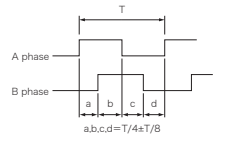


Specifications

Series	D-540/D-5400	D-1000Z	DE-04	DL-07
Valid length of wire	600 mm	2400 mm	4000 mm	7000 mm
Resolution (mm)	0.1/0.01 (Both 4 multiplied)		0.1 (2 multiplied)	
Number of output pulse	2.5 pulse/mm(D-540) 25 pulse/mm(D-5400) 5 pulse/mm			
Maximum detecting speed	100 m/min(D-540) 40 m/min(D-5400)	100 m/min	60 m/min	100 m/min
Maximum accelerating speed	9.8m/s ² (1G)		13.7m/s ² (1.5G)	7.8m/s ² (0.8G)
Wire tension	Approx. 1.96 N (200 gf)	Approx. 2.94 N (300 gf)	Approx. 1.96~4.9 N (200~500 gf)	Approx. 7.4 N (750 gf)
Wire diameter	φ 0.6 mm	φ 0.6 mm	φ 0.45 mm	φ 0.7 mm
Wire material	SUS304			
Reciprocating durability	More than 1,000,000 times	More than 50,000 times	500,000 times (Less than 0~2 m) 200,000 times (2~4 m)	More than 50,000 times
Output phase	A/B phase			
Output option	Open collector/Complementary/Line driver			
Output capacity	Residual voltage : less than 0.7 V/Sinking current : less than 30mA/Pressure-resistance : less than 30 V			
Power source	DC 4.5~26 V 50 mA or less		DC 4.5~26 V(Line driver output: 5 V±5%) 70 mA or less(Less than 150 mA in case of line driver output)	
Operating temperature range	0~45 °C (No humidity)		-10~45 °C (No humidity)	
Operating humidity range	35~90 % RH (No humidity)			
Storage temperature range	-20~80 °C			
Weight	350 g	750 g	880 g	1.65 kg
Cable specifications	2 m φ 5.3 (DIN8P with connector)		2 m φ 5.3 (DIN8P with connector. Line driver output type : Cable end open)	
Distance accuracy (20 °C)	0.05 % + Quantization error			
Stability accuracy (20 °C)	±0.1 mm + Quantization error	±0.2 mm + Quantization error		
Vibration resistance	49 m/s ² (5G), 30 minutes			
Impact resistance	With 490 m/s ² (50G)			
Protective structure*	IP50		IP63	
Recommended range of transfer distance	Less than 15 m		Less than 15 m(Less than 50 m in case of line driver output)	
RoHS	Compliant			

※ Electric parts only

Output waveform



Connecting cable

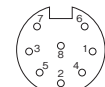


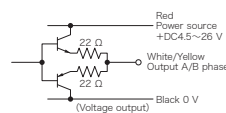
Figure seen from the cable side

Pin No.	Signal name	Line color
1	B phase	Yellow
5	A phase	White
6	Power supply	Red
7	0 V	Black
8	Shield	Shield

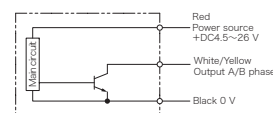
※ Pin No. 2, 3, 4 : Unused

Output multi-phase circuit diagram

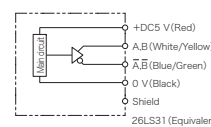
Complementary output type (Voltage output type)



Open collector output type

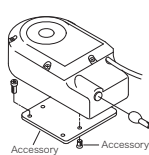


Output multi-phase circuit diagram (Line driver output type)



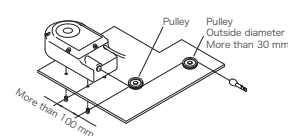
Installation example

[Example 1]



[Example 2]

If the wire direction is changed.



※ When using a pulley, its outside diameter shall be more than 50 mm in case of DL-07 and more than 30 mm in case of D-1000Z, DE-04 and it shall be installed so as to move smoothly.

About model names

Output form needs to be selected after model name.

