Group Four Transducers Inc

Pioneering | Measured | Solutions

LOAD CELLS AND WEIGHING SOLUTIONS

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About Us

Group Four Transducers

We create purpose-built products for function driven people. Our load cells and weighing systems find their roots in the action for which they were designed: Built to meet and exceed all environmental conditions. We are inspired by men and women who innovate for themselves. People who know that design with out utility is meaningless and utility without state-of-the-art technology, mundane and boring. We believe in living life with honesty, purpose and no regrets, because real style is about being your self and no one else.

“Group Four is my expression of independence. I founded Group Four in an old New England mill with the help of Digital Equipment and Springfield Technical College.

At first we made things we knew; Load Cells; We made all Types of load cells. You name it; we built it. We rigorously tested our products in our lab and customers validated our high standards in the field. We used the finest raw materials that we knew could take a beating and maintain the highest performance standards.

Now, as my family has grown to include my wife and two children, I’m solidifying the synergy among our brands, our talented employees, my family and our customers to reflect our evolution as both company and family. Our new web site is designed to express our reinvented company and plain ole patriotism. A patriotism that goes back to the days when my Dad was a gunners mate in the Pacific and my Grandfather racing around Camelback Mountain in one of his restored automobiles. I am proud of being a USA company making products in this country and abroad.

This means new products, technologies and experiences. All born from the way we live our lives. It’s the ultimate step in convergence of my personal philosophy, our company and the products we create. Even through the years of changes, one thing remains the same; we are committed to providing the highest quality load cells and system solutions and the best experience possible in everything we do. Because we understand that while Group Four is a direct reflection of us, it’s nothing without you."

-Steve Torres (President Group Four).

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SINGLE POINTS

Group Four does not take a “one size fits all” approach to Single Point Load Cell solutions. Our Engineers will listen to the unique requirements for each application before making a product recommendation. Some of the questions we typically ask include; Will the load cell be subjected to wash down and therefore need to be hermetically sealed? Does the customer need a fast response (typically in milliseconds) for a checkweighing or filling application? How will the load cell be mounted into the machine? Group Four is willing to listen to the needs and then optimize the solution from a cost and performance standpoint. We can also add an internal signal conditioner producing a RS232 or RS485 serial output, 4-20 mA signal, or 0-10 V output directly from the load cell.

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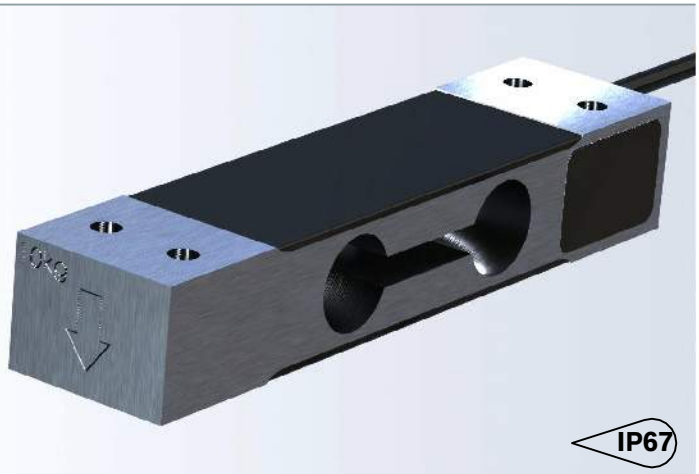
Group Four Transducers Inc

Pioneering Measured Solutions

single point

SP2 4002

Aluminum single point load cell ideal for use in small bench scales, medical scales, light capacity filling machines and packaging machines.



FEATURES

- Capacities from 3 kg to 60 kg.
- Aluminum construction.
- Environmental Protection IP67.
- Low profile design.

