

MJ

MJ100/110

High response speed interpolator unit for position control

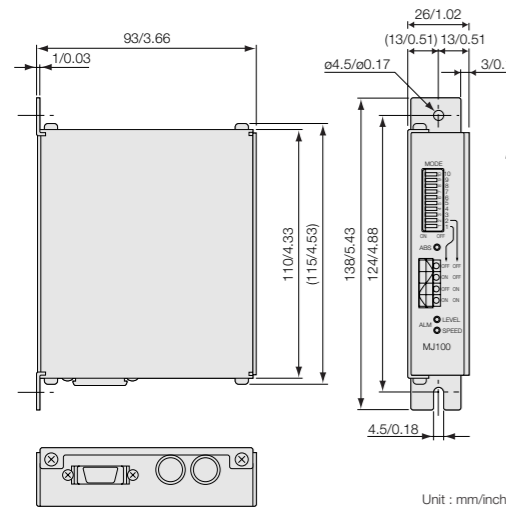


- Capable of 40 to 1000 divisions
- Produces AB quadrature signals with a resolution from 2 μm to 125 μm, when used in combination with the optionally available Digiruler® PL25 head unit and the SL110/130 scale unit (scale signal wavelength: 5 mm), or with the PL60 and the SL331 scale unit (scale signal wavelength: 2 mm).
- MJ100: Supply voltage 5 V input, Line driver (EIA-422 compliance) output
- MJ110: Supply voltage 12 to 30 V input, Open collector (I_{OL}=50 mA) output
- MJ100 also generates U/ V/ W phase output with a period of reproduced Digiruler® signal (5 mm with PL25; 2 mm with PL60)

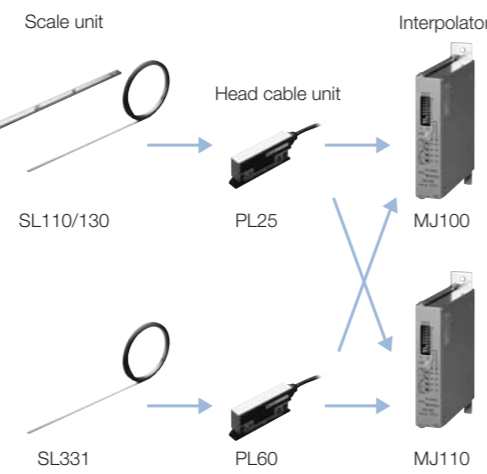
Example for connection

Scale	Head	Cable	Interpolator
SL331	PL60	CE08 CK-T12/13/14/15/16	MJ100/110

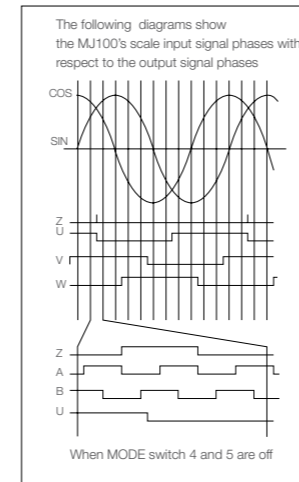
Dimensions



System Configuration



Phase Relation between MJ100 Input Signals, U/V/W Phases and AB Phases



Specifications

Model	MJ100	MJ110
Power supply	5 V (4.5 V to 6 V)	12 V to 30 V (11 V to 31 V)
Power consumption	4 W	3 W
Output interface	Line driver (EIA-422 compliance)	Open collector (I _{OL} = 50 mA max.)
Outputs	AB quadrature, Z phase, U/V/W phases, alarms	AB quadrature, Z phase, alarms
Number of divisions	1000,960,800,512,500,480,400,256,240,200,128,120,100,80,64,40 and 1/2 of each of these (which does not satisfy the synchronized reference point specifications.)	
Maximum response frequency	1000 divisions	600 KHz (180 m/min when connected to PL25; 72 m/min when connected to PL60) *1
	500 divisions	1.5 KHz (450 m/min when connected to PL25; 180 m/min when connected to PL60) *1
	200 divisions	4.0 KHz (1200 m/min when connected to PL25; 480 m/min when connected to PL60) *1
	120 divisions	7.4 KHz (2220 m/min when connected to PL25; 888 m/min when connected to PL60) *1
Minimum phase difference	100 ns	1 μs
Alarms *2	Speed alarm (minimum phase difference time or maximum response frequency); Level alarm (0.4 V _{p-p} or less); Minimum alarm time: approximately 400 ms	
System startup time	Within 0.5 seconds after the power comes on line	
External dimensions	138 x 93 x 26 (mm) / 5.43" x 3.66" x 1.02" including protrusions	
Compatible head unit	PL25 or PL60	
Operating temperature	0 °C to +45 °C / 32 °F to 113 °F	
Storage temperature	-20 °C to +60 °C / -4 °F to 140 °F	
Mass	350g / 0.77lbs	
Supplied accessories	Manual, output connector, connector cap, mounting screws	
Options	SET-P16-1 (for external reference point) Scale extension cable, external reference point extension cable Output connector with cable	

*1: These values for a minimum phase difference of 1 μs may vary depending on the output cable length.

