

Congratulations with your ServoStep[™] motor!

Quick Start

Follow this guide for fast and correct setup.

WARNING / ATTENTION



Hot Surface. Risk of Burn Surface très chaude. Risque de brûlure.





Veuillez lire le manuel d'utilisation attentivement avant d'utiliser ce produit. Please read the user manual carefully before using this product

Link to our home page: www.jvl.dk

Link to Download (User Manuals or CAD drawings etc): https://www.jvl.dk/list/310/downloads

Link to User Manuals: https://www.jvl.dk/files/pdf-1/user%20manuals/lb0058gb.pdf (ServoStepTM) https://www.jvl.dk/files/pdf-1/user%20manuals/lb0056gb.pdf (Ethernet)

Power Supply – important!

The motor requires both a "power" and a "control voltage" supply. If you use a 24 VDC for both supplies you can use a single power supply. Otherwise, you will need two separate supplies.

Connect:	Brown + White	\rightarrow Main Power	(P+)
Connect:	Black	\rightarrow Control Voltage In	(CVI)
Connect:	Blue + Grey	\rightarrow Main supply Ground	(GND)

Use JVL cable Item No.: WI1000-M12F5W05N or WI1000-M12F5T05N.

Isolate CVO (Control Voltage Out) if you don't use it

CN4 connector (M12, 17 pin female): CN3 connector (M12, 8 pin female): isolate the Red wire! isolate the Red wire!



If CVO by mistake is connected to the RS485 or RS422 signals, it will cause *permanent damage* and render your motor unusable!



Schematic overview of supply connections:



Please follow the instructions regarding Earth and Ground:



(See section 2.1 in the User Manual for more information.)

Size and Type of your Motor DC Supply

Use JVL's range of power supplies if you want your motor to be CE compliant —and to avoid problems and be up-and-running easy and quickly.

Switch-mode power supplies have two disadvantages when it comes to motor supply: (1) they cannot handle return energy from a braking motor [see PSU00-PD1 below] and (2) they have a hard and precise current limit.



JVL therefore offers special switch-mode Motor supplies.

MIS171...MIS176: use min. 3A supply, PSU24-075, PSU24-240 or PSU48-240. MIS231...MIS234: PSU24-240, PSU48-240 or PSU80 1000 10 recommended. MIS340...MIS343: PSU24-240, PSU48-240 or PSU80-1000-10 recommended. MIS430...MIS432: PSU24-240, PSU48-240 or PSU80 1000 10 recommended.

JVL Motor DC Supply Overview

PSU24-075 – 24 VDC, 3.2 A, 75 W (no capacitor) PSU24-240 – 24 VDC, 10 A, 240 W (built-in 4400 μF extra capacitance) PSU48-240 – 48 VDC, 5 A, 240 W (built-in 4400 μF extra capacitance) PSU48-1000-01 – 48 VDC, 21 A, 1000 W, 90-264 VAC, for several motors PSU80-1000-10 – 80 VDC, 12 A, 960 W, 3 x 340-550 VAC, for several motors PSU00-PD1 – Power Dump unit for 48 VDC with large capacitor and power dump resistor circuit for braking large inertias. Use with PSU48-... or 48 V battery.

Managing Return Energy at 48 VDC

NB. If your 48 VDC motor supply is not a rechargeable battery, add item No. PSU00-PD1 and power dump resistor type RP0001 = 33 Ω 50W (or RP0000 = 22 Ω 50W).

Serial Communication

All ServoStep[™] motors from MIS171 to MIS432 have built-in RS485 serial communications interface.

Ethernet equipped motors have the RS485 interface only in their 17-pin M12 connector.

To ensure successful connection from the beginning please use these items JVL items:

- RS485-USB-ATC-820 USB to RS485 converter
- Depending on your actual motor use one of these RS485 cables: RS485-M12-1-5-5 RS485-M12-1-5-8 RS485-M12-1-5-17
- MacTalk[®] software, request Item No.: MACTALK_USB
- Ensure PC and PSU (supply) have same Ground connection

(See section **2.8** in the User Manual for more information on how to connect a ServoStep[™] motor.)

