

New Integrated Servo Motor *iSV-***T Series*

BLDC Servo Integrated Motor, 24-50VDC, Frame 57mm ,90W-180W

Leadshine’s iSV-***T integrated servo motor is a 57mm frame size brushless motor integrated with a 16bit encoder and a servo drive. At very compact size and with all components integrated, the iSVxxx-T can save mounting space, eliminate encoder connection & motor wiring time, reduce interference, and cut/reduce cable and labor costs.



- Step & direction command input for position control
- Compatible mounting size with 57mm stepper motor
- Smooth motor movement and excellent respond time
- Isolated control inputs of Pulse, Direction
- Easy to tuning for CNC application
- Low torque-ripple with new design of magnetic circuit

Part Number	ISV-B23090T-D4	ISV-B23130T-D4	ISV-B23180T-D4
Rated Power(W)	90	130	180
Rated Torque(Nm)	0.3	0.45	0.6
Peak Torque(Nm)	0.9	0.9	0.9
Rated Speed(rpm)	3000	3000	3000
PeakSpeed(rpm)	4000	4000	4000
Rated Voltage(Vdc)	36	36	36
Weight(kg)	0.95	1.25	1.54

Parameter	Min	Typical	Max	Unit
Input Voltage	20	36	50	VDC
Continuous Current	0	-	6.0	A
Pulse Input Frequency	0	-	200	kHz
Pulse Voltage	0	5	24	V
Logic Signal Current	7	10	16	mA
Isolation Resistance	100	-	-	MΩ

Connectors and Pin Assignment

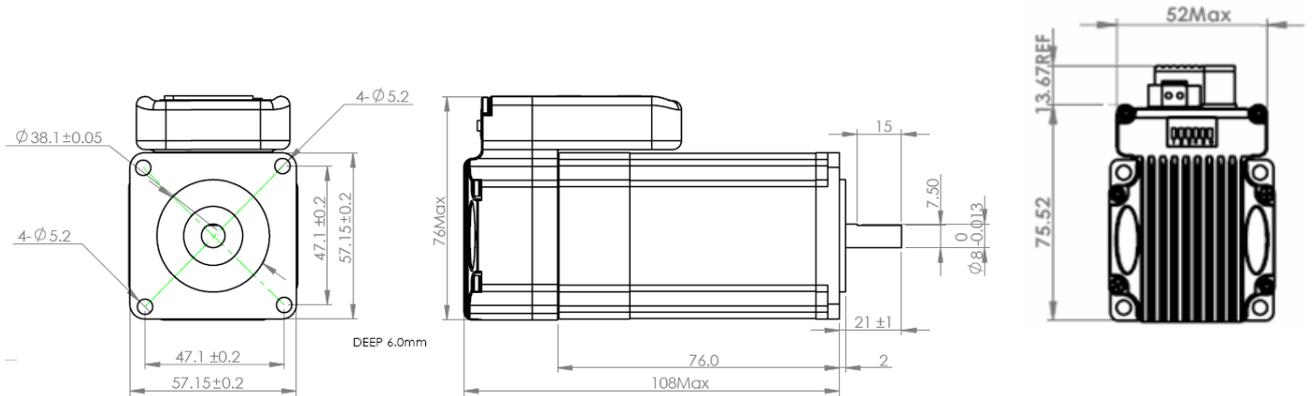
Power Connector			
Pin	Name	I/O	Description
1	+Vdc	I	Power Supply Input (Positive)24-40VDC recommended. Please leave reasonable reservation for voltag fluctuation and back-EMF during deceleration.
2	GND	GND	Power Ground (Negative)

RS232 Communication Connector			
Pin	Name	I/O	Description
1	+5V	O	+5V power output (Note: Do not connect it to PC’s serial port)
2	TxD	O	RS232 transmit.
3	GND	GND	Ground.
4	RxD	I	RS232 receive.
5	NC	-	Not connected.

