

3A40 3-AXIS LOAD CELL (U.S. & METRIC)

SPECIFICATIONS

ACCURACY – (MAX ERROR*)		
Nonlinearity – %FS		+/-0.2
Hysteresis – %FS		+/-0.1
Creep, in 30 min – %		+/-0.05
TEMPERATURE		
Effect on Zero – %RO / deg	°C	±0.05
Effect on Output – % / deg	°C	±0.05
Operating Range	°C	-20 to +70
	°F	-4 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		350
Output Resistance, x, y, & z axis – Ω		350
MECHANICAL		
Rated Capacity (FS)	N	±2,±10, ±20, ±50
	lbf	±0.44, ±2.24, ±4.49, ±11.24
Cable length	m	3
	ft	9.8
Material		Aluminum Alloy
Total Weight	g	85
	lbs	0.18
Safe Overload – %CAP		150
Ultimate Overload – %RO		300
Dimensions		40 mm x 40mm x 20mm
Standard Connector		37-pin D-sub
ECCENTRICITY AND MOMENT*		
x into y - %FS		0.5
y into x - %FS		0.5
z into x - %FS		1
z into y - %FS		1
x into z - %FS		1
y into z - %FS		1
Influence of Eccentric load %FS/2Nm		0.5

* Note: Temperature compensation is not available for this product

* 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 3A40 (Shown)

FEATURES & BENEFITS

- 3-Axis – Fx Fy Fz; independent bridges
- 2N to 50N force range
- Compact size
- Low crosstalk

Model 3A40 has 3 independent axes in a small package size. Capacities available are 2N, 10N, 20N, and 50N. Product is made from aluminum alloy so it is very light weight.

Interface's 3-axis load cell measures forces simultaneously in 3 mutually perpendicular axes: X, Y, and Z - positive and negative. 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 3A Series 3-axis load cell 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.

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CHARACTERISTICS

See Drawing	MODEL			
	2N	10N	20N	50N
F _x (N)	2	10	20	50
F _y (N)	2	10	20	50
F _z (N)	2	10	20	50
Max Bending Moment (Nm)	5	5	5	5
Torque Limit (Nm)	5	5	5	5
Breaking Force %FS	600	600	600	600

WIRING DIAGRAM

	Description	Wire Color	37-pin D-SUB
Shield	Shield	Shield	1
X-Axis	+ Excitation	Brown	20
	- Excitation	White	27
	+ Output	Green	22
	- Output	Yellow	25
Y-Axis	+ Excitation	Pink	2
	- Excitation	Gray	9
	+ Output	Blue	4
	- Output	Red	7
Z-Axis	+ Excitation	Purple	11
	- Excitation	Black	18
	+ Output	Orange	13
	- Output	Transparent	16

ACCESSORIES



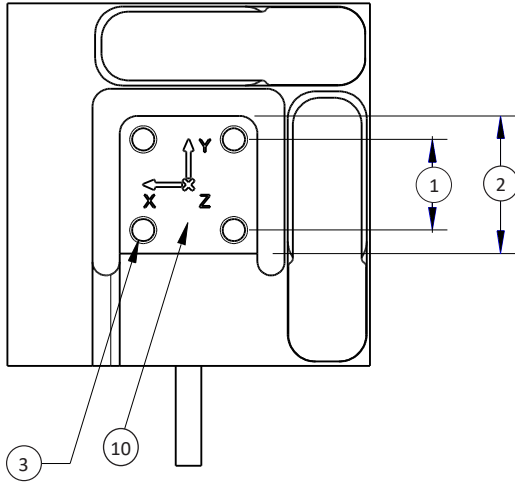
Model BSC4D (Shown)
4-Channel Digital USB Amplifier



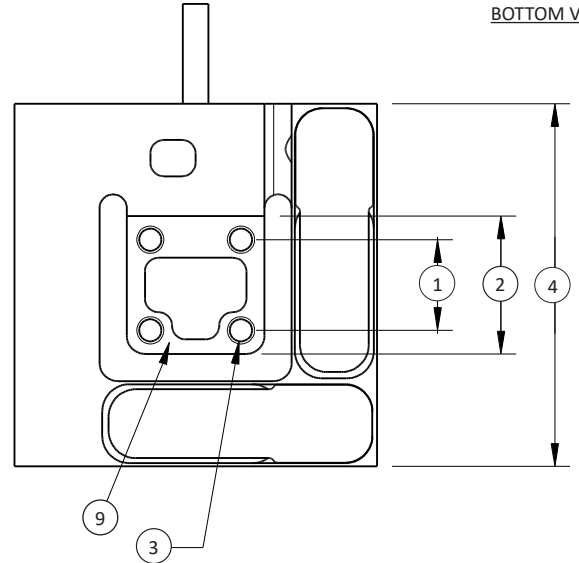
Model BSC4A (Shown)
4-Channel Analog Amplifier

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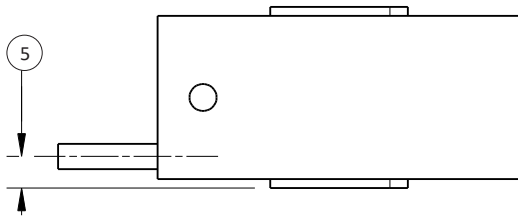
TOP VIEW



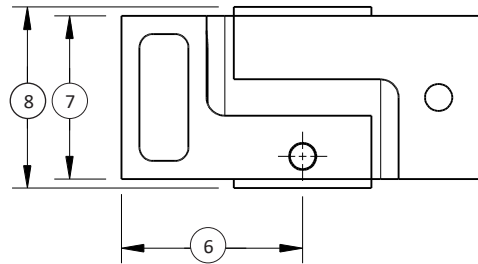
BOTTOM VIEW



SIDE VIEW



FRONT VIEW



DIMENSIONS

See Drawing	Metric	U.S.
	mm	in
(1)	10 Square	0.39
(2)	15.2 Square	0.59
(3)	4 x M3X0.5 ↓ 8	4 x M3X0.5 ↓ 0.31
(4)	40	1.57
(5)	3.5	0.13
(6)	20	0.78
(7)	18	0.70
(8)	20	0.78
(9)	Mounting Surface / Dead End	
(10)	Mounting Surface / Live End	