

# Model 6A Series 6-Axis Load Cells (Fx Fy Fz Mx My Mz)

Interface's 6-axis load cell measures forces simultaneously in three mutually perpendicular axes and three simultaneous torques about those same axes. Six full bridges provide mV/V output on six independent channels.

Interface's 6-axis load cell is ideally suited to many industrial and scientific applications, such as aerospace, robotics, automotive and medical research (orthopedics and biomechanical).

A 36-term coefficient matrix is included for calculating the load and torque values in each axis.

An 8-channel amplifier with USB PC interface is also available which simplifies data analysis.



## SPECIFICATIONS

<b>ACCURACY – (MAX ERROR)</b>	
Non-linearity – %FS	±0.1
Hysteresis – %FS	±0.1
Non-repeatability – %RO	±0.5
Creep, in 20 min – %	±0.1
<b>MECHANICAL</b>	
Safe Overload – % of CAP	150
Ultimate Overload – %RO	300
<b>TEMPERATURE</b>	
Compensated Range – °F	14 to 158
Compensated Range – °C	-10 to 70
Operating Range – °F	14 to 185
Operating Range – °C	-10 to 85
Effect on Zero – %RO / °C – Max	±0.1
Effect on Output – % / °C – Max	±0.05
<b>ELECTRICAL</b>	
Rated Output – mV/V (Nominal)	±0.4
Max. Excitation Voltage	5V
Crosstalk	±1%
Zero Balance – mV/V	< 2
Input Resistance (6A27)	1KΩ ±10
Output Resistance (6A27)	1KΩ ±10
Input Resistance	350Ω ±10
Output Resistance	350Ω ±10

## FEATURES

- 6-Axis – Force and Torque in all six axes
- 50N / 1Nm to 100K N / 10K Nm
- Compact Size
- Force and moment values MUST be calculated using supplied 36-term coefficient matrix
- Low crosstalk
- Temperature compensated
- Optional BX8 amplifier and software can be used for force and moment value calculation

# Model 6A Series

## 6-Axis Load Cells (Fx Fy Fz Mx My Mz)

### DIMENSIONS

	MODEL #										
	6A27	6A40		6A68					6A80		
	A	A	B	A	B	C	D	E	A	B	C
<b>Fx (N)</b>	50	200	500	1K	2K	5K	10K	10K	1K	2K	5K
<b>Fy (N)</b>	50	200	500	1K	2K	5K	10K	10K	1K	2K	5K
<b>Fz (N)</b>	200	500	2K	2K	4K	10K	20K	20K	2.5K	5K	15K
<b>Mx (Nm)</b>	1	5	20	20	50	50	100	500	50	100	250
<b>My (Nm)</b>	1	5	20	20	50	50	100	500	50	100	250
<b>Mz (Nm)</b>	1	10	40	20	50	50	100	500	50	100	250
<b>Diameter (mm)</b>	27	60		83					80		
<b>Height (mm)</b>	25	40		64					50		
<b>Weight (g)</b>	25	250	400	830			1050		450		1000
<b>Material</b>	SS	AL	SS	AL			SS		AL		SS
<b>Deflection (mm)</b>	0.01	0.1	0.03	0.04					0.02		
<b>Deflection (rad)</b>	0.01	0.01	0.003	0.001					0.001		
<b>Protection (IP)</b>	54	67		67					67		
	MODEL #										
	6A110		6A130		6A154				6A175		
	A	B	A	B	A	B	C	D	A	B	C
<b>Fx (N)</b>	4K	10K	5K	15K	50	100	200	500	10K	20K	50K
<b>Fy (N)</b>	4K	10K	5K	15K	50	100	200	500	10K	20K	50K
<b>Fz (N)</b>	10K	25K	15K	50K	100	200	500	1K	20K	50K	100K
<b>Mx (Nm)</b>	250	750	500	1.2K	5	10	20	50	1K	2K	5K
<b>My (Nm)</b>	250	750	500	1.2K	5	10	20	50	1K	2K	5K
<b>Mz (Nm)</b>	250	750	500	1.2K	5	10	20	50	2K	5K	10K
<b>Diameter (mm)</b>	110		130		154				175		
<b>Height (mm)</b>	60		80		120				116		
<b>Weight (g)</b>	880	1800	1500	3200	800				11,000		
<b>Material</b>	AL	SS	AL	SS	AL				SS		
<b>Deflection (mm)</b>	0.03		0.05		0.08			0.1	0.1		
<b>Deflection (rad)</b>	0.001		0.002		0.001				0.01		
<b>Protection (IP)</b>	67		67		67				67		

