

MJ

MJ100/110

High response speed interpolator unit for position control

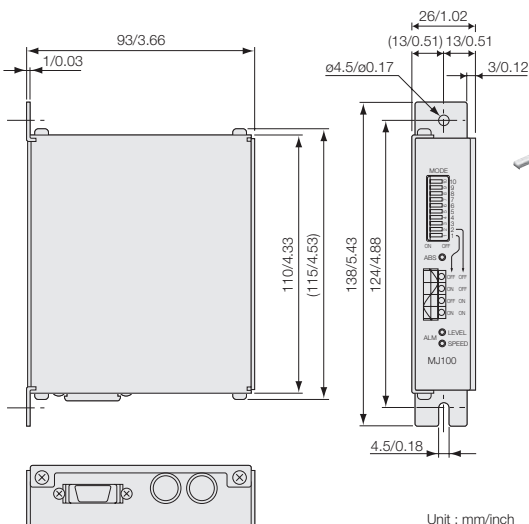


- Capable of 40 to 1000 divisions
- Produces AB quadrature signals with a resolution from 2 μm to 125 μm, when used in combination with the optionally available Digiruler® PL25 head unit and the SL110/130 scale unit (scale signal wavelength: 5 mm), or with the PL60 and the SL331 scale unit (scale signal 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)

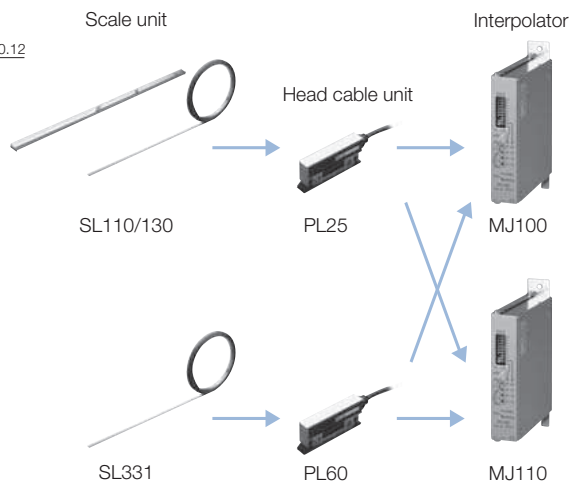
Example for connection

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

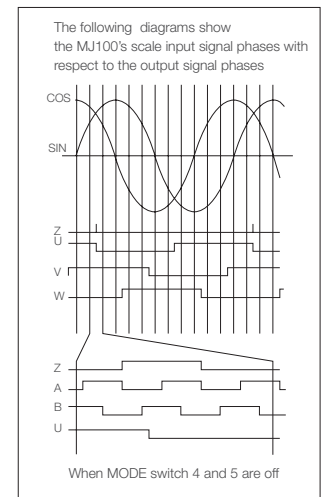
Dimensions



System Configuration



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



Specifications		MJ100	MJ110
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	6 KHz (1800 m/min when connected to PL25; 720 m/min when connected to PL60)	600 KHz (180 m/min when connected to PL25; 72 m/min when connected to PL60)* ¹
	500 divisions	15 KHz (4500 m/min when connected to PL25; 1800 m/min when connected to PL60)	1.5 KHz (450 m/min when connected to PL25; 180 m/min when connected to PL60)* ¹
	200 divisions	42 KHz (12600 m/min when connected to PL25; 5000 m/min when connected to PL60)	4.0 KHz (1200 m/min when connected to PL25; 480 m/min when connected to PL60)* ¹
	120 divisions	70 KHz (21000 m/min when connected to PL25; 8400 m/min when connected to PL60)	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.