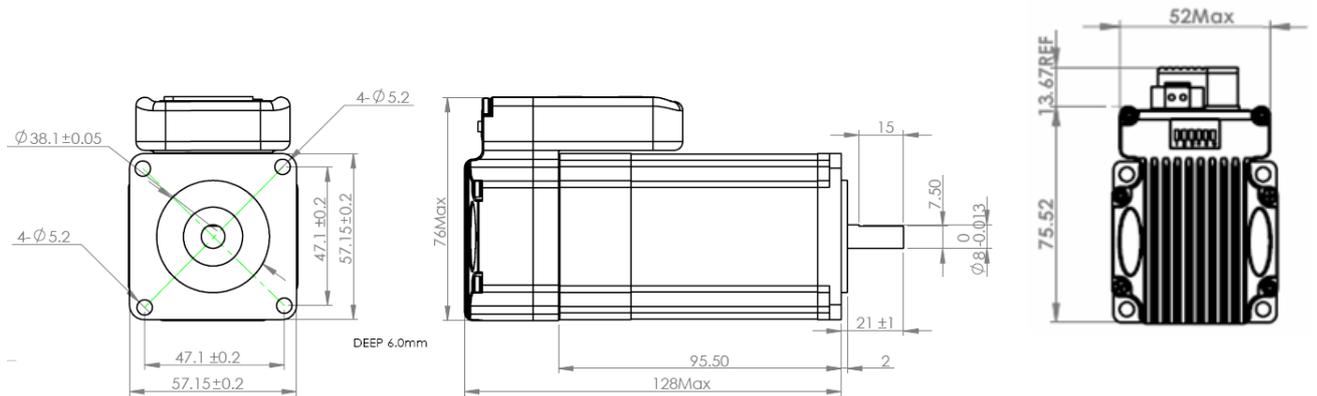
Control Signal Connector

Pin	Name	I/O	Description	
1	PUL+	I	Pulse Signal: In single pulse (pulse/direction) mode, this input represents pulse signal, active at each rising or falling edge (Software configurable). In double pulse mode (software configurable), this input represents clockwise (CW) pulse, active both at each high level and low level. 4.5-24V for PUL-HIGH, 0-0.5V for PUL-LOW. For reliable response, pulse width should be longer than 2.5μs for 200K MAX input frequency or 1μs for 500K MAX input frequency.	The fuction of four pins will be different if ISV motor works in internal velocity mode . Pls refer to chapter 3 and chapter 4 about how to use these four pins for velocity mode .
2	PUL-	I		
3	DIR+	I	Direction Signal: In single-pulse mode, this signal has low/high voltage levels, representing two directions of motor rotation. In double-pulse mode (software configurable), this signal is counter-clock (CCW) pulse, active both at high level and low level. For reliable motion response, DIR signal should be ahead of PUL signal by 5μs at least. 4.5-24V for DIR-HIGH, 0-0.5V for DIR-LOW. Toggle DIP switch SW5 to reverse motion direction.	
4	DIR-	I		
5	ALM+	O	Alarm Signal: OC output signal, activated when one of the following protection is activated: over-voltage and over current error. They can sink or source MAX 50mA current at 24V. By default, the impedance between ALM+ and ALM- is low for normal operation and becomes high when any protection is activated. The active impedance of alarm signal is software configurable.	
6	ALM-	O		

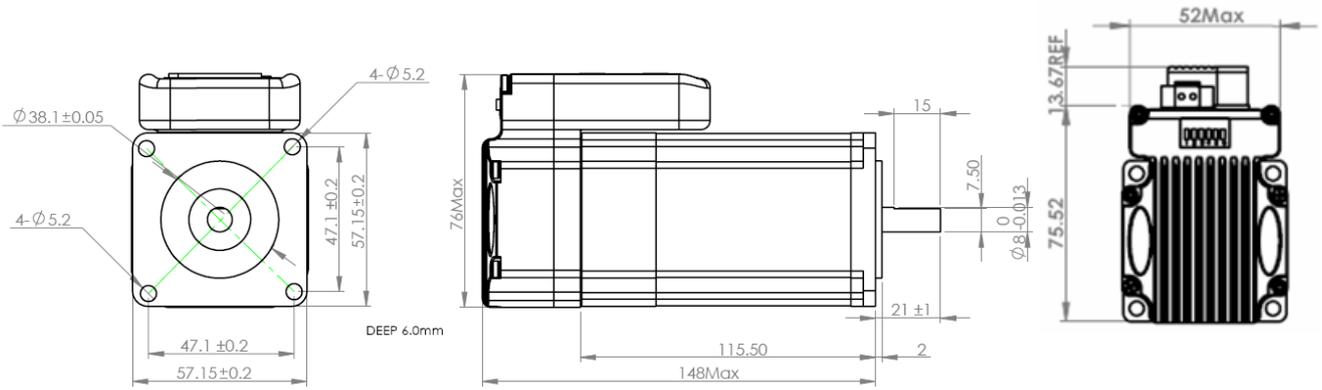
Mechanical Specifications



Mechanical Specification of iSV-B23090T-D4



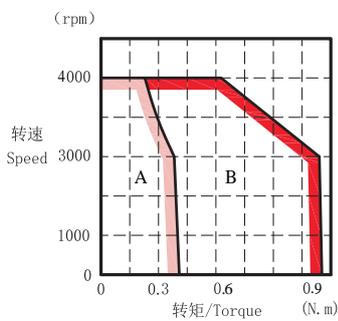
Mechanical Specification of iSV-B23130T-D4



