



TSL-CRA-RI60-70

Ø70 mm Robot Joint Module | Harmonic Gearbox

Compact integrated joint module with 51:1 / 81:1 / 101:1 / 121:1 harmonic reduction options.

Reduction Ratio	Rated Torque	Peak Torque	Supply Voltage
51:1 / 81:1 / 101:1 / 121:1	19.8 / 27.5 / 30 / 30 N·m	42 / 53 / 66 / 66 N·m	24-48 V

1. Electrical, Mechanical and Control Parameters

Ratio	Unit	51	81	101	121
Start-Stop Peak Torque	N·m	42	53	66	66
Average Load Torque Allowable Maximum (Robot Scenario)	N·m	32	33	49	49
Rated Torque at 2000rpm/(Reduction Ratio) (Industrial Scenario)	N·m	19.80	27.50	30	30
Output Peak Speed	rpm	82	51	41	32
Rated Speed (with 1/2 Rated Torque)	rpm	68	43	34	24
Backlash	arcsec	20	20	10	10
Rated Power	W	230			
Supply Voltage	V	24 - 48			
Encoder Resolution	bit	16			
Communication Bus	-	CAN			
Brake Torque (No Brake/With Brake)	N·m	0 / 1			
Stiffness	10 ⁴ N/rad	0.77	0.95	0.95	0.95
Radial Allowable Load	kN	8.40			
Axial Allowable Load	kN	19.10			
Allowable Bending Moment	N·m	218			
Length (No Brake/With Brake)	mm	72.5±0.5 / 93±0.5			
Through Hole	mm	18			
Weight (No Brake/With Brake)	kg	0.73 / 0.88			
Inertia (No Brake/With Brake)	g·cm ²	394.8 / 492			

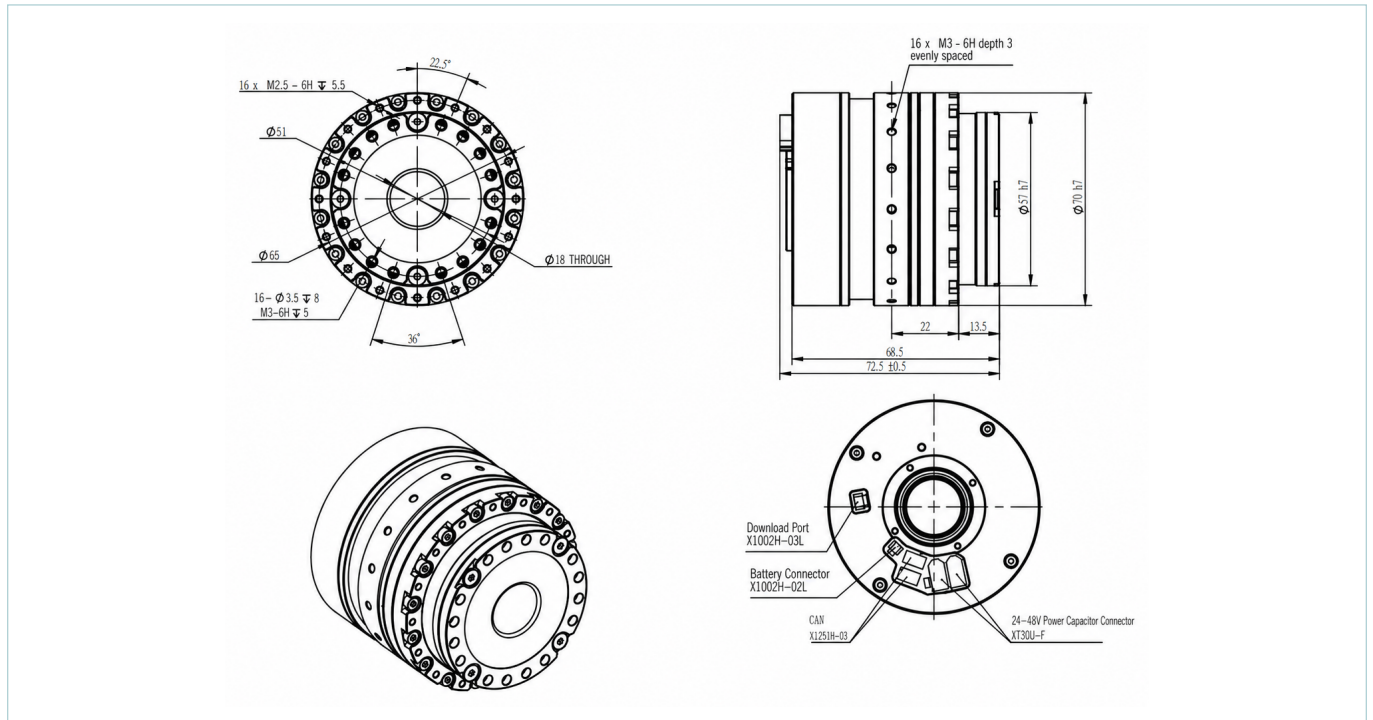
Parameters are for reference only. For final installation dimensions, refer to the drawings on pages 2-3.

