

3A300 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 – % / deg	°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	±1			
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	16-PIN Connector. 3 m Cable with 37-PIN Connector.			
MECHANICAL				
Rated Capacity (FS)	kN	50	100	200
	lbf	11.2K	22.5K	45K
Material	Nickel plated steel			
Deflection – Fx, Fy	mm	±0.2		
	in	±0.008		
Deflection – Fz	mm	±0.4		
	in	±0.016		
Total Weight	kg	45		
	lbs	99.2		
Safe Overload – %RO	150			
Ultimate Overload – %RO	300			
Protection Level	IP54			
ECCENTRICITY AND MOMENT*				
Allowable Moment	Nm	4K	8K	12K
	lbf-in	35.4K	70.8K	106K
Crosstalk: x:y / y:x – %	±1			
Crosstalk: z:x/y – %	±1			
Crosstalk: x/y:z – %	±2			
Influence of Eccentric Load to FS – %FS / 500Nm	±1			

* Nominal

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.

STANDARD CONFIGURATION



Model 3A300 (Shown)

FEATURES & BENEFITS

- 3-Axis – Fx Fy Fz; independent bridges
- 50kN to 200kN (11.2K to 45K lbf) force range
- Compact size
- Low crosstalk
- IP67 Rating
- Temperature compensated

Interface's 3A300 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 3A300 is ideally suited to many industrial and scientific applications, such as aerospace, robotics, automotive and medical research (orthopedics and biomechanical).

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.

3A300 3-AXIS LOAD CELL (U.S. & METRIC)

CHARACTERISTICS

Capacity	50kN	100kN	200kN
F _x (kN)	50	100	200
F _y (kN)	50	100	200
F _z (kN)	50	100	200
Max Bending Moment (Nm)	4	8	12
Torque Limit (Nm)	4	8	12
Breaking Force %FS	-	-	-
Material	Stainless Steel		
IP Rating	67		

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



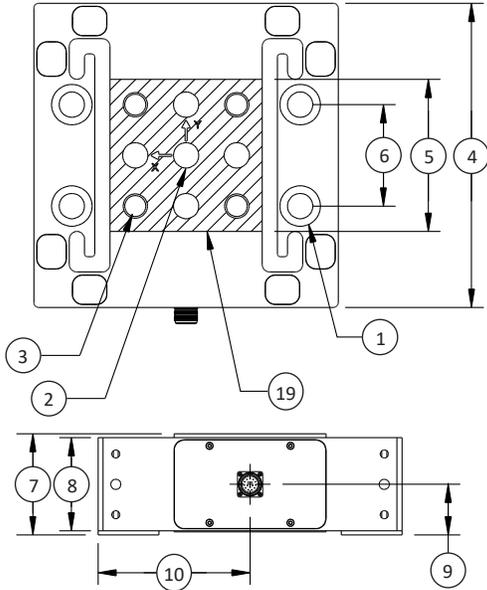
Model BX3-HD44-CAN (Shown)
3-Channel CANbus AND USB Strain Gage Amplifier



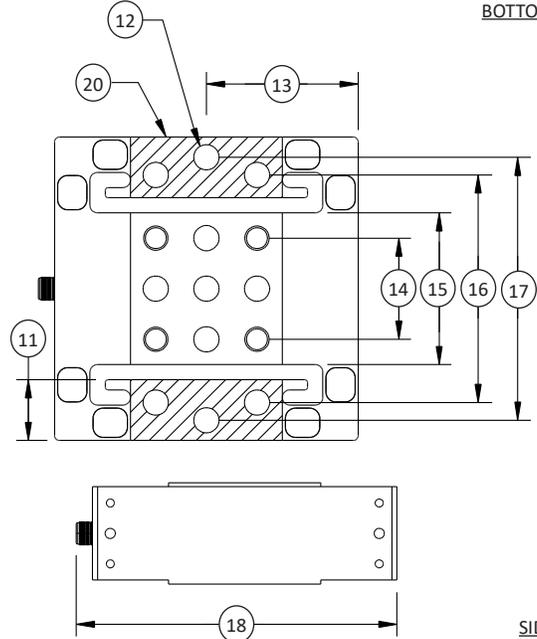
Model BSC4A (Shown)
4-Channel Analog Amplifier

3A300 3-AXIS LOAD CELL (U.S. & METRIC)

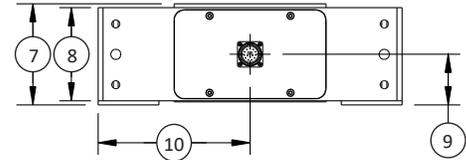
TOP VIEW



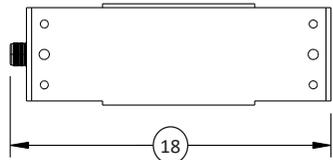
BOTTOM VIEW



FRONT VIEW



SIDE VIEW



DIMENSIONS

See Drawing	Metric	U.S.
	mm	in
(1)	4 x \varnothing 25 THRU, \sqcup \varnothing 40 \downarrow 30	4 x \varnothing 1.0 THRU, \sqcup \varnothing 1.6 \downarrow 1.2
(2)	5 x \varnothing 25 H7 THRU	5 x \varnothing (0.9851/0.9842) THRU
(3)	4 x (M24x3) THRU	
(4)	300	11.8
(5)	150	5.9
(6)	100	3.9
(7)	100	3.9
(8)	92	3.6
(9)	50	2.0
(10)	150	5.9
(11)	60	2.4
(12)	2 x \varnothing 25 H7 \downarrow 40	2 x \varnothing (0.9851/0.9842) \downarrow 1.6
(13)	150	5.9
(14)	100	3.9
(15)	150	5.9
(16)	225	8.9
(17)	260	10.2
(18)	316	12.4
(19)	Bolting Surface / Measuring Platform	
(20)	Bolting Surface	

Datasheet 3A300 v3.4 12-01-2025

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.