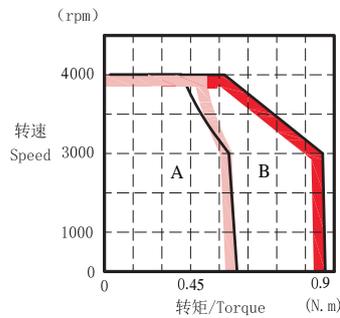
Mechanical Specification of iSV-B23180T-D4

Curve of Torque-speed

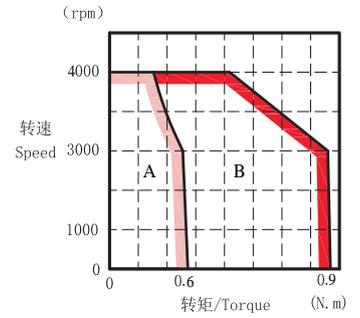
A: Continuous Duty Zone
B: Intermittent Duty Zone



iSV-B23090T-D4

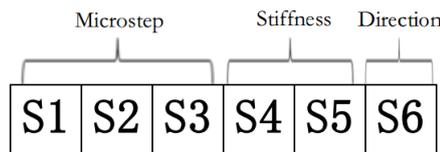


iSV-B23130T-D4



iSV-B23180T-D4

DIP Switch Settings



. Pulses/Rev (S1-S3)

Pulse/rev	S1	S2	S3
Pr0.08	Off	Off	Off
1600	On	Off	Off
2000	Off	On	Off
3200	On	On	Off
4000	Off	Off	On
5000	On	Off	On
6400	Off	On	On
8000	On	On	On

Stiffness setting(S4—S5)

Stiffness	S4	S5
Pr0.03	Off	Off
9	On	Off
10	Off	On
11	On	On

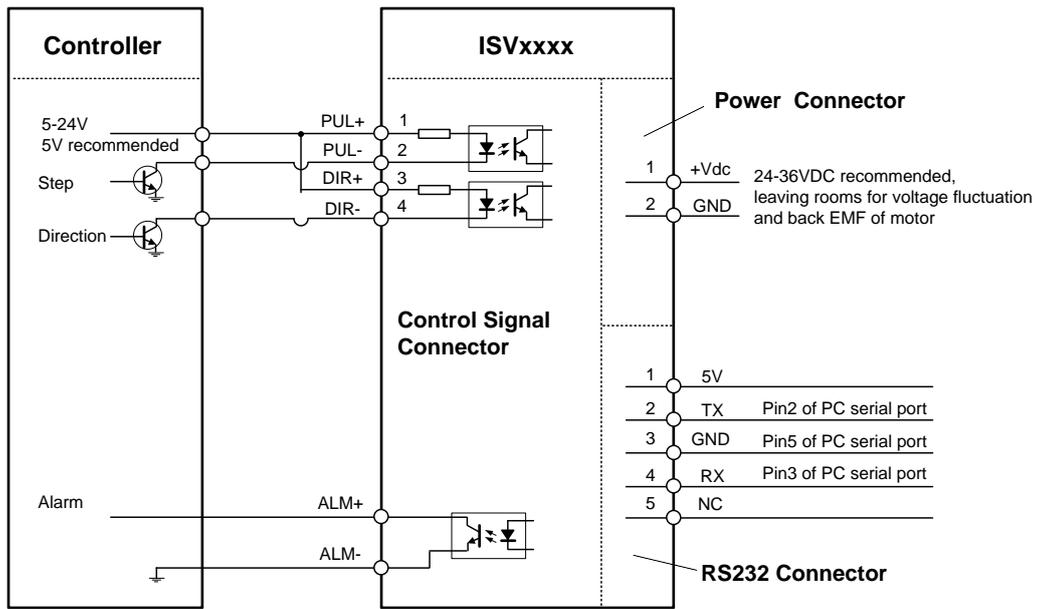
Motor Shaft Direction (S6)

DIP switch S6 is used for changing motor shaft rotation direction. Changing position from “ON” to “OFF”, or “OFF” to “ON” will reverse iSVxxx rotation direction.