*Higher capacities available upon request*

# 6A27 6-Axis Load Cell

## FEATURES

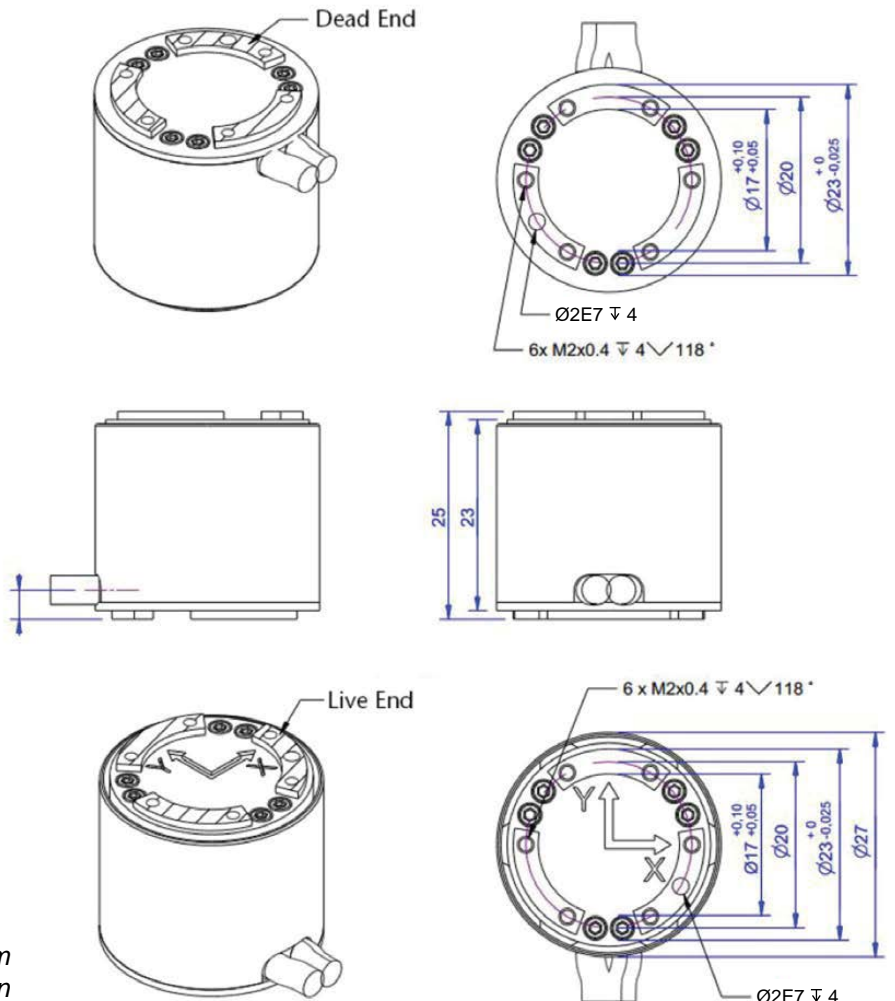
- 5-Meter Dual Cable
- Integration into Wind Tunnel Models
- Integration into Handles of Medical Tools
- Sports Medicine
- Biomechanics
- Control of Assembly and Handling Processes in Micromechanics



