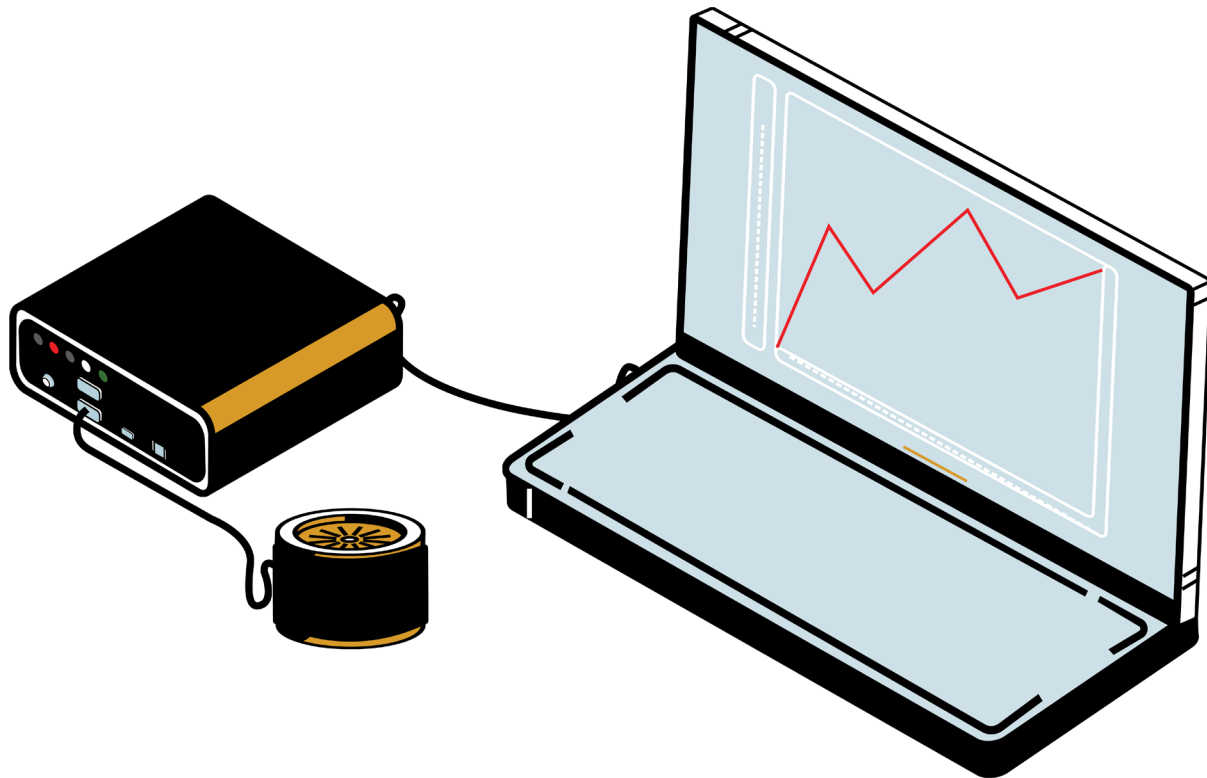


# BX8/BX6

8-Channel Data Acquisition System and Amplifier  
Portable 6-Channel High Speed Bluetooth Data Logger

# 6-Axis

6A Series 6-Axis Force and Torque Load Cell (Fx Fy Fz Mx My Mz)  
6ADF Series 6-Axis DIN Flange-Type Load Cells



BX8/6-Axis System v1.1 06-02-2023



**interface**  
FORCE MEASUREMENT SOLUTIONS

The World Leader in Force Measurement Solutions™

# Introducing The Interface BX8/BX6 6-Axis Force and Torque Measurement System

A system comprised of Interface Models BX8 Data Acquisition Instrument or the BX6-BT Portable 6-Channel High Speed Bluetooth Data Logger and the 6AXX 6-Axis Load Cell or the 6ADF Series 6-Axis DIN Flange-Type Load Cells which have been designed to streamline applications that require the measurement of 6 simultaneous axes and need the data captured and stored at a very fast rate. This solution is easy enough for the inexperienced user but powerful enough for the sophisticated test engineer.

**With this Interface product anyone can be up and measuring in minutes.**

The BX8 and BX6 is ideally suited for use with 6-axis sensors requiring matrix math load calculations. The sensor's coefficient matrix can be loaded internally into the BX8 or BX6 via the BlueDAQ or BlueDAQ-PRO software and the analog outputs are actively scaled according to the calculations. All channels are sampled simultaneously and fully synchronized. When a BX8 or BX6 are purchased with a 6-axis sensor, the system can arrive pre-configured and ready to use.