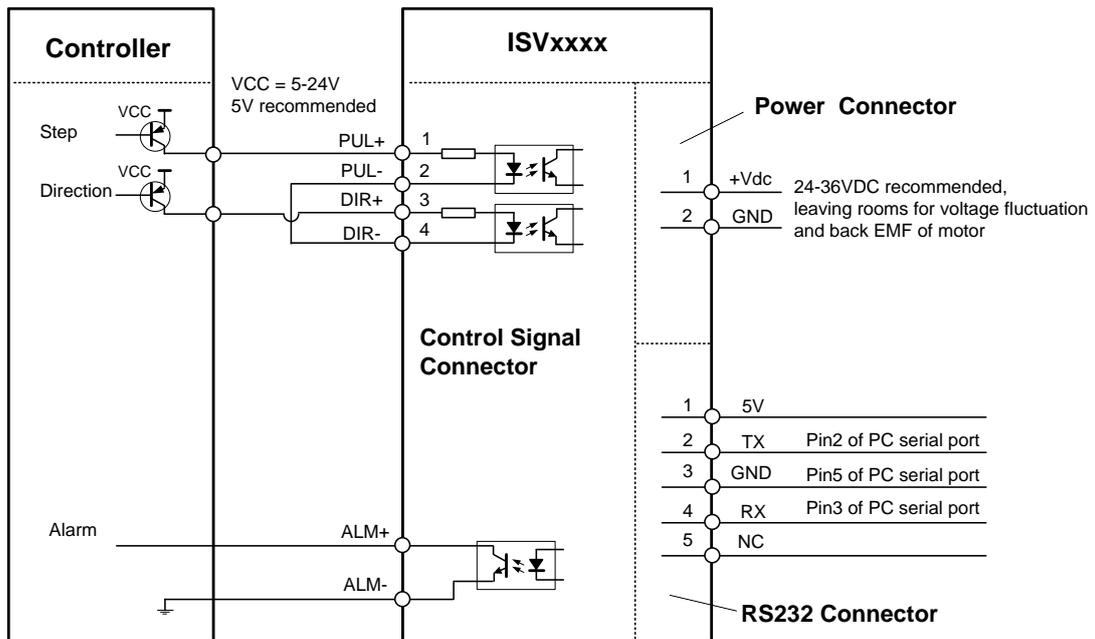
S6	Direction
Off	CCW
On	CW

RS232 Communication Cable Connections

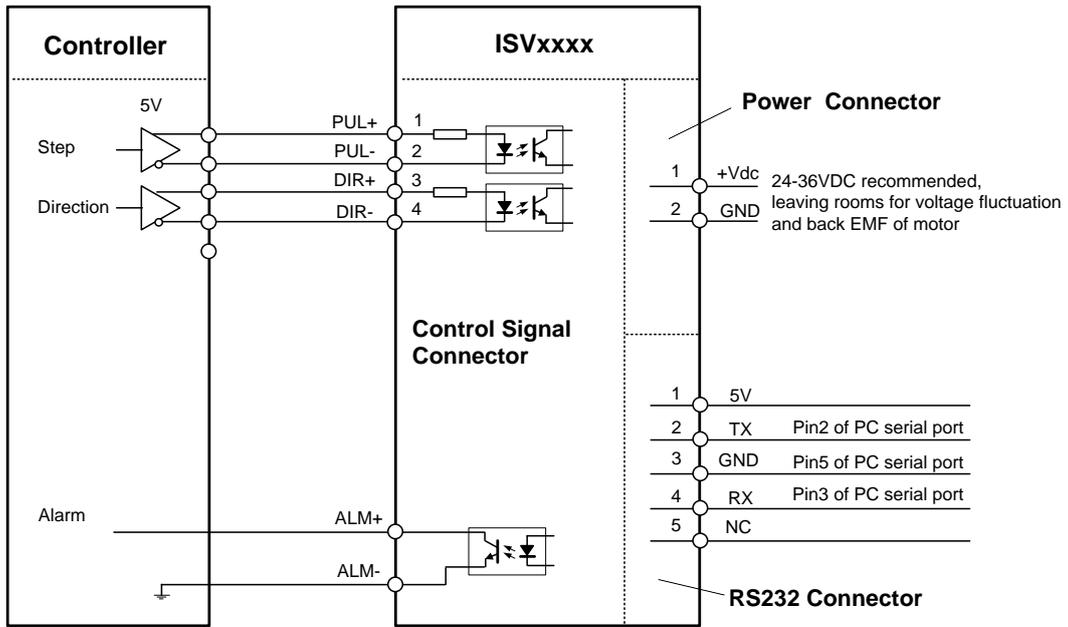
Note1: The RS232 communication port is not isolated. Please use an isolated power supply for the ISVxxx when the PC’s serial port is not isolated.



Connect iSV-xxx to controller of sinking output



Connect iSV-xxx to controller of sourcing output



Connect iSV-xxx to controller of differential output