APPLICATIONS

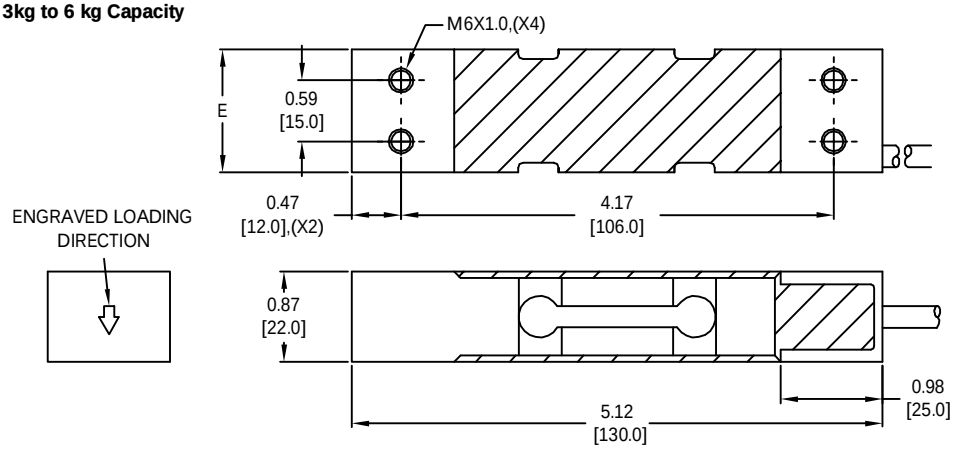
- Retail scales, bench scales ,baby scales, packaging and filling machines.

OPTIONS

- 4066 : Stainless steel construction.
- Optional outputs available:
  - 0-10V (Voltage).
  - 4-20mA (Current).
  - RS485 (Communication).

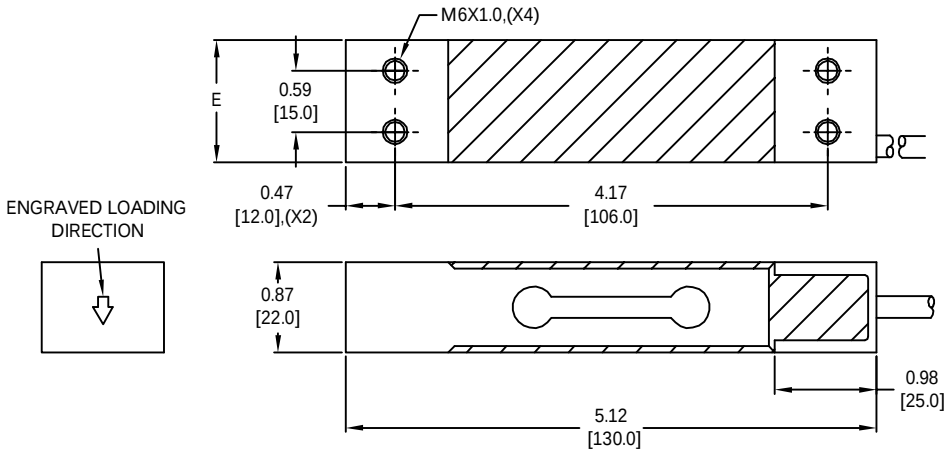
OUTLINE DIMENSIONS

3kg to 6 kg Capacity



CAPACITY(kg)	3-6
E	1.18[30.0]

10kg to 60 kg Capacity



CAPACITY(kg)	15-30	60
E	1.18[30.0]	1.57[40.0]

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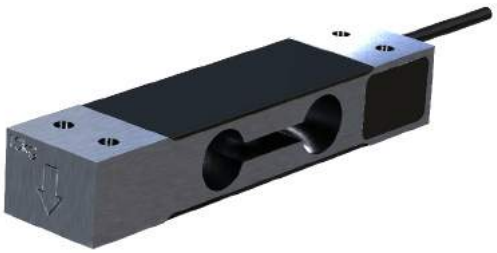
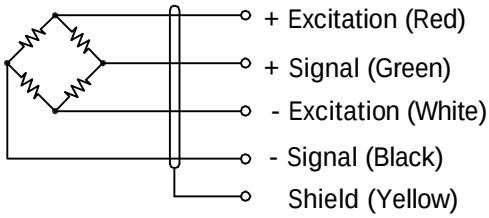
single point

SP2
4002



WIRING



Cable : 28 AWG, 4 Conductor cable.

SPECIFICATIONS

Model		4002	
Accuracy class		C3	
Capacities		kg	3/ 6/ 15/ 30/ 60
Full scale output (FS)		mV/V	2±10%
Calibration in (mV/V/Ω)		%	≤0.05
Non-linearity		%FS	≤±0.017
Hysteresis		%FS	≤±0.017
Creep @ 30min		%FS	≤±0.02
OCLS			
	Max platform zize	in	11.8X11.8
	Max off-center distance	mm	4.2
	OCLS Error	%FS (at 1/3 RL)	≤±0.02
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.012
	Zero	%FS/10°C	≤±0.04
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-20... +40
Terminal resistance			
	Input resistance	Ω	386±50
	Output resistance	Ω	350±5
Excitation voltage		VDC	10... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	150
Ultimate load		%FS	200
Cable length		in	34 +0.01/ -0
Seal type		IP67	
Element material		Aluminum-Anodized	

Note : OCLS - Off Center Load Sensitivity.