D-1000Z - C

Output form
C : Open collector output (Standard)
V : Complementary output
E : Line driver output (Equivalence to 26LS)

Model name

DE-04 - C

Output form
C : Open collector output (Standard)
V : Complementary output
E : Line driver output (Equivalence to 26LS)

Model name

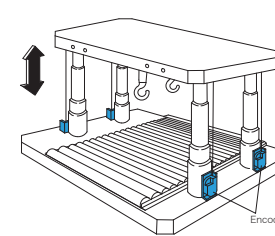
DL-07 - C

Output form
C : Open collector output (Standard)
V : Complementary output
E : Line driver output (Equivalence to 26LS)

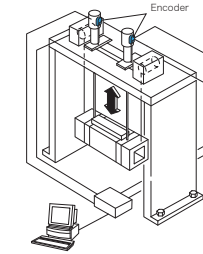
Model name

Example of use

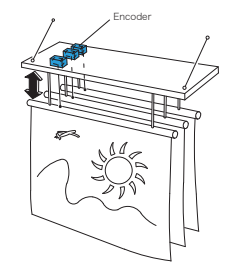
For lifters



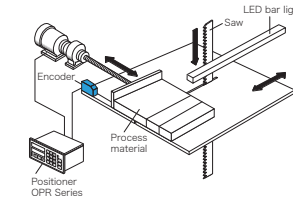
Lift-up method



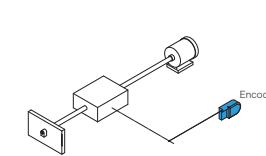
Lifting gear for stage baton



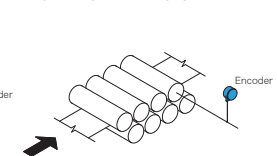
Cutter



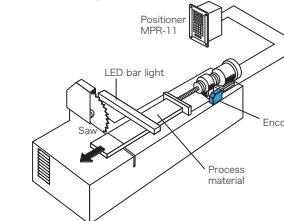
Lead of screw method



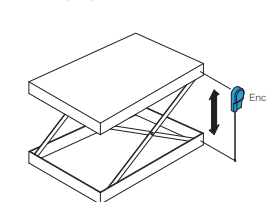
Adjusting leveler gap



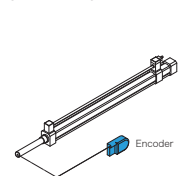
Running saw



Pantographic lift

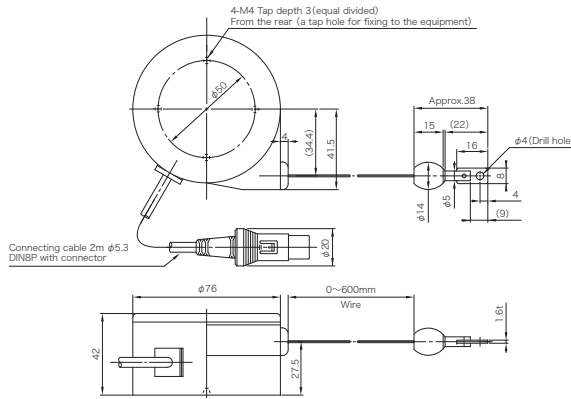


Oil-hydraulic cylinder



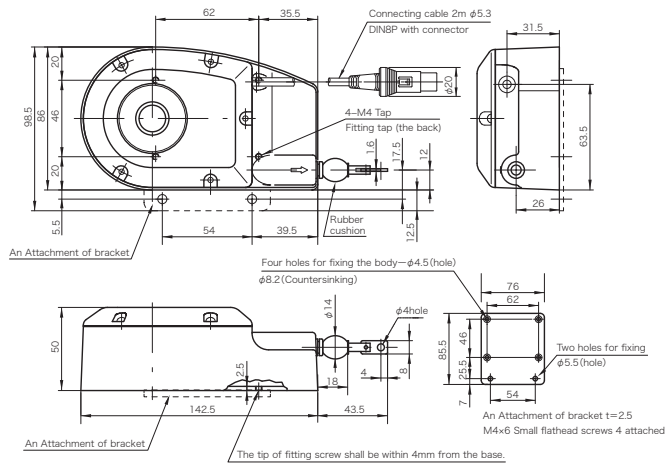
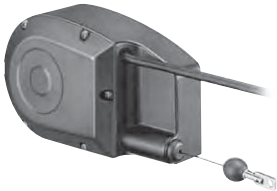
■ Outline drawing

