

# BD04

Belt type

CE compliance

## Ordering method

|              |                         |                                  |                                       |   |   |  |   |
|--------------|-------------------------|----------------------------------|---------------------------------------|---|---|--|---|
| <b>BD04</b>  | <b>48</b>               | <b>N</b>                         | <b>N</b>                              |   |   | <b>S2</b>  |   |
| <b>Model</b> | <b>Lead</b><br>48: 48mm | <b>Brake</b><br>N: With no brake | <b>Origin position</b><br>N: Standard | <b>Stroke</b><br>300: 300mm<br>500: 500mm<br>600: 600mm<br>700: 700mm<br>800: 800mm<br>900: 900mm<br>1000: 1000mm | <b>Cable length</b> <small>Note 1</small><br>1K: 1m<br>3K: 3m<br>5K: 5m<br>10K: 10m | <b>Robot positioner</b><br>S2: TS-S2 <small>Note 2</small> | <b>I/O</b><br>NP: NPN<br>PN: PNP<br>CC: CC-Link<br>DN: DeviceNet™<br>EP: EtherNet/IP™<br>PT: PROFINET<br>GW: No I/O board <small>Note 3</small> |
|              |                         |                                  |                                       |   |   | <b>SH</b>  | <b>Battery</b><br>B: With battery (Absolute)<br>N: None (Incremental)   |
|              |                         |                                  |                                       |   |   | <b>SD</b>  | <b>1</b>  |
|              |                         |                                  |                                       |   |   | <b>Robot driver</b><br>SD: TS-SD                           | <b>I/O cable</b><br>t: 1m   |

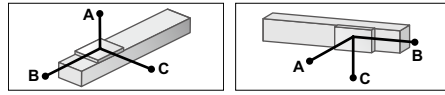
Note 1. The robot cable is flexible and resists bending.  
 Note 2. See P.498 for DIN rail mounting bracket.  
 Note 3. Select this selection when using the gateway function. For details, see P.60.

## Basic specifications

|   |                                |
|---|--------------------------------|
| <b>Motor</b>  | 28 □ Step motor                |
| <b>Resolution (Pulse/rotation)</b>                          | 4096                           |
| <b>Repeatability</b> <small>Note 1</small> (mm)             | +/-0.1                         |
| <b>Drive method</b>   | Belt                           |
| <b>Equivalent lead (mm)</b>                                 | 48                             |
| <b>Maximum speed</b> <small>Note 2</small> (mm/sec)         | 1100                           |
| <b>Maximum payload (kg)</b>                                 | 1                              |
| <b>Stroke (mm)</b>  | 300/500/600/700/800/900/1000   |
| <b>Overall length (mm) (Horizontal installation)</b>        | Stroke + 195.5                 |
| <b>Maximum outside dimension of body cross-section (mm)</b> | W40 × H101.9                   |
| <b>Cable length (m)</b>                                     | Standard: 1 / Option: 3, 5, 10 |

Note 1. Positioning repeatability in one direction.  
 Note 2. The maximum speed needs to be changed in accordance with the payload.  
 See the "Speed vs. payload" graph shown on the right.

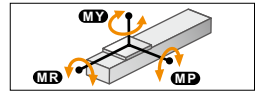
## Allowable overhang Note



| Horizontal installation (Unit: mm) |      |      |      | Wall installation (Unit: mm) |      |      |      |
|------------------------------------|------|------|------|------------------------------|------|------|------|
|                                    | A    | B    | C    |                              | A    | B    | C    |
| 0.5kg                              | 8036 | 1950 | 1504 | 0.5kg                        | 1614 | 1942 | 8013 |
| 1kg                                | 3933 | 968  | 747  | 1kg                          | 798  | 961  | 3969 |

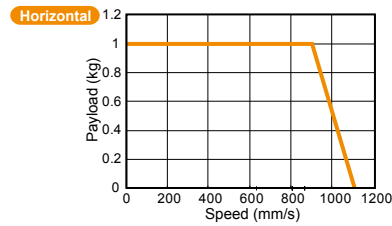
Note. Distance from center of slider upper surface to carrier center-of-gravity at a guide service life of 10,000km (This does not warrant the service life of the product.). (Service life is calculated for 600mm stroke models.)