PART NUMBERS

Capacity(kg)	Part #
3	4002-000-20
6	4002-001-20
15	4002-002-20
30	4002-004-20
60	4002-008-20

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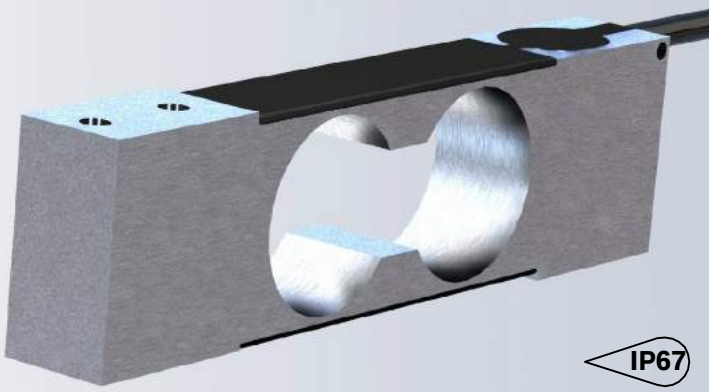
single point

SP4 4018

The 4018 has a broad range of capacities from 1kg to 100 kg making it ideal for a large variety of applications.



FEATURES

- Capacities from 1 kg to 100 kg.
- Aluminum construction.
- Environmental Protection IP67.
- Maximum platform size up to 16X16in.
- High natural frequency.
- Lower cost than SP4-SS.

APPLICATIONS

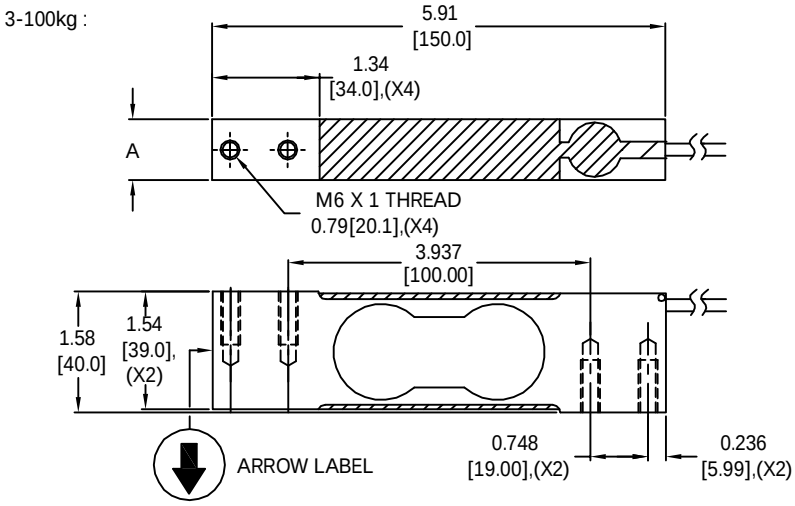
- Retail scales, Bench scales, Check weighing scales and Portion control scales.

OPTIONS

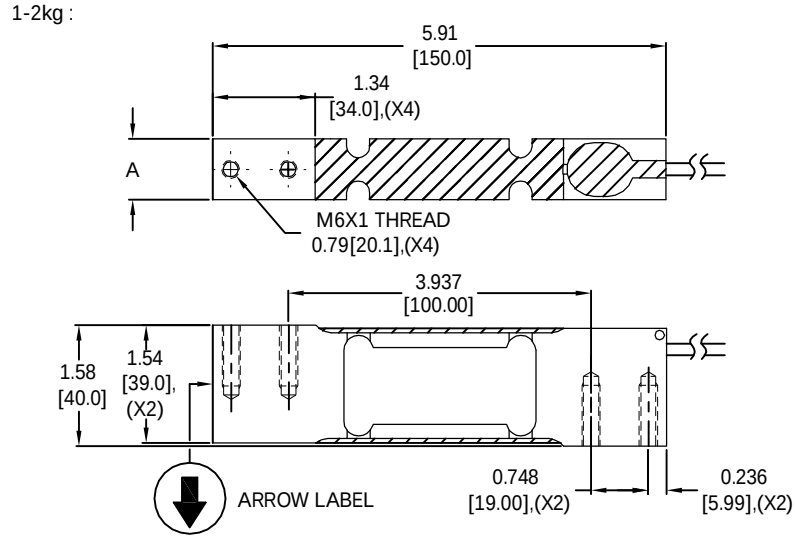
- 4019 : With unified thread.
- 4073 : With nickel plated steel construction.
- SP4-SS : With stainless steel construction.
- Hi-pot test at 600vac for 1 sec.