## CONNECTOR OPTIONS

- 24-Pin M16
- 44-Pin High Density D-Sub

## DIMENSIONS



*Dimensions in mm*

*Mechanical views are 1st-angle projection*

# 6A40 6-Axis Load Cell

## FEATURES

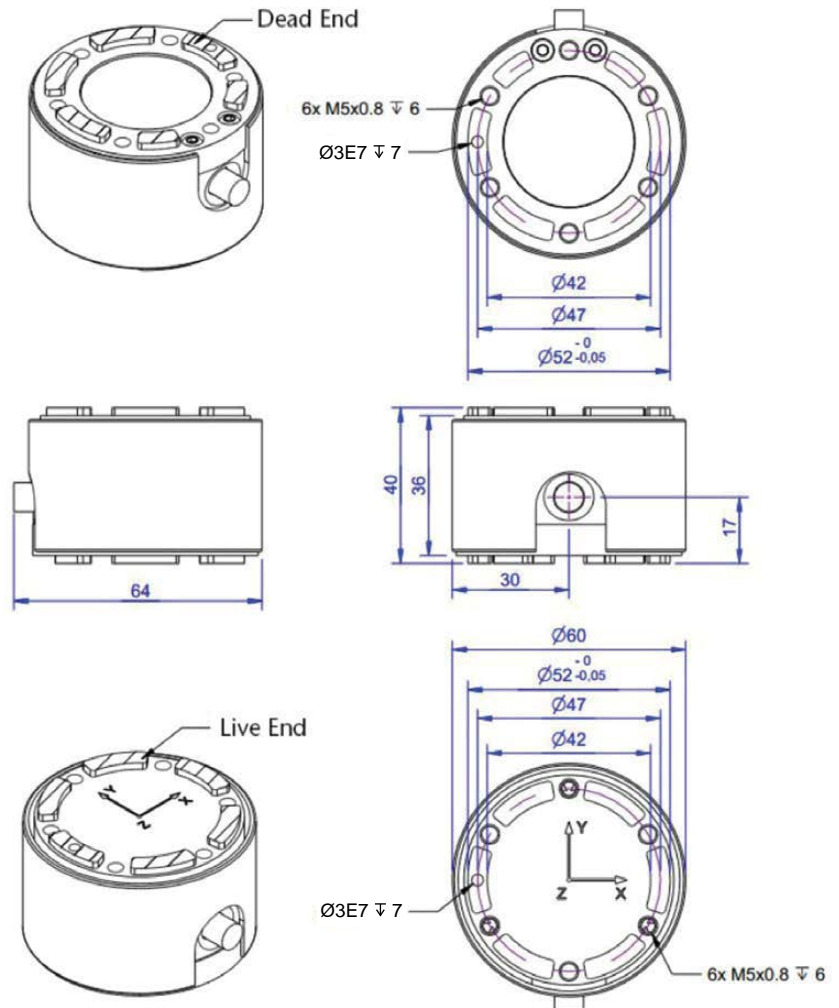
- 5-Meter Cable
- Collision Detection
- “Teach-In”
- Presence or Error Detection
- Medical / Prosthetics / Orthopedics
- Gait Analysis
- Sports Medicine
- Comfort / Ergonomics



## CONNECTOR OPTIONS

- 24-Pin M16
- 44-Pin High Density D-Sub

## DIMENSIONS



*Dimensions in mm*

*Mechanical views are 1st-angle projection*

# 6A68 6-Axis Load Cell

## FEATURES

- 5-Meter Cable
- Collision Detection
- “Teach-In”
- Presence or Error Detection
- Medical / Prosthetics / Orthopedics
- Gait Analysis
- Sports Medicine
- Comfort / Ergonomics

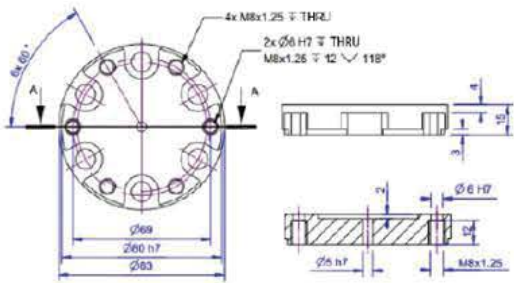


## CONNECTOR OPTIONS

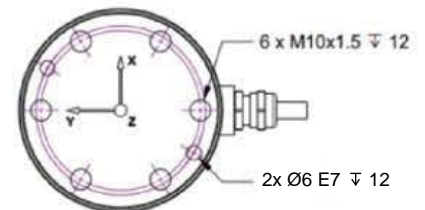
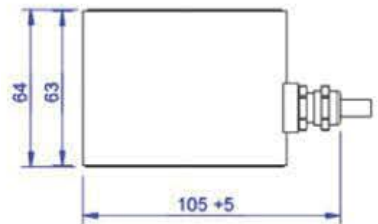
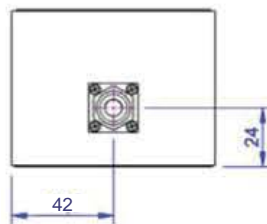
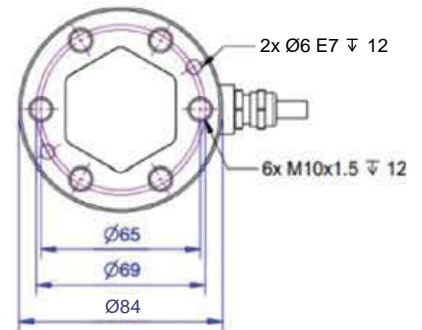
- 24-Pin M16
- 44-Pin High Density D-Sub

