

Miniature Rotation Stage

Compact Dimensions, with DC or Stepper Motor



DT-34

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

Overview

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

Position measuring

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

Motion	Unit	Tolerance	3215910030	3215920030-0000
Active axes			θ Z	θ Z
Rotation range in θ Z	$^{\circ}$		360	360
Maximum angular velocity in θ Z, unloaded	$^{\circ}$ /s		675	195
Linear crosstalk in X with motion in θ Z	μ m	Typ.	\pm 50	\pm 50
Linear crosstalk in Y with motion in θ Z	μ m	Typ.	\pm 50	\pm 50
Linear crosstalk in Z with motion in θ Z	μ m	Typ.	\pm 8	\pm 8
Rotational crosstalk in θ X with motion in θ Z	μ rad	Typ.	\pm 100	\pm 100
Rotational crosstalk in θ Y with motion in θ Z	μ rad	Typ.	\pm 100	\pm 100

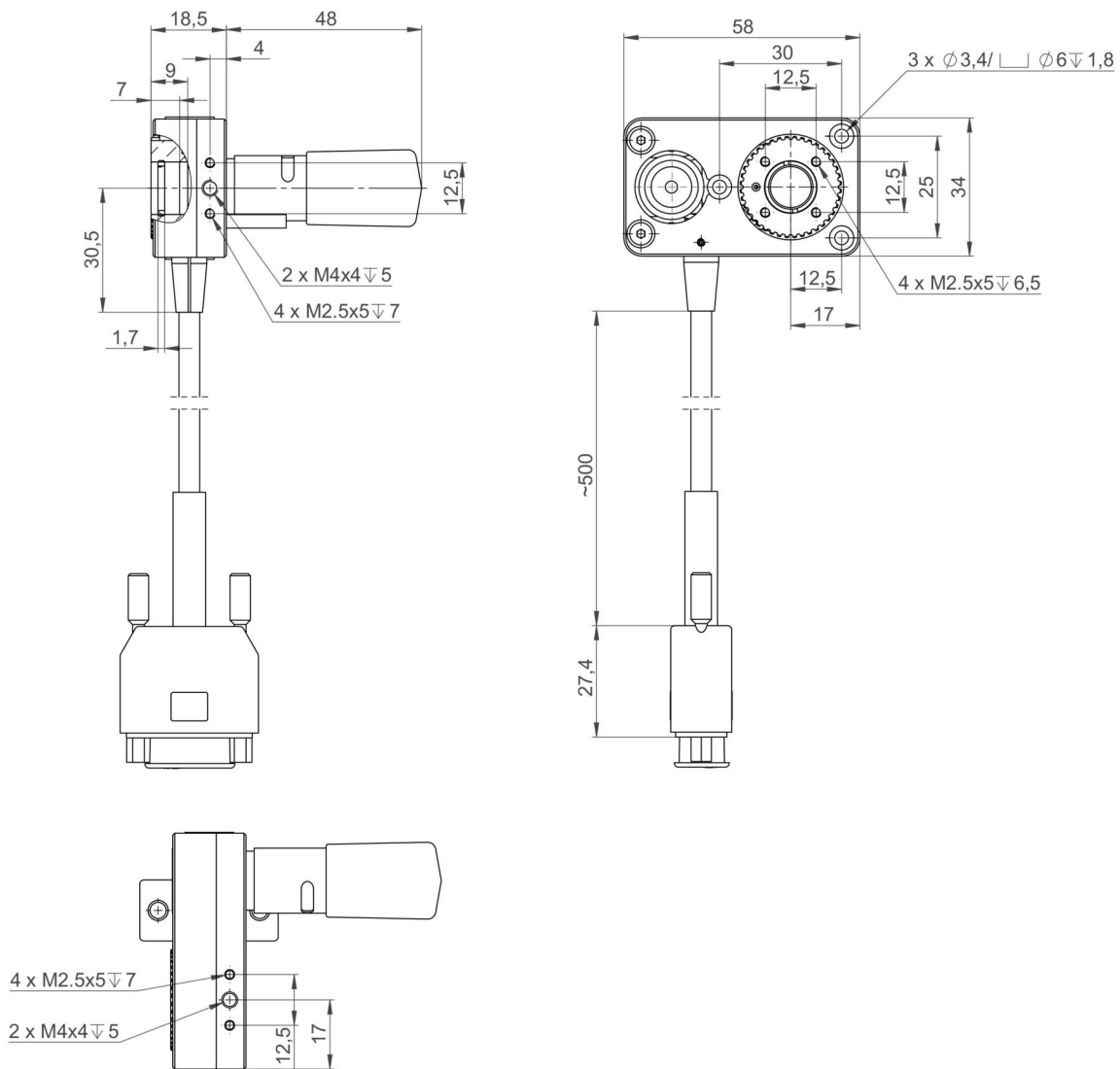
Positioning	Unit	Tolerance	3215910030	3215920030-0000
Integrated sensor			Incremental rotary encoder	
Unidirectional repeatability in θZ	μrad	Typ.	700	350
Bidirectional repeatability in θZ	μrad	Typ.	± 1400	± 1000
Minimum incremental motion in θZ	μrad	Typ.	700	350
Sensor resolution	Cts./rev.		2048	
Reference switch			Optical	Optical

Drive Properties	Unit	Tolerance	3215910030	3215920030-0000
Drive type			DC motor	2-phase stepper motor
Motor resolution	Full steps/rev.			24
Nominal voltage	V		12	12
Peak voltage	V		48	48
Nominal current, RMS	A	Typ.	0.32	0.25
Drive torque clockwise in θZ	N·m	Max.	0.08	0.08
Drive torque counter-clockwise in θZ	N·m	Max.	0.08	0.08
Resistance phase-phase	Ω	Typ.	19.8	12.5
Inductance phase-phase	mH		0.25	6.3