OUTLINE DIMENSIONS

3-100kg :



1-2kg :



CAPACITY(kg)	1-30	50-100
DIMENSION 'A'	0.787[20.00]	0.992[25.20]

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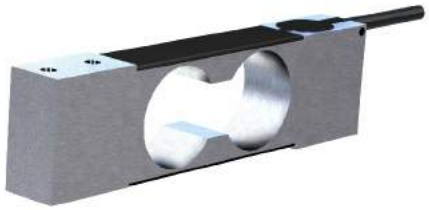
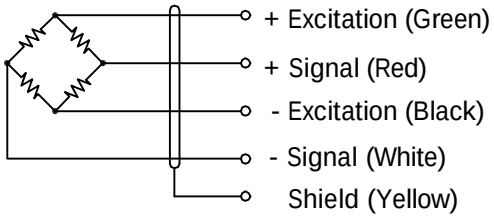
single point

SP4 4018



WIRING



Cable : 24 AWG, 4-Conductor AL foil shielded black cable.

SPECIFICATIONS

Model			4018
Accuracy class			C3
Capacities (Emax)		kg	1/ 2/ 3/ 5/ 10/ 20/ 50/ 100
Full scale output (FS)		mV/V	2.0±0.1%
Calibration in mV/V/Ω		%	≤±0.05
Combined error		%FS	≤±0.02
Non-linearity		%FS	≤±0.017
Hysteresis		%FS	≤±0.017
Creep @ 30min		%FS	≤±0.017
Zero balance		%FS	≤±1
OCLS			
	Max platform size	in	16X16
	Max off-center distance	in	6
	OCLS Error @ 1/3 of Emax	%FS	≤±0.066
Temperature effect			
	Output	%FS/10°C	≤±0.01
	Zero	%FS/10°C	≤±0.014
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-20... +65
Terminal resistance			
	Input resistance	Ω	386±10
	Output resistance	Ω	350±3
Excitation voltage		VDC	5... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	150
Ultimate load		%FS	300
Cable length		ft	10±0.1
Seal type			IP67
Element material			Anodized Aluminum

Note : OCLS- Off Center Load Sensitivity.

PART NUMBERS

Capacity (kg)	Part #
1	4018-013-02
2	4018-016-02
3	4018-000-02
5	4018-001-02
10	4018-003-02
20	4018-005-02
50	4018-007-02
100	4018-009-02

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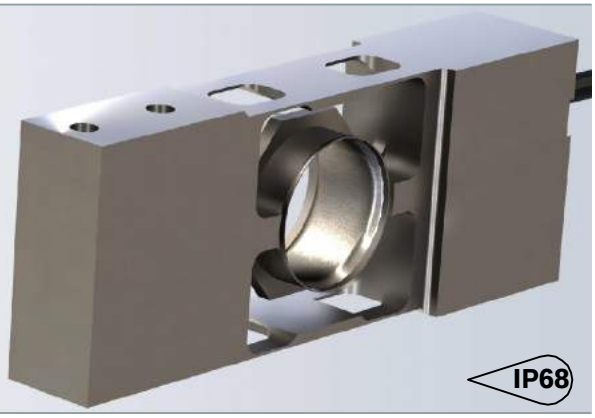
single point

GHPS 4046

The 4046 is a stainless steel single point load cell with a true hermetic seal. Welded covers and a hermetic header make this cell impenetrable by water and moisture. Capacities offered are from 25 lb to 200 lb. If you are washing down your scales every day, this load cell is the right one for your bench scale, packaging machine, and/or filling machine.



FEATURES

- Capacities 25lb, 50lb, 100lb, 200lb.
- Stainless steel construction.
- Environmental Protection IP68.