## BX8-AS

- Industrial Enclosure
- M16, 24-pin Connector
- Alternate Connection through screw terminals
- 8 each scaled analog outputs

## BX8-HD15

- Lab Enclosure
- 8 each high density 15-pin DSub Connectors
- 8 each scaled analog outputs

## BX8-HD44

- Lab Enclosure
- 4 each high density 44-pin DSub Connectors
- 8 each scaled analog outputs

## BX6-BT

- Plastic housing with 6 x M8 cable glands
- Bluetooth configurable class 2
- Digital inputs/outputs
- 3.7V Lithium-Ion Battery

## BX6-BT-OEM

- OEM
- Bluetooth configurable class 2
- Digital inputs/outputs
- 3.7V Lithium-Ion Battery

## 6A Series 6-Axis

- Capacities available Force: 11.2 lbf to 22.5K lbf (50 N to 100 kN) Torque: 8.85 lbf to 88.5K lbf (1 Nm to 10K Nm)
- Force and moment values calculated using supplied 36-term (72-term for high capacity) coefficient matrix
- Temperature compensated

## 6ADF Series 6-Axis

- Capacities available Force: 4.5 lbf to 270 lbf (20 N to 1.2 kN) Torque: 8.85 lbf-in to 531 lbf-in (1 Nm to 60 Nm)
- Force and moment values calculated using supplied 36-term coefficient matrix
- Mounting per DIN EN ISO 9409-1

**6A27 6-Axis Force Torque**

Force: 11.2 to 44.7K lbf  
 Torque: 8.85 lbf-in  
 Force: 50 N to 200 N  
 Torque: 1 Nm

**6A40 6-Axis Force Torque**

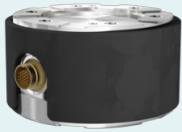
Force: 1.2 to 112.4 lbf  
 Torque: 44.3 lbf-in to 177 lbf-in  
 Force: 5 N to 500 N  
 Torque: 5 Nm to 20 Nm

**6A68 6-Axis Force Torque**

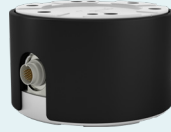
Force: 224.8 to 2.25K lbf  
 Torque: 177 lbf-in to 4.43K lbf-in  
 Force: 1 kN to 10 kN  
 Torque: 20 Nm to 500 Nm

**6A80 6-Axis Force Torque**

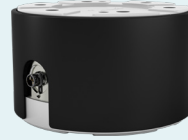
Force: 112.4 to 1.12K lbf  
 Torque: 177 lbf-in to 2.21K lbf-in  
 Force: 500 N to 5 kN  
 Torque: 20 Nm to 250 Nm

**6A110 6-Axis Force Torque**

Force: 224.8 to 2.25K lbf  
 Torque: 885 lbf-in to 6.64K lbf-in  
 Force: 1 kN to 10 kN  
 Torque: 100 Nm to 750 Nm

**6A130 6-Axis Force Torque**

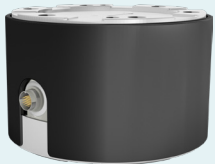
Force: 224.8 to 3.37K lbf  
 Torque: 1.77K lbf-in to 10.6K lbf-in  
 Force: 1 kN to 15 kN  
 Torque: 200 Nm to 1.2 kNm

**6A150 6-Axis Force Torque**

Force: 449 to 6.7K lbf  
 Torque: 1.77K lbf-in to 26.5K lbf-in  
 Force: 2 kN to 30 kN  
 Torque: 200 Nm to 3 kNm

**6A154 6-Axis Force Torque**

Force: 11.2 to 112.4 lbf  
 Torque: 44.3 lbf-in to 442 lbf-in  
 Force: 50 N to 500 N  
 Torque: 5 Nm to 50 Nm

**6A175 6-Axis Force Torque**

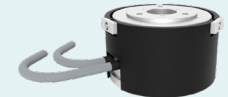
Force: 2.25K to 11.2K lbf  
 Torque: 8.85 lbf-in to 44.3K lbf-in  
 Force: 10 kN to 50 kN  
 Torque: 1 kNm to 5 kNm

**6A225 6-Axis Force Torque**

Force: 11.2K to 44.9K lbf  
 Torque: 88.5K lbf-in to 177K lbf-in  
 Force: 50 kN to 200 kN  
 Torque: 10 kNm to 20 kNm

**6A300 6-Axis Force Torque**

Force: 89.9K lbf  
 Torque: 354K lbf-in  
 Force: 400 kN  
 Torque: 40 kNm

**6ADF45 6-Axis Force Torque  
DIN Flange-Type**

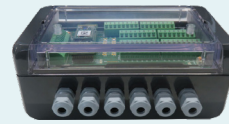
Force: 20 N to 50 N  
 Torque: 1 Nm

**6ADF80 6-Axis Force Torque  
DIN Flange-Type**

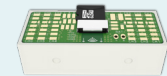
Force: 100 N to 600 N  
 Torque: 10 Nm to 30 Nm

