

X-G-RST-DE Series Datasheet



- 360° continuous travel on both azimuth and elevation axes
- Speed up to 24°/s; max torque 10 N-m; max payload 15 kg
- Direct reading encoder for slip/stall detection and position correction
- 300 and 500 mm width frame options
- Adjustable elevation offset for optimizing alignment and performance
- Built-in controllers & slip ring for effortless cable management
- Custom versions available

X-G-RST-DE Series Overview

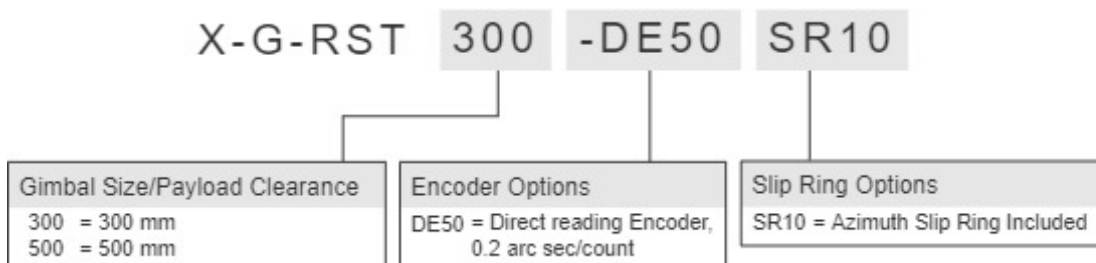
Zaber's X-G-RST-DE series products are motorized two-axis rotation stage devices with built-in controllers and direct reading encoders for high accuracy motion. Rated for up to 15 kg load capacity centered about the elevation axis and 10 N-m of torque, they are ideal for high-load, high-precision, angular positioning in optics, telecom, scanning, and tracking applications.

These gimbals ship assembled, making them 'plug and play'. They are easy to set up and operate. A variety of standard crossmembers for both metric and imperial mounting are available: AP193M, AP193E, AP194M & AP194E; custom versions are also available. The adjustable height of the elevation assembly provides a versatile solution for centering different size payloads.

Zaber's X-RST-DE rotary stages with built-in controllers allow daisy-chaining power and communication. This means only one standard 48 V power supply is needed to power the gimbal. A single RS-232 or USB port from a computer can be used for convenient control of both axes of the system. The rotary stages are daisy-chained via slip ring offering tangle free cable management with unlimited rotation. Eight additional signal wires are included through the slip ring, available for your convenience.

For more information visit: <https://www.zaber.com/products/gimbal-stages/X-G-RST-DE>

