

MOTORIZED STAGES Z-AXIS LINEAR BALL CAVE-X POSITIONER

[High Precision] Motorized Z-Axis - Linear Ball, CAVE-X POSITIONER

Stroke 30~75



■ **Features:** Z-Axis Type having high rigidity and compactness in width and supporting 30~75mm of travel distance.

☉ For CAD data, see the MISUMI website.

■ **ZCVL (w/o Cover)**

■ **ZCVLC (with Cover)**

☉ For Controllers, Handset Terminals, see P. 1-1735-93 ~ P. 1-1735-94

■ **Material:** 440C Stainless Steel
 ■ **S:** Surface Treatment: Electroless Nickel Plating
 ■ **A:** Accessory: SCB4-10 (4 pcs.)

ZCVL630

ZCVLC630

ZCVL650

ZCVLC650

ZCVL675

ZCVLC675

Additional Position for mounting Home Sensor (Option)

☉ See the CAD data for detailed dimensions.

Part Number	Type	No.	Lead (mm)	Home Sensor Options of Additional Position for Home Sensor	Motor	Cable	Mechanical Standards		Accuracy Standards			
							Stage Surface (mm)	Travel Distance (mm)	Weight*2 (kg)	Pitching	Yawing	
ZCVL (w/o Cover) ZCVLC (with Cover)	630	1	1	N (W/o Sensor) 1 (CCW Right) 2 (CCW Left) 3 (Right-center) 4 (Left-center) 5 (CW Right) 6 (CW Left) ☉ Limit Sensor is built-in.	C (Standard) F (High Torque) G (High Resolution) MA (With Electromagnetic Brake) PA (α-Step) U (Servo Motor)	N (Cable not included (separately sold)) M (For Motor with Electromagnetic Brake) P (For Servo Motor) ☉ For combination of motors and cables, see the table below.	60×60	30	ZCVL:2.0 ZCVLC:2.1	5μm	20"	15"
							60×60	50	ZCVL:2.1 ZCVLC:2.2			
							60×60	75	ZCVL:2.3 ZCVLC:2.3			

*1. When the Motor Option MA or PA is selected, the driver is included with as the Set. When the Option U is selected, the Amplifier is included with. The cable is available for Option M, P, U and is unavailable for Option N (Cable not included).
 *2. The value is for C Type of Motor.

Ordering Example

Part Number - Lead - Home Sensor - Motor - Cable

ZCVL630 - 1 - N - C - N
 ZCVLC630 - 1 - 1 - PA - P

☉ Days to Ship [Configure Online](#)

■ **Motor/Cable Application Table**

Motor	Cable
C, F, G	N (Not Provided)
MA	M
PA	P
U	U

☉ For the cable for C, F or G, see MSCB_on P. 1-1735-95

■ **Max. Speed**

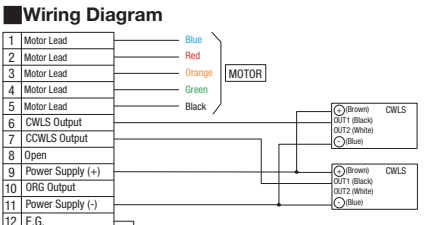
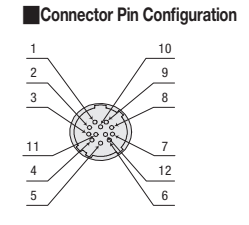
Motor	(mm/sec)
C	20
F	30
G	15
MA	25
PA	40
U	50

☉ Note that the speed and positioning time differ depending on the current condition of use. The speed and positioning time are not guaranteed values but reference values provided by MISUMI.

■ **Common Specifications**

Feed Screw	Ball Screw Ø8, Lead 1	
Guide	Linear Ball Guide	
Resolution	Full	2μm
	Half	1μm
	Fine (At 1/20)	0.1μm
Max. Speed	20mm/sec	
Positioning repeatability	±0.5μm	
Load Capacity*3	68.6N	
Lost Motion	1μm	
Backlash	1μm	
Straightness	3μm	
Parallelism	15μm	
Motion Parallelism	10μm	

☉ The value differs depending on the type of motor. For details, see P. 1-1735-15
 *2. The above specifications table is for a single axis stage placed flatly.
 *3. The above load capacity value is for Z-Axis.

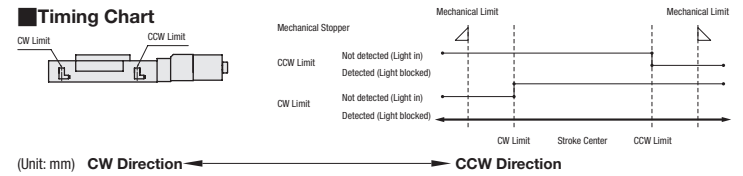


☉ The above is the connector pin configuration / wiring diagram for C, F, G. For connector pin configuration / wiring for other types of motor, see P. 1-1735-16

■ **Electrical Specifications**

Motor	Type	C	F	G	MA	PA	U
		Standard	High Torque	High Resolution	With Electromagnetic Brake	Stepping-out Prevention	High Speed
		0.72°	0.72°	0.36°	0.72°	0.36° (When 100P/R is set)	18-bit Encoder (262144P/R)
Connector	Applicable Receptacle Connector	HR10A-10P-12S (73) (Hirose Electric Co., LTD.)			5559-06R-210 (Molex Japan LLC)	43020-1000 (Molex Japan LLC)	Motor Cable JN4FT04SJ1-R (Japan Aviation Electronics Industry, Ltd.) Encoder: 1674320-1 (Tyco Electronics Japan G.K.)
Sensor	Limit Sensor	Provided					
	Home Sensor	Not Provided by standard (Photomicrosensor PM-L25 (Panasonic Industrial Devices SUNX Co., Ltd.) is available as the option.)					
	Near Home Sensor	-					
	Power Supply Voltage	DC5~24V±10%					
	Current Consumption	45mA or less (15mA or less per sensor)					
Control Output		NPN Open Collector Output DC30V or less, 50mA or less Residual Voltage 2V or less (when load current is 50mA) Residual Voltage 1V or less (when load current is 16mA)					
	Output Logic	Detecting (Dark): Output Transistor OFF (Non-Conducting)					

☉ Sensors with Part Number PM-□24 are to be discontinued and replaced by next-generation products with Part Number PM-□25 from April 2017.



	Reference Position	Mechanical Limit	CW Limit	CCW Limit	Mechanical Limit
ZCVL_630	Stroke Center	17.5	15.5	15.5	17.5
ZCVL_650	Stroke Center	27.5	25.5	25.5	27.5
ZCVL_675	Stroke Center	40	37.5	37.5	40

☉ The coordinates shown are design values. There may be approx. ±0.5mm misalignment on the physical dimensions.
 ☉ For details about Homing, see P. 1-1735-97

■ **Recommended Homing Method**

Type5	After detection is executed in the CCW direction, the process of detecting in the CW direction is begun based on the CWLS signal.
Type6	After detection is executed in the CW direction, the process of detecting in the CCW direction is begun based on the CWLS signal.
Type11	After Type 5 is executed, the process of detecting in the CCW direction is begun based on the TIMING signal.
Type12	After Type 6 is executed, the process of detecting in the CW direction is begun based on the TIMING signal.