

MOTORIZED ROTATION STAGE DIRECT DRIVE

[High Precision] Motorized Rotary Stages - Direct Drive

■ **Features:** Stages suitable for being rotated 360° at a high speed.

☉ For CAD data, see the MISUMI website.

Rotary

■ Material: Aluminum Alloy
 ■ Surface Treatment: Black Anodize

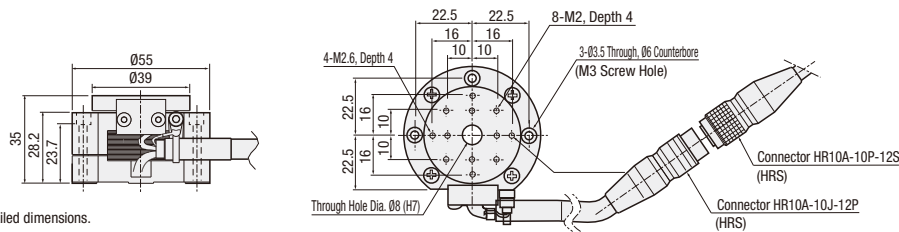


⚠ RMDG40 is 5V Input Type. When controlling this type of stage by using any controller other than the MISUMI's one, be sure to use 24V-compatible sensor amplifier circuit board.

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

RoHS 10

RMDG40

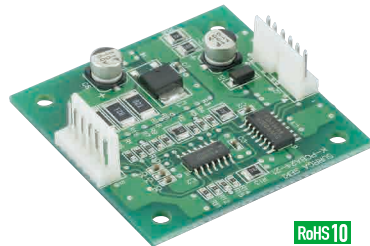


☉ See the CAD data for detailed dimensions.

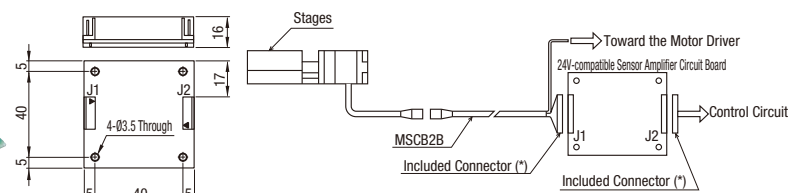
24V-compatible Sensor Amplifier Circuit Board

When driving a motorized stage based on the EE-SX1103 sensor by using the motion control board and programmable logic controller instead of the controller manufactured by MISUMI, the 24V-compatible Sensor Amplifier Circuit Board is required. In general, the Photo Coupler is used on the sensor input circuit of these control devices and thereby, approx. 10mA of operating current is needed. In addition, the sensor current should become DC24V-compatible one. However, Since MISUMI's Motorized Stage with built-in EE-SX1103 sensor operates at DC5V and can output only 1mA level current, it cannot be wired directly to the above control devices. In this situation, incorporate the 24V-compatible sensor amplifier circuit board, so DC24V of Power Supply Voltage and up to 500mA of output current become available.

External Dimension Diagram Entire Configuration Diagram



RoHS 10

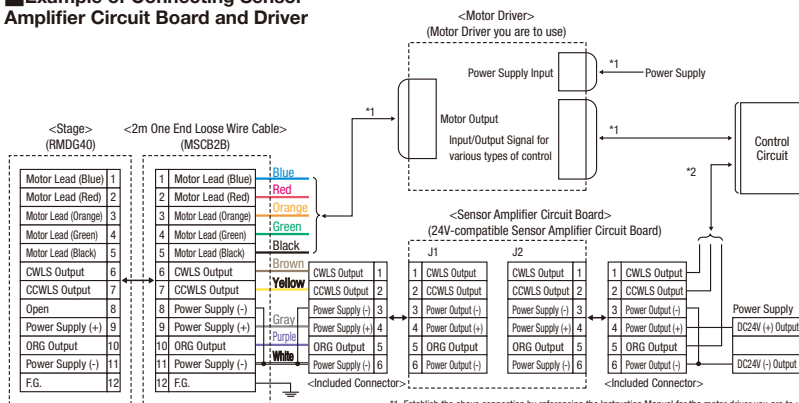


The position of the first pin of connector is marked with ▼.

☉ Crimp the above circuit board to the included connector on your own.

■ Be careful not to damage the sensor.

Example of Connecting Sensor Amplifier Circuit Board and Driver



*1. Establish the above connection by referencing the Instruction Manual for the motor driver you are to use.
 *2. Establish the above connection in such way that it meets requirements for the control circuit you are to use.