**6ADF100 6-Axis Force Torque  
DIN Flange-Type**

Force: 400 N to 1.2 kN  
 Torque: 20 Nm to 60 Nm

**BX6-BT Portable 6-Channel  
High Speed Bluetooth  
Data Logger**

6 Channel

**BX6-BT-OEM Portable  
6-Channel High Speed  
Bluetooth Data Logger**

6 Channel

**BX8-AS Data Acquisition  
System & Amplifier**

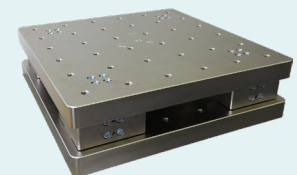
8 Channel

**BX8-HD15 Data Acquisition  
System & Amplifier**

8 Channel

**BX8-HD44 Data Acquisition  
System & Amplifier**

8 Channel

**Force Plates**

A system of multiple multi-axis sensors mounted between two plates

# The BX8/6-Axis System Consists of the BX8/BX6, 6-Axis Sensor, and BlueDAQ/BlueDAQ-PRO Software

## BX8 BlueDAQ Series Data Acquisition System

The 8-channel measuring amplifier BX8 BlueDAQ Series Data Acquisition System is characterized by particularly high resolution at data rates from 1 Hz to 48000 Hz. The 8 channels are recorded simultaneously, without multiplexing. As communication interfaces USB port, optional EtherCAT or CANbus are available. The device has 8 configurable analog outputs ( $\pm 10V$  et al and 4 ... 20mA). An UART interface is used to control the measuring amplifier via a Raspberry PI.

## BX6-BT Portable 6-Channel High Speed Bluetooth Data Logger

The BX6-BT is a 6-channel measuring amplifier with Bluetooth connection and data logger function, which offers a multitude of features in a convenient compact package. The BX6-BT has 6 measurement channels, of which is the first channel for full-bridge strain gauges, channels 2 - 6 are individually configurable as voltage input (single-ended) or strain gauge bridge input including half and quarter bridge configuration. Another 7th channel for acquiring digital pulses is available for connecting incremental encoders or as an input for square-wave signals. The number of channels is configurable from 1 to 7 channels. Channel 7 is reserved for the connection of incremental encoders, channel 1 for the connection of strain gauge full, half or quarter bridges. Channel 1 supports the reading of TEDS memories to configure automatically the scaling factor for the connected sensor. In addition, two threshold outputs can be configured for channel 1. The BX6-BT has screw-terminal connections for connecting the sensors and the supply voltage.

## 6A Series 6-Axis Standard Capacity Load Cells - Fx Fy Fz Mx My Mz

The 6A Series 6-Axis Standard Capacity 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. The 6A standard capacity load cell is ideally suited to many industrial and scientific applications, such as aerospace, robotics, automotive and medical research (orthopedics and bio-mechanical). 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.

## 6A Series 6-Axis High Capacity Load Cells - Fx Fy Fz Mx My Mz

The 6A Series 6-Axis High Capacity Load Cell measures forces simultaneously in three mutually perpendicular axes and three simultaneous torques about those same axes. 12 full bridges provide mV/V output on 12 independent channels. The 6A high capacity load cell is ideally suited to many industrial and scientific applications, such as aerospace, robotics, automotive and medical research (orthopedics and bio-mechanical). A 72-term coefficient matrix is included for calculating the load and torque values in each axis. Interface's BX8 Amplifiers including BlueDAQ software greatly simplify the data acquisition process.

## 6ADF Series 6-Axis DIN Flange-Type Load Cells - Fx Fy Fz Mx My Mz

The 6ADF Series 6-Axis DIN Flange-Type Load Cell is used for force and torque measurement in three mutually perpendicular axes. The 6ADF 6-Axis DIN Flange-Type Load Cell is equipped with fastening flanges according to DIN EN ISO 9409-1 for industrial robots. The measuring flange of the sensor contains tapped holes M6 on the same pitch circle. The 6ADF force and torque sensor can be mounted to the robot flange without additional adapters, making it particularly flat and light compared to the 6ADF series sensors. The evaluation of the force and moment load is carried out with an external measuring amplifier BX8-HD44 BlueDAQ Series Data Acquisition System For Multi-Axis Sensors or BX8-AS BlueDAQ Series Data Acquisition System or with an integrated electronics type BX6-BT Portable 6-Channel High Speed Bluetooth Data Logger.