## DIMENSIONS

## ADAPTER PLATES



- Two Required Per Sensor
- Aluminum or Stainless Steel  
Depending on Capacity
- 6A68 Only



*Dimensions in mm*

*Mechanical views are 1st-angle projection*

# 6A80 6-Axis Load Cell

## FEATURES

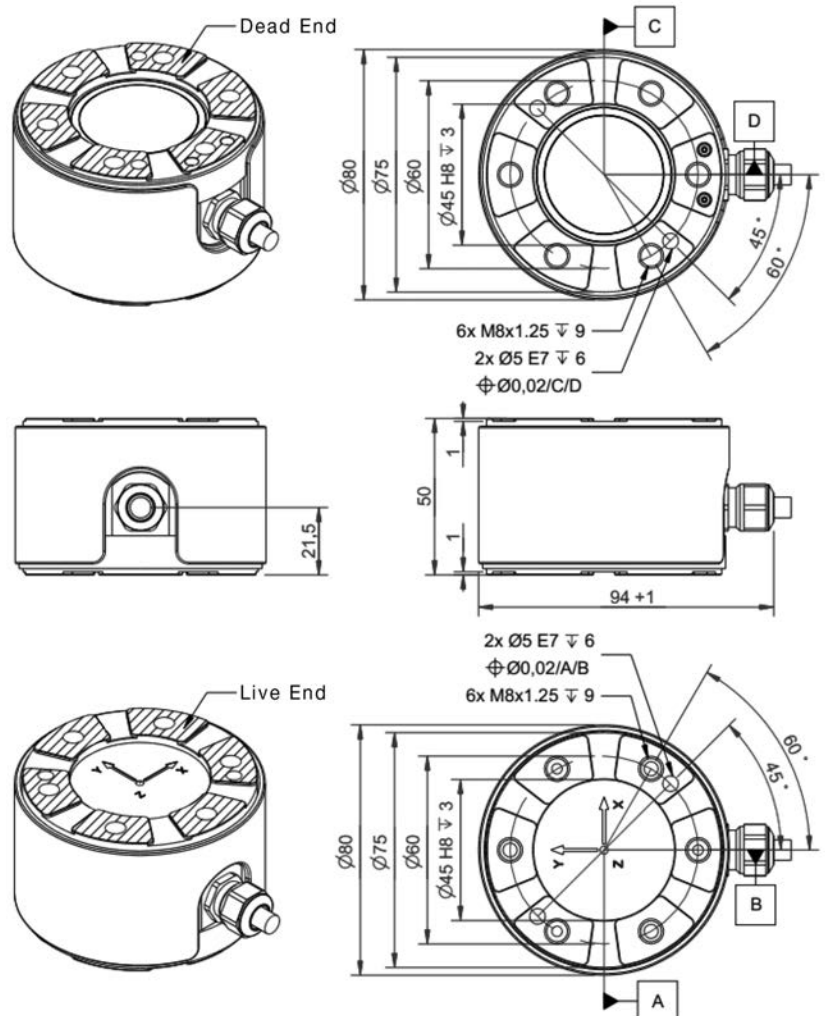
- 5-Meter Cable
- Collision Detection
- “Teach-In”
- Presence or Error Detection
- Force or Torque-Controlled Operation
- Medical / Prosthetics / Orthopedics
- Sports Medicine
- Comfort / Ergonomics



