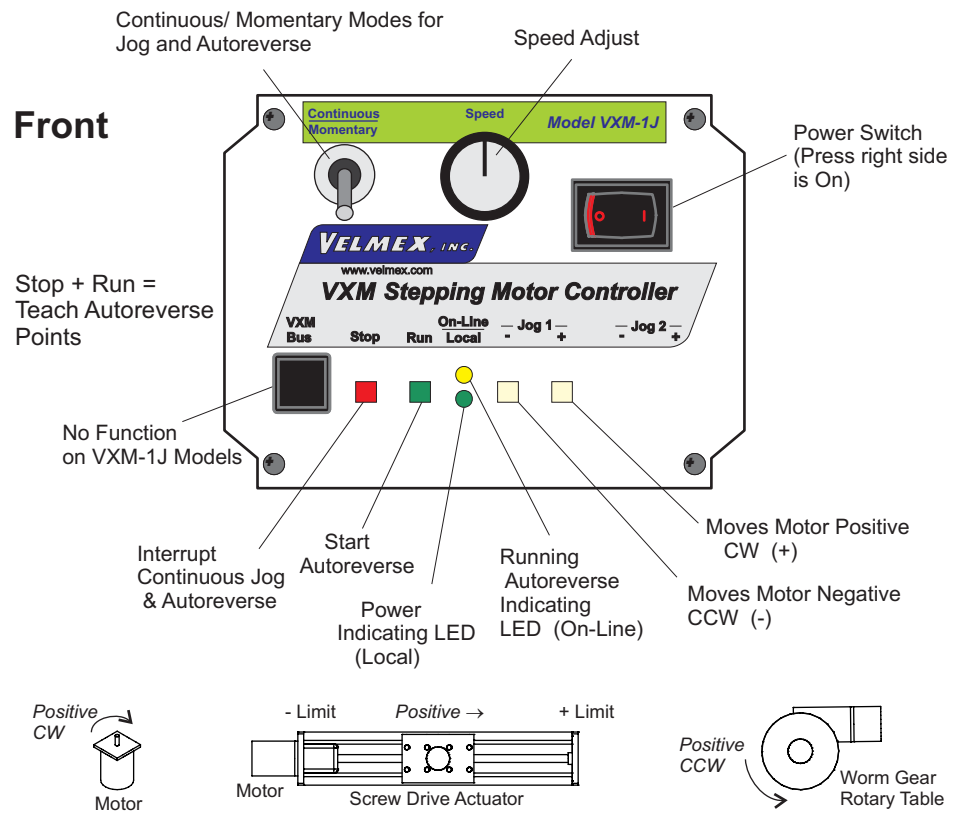
	Pin	Switch	Cable
Inner Switch (Motor End)*	1	C	W
	2	NC	R
Outer Switch (End Plate)	3	NC	Gn
	4	C	Bk



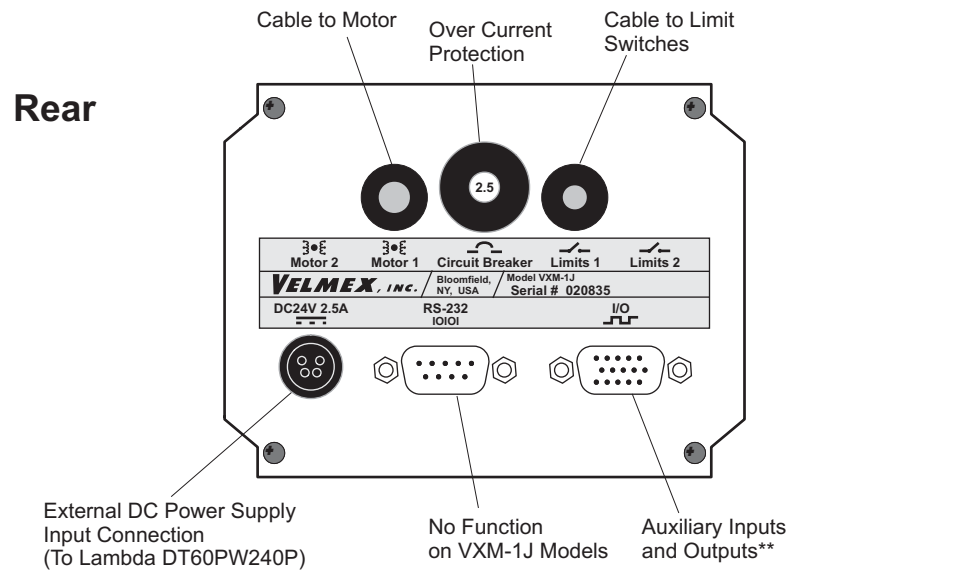
Switches are wired on the normally closed (NC) terminals.

CAUTION: The VXM puts 24VDC on the limit switches, do not connect limit inputs to any +5V logic devices

* Negative direction on VXM controllers



Rear



Warranty

Stepping Motor Controllers manufactured by Velmex are warranted to be free from defects for a period of two (2) years on all parts. Velmex's obligation under this warranty does not apply to defects due, directly or indirectly, to misuse, abuse, negligence, accidents, or unauthorized repairs, alterations, or cables/connectors that require replacement due to wear. Claims must be authorized, and a return authorization number issued before a product can be returned.

The warranty does not cover items which are not manufactured or constructed by Velmex, Inc. These components are warranted by their respective manufacturer. Under the above warranty, Velmex will, at its option, either repair or replace a nonconforming or defective product.