## BlueDAQ Software

The BlueDAQ software is suitable for live viewing, recording, and analysis of stored measuring data. The multiple channels can be recorded over the time axis (y-t diagram) or via an "X-axis" (X-Y diagram). The BlueDAQ software is available for models BX6 and BX8. The measuring data is stored in binary "TDMS" by recording and can be opened, displayed, and exported in text or Excel format with the integrated "File Monitor".

## BlueDAQ-PRO Software

### Product Description:

- License to activate the professional functions of the BlueDAQ software
- Free update for three following revisions
- Scope of delivery: license file in zip format
- Installation of the license with Help->.Apply license

### Functions:

- MathScript, virtual channels based on formula links with measurement channels
- Integration of a GPE receiver and reading of GPS coordinates
- Insert notes while recording a measurement

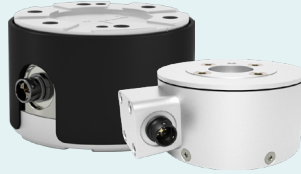
## BX8/BX6

- 8/6-Channel Synchronized Sampling
- 48K Samples/Sec/Channel
- 24-Bit Internal Resolution
- 16 Digital Input/Outputs
- 8 Scaled Analog Outputs
- Bluetooth



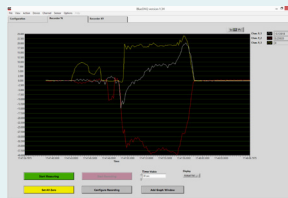
## 6-Axis Sensor

- Force and Torque in all 6 axes
- Compact Size
- Low Crosstalk
- Temperature Compensated
- Flange Mount
- Center Through-Hole

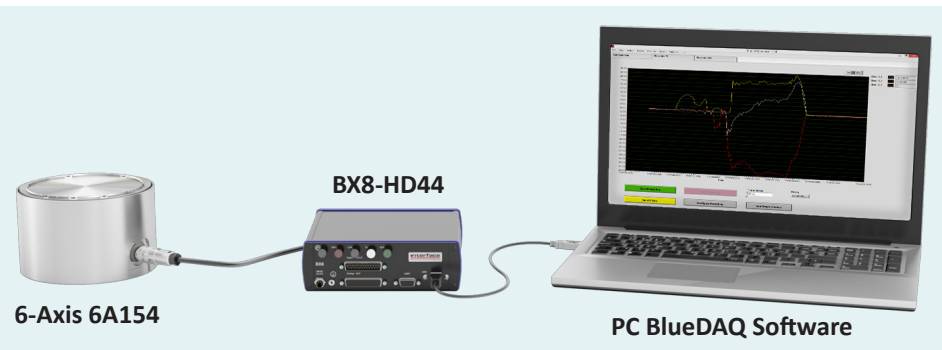


## BlueDAQ/BlueDAQ-PRO

- Scale Input/Output
- Graphing, Logging, and Display Software
- Force and Moment Value Calculation
- MathScript
- Integration of a GPE Receiver and Reading of GPS Coordinates

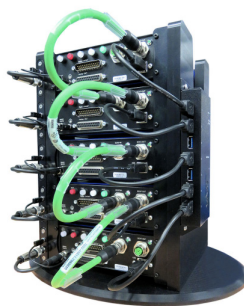


## System Architecture



## Rack Mount

This mounting rack accommodates the BX8-HD15 BlueDAQ Series and BX8-HD44 BlueDAQ Series. The mounting rack will hold up to 5 BX8 lab enclosures. Simultaneous acquisition and evaluation of measured values up to 40 channels with key guard and synchronization cable (included in delivery).



# BX8/BX6 6-Axis

## MODELS

### BX8 Series -

- BX8-HD44
- BX8-HD15
- BX8-AS

### BX6 Series -

- BX6-BT
- BX6-BT-OEM

### 6A Series -

- 6A27
- 6A40
- 6A68
- 6A80
- 6A110
- 6A130
- 6A150
- 6A154
- 6A175
- 6A225
- 6A300

### 6ADF Series -

- C6ADF45
- C6ADF80
- C6ADF100

To learn more about the Interface BX8/BX6 6-Axis Force & torque measurement system or other force measurement solutions call 480-948-5555.

**Interface is the world's trusted leader in technology, design and manufacturing of force measurement solutions.**

**Our clients include a "who's who" of the aerospace, automotive and vehicle, medical device, energy, industrial manufacturing, test and measurement industries.**

Interface engineers around the world are empowered to create high-level tools and solutions that deliver consistent, high quality performance. These products include load cells, torque transducers, multi-axis sensors, wireless telemetry, instrumentation and calibration equipment.

Interface, Inc., was founded in 1968 and is a US-based, woman-owned technology manufacturing company headquartered in Scottsdale, Arizona.