*2: The alarm function may not operate when an abnormal offset is generated due to a broken wire, etc.

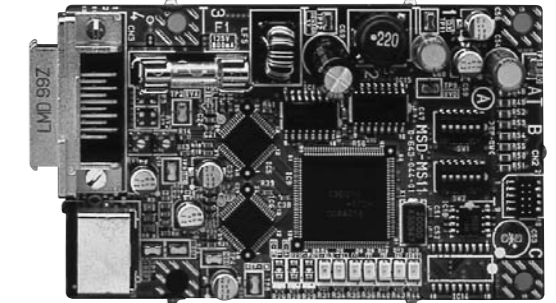
*Contact us directly if you have special requirements for the specifications.

MJ

MJ620

Compact one-axis module with analog input port

- Divides analog input signal into 32 to 800 divisions.
- Produces AB quadrature signal output from the differential line driver when combined with SL700 series scale and PL101 series head cable (both sold separately).

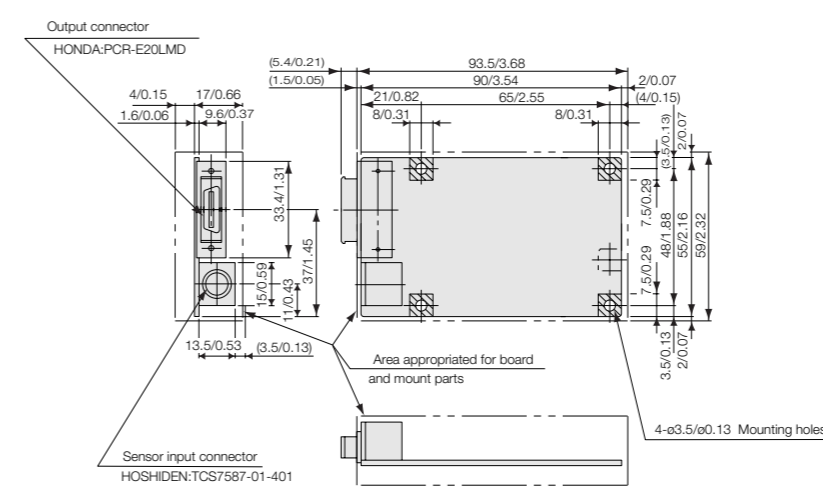


Example for connection

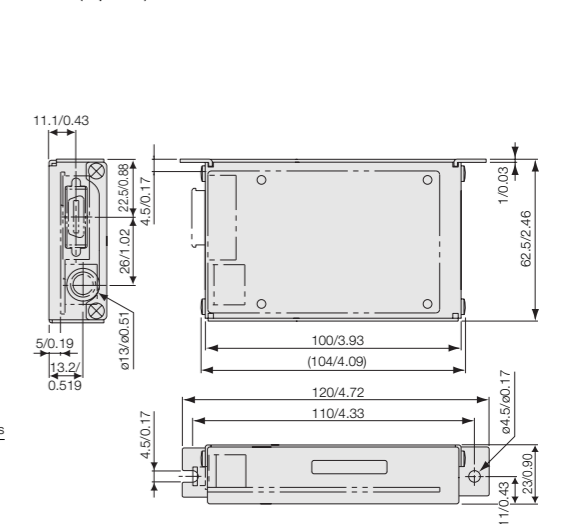
Scale	Head	Cable	Interpolator
SL700	PL101	CE08 CK-T12/13/14/15/16	MJ620

Dimensions

MJ620



MZ5(Optional)



Unit : mm/inch

Specifications

Model	MJ620
Power supply voltage	5 V (4.5 to 6 V)
Power consumption	2.2 W (with PL101)
Output interface	Line driver (EIA-422 compliance)
Output	AB quadrature, Z, Alarm
Number of division	800,400,160,80,40,32 (Correspond to resolution 1,2,5,10,20,25 μm) And 1/2 of this (But concurrent reference point not satisfied)
Max. response speed	6.4 m/s (with phase difference of 100 ns and resolution of 1 μm)
	16 m/s (with phase difference of 100 ns and resolution of 2 μm)
	36.8 m/s (with phase difference of 100 ns and resolution of 5 μm)
	56 m/s (with phase difference of 100 ns and resolution of 10 μm)
Min. phase difference	100 ns
Input level	SIN, COS signal 0.6 V _{p-p} to 1.2 V _{p-p} at 120 Ω load Reference signal 0.2 V to 1.5 V at 120 Ω load
Alarm	Speed alarm (min. phase difference time or max. response frequency), Level alarm (0.6 V _{p-p} or less), Min. alarm time about 400 ms NOTE: Alarm may not work due to abnormal offset occurred by breakage etc.
System starting up time	0.5s or less after powering up
Operating temperature	0 °C to +45 °C / 32 °F to 114 °F
Storage temperature	-20 °C to +60 °C / -4 °F to 140 °F
Mass	60 g / 2.12 oz

Options

MZ2: Output connector

MZ5: Metal case for MJ620

*The MJ620 Interpolator meets the "applied standards" stated in the specifications table when fitted with the optional MZ5 metal case (see below). Make sure that the MJ620 is used with the MZ5 or like case with the same specifications as MZ5.