The above warranty is the only warranty authorized by Velmex. Velmex shall in no event be responsible for any loss of business or profits, downtime or delay, labor, repair, or material costs, injury to person or property or any similar or dissimilar incidental or consequential loss or damage incurred by purchaser, even if Velmex has been advised of the possibility of such losses or damages.

Inasmuch as Velmex does not undertake to evaluate the suitability of any Velmex product for any particular application, the purchaser is expected to understand the operational characteristics of the product, as suggested in documentation supplied by Velmex, and to assess the suitability of Velmex products for this application.

This limited warranty give you specific legal rights which vary from State to State.

Record Controller and Motor information here for future reference:

Model#: VXM-1J

Serial #: _____

This Controller was Factory set to run the following Motor:

- Vexta PK245
- Vexta PK264
- Vexta PK266
- Vexta PK268
- Vexta PK296

For more information on setting for a motor go to www.velmexcontrols.com

Contact Information

By Phone: 585-657-6151 and 800-642-6446
 By Fax: 585-657-6153
 Email: info@velmex.com
 On the Internet: www.velmex.com and www.velmexcontrols.com
 By mail: Velmex, Inc.
 7550 State Route 5 & 20
 Bloomfield, NY 14469 USA

Setup

1. Connect the cables to motor and limit switches (if actuator has limit switches.)
2. Connect cable from DC power supply to VXM
3. Plug the DC power supply into an AC outlet.
4. Turn on the VXM by pushing the right side of the rocker switch located on the front panel. Both On-Line and Power LEDs will light for 1 second, the On-Line will go out, then the Power LED will flash 6 times.

Jog



Hold or

Jog + Continuous



Press To Stop or or

Jog - Continuous



Press To Stop or or

Speed Change



Speed Range (0.9 Deg Steps/Sec)**
 PK245, PK264, PK266 Motors... 1-6000*
 PK268 Motors..... 1-5000*
 PK296 Motors..... 1-3000*
 *NOTE: Motors may stall at top speed under load.

Autoreverse (Variable Speed Both Directions)

Jog - Jog +
 Hold & Press Until Flashes 2x
 To Start Point

Jog - Jog +
 Hold & Press Until Flashes 3x
 To 2nd Point

Press To Start Lights when Running
 Down Up
 Speed is read prior to moves

Autoreverse (Referencing Negative Limit Switch)

Continuous
 Set Speed To 1/4 or Less Set Speed
 Press Jog - Wait for Motor to Stop at Limit (Motor will move to Limit Switch and stop)

Hold & Press Until Flashes 1x

Momentary
Jog +
 To Start Point Hold & Press Until Flashes 2x

Jog - Jog +
 Hold & Press Until Flashes 3x
 To 2nd Point

Press To Start Motor will run to limit and then to Start point. Subsequent runs move between Start and 2nd point. First run after power-up will reference from the limit again.

Autoreverse (Referencing Positive Limit Switch)

Continuous
 Set Speed To 1/4 or Less Set Speed
 Press Jog + Wait for Motor to Stop at Limit (Motor will move to Limit Switch and stop)

Hold & Press Until Flashes 1x

Momentary
Jog -
 To Start Point Hold & Press Until Flashes 2x

Jog - Jog +
 Hold & Press Until Flashes 3x
 To 2nd Point

Press To Start Motor will run to limit and then to Start point. Subsequent runs move between Start and 2nd point. First run after power-up will reference from the limit again.

Autoreverse (Variable Speed Out, Fixed Speed Back)

Jog - Jog +
 Hold & Press Until Flashes 2x
 To Start Point

Continuous
Jog - Jog +
 To 2nd Point Set Speed Hold & Press Until Flashes 3x

Press To Start Lights when Running

Autoreverse (Fixed Speed Out, Variable Speed Back)

Jog - Jog +
 To Start Point Set Speed Hold & Press Until Flashes 2x

Jog - Jog +
 To 2nd Point Hold & Press Until Flashes 3x

Press To Start Lights when Running

Autoreverse (Stop at 2nd Point / Wait for Run)

Jog - Jog +
 Hold & Press Until Flashes 2x
 To Start Point

Jog - Jog +
 Hold & Press & Press Until Flashes 4x Flashes 1x
 To 2nd Point

Press To Start When Stopped at 2nd Point Press To Continue

Autoreverse Continuous

Continuous
 Press To Start To Stop or

Autoreturn from Jogging (Run To Set Point)

Jog - Jog +
 Hold & Press Until Flashes 2x
 Run to Point

At The Same Location Hold & Press Until Flashes 3x

Jog - Jog +
 Press To move Motor back to Point
 Jog off Point

NOTE: Pressing Stop ends autoreverse program in progress. Next Run will start from first move not the last. Since the VXM maintains absolute position, all moves will still end on the correct Start and Stop points.

NOTE: The default Start point after power-up is the current position. For highest repeatability it is recommended that **Autoreversing Referencing Limit Switch** be used.

Specifications

Physical:
 Weight.....2.7 lbs (1.2 kg)
 Height3.27" (83 mm)
 Width4.37" (111 mm)
 Length7.39" (188 mm)

AC Power Supply
 Weight.....1.0 lbs (0.45kg)
 Height1.57" (40 mm)
 Width2.72" (69 mm)
 Length5.14" (131 mm)

Electrical Requirements:
 AC Power Supply..... 100-240VAC 2A
 50-60Hz
 VXM Controller 24VDC 2.5A

Environmental:
 Operating Temperature 35°-95° F
 (2°-35° C)
 Relative Humidity..... 10%-90%
 (noncondensing)