- 1. Turn DC power off and double-check power supply connections
- 2. Connect RS485 serial cables and the RS485-USB-ATC-820 converter
- 3. Install MacTalk® on your PC and start it
- 4. Turn DC power ON
- 5. Wait for MacTalk[®] to connect to your motor (bottom status line turns green)



MacTalk:

HacTalk@ - Noname								- 🗆 X
Files Motor ePLC Setup Updates Help								
Open Save Save in	Motor Reset	Position Clear Errors F	aset Motor Fille	👍 r Setup — STO	STOP DP Motor What's N	MacTalk® Version: 1.90.007		VL
Serial port 0	• Comport:	4 0 Baud: 19.200	* Motor Ad	dress: Al 🗧	Scan 🔴	♥ Status		
Main I/O Setup Registers Advanced Event	log Scope	PLC Absolute encoder Hor	ning			Motor Status Operating Mode	Position	
Startup Operating Mode Passive Change Actual Mode Velocity © Postion Gear V Profile Data		V Error Handling Follow Error Max Position Limit Min Position Limit Max Error Deceleration	0	Counts Counts Counts RPM/s	S Refresh Tab	Actual Velocity Actual Position Encoder Position Foliow Error Actual Torque Run Status In Phys Position	0.00 13696110 13696069 41 6.6	RPM Counts Counts Counts %
Max Velocity 300.00	RPM	Bus Voltage Min	15	Volt		In Position At Velocity		
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Acceleration 3000	RPM/s	General Setup	imit			Homing Done		
Deceleration 0				Bus Voltage (P+) Control Voltage (CVI)		Volt Volt		
V Driver Parameters Running Current 6.00	ARMS	V Auto Position Correctio				Temperature Digital/Analog Inputs	41.97	°C
	Акріз	'In Position' Window	20000	Counts		87654321	5.00 Volt	
✓ Motion Parameters Requested Position 13696110 → ✓ Closed loop settings ✓ Enable Closed Loop	Counts	Auto Correction Velocity 'In Position' Retries Position Setting Time	0.00	Counts		Digital Outputs 8 7 6 5 4 3 2 1	5.00 Volt	
Enable Current Control		Update the 'In Physical	Designed by several			External Encoder		
Allowable Overspeed (0-100%) 5 Follow Error Before Overspeed 5000	% Counts	V Undervoltage Handling Undervoltage -> Set Er Undervoltage -> Stop of	ror Bit controlled, go to Pas			External Encoder Position External Encoder Velocity Internal Encoder Velocity DEmons	0 0 0.00	Counts Counts/s RPM
		Undervoitage -> Set Ma Communication Motor Address	ex Velocity = 0 RPM			Varnings Positive Limit Input active Nonative Limit Transf active Watch Registers		
		MIS232T4Q5H466# (Ver			E	* MIS232T4Q5H466# c	n COM4	

Ethernet Communication

If you have a ServoStep™ equipped with industrial Ethernet then you can quickly determine the <u>default IP address</u>: **192.168.0.XX**

XX refers to the last 2 digits in the MAC-ID which is printed on the label.

Example: If the MAC-ID has the value 00:50:C2:D0:C9:**14**, then the default IP address is set to: 192.168.0.**20** (since the 14 is Hexadecimal = 20 decimal).

Special instructions for UL applications

- 1. Isolating 60VDC max Overvoltage Category II power supply only
- 2. These motors are to be protected by supplementary fuse rated MIS17x: 4A / MIS23x: 8A / MIS34x:10A and 60Vdc minimum. (Example: Eaton Bussmann ABC series.)
- 3. Max ambient temperature is 40°C / 104°F
- 4. For use in Pollution Degree 2 Environment

Helpful unit



if you need to connect Sensors with M8-3pin connectors: Item No.: WI1302-2AM17T01NMB — Junction Box for ServoStep™ (MIS/SMC)

(Item No.: WI1301-2AM17T01NMB — Junction Box for MAC motor®)