## CONNECTOR OPTIONS

- 24-Pin M16
- 44-Pin High Density D-Sub

## DIMENSIONS



*Dimensions in mm*

*Mechanical views are 1st-angle projection*

# 6A110 6-Axis Load Cell

## FEATURES

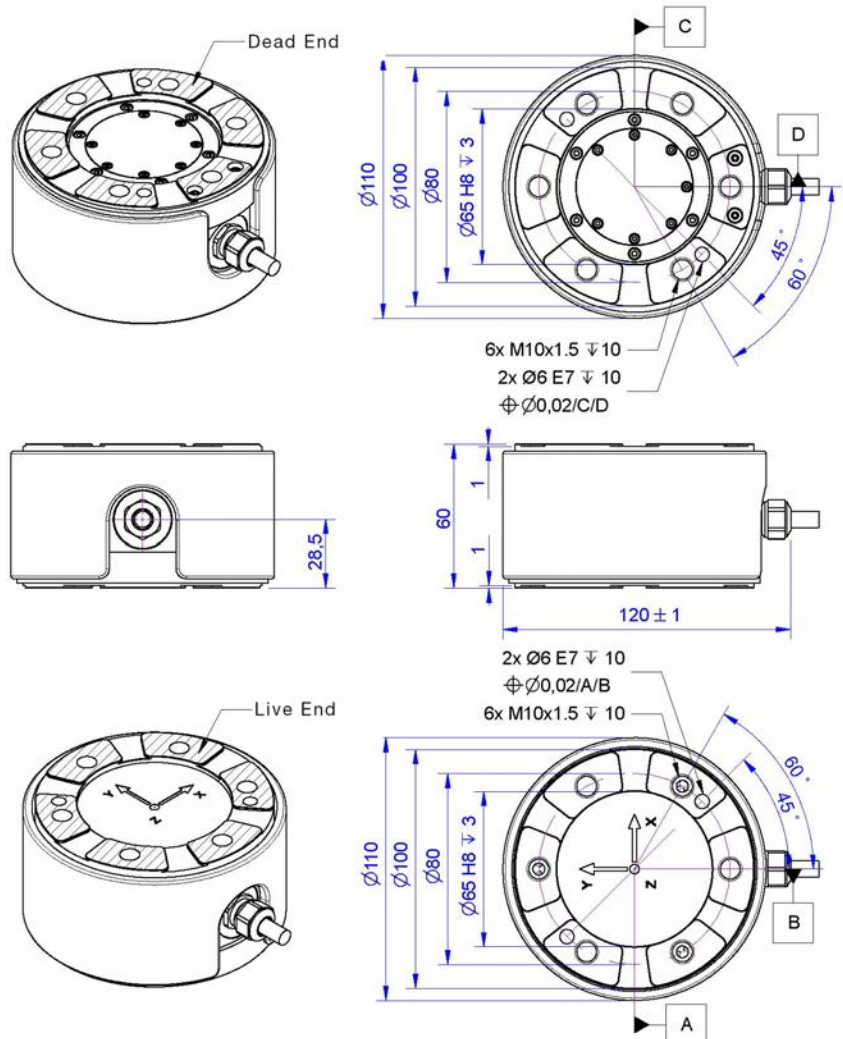
- 5-Meter Cable
- Collision Detection
- “Teach-In”
- Presence or Error Detection
- Force or Torque-Controlled Operation
- Medical / Prosthetics / Orthopedics
- Sports Medicine
- Comfort / Ergonomics