X-G-RST-DE Series Part Numbering



X-G-RST-DE Series Drawings

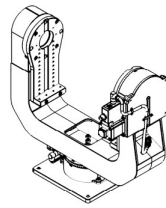
ZABER

X-G-RST-E, X-G-RST-DE

Motorized Gimbal With Built-in Controllers,

Encoder And Slip-ring Wiring Options

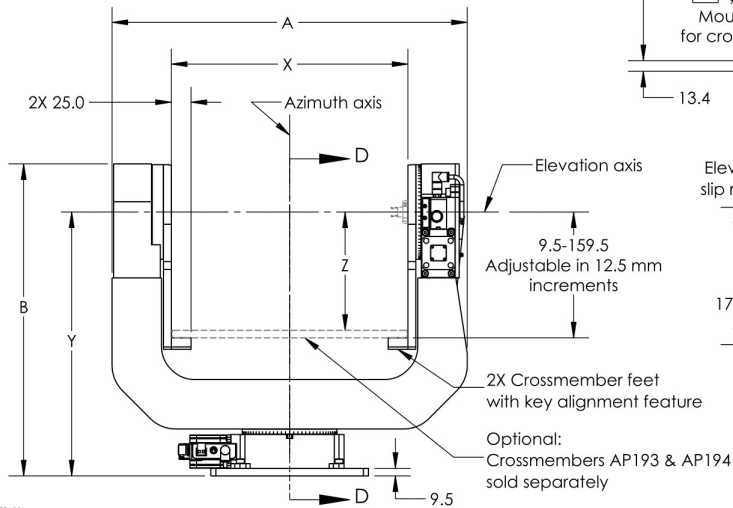
dimensions in mm



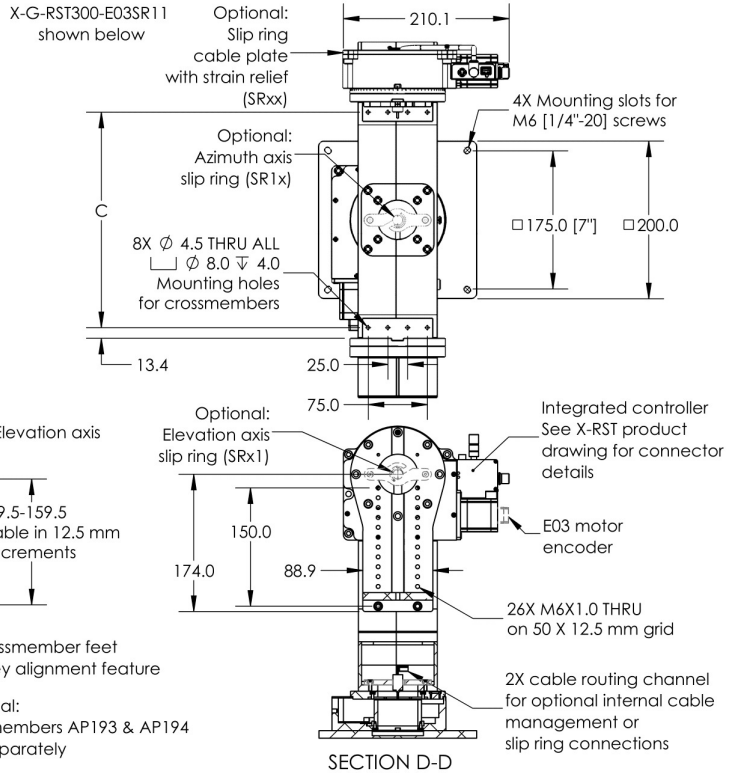
Model Number*	X	Y	Z	A	B	C
X-G-RST300-E03(SRxx)	300	334.5	0-175	450.4	395.5	273.2
X-G-RST500-E03(SRxx)	501.7	436.5	0-175	652.1	497.5	474.9
X-G-RST300-DE50(SRxx)	300	334.5	0-175	450.4	395.5	273.2
X-G-RST500-DE50(SRxx)	501.7	436.5	0-175	652.1	497.5	474.9

*See product page for complete list of available models at www.zaber.com

Please contact Sales Department for further inquiries



DWG 2304 R01



X-G-RST-DE Series Specifications

Specification	Value	Alternate Unit
Microstep Size (Default Resolution)	0.00015625°	2.727 μrad
Built-in Controller	Yes	
Range	360°	
Accuracy (unidirectional)	0.01°	0.174500 mrad
Repeatability	< 0.005°	< 0.087 mrad
Backlash	< 0.005°	< 0.087 mrad
Maximum Speed	24°/s	4 rpm
Encoder Count Size	0.00005556°/count	0.200016 arc sec/count
Minimum Speed	0.000095°/s	1.658 μrad/s
Speed Resolution	0.000095°/s	1.658 μrad/s
Encoder Resolution	1620000 CPR	6480000 states/rev
Encoder Type	Direct reading optical encoder	
Communication Interface	RS-232	
Communication Protocol	Zaber ASCII (Default), Zaber Binary	
Maximum Continuous Torque	1000 N-cm	1416.1 oz-in
Maximum Centered Load	150 N (See Spec Definition)	33.6 lb
Maximum Cantilever Load	2000 N-cm	2832.2 oz-in
Aperture Diameter	50.8 mm	2.000"
Maximum Current Draw	2200 mA	
Power Supply	48 VDC	
Power Plug	2-pin Screw Terminal	
Angular Motion Per Motor Rev	2°	
Motor Steps Per Rev	200	
Motor Type	Stepper (2 phase)	
Motor Rated Current	1500 mA/phase	
Inductance	6.6 mH/phase	
Default Resolution	1/64 of a step	
Maximum Angular Momentum	0.4 kg-m ² /s	
Data Cable Connection	Locking 4-pin M8	
Mechanical Drive System	Precision Worm Gear	

Specification	Value	Alternate Unit
Limit or Home Sensing	Magnetic home sensor	
Gear Ratio	180:1	
Manual Control	Yes	
Operating Temperature Range	0-50 °C	
Vacuum Compatible	No	
RoHS Compliant	Yes	
CE Compliant	Yes	

Part Number	Weight
X-G-RST300-DE50SR10	13.3 kg (29.321 lb)
X-G-RST500-DE50SR10	13.9 kg (30.644 lb)

Contact

Email: contact@zaber.com

Phone (toll free Canada/USA): 1-888-276-8033

Phone (direct): 1-604-569-3780

Fax: 1-604-648-8033

Zaber Technologies Inc.

#2 - 605 West Kent Ave. N.

Vancouver, British Columbia

Canada, V6P 6T7

<https://www.zaber.com>