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2. Dimension Drawing - 72.5 mm Version - Without Brake

All dimensions are in millimeters unless otherwise specified.



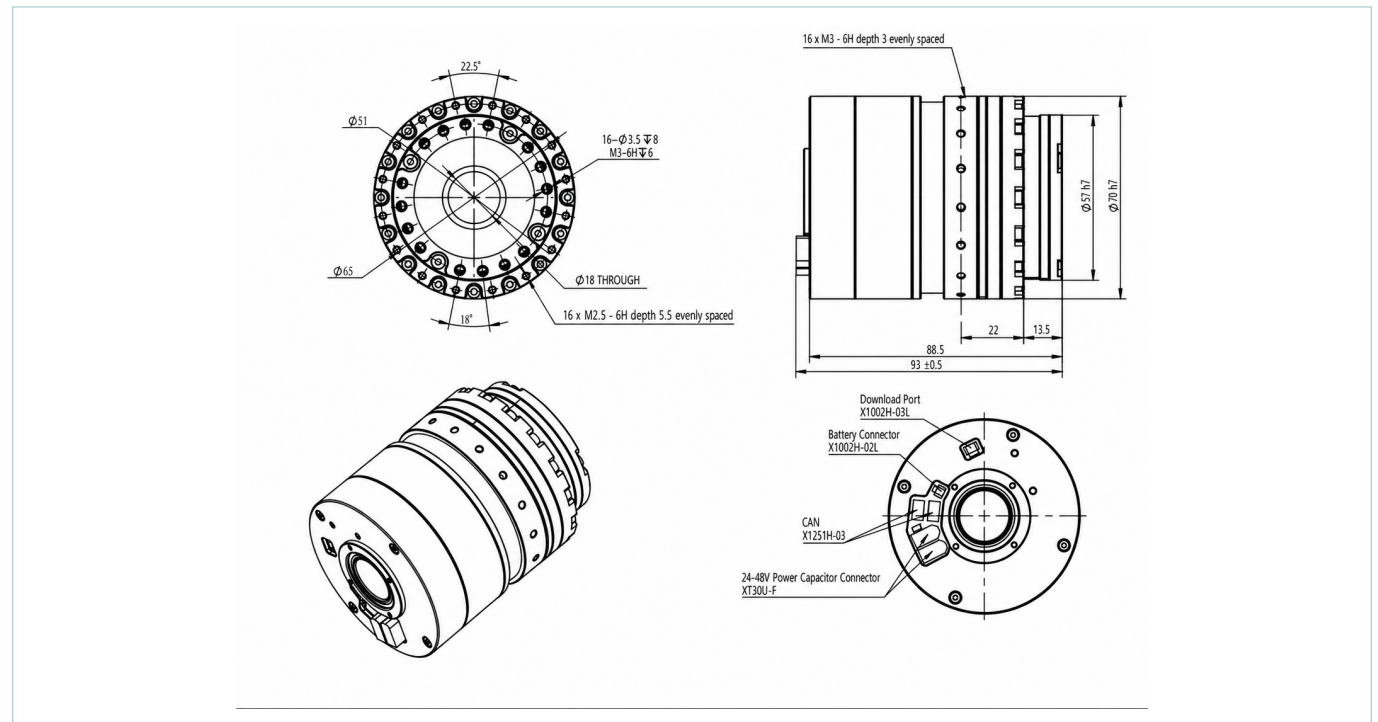
Configuration	72.5 mm version (without brake)
Overall Length	72.5 ± 0.5 mm
Referenced Length	68.5 mm
Outer Diameter	Ø70 h7
Front Interface	Ø57 h7; Ø65 and Ø51 reference diameters
Through Hole	Ø18 through
Brake Torque	0 N·m (no brake)
Communication Interfaces	CAN port, power capacitor connector, battery connector, download port
Mounting Features	16 × M3-6H depth 3 (equally spaced); front-face hole patterns as shown
Drawing: TSL-CRA-RI60-70 - 72.5 mm Without Brake Version	Version V1.0 Updated 2025-08-09

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3. Dimension Drawing - 93 mm Version - With Brake

All dimensions are in millimeters unless otherwise specified.



Configuration	93 mm version (with brake)
Overall Length	93 ± 0.5 mm
Referenced Length	88.5 mm
Outer Diameter	Ø70 h7
Front Interface	Ø57 h7; Ø65 and Ø51 reference diameters
Through Hole	Ø18 through
Brake Torque	1 N·m
Communication Interfaces	CAN port, power capacitor connector, battery connector, download port
Mounting Features	16 × M3-6H depth 3 (equally spaced); front-face hole patterns as shown
Drawing: TSL-CRA-RI60-70 - 93 mm With Brake Version	Version V1.0 Updated 2025-08-09