## CONNECTOR OPTIONS

- 24-Pin M16
- 44-Pin High Density D-Sub

## DIMENSIONS



# 6A130 6-Axis Load Cell

## FEATURES

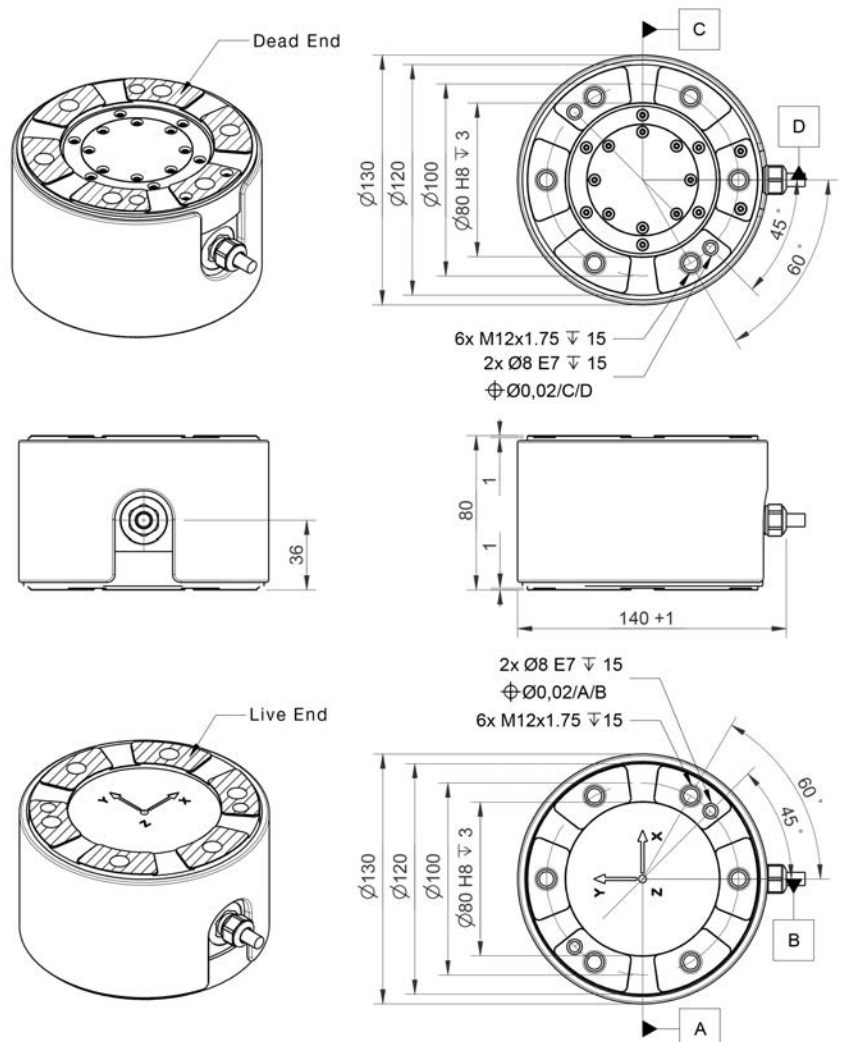
- 5-Meter Cable
- Collision Detection
- “Teach-In”
- Presence or Error Detection
- Force or Torque-Controlled Operation
- Medical / Prosthetics / Orthopedics
- Sports Medicine
- Comfort / Ergonomics



## CONNECTOR OPTIONS

- 24-Pin M16
- 44-Pin High Density D-Sub

## DIMENSIONS



Dimensions in mm

Mechanical views are 1st-angle projection



# 6A154 6-Axis Load Cell

## FEATURES

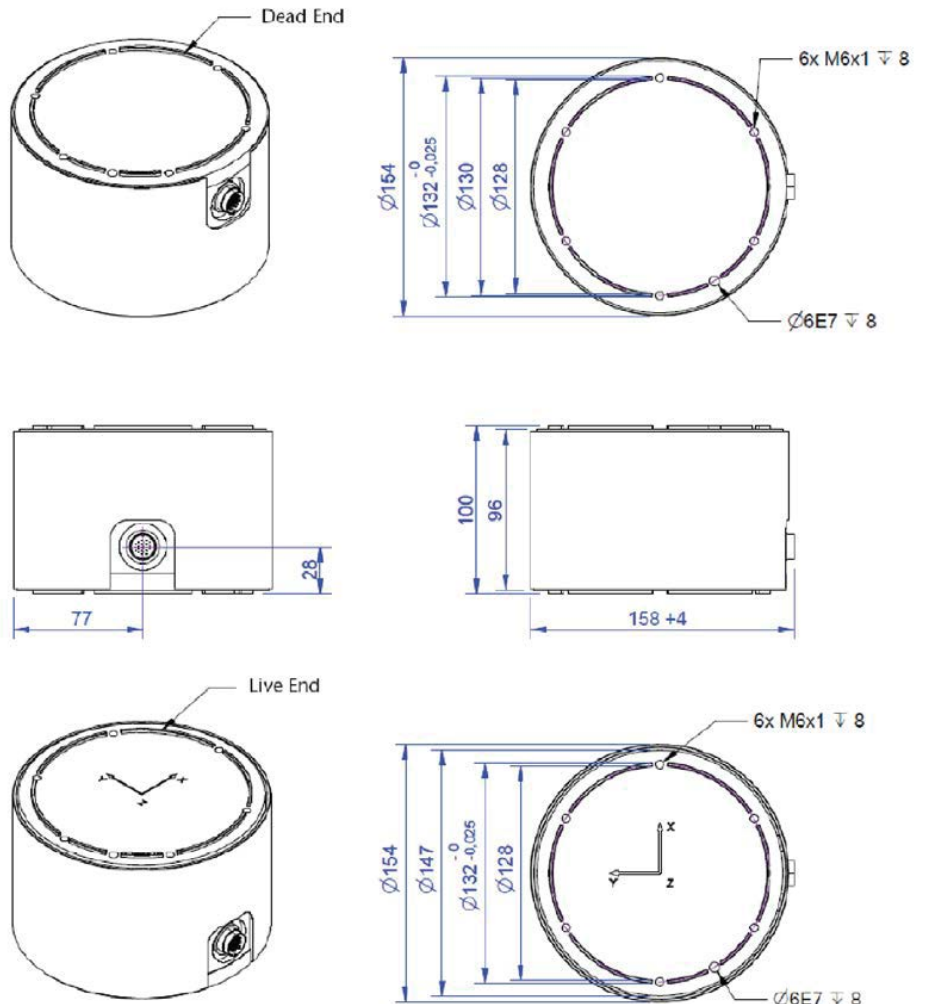
- 5-Meter Cable
- Wind Tunnel Balances
- Combines Low Force with High Moment Capacity