APPLICATIONS

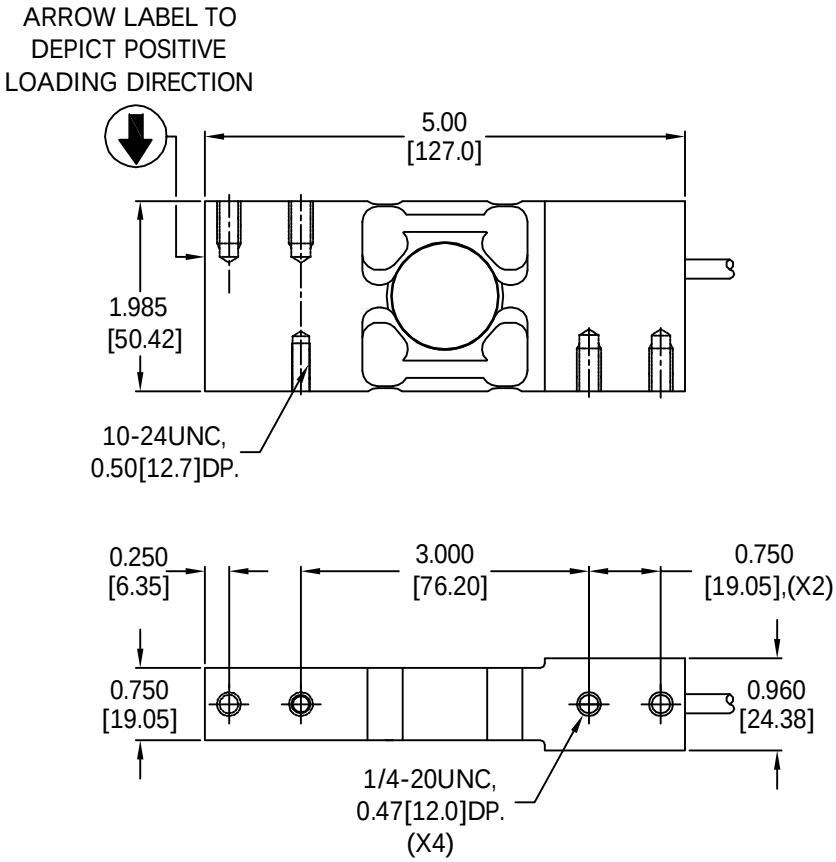
- Bench and floor scales, Conveyor scales, Check weighers, Packaging machines and Industrial process control.

OPTIONS

- mV/V/Ω Calibration.

OUTLINE DIMENSIONS

25lb:



