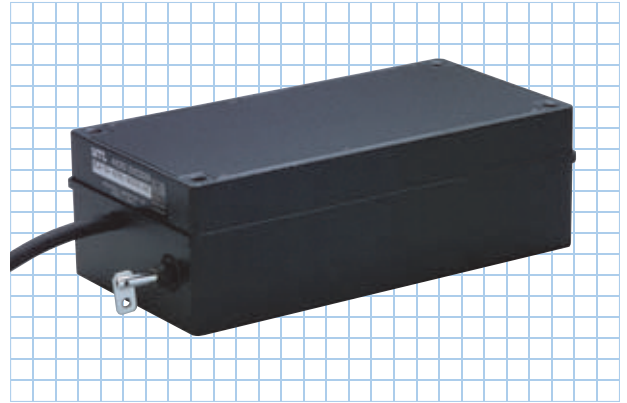
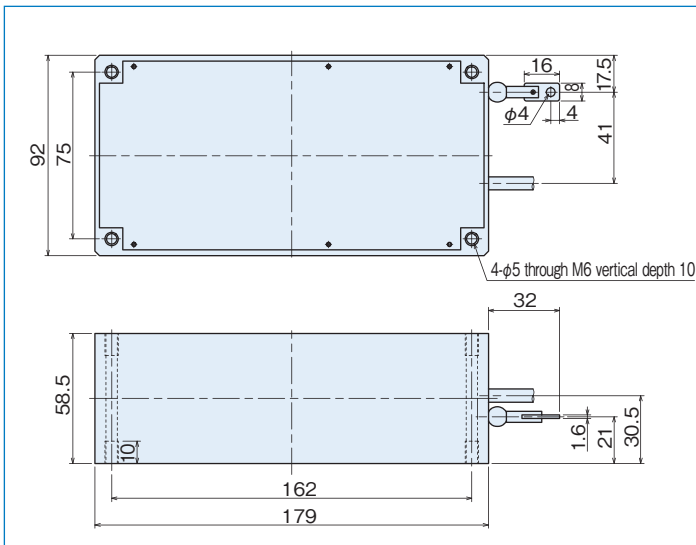


# MLA-42 series

[Absolute Linear Scale]



## Outside dimensions



## Specifications

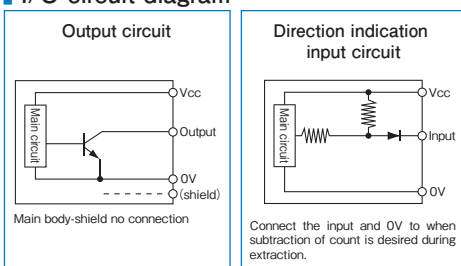
Item	Type name	MLA-42-4096
		Output code Supply voltage Measuring range
Supply voltage		1:DC5V±10% 5:DC12V-10%~24V+15%
Current consumption		70mA or less (under no load), 100mA or less (under no load)
Output code		G: gray code N: pure binary code
Logic		Negative logic (H=0, L=1)
Output circuit		NPN open collector
Output capacity		Sink current 20mA or less Residual voltage 0.5V or less (at 10mA)
Maximum response frequency		10kHz
Working temperature		0°C~60°C
Storage temperature		-20°C~80°C
Vibration resistance		Durability 55Hz, double amplitude 1.5mm 2 hours each in X, Y, and Z directions
Impact resistance		Durability 500m/s <sup>2</sup> (about 50G) 3 times each in X, Y, and Z directions
Cable		Outside dia. φ6.8 19-core vinyl wire Insulated shield cable (length: 1m)

## Specifications / Absolute Linear Scale

Type name	MLA-42-4096-216	MLA-42-4096-400	MLA-42-4096-1000	MLA-42-4096-2000	MLA-42-4096-4000
Measuring range mm	216	400	1,000	2,000	4,000
Output pulse/mm	4,096 / 216	10	4	2	1
Stroke speed mm/sec	500	1,000	1,000	1,000	1,000
Accuracy mm	±0.1 / 100mm				
Min. resolution mm	0.053	0.1	0.25	0.5	1
Wire dia. mm	0.6	0.9	0.9	0.9	0.8
Wire cutting load kg	7	70	70	70	60
Material of wire	SUS304				
Tensile strength of wire	3.9N~6.8N (400gf~700gf)				
Material of spring	Spring steel				
Origin adjustment	—		Free		
Material of pulley	SUS303 Auto-return structure				
Outside dimensions	MLS50		As per outside dimension diagram		

Note: Usage warning: The wire may stop midway through retracting.  
When this happens, slowly pull out the full length and then slowly retract again before using.

## I/O circuit diagram



## Connection MLA-42

Type/code color	MLA-42-4096
Black	0V (COMMON)
Red	Supply power
Red/black	Rotating direction indication input (N only)
Brown	Output 2 <sup>1</sup>
Brown/black	Output 2 <sup>1</sup>
Orange	Output 2 <sup>2</sup>
Orange/black	Output 2 <sup>3</sup>
Yellow	Output 2 <sup>4</sup>
Yellow/black	Output 2 <sup>5</sup>
Green	Output 2 <sup>6</sup>
Green/black	Output 2 <sup>7</sup>
Blue	Output 2 <sup>8</sup>
Blue/black	Output 2 <sup>9</sup>
Purple	Output 2 <sup>10</sup>
Purple/black	Output 2 <sup>11</sup>
Gray	No connection
Gray/black	No connection