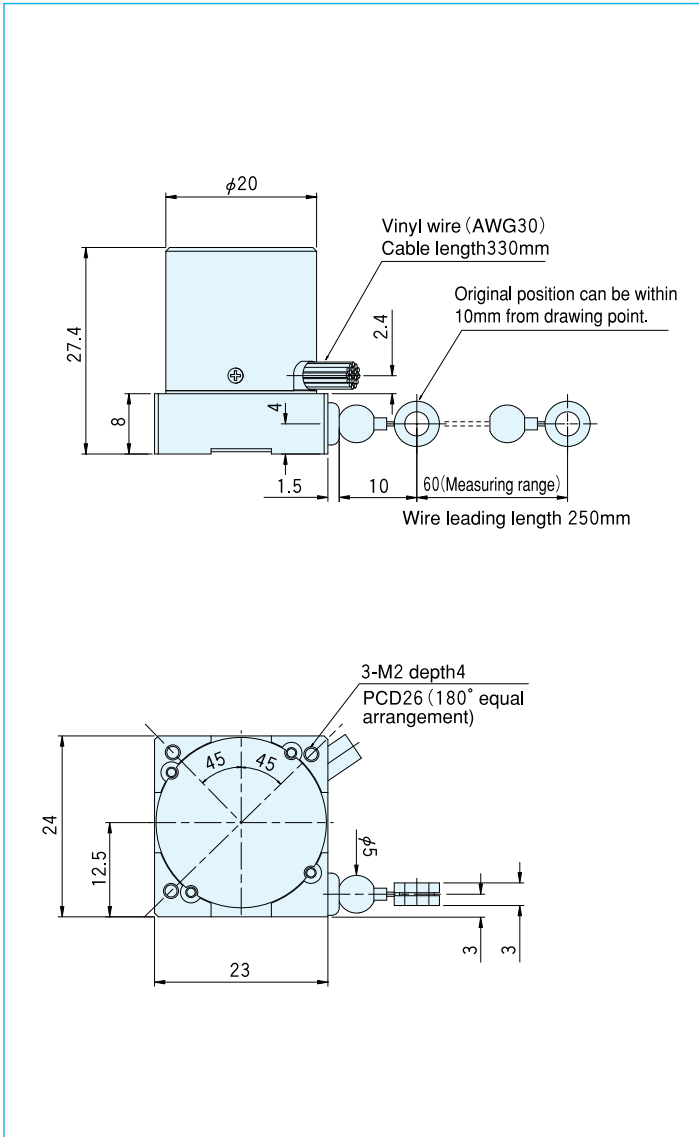


# MLA-I7 series

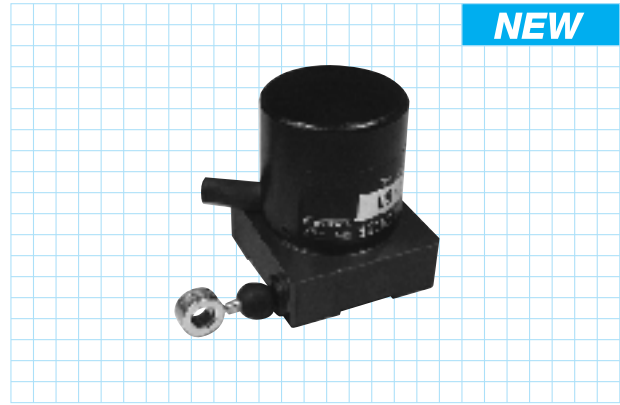
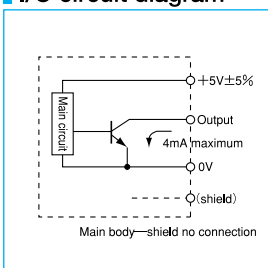
[Absolute]

- Smallest in the series: Outside dimensions 23×24×27.4 (H)
- Measuring range: 60mm (\*Max, 250mm)
- Main Applications: Robot Machine, small actuator, conductor apparatus, manipulator, Jack-up controller for building industry and etc.