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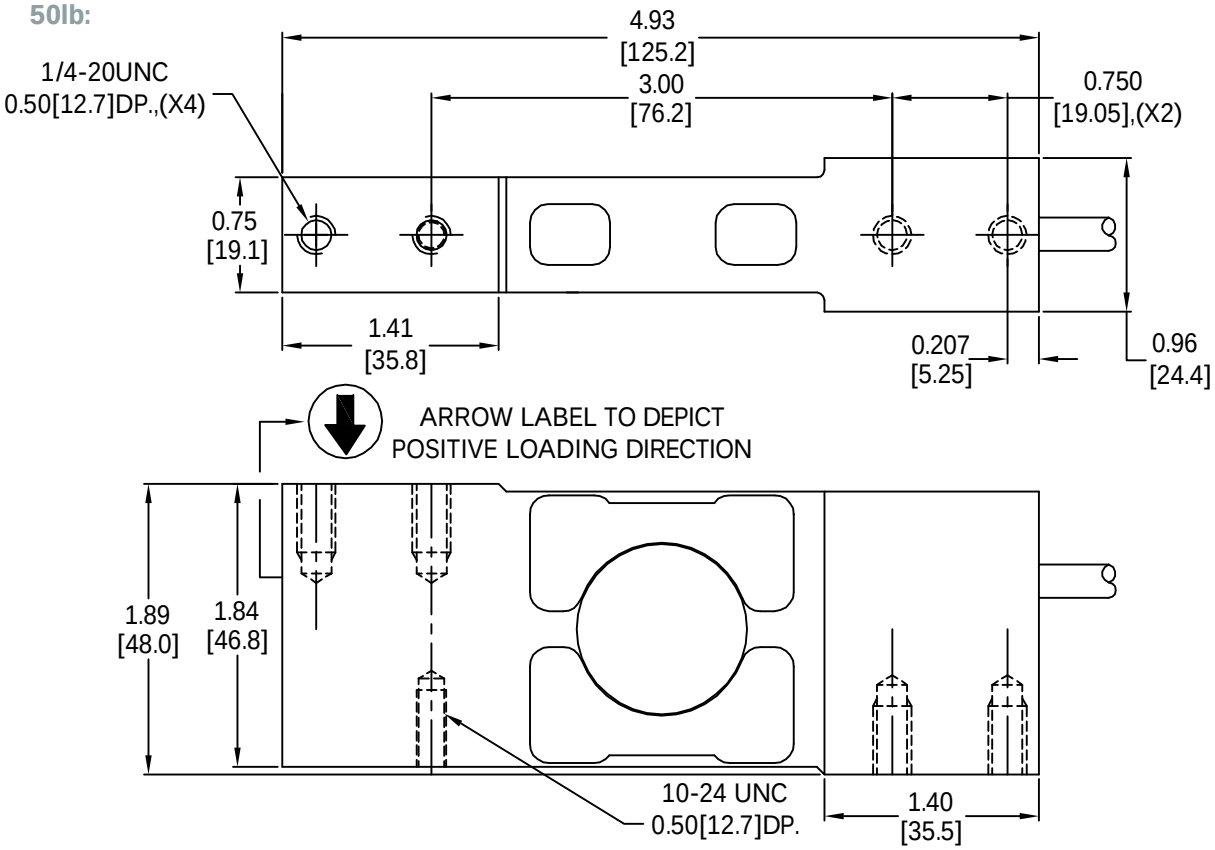
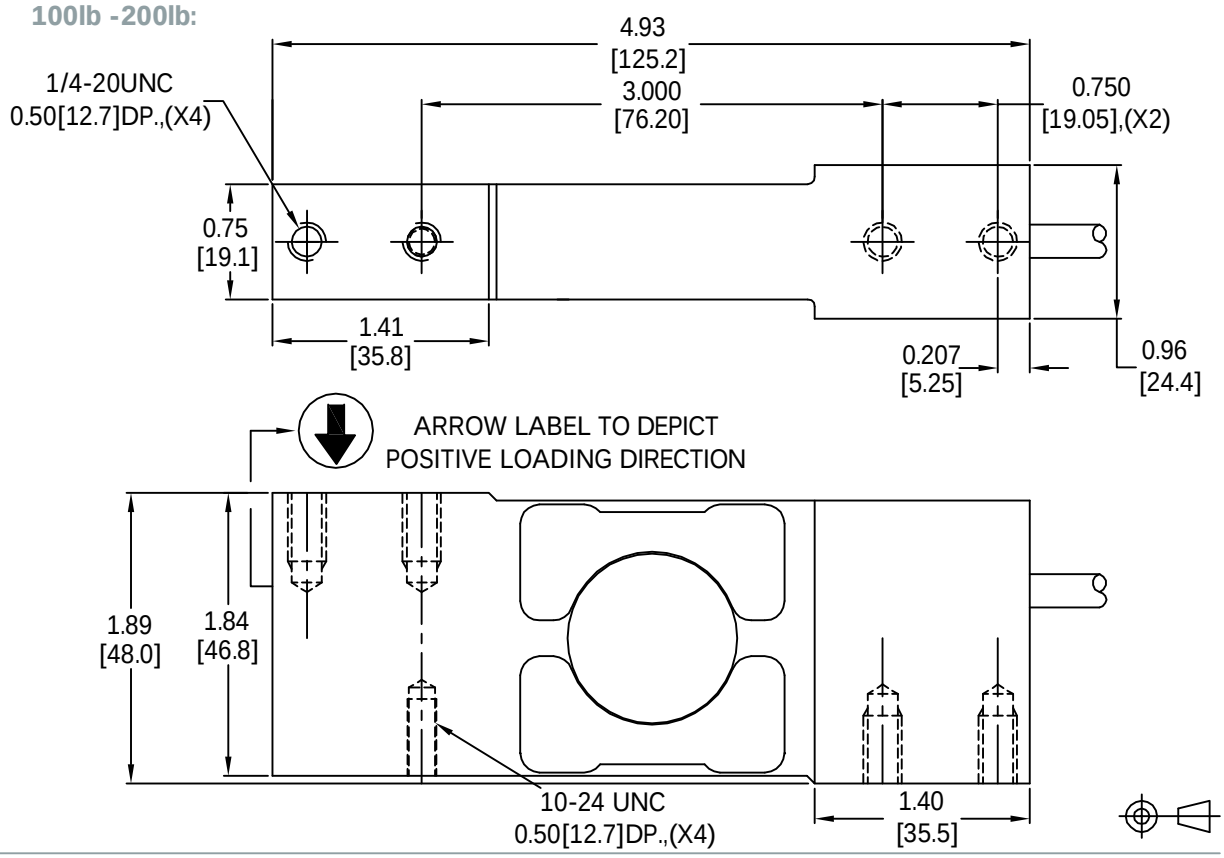
single point