## Static loading moment



| (Unit: N·m) |    |    |
|-------------|----|----|
| MY          | MP | MR |
| 10          | 10 | 20 |

## Speed vs. payload

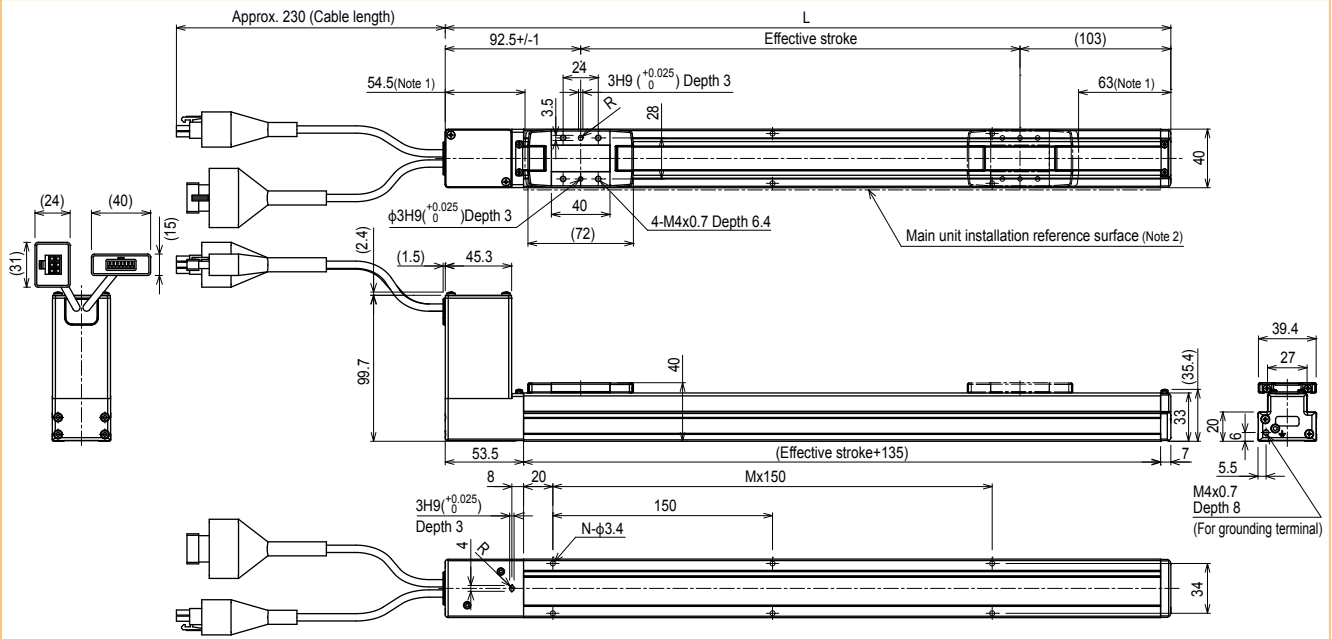


| Quick reference |                |     |
|-----------------|----------------|-----|
| Payload (kg)    | Speed (mm/sec) | %   |
| 1               | 900            | 90  |
| 0.5             | 1000           | 95  |
| 0               | 1100           | 100 |

## Controller

| Controller | Operation method                 |
|------------|----------------------------------|
| TS-S2      | I/O point trace / Remote command |
| TS-SH      | Remote command                   |
| TS-SD      | Pulse train control              |

## BD04



| Effective stroke   | 300   | 500   | 600   | 700   | 800   | 900    | 1000   |
|--------------------|-------|-------|-------|-------|-------|--------|--------|
| <b>L</b>           | 495.5 | 695.5 | 795.5 | 895.5 | 995.5 | 1095.5 | 1195.5 |
| <b>M</b>           | 2     | 4     | 4     | 5     | 6     | 6      | 7      |
| <b>N</b>           | 6     | 10    | 10    | 12    | 14    | 14     | 16     |
| <b>Weight (kg)</b> | 1.19  | 1.45  | 1.58  | 1.71  | 1.84  | 1.97   | 2.1    |

Note 1. Position from both ends to the mechanical stopper. (Movable range during return-to-origin)  
 Note 2. When installing using the main unit installation reference surface, make the mating or positioning height 2mm or more higher than the reference surface since the R-chamfering is provided on the main unit. (Recommended height, 5mm)  
 Note 3. The minimum bending radius of the motor cable is R30.