D-540
D-5400



■ Outline drawing

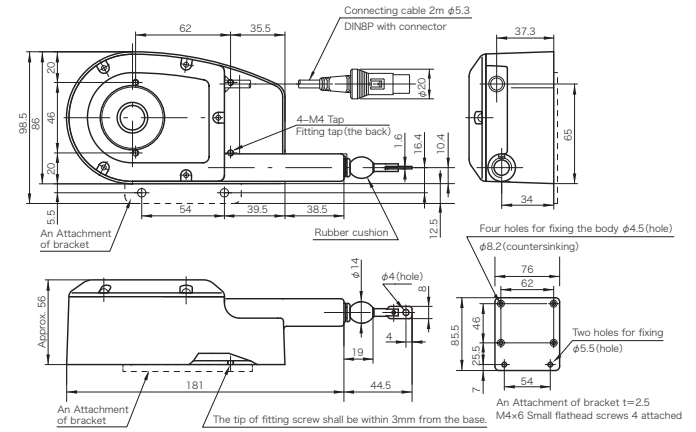
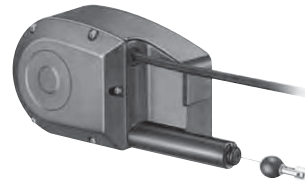
D-1000Z



※ Connectors are unnecessary when linedriver is outputting.

■ Outline drawing

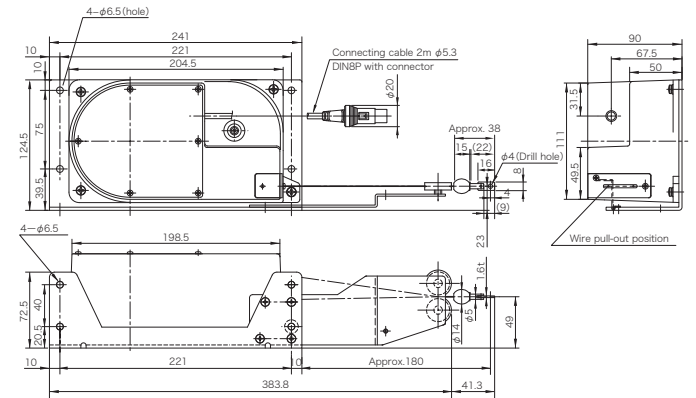
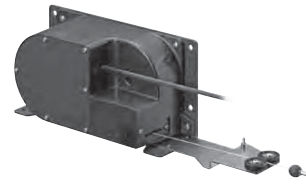
DE-04



※ Connectors are unnecessary when line driver is outputting.

■ Outline drawing

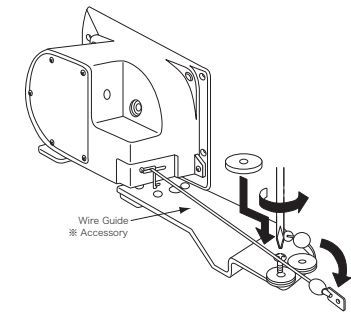
DL-07



※ Connectors are unnecessary when line driver is outputting.

■ Installation procedure

DL-07



※ Please attach wire guide board when in use.

DIGICOLLAR LINEUP

Mutoh covers sensing, displaying and controlling.

Meeting your various demands such as setting up a position, sensing, displaying and controlling.

Digicollar was originally designed to measure feed of machine tools. In order to suit the needs for industrial machines such as calculating devices and processing control, we have been manufacturing a new model after another. Having specialized in sensing and controlling, we are now proudly releasing a variety of equipments: Rotary Encoder, Wired Linear Encoder, Linear Scale and Digital counter for display and control. Mutoh delivers Digicollar with high accuracy, performance efficiency and durability to you.

Available with full support.

Digicollar plays an important role as calculator and controller in production sites. It is capable of sensing, displaying and controlling under unexpected troubles, and handles with good speed. Our long history and experience with the products makes it possible to give you full support. Digicollar performs all the functions with high accuracy, quality and efficiency. It automates your production and saves you labors.

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All products are made up with parts which do not contain 6 hazardous substances specified by RoHS. However, a use excluded by RoHS is counted out.

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LINEAR ENCODER

ROTARY ENCODER

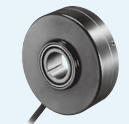
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C Series

O Series

A Series



ROTARY ENCODER