GHPS 4046

50lb:



100lb -200lb:



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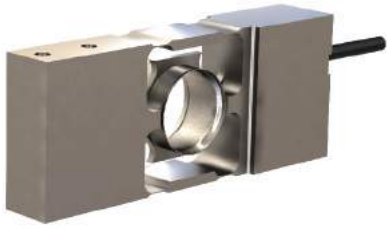
GHPS 4046

25lb:



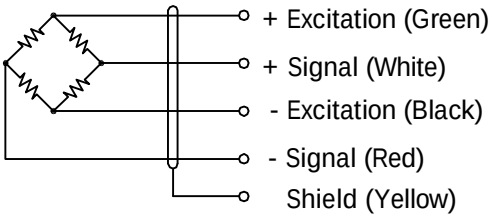
50lb :

100lb/ 200lb :

SPECIFICATIONS

Model		4046	
Accuracy class		C3	
Capacities		lb	25/ 50/ 100/ 200
Full scale output (FS)		mV/V	3.0±0.1%
Combined error		%FS	≤±0.03
Non-linearity		%FS	≤±0.03
Hysteresis		%FS	≤±0.03
Non- repeatability		%FS	≤±0.01
Creep @ 5min		%FS	≤±0.024
Zero balance		%FS	≤±1
Temperature effect			
	Output	%FS/°C	≤±0.0005
	Zero	%FS/°C	≤±0.0015
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-54... +93
Terminal resistance			
	Input resistance	Ω	386±10
	Output resistance	Ω	350±5
Excitation voltage		VDC	5... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	200
Ultimate load		%FS	300
Approximate deflection at rated load		mm	0.3
Cable length		ft	25
Seal type		IP68	
Element material		Stainless steel	

WIRING



Cable : 24 AWG, 4-Conductor shielded cable with polyurethane jacket.

PART NUMBERS

Capacity(lb)	Part#
25	4046-000-00
50	4046-001-00
100	4046-002-00
200	4046-003-00

Dimensions and specifications subject to change without notice

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Group Four Transducers Inc

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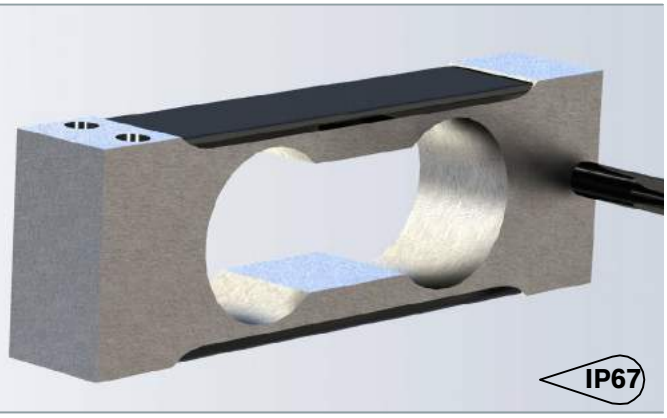
single point

CB17 4054

Small size and light capacities make this sensor perfect for laboratory testing and small bench scales. This sensor is offered in capacity ranges from 600 gram up to 3,000 grams. It is only 2.76 inches long and less than 1 inch tall so fitting it into small spaces is no problem.