Mechanical Properties	Unit	Tolerance	3215910030	3215920030-0000
Bearing type			Ball bearings	Ball bearings
Worm gear reduction			24986 : 567	774566 : 5103
Moved mass in X, unloaded	g		100	100
Permissible push force in X	N	Max.	2.5	2.5
Permissible push force in Y	N	Max.	2.5	2.5
Permissible push force in Z	N	Max.	15	15
Permissible torque in θX	N·m	Max.	2.5	2.5
Permissible torque in θY	N·m	Max.	2.5	2.5
Overall mass	g		150	150
Material			Black anodized aluminum	Black anodized aluminum

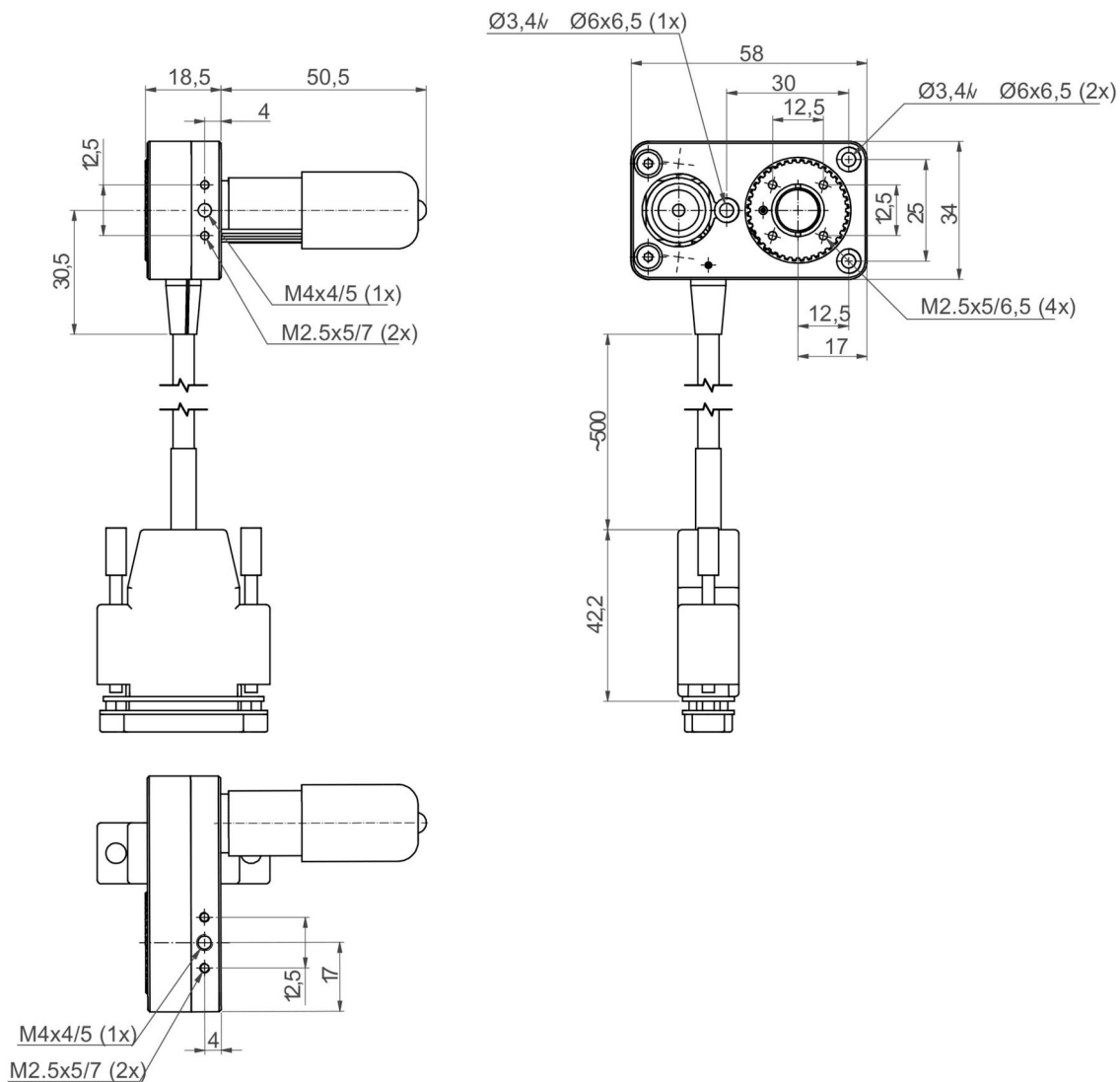
Miscellaneous	Unit		3215910030	3215920030-0000
Operating temperature range	$^{\circ}\text{C}$		5 to 40	5 to 40
Connector			D-sub 15-pin (m)	D-sub 15-pin (m)
Recommended controllers / drivers			C-863 C-885 with C-863.20C885 C-884 ACS modular controller	C-663.12 C-885 with C-663.12C885 ACS modular controller

Drawings / Images



DT-34 with stepper motor, dimensions in mm. Note that a comma is used in the drawings instead of a decimal point.

Drawings / Images



DT-34 with DC motor, dimensions in mm. Note that a comma is used in the drawings instead of a decimal point.

Order Information

3215910030

Miniature rotation stage; DC motor; 360 ° rotational angle; 15 N load capacity; 675 °/s maximum angular velocity; incremental rotary encoder, 2048 cts./rev. sensor resolution

3215920030-0000

Miniature rotation stage; 2-phase stepper motor; 360 ° rotational angle; 15 N load capacity; 195 °/s maximum angular velocity