

Product Data

Preliminary



JVL
intelligent motors

PDA072M12M05SF05S.4N

Power Supply Optimizer for ServoStep™ and MAC motor® series used for motion control.



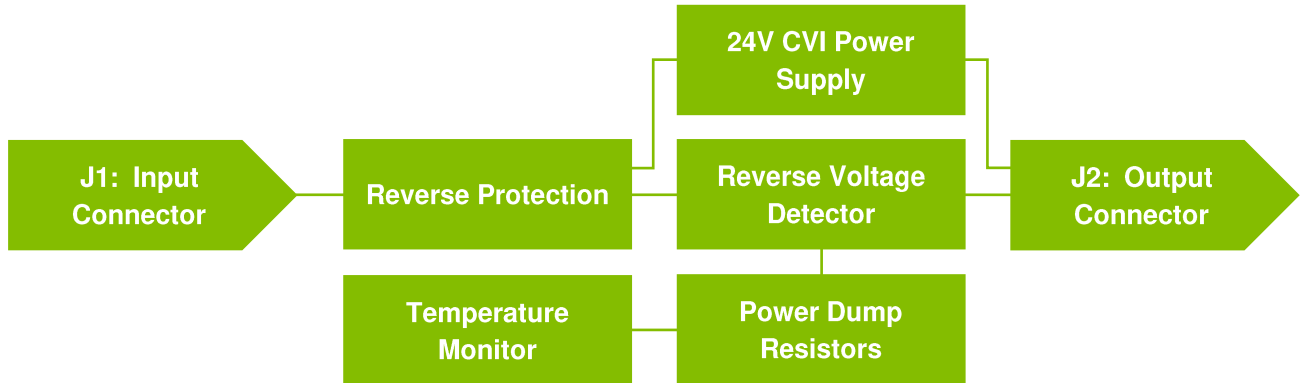
Power Supply Optimizer

Features:

- Dissipation of brake energy – Built-in power dump resistors
- Built-in control voltage supply
- Overload Protection
- Over temperature protection
- Plug-n-play
- Wide input supply range – 8-80Vdc
- 0.5 m shielded power cable
- Multiple mounting options
- IP67 protection
- Industrial grade M12 connectors



Block Diagram



Technical Data

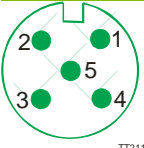
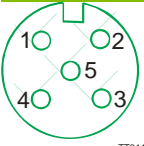
Description	Min	Max	Units
Supply Voltage	8	80	VDC
Continuous Current		20	A
Brake Power - Peak (on: 1s off: 30s)		100	W
Brake Power - Continuous		20	W
Control Voltage Output (CVI)	22	26	VDC
Control Voltage Current		2	ADC
Over Temperature	80	90	°C
Operating Temperature	0	40	°C

Accessories

Straight Power Cable
WI1000-M12F5TxxN

Angled Power Cable (The cable will be oriented upwards)
WI1000-M12F5VxxN

Connector Description

Pinout	Function	Connector	1	2	3	4	5	Shield*
	Power Input	M12 Male 5 pin	P+	P+	P-	CVI	P-	Chassis
	Power Output	M12 Female 5 pin	P+	P+	P-	CVI	P-	Chassis

*Shield is isolated from P- (Gnd)

P+ 8-80V

P- GND

CVI Control Voltage, nominal 24Vdc. If no CVI is provided on input, it is generated from P+ if present. Whatever voltage is higher is selected.

The embedded CVI supply is a step-down converter, which means that there is a voltage drop of 1-2Vdc.

It also means that the generated CVI voltage is limited by the voltage level at P+, if e.g., +12Vdc is supplied to P+ the CVI supplied to the motor will be approx. +10-11Vdc.

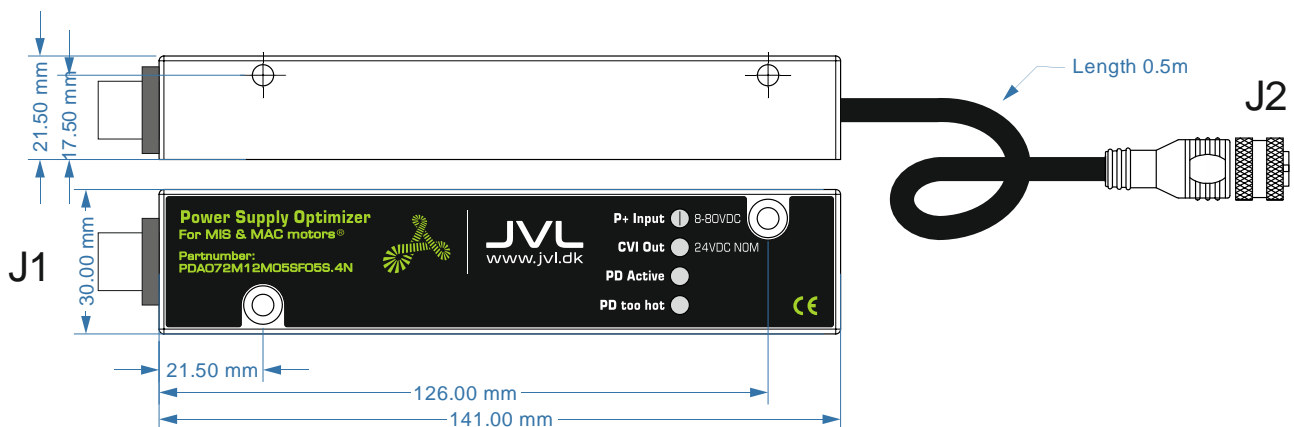
Using a CVI supply lower than 18Vdc

For JVL motors ServoStep™, you need to set up a few registers in order to make the motor function with a supply voltage lower than 18Vdc.

Register 139 (Acceptance voltage) is default set to 18Vdc, which means that the motor will not power-up until at least 18Vdc is measured. When using a 12Vdc supply to P+ and no specific CVI supply, you must set this register to e.g., 10Vdc in order to allow the motor to power-up.

It is NOT recommended to use a CVI supply to the motor which is below 7Vdc, so when using the built-in CVI supply, the P+ voltage level must always be at least 9Vdc.

Dimensions



Compliance

RoHS, REACH, CE, UKCA,