

3A60A 3-AXIS LOAD CELL (U.S. & METRIC)

SPECIFICATIONS

ACCURACY – (MAX ERROR*)							
Nonlinearity – %FS		±0.2					
Hysteresis – %FS		±0.5					
Creep, in 30 min – %		±0.5					
TEMPERATURE							
Effect on Zero – %RO / deg	°C	±0.02					
Effect on Output – % / def	°C	±0.02					
Compensated Range	°C	-10 to +70					
	°F	+14 to +158					
Operating Range	°C	-10 to +85					
	°F	+14 to +185					
ELECTRICAL							
Rated Output (Nominal) – mV/V		±0.5					
Max. Excitation Voltage – V		10					
Zero Balance – mV/V		0.1					
Input Resistance, x/y/z axis – Ω		740					
Output Resistance, x/y/z axis – Ω		700					
Insulation Resistance – Ω		> 5 × 10 ⁹					
Electrical Connection		3 m Cable with 37-PIN Connector. Includes Mating Connector.					
MECHANICAL							
Rated Capacity (FS)	N	10	20	50	100	200	500
	lbf	2.25	4.5	11.2	22.5	45	112
Material		Aluminum				Stainless Steel	
Deflection – Fx, Fy	mm	0.10				0.20	
	in	0.004				0.008	
Deflection – Fz	mm	0.15					
	in	0.006					
Total Weight	kg	0.110				0.2	
	lbs	0.2425				0.44	
Safe Overload – %RO		150					
Ultimate Overload – %RO		300					
Protection Level		IP54					
ECCENTRICITY AND MOMENT*							
Allowable Moment	Nm	20				50	
	lbf-in	177				443	
Crosstalk: x:y / y:x – %		±2					
Crosstalk: z:x/y – %		±2					
Crosstalk: x/y:z – %		±2					
Influence of Eccentric Load to FS – %FS / 10Nm		±1					

STANDARD CONFIGURATION



Model 3A60A (Shown)

FEATURES & BENEFITS

- 3-Axis – Fx Fy Fz; independent bridges
- 10N to 500N (2.25 to 112 lbf) force range
- Compact size
- Low crosstalk
- P65 Rating
- Temperature compensated

The 3A60A is a new and improved version of the original 3A60 with revised mounting holes and extended capacity ranges. The 3A60A is NOT backward compatible with the old 3A60.

Interface's 3A60A 3-axis load cell measures forces simultaneously in 3 mutually perpendicular axes: X, Y, and Z - tension and compression. Each axis provides a unique mV/V output and requires no mathematical manipulation. The 3-axis load cell is built to minimize eccentric loading effects and crosstalk between axes.

The 3A60A is ideally suited to many industrial and scientific applications, such as aerospace, robotics, automotive and medical research (orthopedics and bio-mechanical).

The load cell is provided in various capacity ranges and sizes with each of the three axes providing the same capacity.

We are happy to work with your design needs – providing a custom design if warranted for varying capacities (between X, Y, and Z), higher temperature capability, or OEM/private labeling if needed.

* Nominal

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CHARACTERISTICS

Capacity	10N	20N	50N	100N	200N	500N
F _x (N)	10	20	50	100	200	500
F _y (N)	10	20	50	100	200	500
F _z (N)	10	20	50	100	200	500
Max Bending Moment (Nm)	20	20	20	20	50	50
Torque Limit (Nm)	20	20	20	20	50	50
Breaking Force %FS	-	-	-	-	-	-
Material	Aluminium			Stainless Steel		
IP Rating	65					

WIRING DIAGRAM

	Description	Wire Color	37-pin D-SUB	16-pin M23
Shield	Shield	Shield	1	N/C
X-Axis	+ Excitation	Brown	20	2
	- Excitation	White	27	1
	+ Output	Green	22	3
	- Output	Yellow	25	4
Y-Axis	+ Excitation	Pink	2	6
	- Excitation	Gray	9	5
	+ Output	Blue	4	7
	- Output	Red	7	8
Z-Axis	+ Excitation	Purple	11	10
	- Excitation	Black	18	9
	+ Output	Gray/Pink	13	11
	- Output	Red/Blue	16	12

