

# RT-2 SERIES ROTARY STAGE

## FEATURES

- Resolution: 0.32 arc-sec
- Speed: 30°/sec
- Compact Size
- Size 17 stepper motor



## RT-2 Design

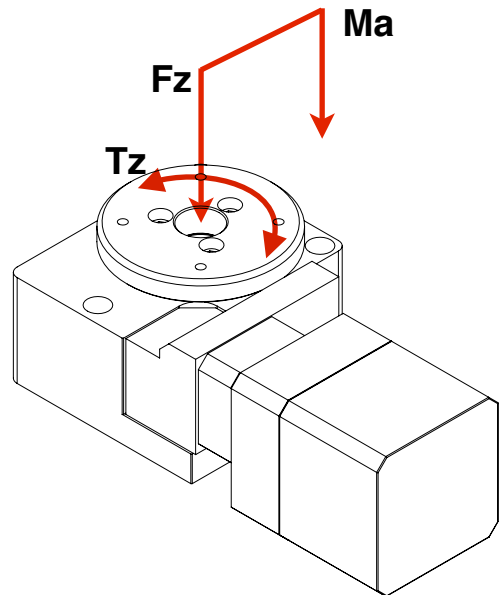
The RT-2 has a low profile coming in at just 39 mm thick. The design takes advantage of a thrust bearing systems for the table movement. This design approach offers excellent stability and low cost. The RT-2 utilizes a worm gear drive with available gear ratios of 80:1 and 40:1. The 40:1 gear ratio will provide a higher output speed over the 80:1 gear ratio. The worm gear is preload to minimize the backlash in the gear train.

## Specifications

Resolution	Up to 0.32 arc-sec (depends on gear ratio and microstepping resolution)
Accuracy	72 arc-sec
Max. Speed	30°/sec (80:1 gear ratio), 50°/sec (40:1 Gear ratio)
Unidirectional Repeatability	5 arc-sec
Max Payload Weight	4.5 kg (10lbs)
Travel Range	360° Continuous
Encoder	Optical rotary encoder mounted to rear of motor, 1000 lines (4000 CPR) with Index (Optional)
Limit Switches	None
Origin	None. Requires external home switch
Gear Ratio	80:1 or 40:1
Stage Weight	0.45 kg (1lbs)
Material	Aluminum Alloy Construction
Finish	Black Anodize