## Outside dimensions



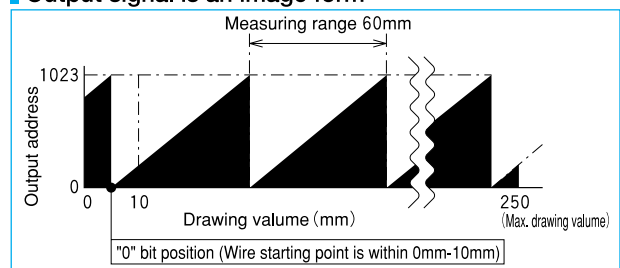
## I/O circuit diagram



## Specifications

Type name	MLA17- <input type="checkbox"/> <input type="checkbox"/> 1-60
Item	Pulse number 1,024 (G, N) or 1,000 (B)
	Output code ●G=Gray code ●N=Pure binary code ●B=BCD code
Supply voltage	DC5V±5%
Current consumption	70mA or less (under no load)
Output code	G:gray code N:pure binary code B:BCD code
Logic	Negative logic (H=0, L=1)
Output circuit	NPN open collector
Output capacity	Sink current each bit 4mA max
Maximum response frequency	20kHz
measuring range	60mm (Please refer to the output signal image)
Output pulse number/mm	1,024/60 (G, N), 1,000/60 (B)
Minimum resolution	G (N) :0.059mm B:0.06mm
Stroke speed	250mm/sec
Wire tensile force	0.39N~0.78N (40~80gf)
Working ambient temperature/humidity	0°C~+50°C/RH35%~90% (no dewing)
Storage ambient temperature	-20~+80°C
Vibration resistance	Durability 55Hz, double amplitude 1.5mm 2 hours each in X, Y, and Z directions
Impact resistance	50G 3 times each in X, Y, and Z directions
Cable	Vinyl wire (AWG30) Cable length 330mm
Mass	40g

## Output signal is an image form

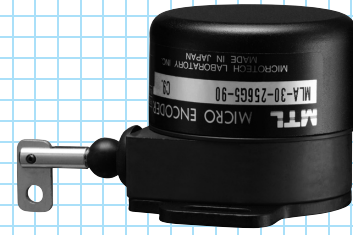


Description  
 SE series  
 ME series  
 MGH series  
 MA series  
 MXS series  
 MLS series  
 MLA series  
 REH series  
 MT series  
 DC series  
 Setting Option/  
 Coupling  
 INDEX

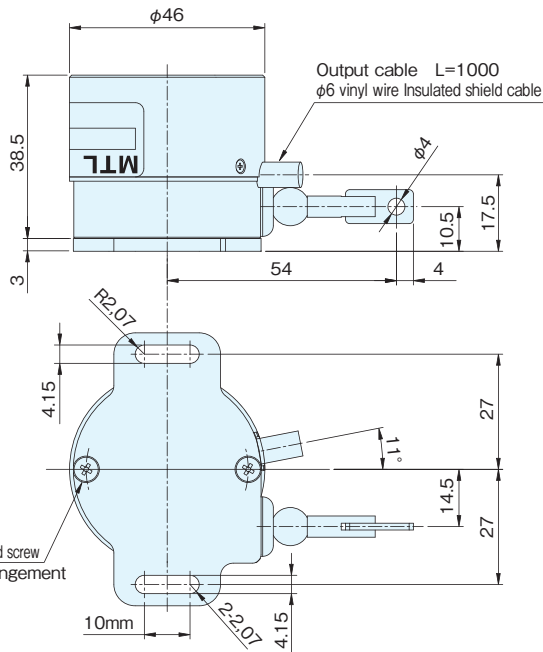
# MLA-30 series

[Absolute]

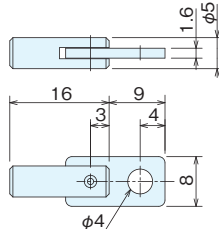
NEW



## Outside dimensions



### Detail of hook portion



## Specifications

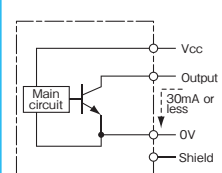
Type name	MLA-30- <input type="text"/> - <input type="text"/> -90
Item	Pulse number <input type="text"/> Output code <input type="text"/> ●G=Gray code    ●N=Pure binary code ●B=BCD code    Supply voltage (1,5) <input type="text"/>
Supply voltage	1:DC5V±5% 5:DC12V-10%~24V+15%
Current consumption	100mA or less (under no load)
Output code	G:gray code    N:pure binary code    B:BCD code
Logic	Negative logic (H=0, L=1)
Output circuit	NPN open collector
Output capacity	Sink current 30mAmax, Residual voltage 0.5V (at 30mA)
Maximum response frequency	10kHz
measuring range	90mm
Output pulse number/mm	1,024 / 90 (G, N), 1,000 / 90 (B)
Minimum resolution	G (N): 0.088mm    B: 0.09mm
Stroke speed	1000mm/sec max
Wire tensile force	150~300g
Working ambient temperature/humidity	0°C~+50°C / RH35%~90% (no dewing)
Storage ambient temperature	-20~+80°C
Vibration resistance	Durability 55Hz, double amplitude 1.5mm 2 hours each in X, Y, and Z directions
Impact resistance	50G 3 times each in X, Y, and Z directions
Cable	Outside dia. φ6 16-core vinyl wire Insulated shield cable (length:1m)
Mass	350g or less (excluding cable)