## CONNECTOR OPTIONS

- 24-Pin M16
- 44-Pin High Density D-Sub

## DIMENSIONS



*Dimensions in mm  
Mechanical views are 1st-angle projection*

# 6A175 6-Axis Load Cell

## FEATURES

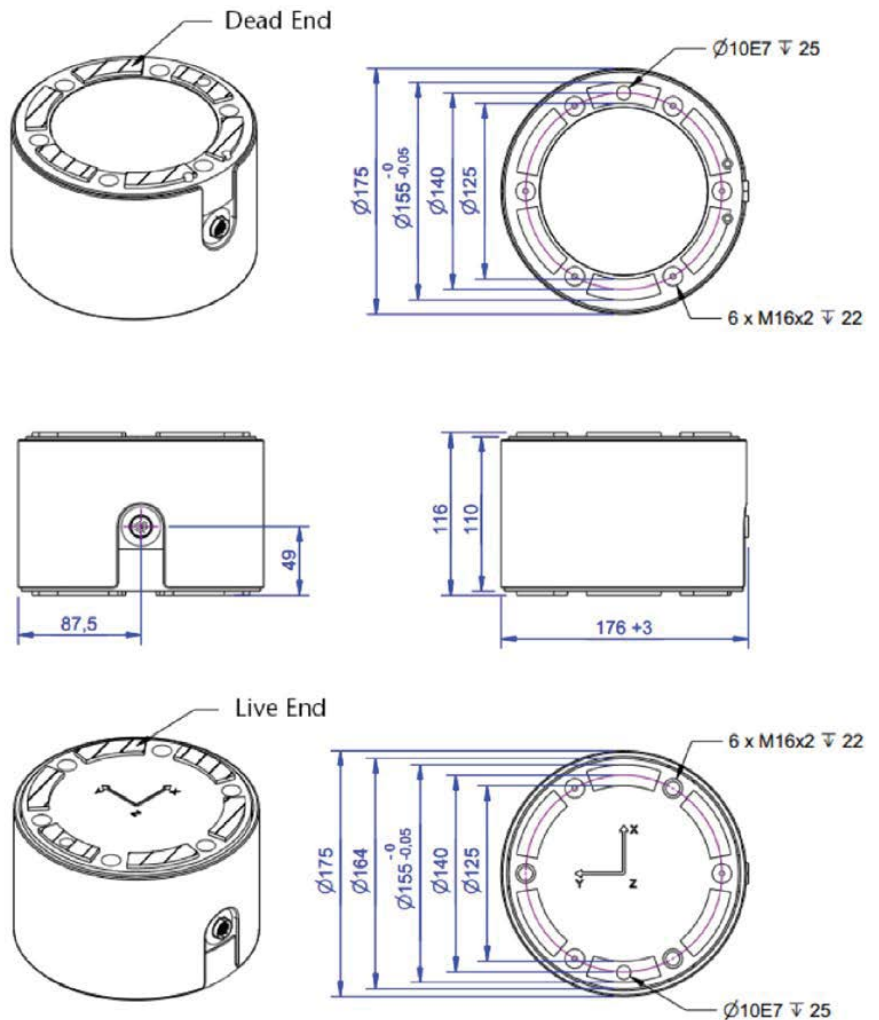
- 5-Meter Cable
- Automation and Robotics
- Press Force
- Seismic Studies



## CONNECTOR OPTIONS

- 24-Pin M16
- 44-Pin High Density D-Sub

## DIMENSIONS



Dimensions in mm

Mechanical views are 1st-angle projection