

PDA072M12M05SF05S.4N

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



Power Supply Optimizer

Features

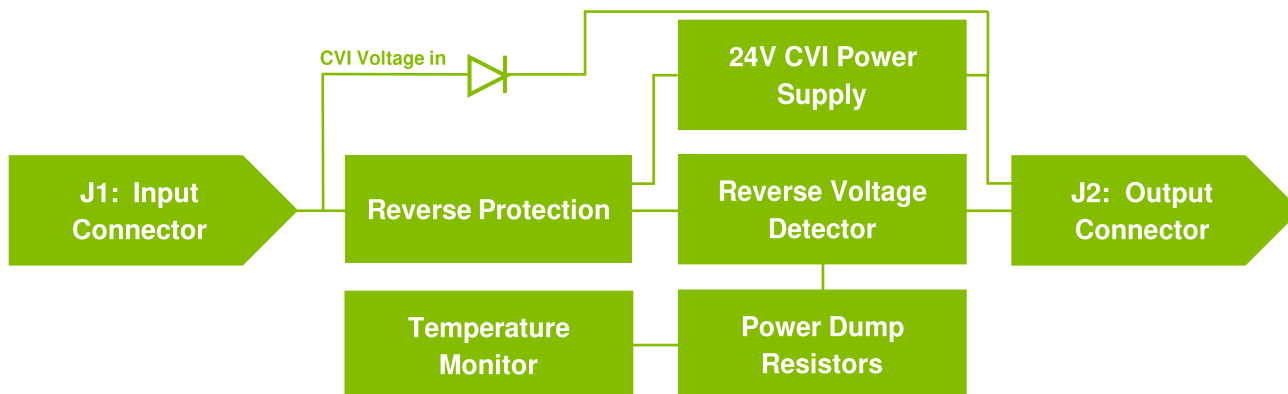
- Dissipation of brake energy – built-in power dump resistors
- Built-in control voltage supply
- Overload protection
- Over temperature protection
- Plug-n-play
- Wide input supply range – 9 to 72Vdc
- 0.5 m shielded power cable
- Multiple mounting options
- IP67 protection
- Industrial grade M12 connectors

Compliance

- RoHS, REACH, CE, UKCA



Block Diagram



Technical Data

Description	Min	Max	Units
Supply Voltage*	9	72	VDC
Continuous Current		20	A
Brake Power - Peak (on: 1s off: 30s)		100	W
Brake Power - Continuous		20	W
Control Voltage (CVI) (Output J2)	(7)	26	VDC
Max Control Voltage Input (CVI)	Please refer to datasheet for motor		
CVI Voltage drop (J1 - J2)		1	VDC
P+ to CVI Voltage drop (J1 - J2)#		2	VDC
Control Voltage Current		2	ADC
Over Temperature	80	90	°C
Operating Temperature	0	40	°C

*More than 95VDC supply voltage may cause permanent damage.

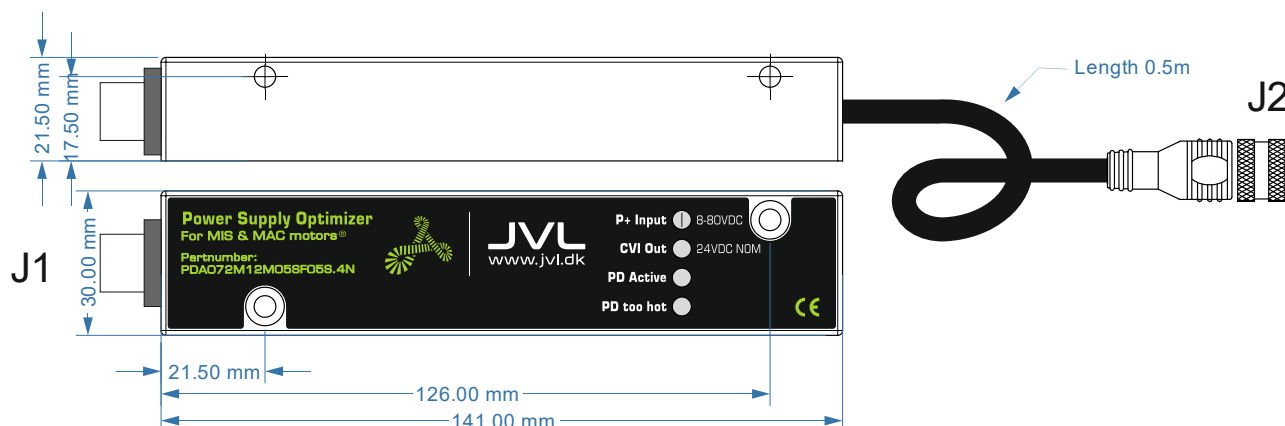
When P+ is less than ~24VDC (the nominal voltage of the build-in DC-DC converter.)

Accessories

Straight Power Cable
WI1000-M12F5TxxN

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

Dimensions





Connector Description

Pinout	Function	Connector	1	2	3	4	5	Shield*
 TT2111GE	Power Input	M12 Male 5 pin	P+	P+	P-	CVI	P-	Chassis
 TT2112GE	Power Output	M12 Female 5 pin	P+	P+	P-	CVI	P-	Chassis

*Shield is isolated from P- (Gnd)

P+: 9-72Vdc

P-: GND

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

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