## Connection

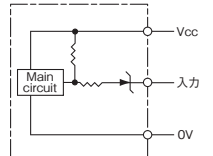
Code color	Output signal			Code color	Output signal		
	G	N	B		G	N	B
Brown	2 <sup>0</sup>			Blue	2 <sup>8</sup>		
Brown / Black	2 <sup>1</sup>			Blue / Black	2 <sup>9</sup>		
Orange	2 <sup>2</sup>			Purple	NC		
Orange / Black	2 <sup>3</sup>			Purple / Black	NC		
Yellow	2 <sup>4</sup>			Red / Black	— #Rotating direction indication input		
Yellow / Black	2 <sup>5</sup>			Red	Vcc		
Green	2 <sup>6</sup>			Black	COMMON		
Green / Black	2 <sup>7</sup>			Black	COMMON		

## I/O circuit diagram

### NPN open collector output



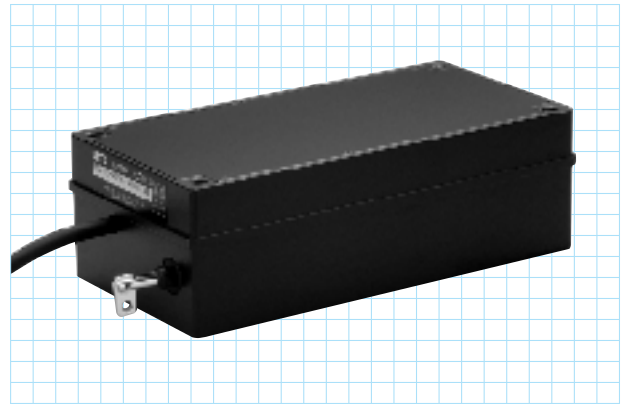
### Rotating direction indication input circuit



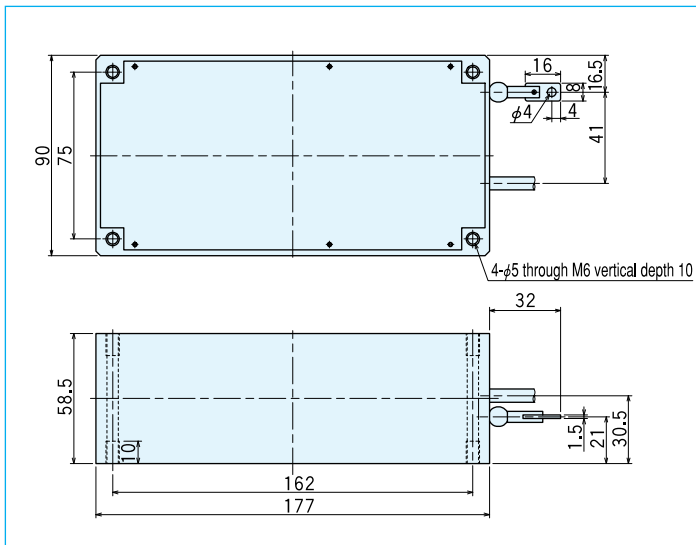
Note) When input is open, CW increases count.  
When input is 0V short, CCW increases count.

# MLA-50 series

[Absolute Linear Scale]



## Outside dimensions



## Specifications

Item	Type name	MLA-50-4096
Supply voltage		1:DC5V±10% 2:DC12V±10% 4:DC24V±10%
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-50-4096-216	MLA-50-4096-200	MLA-50-4096-400	MLA-50-4096-1000	MLA-50-4096-2000	MLA-50-4096-4000
Measuring range mm	216	200	400	1,000	2,000	4,000
Output pulse/mm	4,096/216	20	10	4	2	1
Stroke speed mm/sec	500	500	1,000	1,000	1,000	1,000
Accuracy mm	±0.1/100mm					
Min. resolution mm	0.053	0.05	0.1	0.25	0.5	1
Wire dia. mm	0.6	0.9	0.9	0.9	0.9	0.8
Wire cutting load kg	7	70	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				

## Connection MLA-50

Type/ code color	MLA-50-4096G MLA-50-4096N
Black	0V (COMMON)
Red	Power
Red/black	Rotating direction indication input
Brown	Output 2 <sup>0</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

## I/O circuit diagram

