

Miniature Rotation Stage

Compact Dimensions, with DC or Stepper Motor



DT-34

- Clear aperture, 10 mm \varnothing
- Compact design
- Unidirectional repeatability to 350 μm
- Angular velocity to 675 $^{\circ}/\text{s}$
- Integrated optical reference point switch

Overview

Inexpensive compact rotation stage with clear aperture. Available with stepper motor or DC motor.

Position measurement

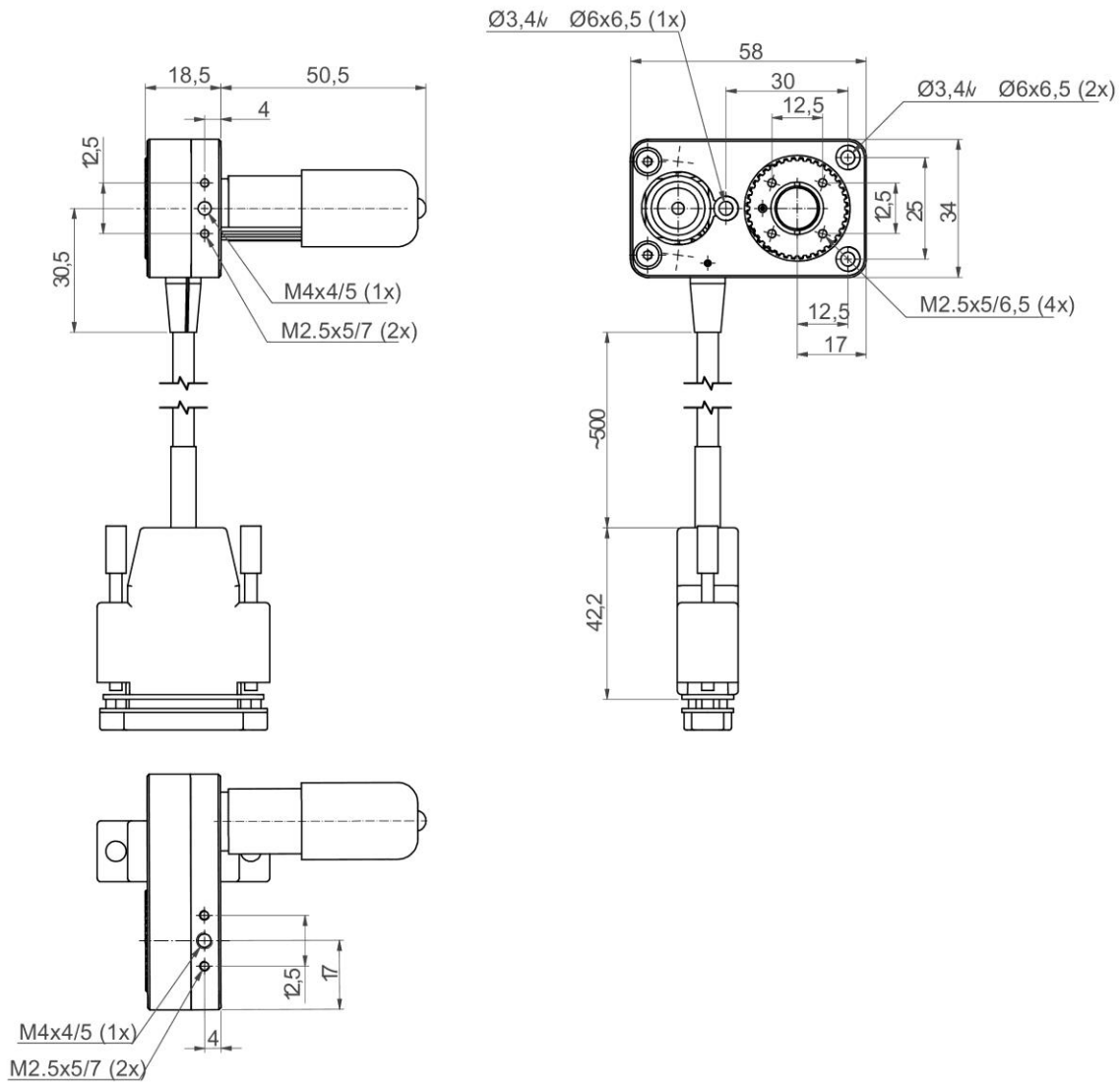
- Optical reference point switch.
- DC motor version with incremental rotary encoder on the motor shaft.