ACCESSORIES



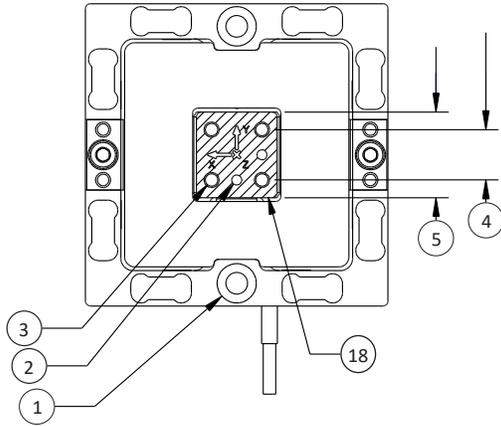
Model BX3-HD44-CAN (Shown)
3-Channel CANbus AND USB Strain Gage Amplifier



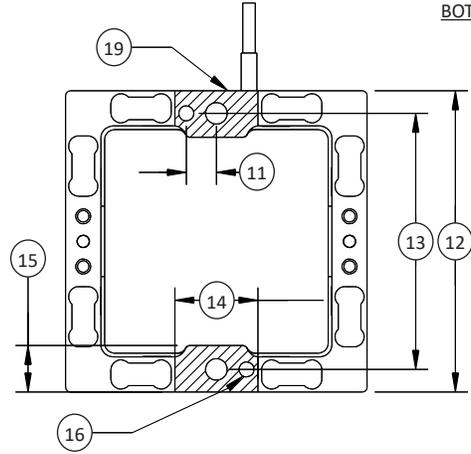
Model BSC4A (Shown)
4-Channel Analog Amplifier

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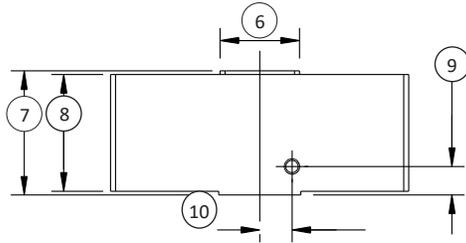
TOP VIEW



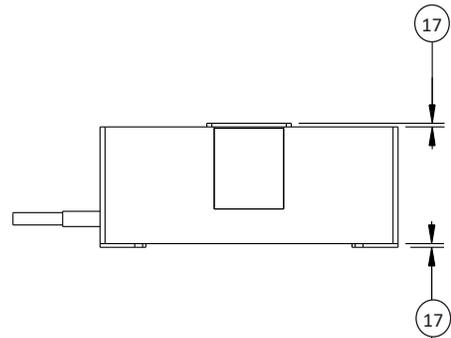
BOTTOM VIEW



FRONT VIEW



SIDE VIEW



DIMENSIONS

See Drawing	Metric	U.S.
	mm	in
(1)	2 x $\varnothing 4.3 \downarrow 24.25$, $\square \varnothing 7.8 \downarrow 17.25$	2 x $\varnothing 0.17 \downarrow 0.955$, $\square \varnothing 0.31 \downarrow 0.679$
(2)	2 x $\varnothing 2 \text{ E7 } \downarrow 5$, $\sphericalangle 118^\circ$	2x $\varnothing(0.0797/0.0793) \downarrow 0.2$, $\sphericalangle 118^\circ$
(3)	4 x (M3X0.5) $\downarrow 10$, $\sphericalangle 118^\circ$	4 x (M3X0.5) $\downarrow 0.4$, $\sphericalangle 118^\circ$
(4)	10	0.4
(5)	17	0.7
(6)	16	0.6
(7)	25	1.0
(8)	23.5	0.9
(9)	5.75	0.226
(10)	6.5	0.3
(11)	6	0.2
(12)	60	2.4
(13)	51	2.0
(14)	16.5	0.6
(15)	9.25	0.4
(16)	2 x $\varnothing 3 \text{ E7 } \downarrow 5$, $\sphericalangle 118^\circ$	2x $\varnothing(0.1191/0.1187) \downarrow 0.2$, $\sphericalangle 118^\circ$
(17)	0.75	0.030
(18)	Bolting Surface / Measuring Platform	
(19)	Bolting Surface	

U.S. dimensions and capacities are provided for conversion only. Standard product will be sold in kN and Metric dimensions. U.S. capacities available upon special request and at an additional cost.