External Dimensions	50(W)x50(D)x16(H)mm
Connector Type	171825-6
Compatible Connector	(Tyco Electronics Japan G.K.) 171822-6 (Accessory)
Power Supply Voltage	DC24V±10%
Current Consumption	30mA or less
Control Output	NPN Open Collector Output DC24V, 500mA or less
Operating Environment	0~40°C, 20~80%RH (No Condensation)
Accessory	2 Connectors 171822-6 (Tyco Electronics Japan G.K.) 12 Connectors 170204-1 (Tyco Electronics Japan G.K.)

☉ Connectors should be machined by customers. In addition, be sure to use 0.2mm² or thicker cable for wiring. Screws for circuit board mounting should be procured by customers themselves.

Part Number		Cable	Circuit Board	Mechanical Standards			Accuracy Standards
Type	No.			Stage Surface (mm)	Travel Distance (°)	Weight (kg)	Moment Rigidity (°/N·cm)
RMDG	40	N(Cable not included (separately sold)) For cables separately sold, see MSCB option on P. 1-1735-95	N(Not Provided) V(24V-compatible Sensor Amplifier Circuit Board)	039	360°	0.3	2.50

Ordering Example: Part Number - Cable - Circuit Board
 RMDG40 - N - N

Days to Ship

Configure Online

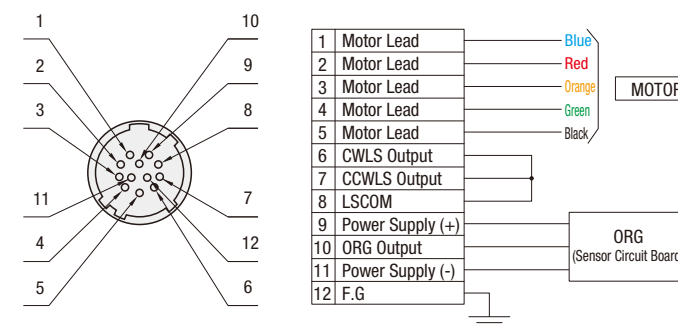
Common Specifications

No.	40
Feeding Method	Direct Drive Motor
Guide	Deep Groove Ball Bearing
Resolution (Pulse)	0.72° (Full) 0.36° (Half)
Max. Speed	72°/sec [100Hz]
Load Capacity	9.8N
Lost Motion	0.05° or Less
Parallelism	100µm or less
Surface Runout	50µm or less

Electrical Specifications

Motor	Type	5-Phase Stepping Motor 0.75A/Phase
	Part Number	Special Type
	Step Angle	0.72°
Connector	Part Number	HR10A-10J-12P (73) (Hirose Electric Co., LTD.)
	Compatible Receptacle Connector	HR10A-10P-12S (73) (Hirose Electric Co., LTD.)
Sensor	Limit Sensor	Not Provided
	Home Sensor (ORG1)	Provided
	Slit Home Origin Sensor (ORG2)	Not Provided
	Part Number	Photomicro Sensor EE-SX1103 (OMRON Corp.)
	Power Supply Voltage	DC5V
	Current Consumption	25mA or less
	Control Output	NPN Open Collector Output DC 5V or Less, 1.2mA or Less Residual Voltage 0.4V or less (when load current is 0.3mA)
	Output Logic	Detecting (Dark): Output Transistor OFF (Non-Conducting)

Connector Pin Configuration Wiring Diagram



Timing Chart

RMDG40	Home Detection Range [°]	0~11°
--------	--------------------------	-------

☉ The CW/CCW direction on the timing chart indicates the rotational direction of motor. When the motor is rotated CW (clockwise), the top plate is also rotated CW.
 ☉ For details about Homing, see P. 1-1735-97

Homing Method

For MISUMI Motorized Stages, availability of sensor and the connection method differ depending on the current type. Therefore, if any homing method other than recommended by MISUMI is used, the stage may not behave properly. If the MISUMI's controller is used, make the same homing setting as recommended by MISUMI.

Recommended Homing Method / Sequence for RMDG40 P. 1-1735-97

Type 3: After detection is executed in CCW direction, the process of detecting in the CCW direction edge is begun based on the ORG signal.
 Type 4: After detection is executed in CW direction, the process of detecting in the CW direction edge is begun based on the ORG signal.
 Type 9: After Type 3 is executed, the process of detecting in the CCW direction edge is begun based on the TIMING signal.
 Type 10: After Type 4 is executed, the process of detecting in the CW direction edge is begun based on the TIMING signal.