Specifications

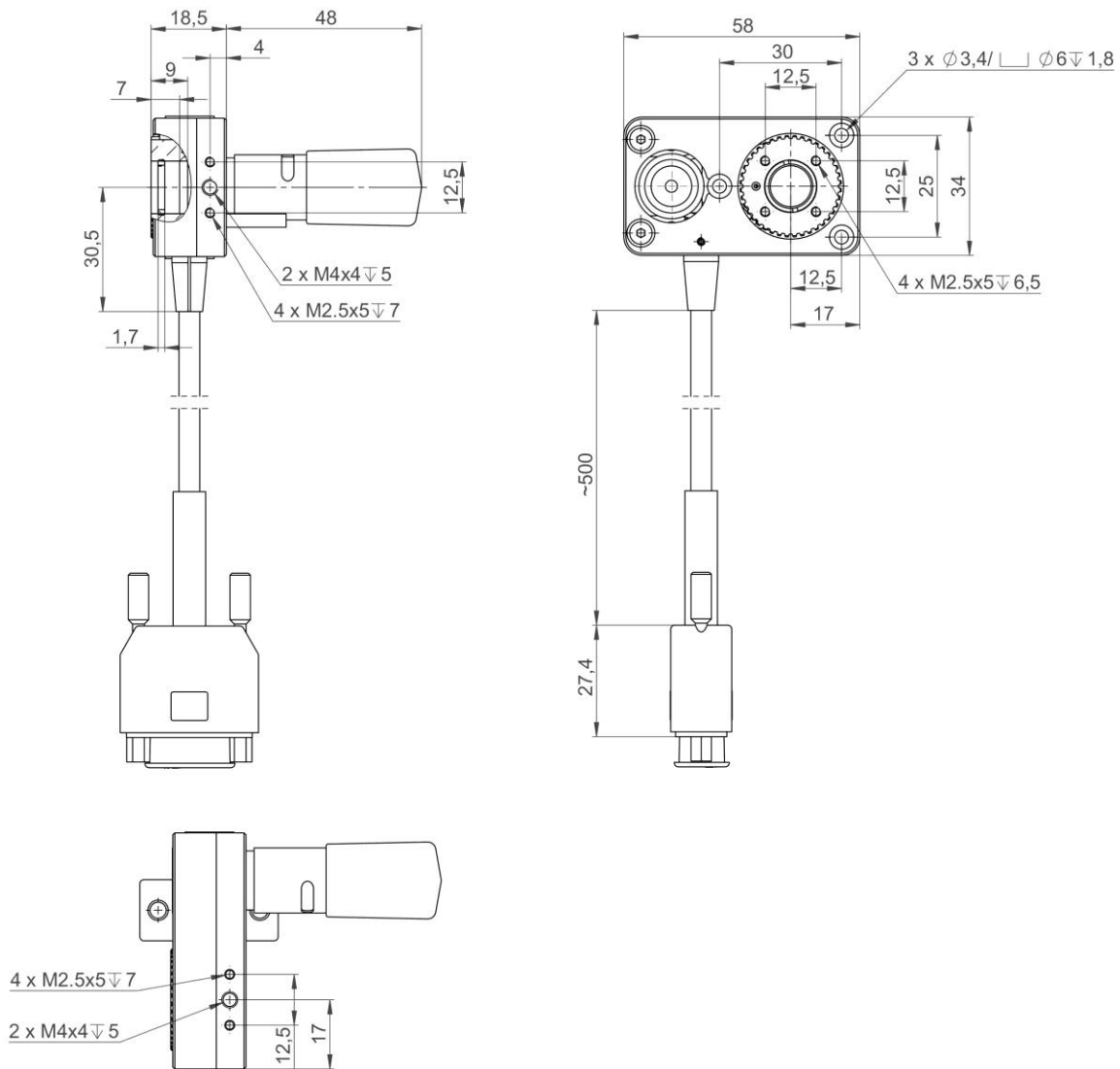
	3215910030	3215920030-0000	Unit	Tolerance
Active axes	With DC motor θ_z	With stepper motor θ_z		
Motion and positioning				
Rotation range	360	360	°	
Design resolution	69.62	1724.8	μ rad	
Integrated sensor	Rotary encoder	–		
Sensor resolution rotary encoder	2048	–	Cts./rev.	
Minimum incremental motion	700	350	μ rad	typ.
Unidirectional repeatability	700	350	μ rad	typ.
Bidirectional repeatability	± 1400	± 1000	μ rad	typ.
Velocity	675	195	°/s	max.
Eccentricity	± 50	± 50	μ m	typ.
Flatness	± 8	± 8	μ m	typ.
Wobble	± 100	± 100	μ rad	typ.
Angular velocity	675	195	°/s	max.
Reference point switch	Optical	Optical		
Mechanical properties				
Bearing	Ball bearings	Ball bearings		
Worm gear ratio	24986:567	774566:5103		
Load capacity / axial force F_z	15	15	N	max.
Permissible lateral force F_x, F_y	2.5	2.5	N	max.
Permissible torque M_x in θ_x, θ_y	2.5	2.5	N·m	max.
Drive properties				
Drive torque	0.9	0.3	N·m	max.
Motor type	DC motor	2-phase stepper motor		
Operating voltage, nominal	12	12	V	nom.
Operating voltage, max.	48	48	V	max.
Step resolution	–	24	Full steps/rev	
Miscellaneous				
Operating temperature range	5 to 40	5 to 40	°C	
Material	Aluminum, black anodized	Aluminum, black anodized		
Mass	0.15	0.15	kg	$\pm 5\%$
Moved mass	0.1	0.1	kg	$\pm 5\%$
Connection	Sub-D 15 (m)	Sub-D 15 (m)		
Recommended controllers/drivers	C-863 (single axis) C-884 (up to 6 axes) C-885 with C-863.20C885 (to 40 axes) ACS modular controller	C-663.12 (single axis) SMC Hydra (double axis) C-885 with C-663.12C885 (up to 20 axes) ACS modular controller		

Connecting cables for motor and sensor are not in the scope of delivery and must be ordered separately.

Drawings / Images



DT-34 with DC motor, dimensions in mm



DT-34 with stepper motor, dimensions in mm

Ordering Information

3215910030

DT-34 miniature rotation stage, DC motor, optical reference point switch

3215920030-0000

DT-34 miniature rotation stage, stepper motor, optical reference point switch