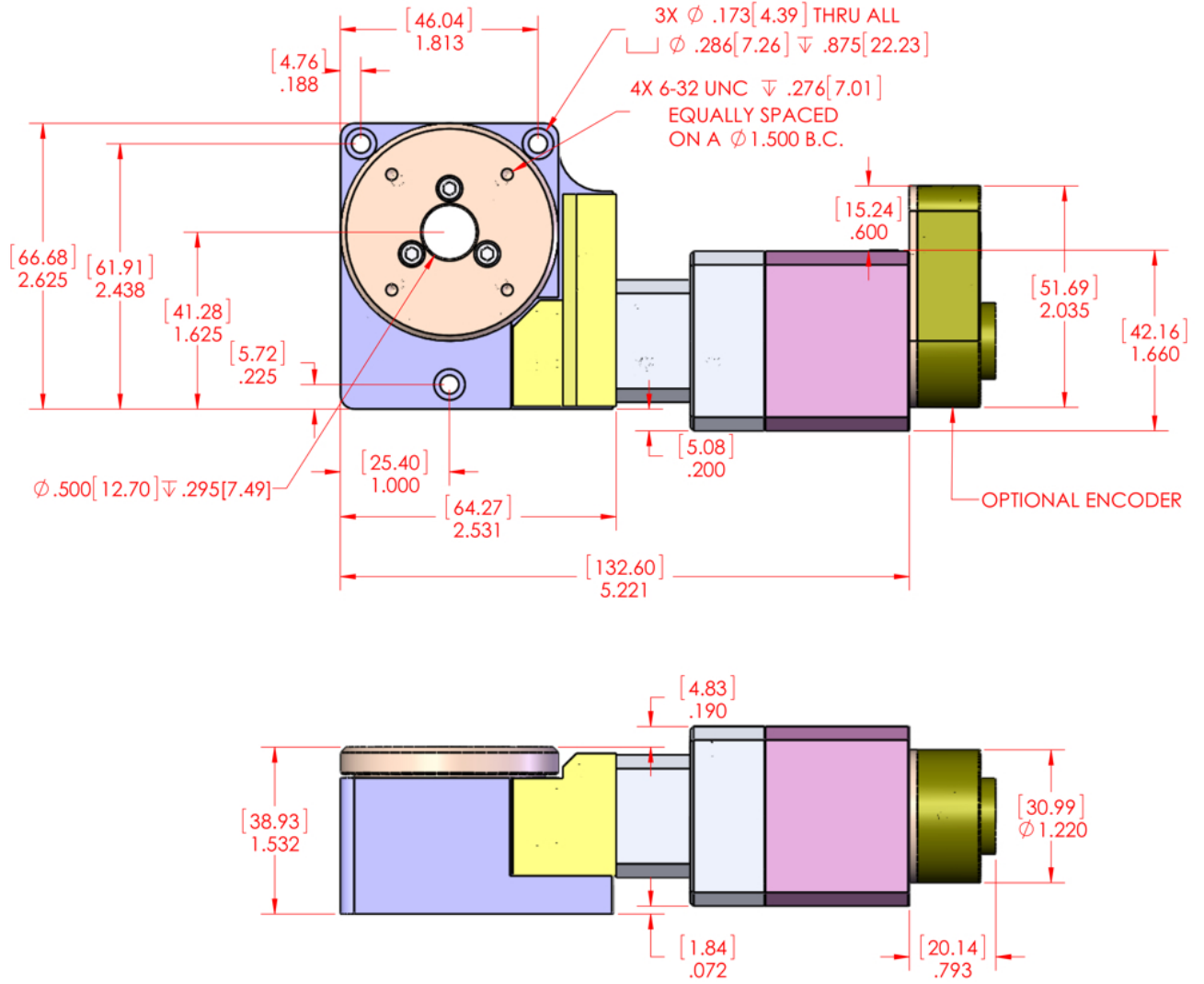
### Load Characteristics

Normal Load (Fz)	4.5 kg (10 lbs)
Moment Load (Ma)	1.7 Nm (1.3 lb-ft)
Max. Torque (Tz)	2.3 Nm (1.7 lb-ft)



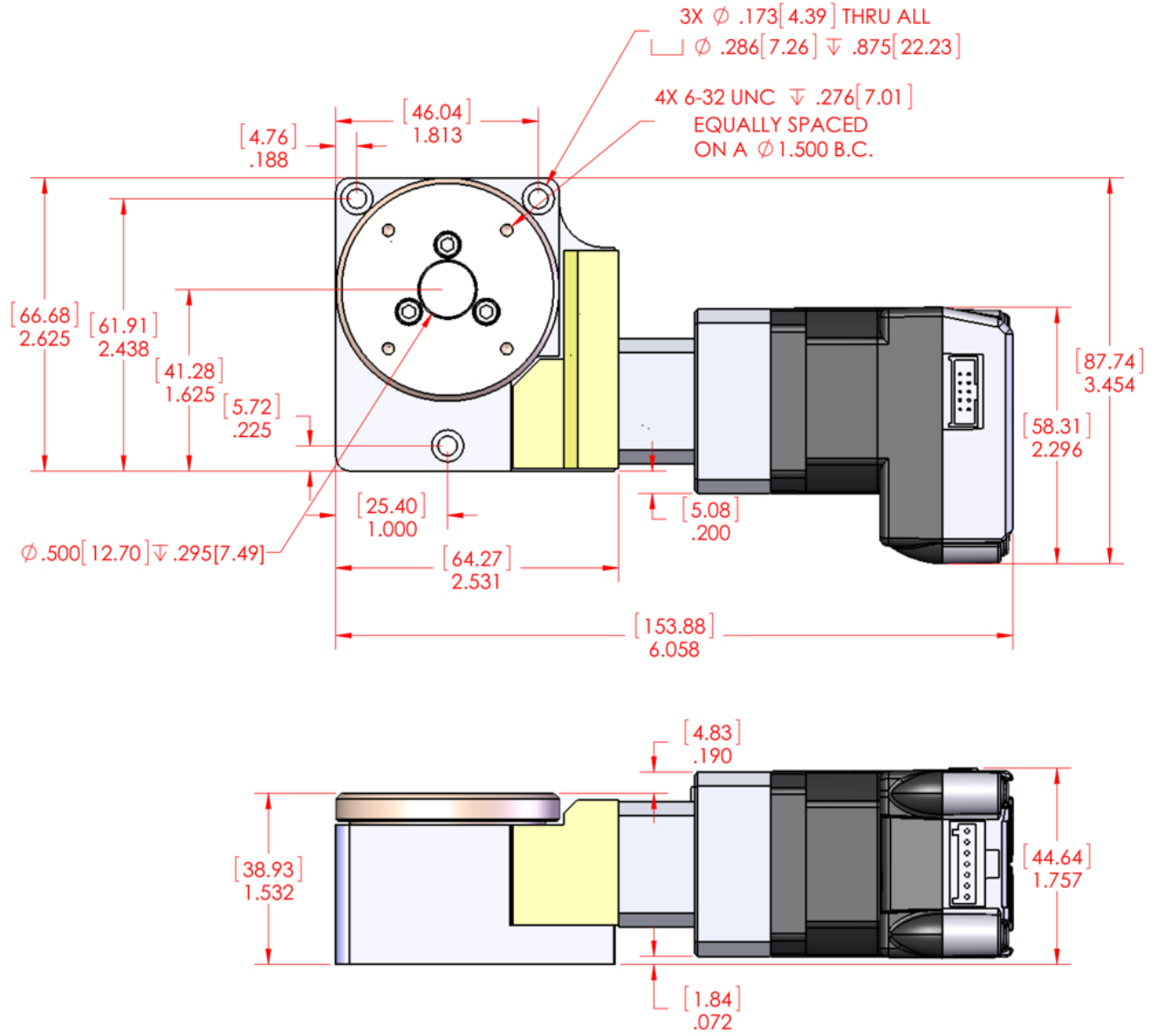
# Dimensions

## Stepper Motor



# Dimensions

## MDrive Motor



# Pin Assignment

## Standard Stepper Motor Version

### Motor

DB-9 Male	Description
1.	Phase A
2.	Phase A'
3.	Phase B
4.	Phase B'
5.	Phase A Center
6.	Phase B Center

### Signals (Encoder Option)

HD-15 Female	Description
1.	N.C.
2.	N.C.
3.	N.C.
4.	Encoder Ground
5.	+5V Encoder Power
6.	Ch. A
7.	Ch. A-
8.	Ch. B
9.	Ch. B-
10.	Index +
11.	Index -

### Motor Specifications

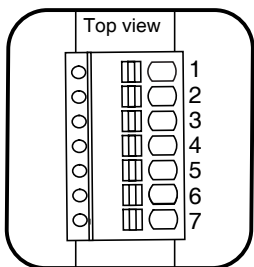
Step Size: 1.8°/step

Amps/Phase: 0.95

Resistance: 5.0 Ohm/Phase

Inductance: 3.1 mH/Phase

## MDrive Stepper Motor Version



7-Pin Pluggable Terminal

### Power and I/O

7-Pin Terminal	Description
1	I/O 1
2	I/O 2
3	I/O 3
4	I/O 4
5	Analog Input
6	Power GND
7	+24V Motor Power

### Connected to 7-Pin Terminal

DC Jack, 2.1mm	Description
Center	+24 VDC
Outside	Power Ground

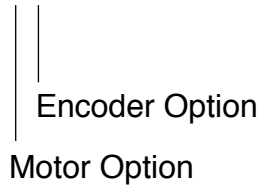
### RS-422 Communications

10-Pin IDC	Description
1	TX+
2	TX-
3	RX+
4	RX-
5	Aux-Logic
6	RX+
7	RX-
8	TX-
9	TX+
10	COMM GND

# Ordering Information

## Part Numbers Configuration

RT-2-x x



### Motor Options

- 1 Stepper Motor
- 2 MDrive

### Encoder Options

- 0 No Encoder
- 1 Encoder on Stepper Motor
- 2 Encoder on MDrive Motor

## Motion Controllers

The following Newmark Systems, Inc. controllers are compatible with the RT-2 Stage.

[NCS-A1 Series](#) | [NSC-A2L Series](#) | [NSC-G Series](#)