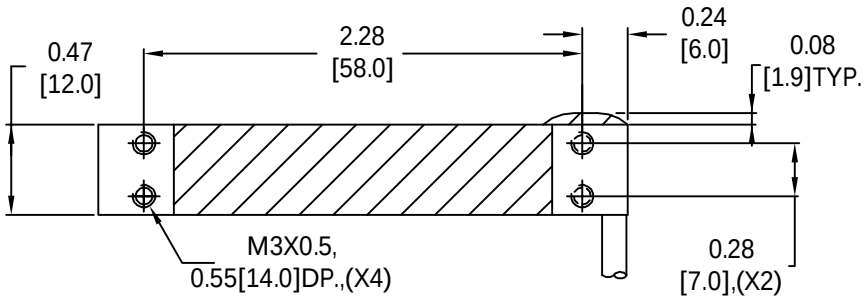
FEATURES

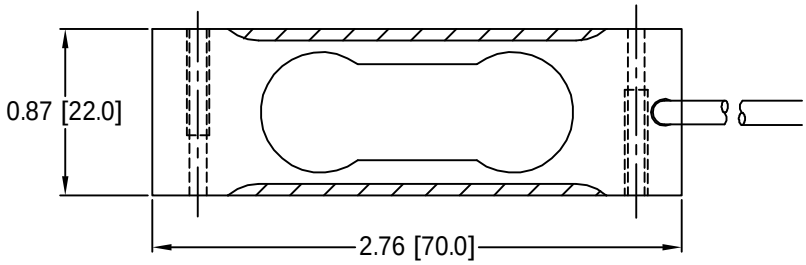
- Capacities 0.6-3 kg.
- Aluminum construction.
- Environmental Protection IP67.

APPLICATIONS

- Bench scales, Counting scales & Grocery scales.
- General purpose force measurement.

OUTLINE DIMENSIONS





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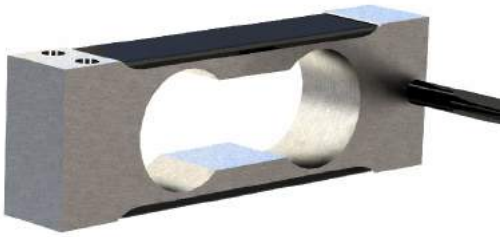
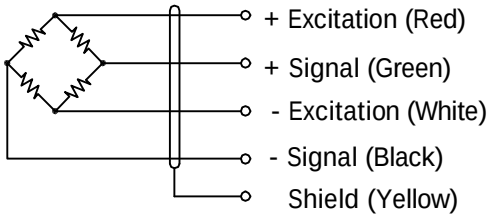
single point

CB17
4054



WIRING



Cable : 28 AWG, 4 Conductor braided shield cable .

SPECIFICATIONS

Model		4054	
Accuracy class		C3	
Capacities		kg	0.6/ 1/ 2/ 3
Full scale output (FS)		mV/V	1.0±10%
Non-linearity		%FS	≤±0.0166
Hysteresis		%FS	≤±0.0166
Creep @ 30min		%FS	≤±0.0166
OCLS			
	Max platform size	mm	200 X 200
	Max off-center distance	mm	71
	OCLS Error	%FS	≤±0.02@ 50%LOAD
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.012
	Zero	%FS/10°C	≤±0.04
Temperature range			
	Compensated	°C	-10... +50
	Operating	°C	-10... +50
Terminal resistance			
	Input resistance	Ω	386±50
	Output resistance	Ω	350±5
Excitation voltage		VDC	5... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	300
Ultimate load		%FS	400
Cable length		in	17
Seal type		IP67	
Element Material		Aluminum-Anodized	

Note : OCLS - Off Center Load Sensitivity.

PART NUMBERS

Capacity (kg)	Part #
0.6	4054-000-10
1	4054-001-10
2	4054-002-10
3	4054-003-10

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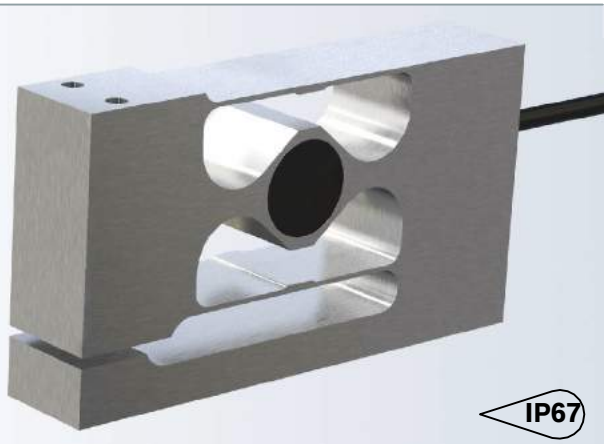
SP12 4079

The 4079 series load cell with its high response time and integral overload stop makes it ideal for use in packaging and filling machines.



FEATURES

- Capacities from 10kg to 100kg.
- Anodized aluminum construction.
- Environmental Protection IP67.
- High natural frequency, Fast responce time.

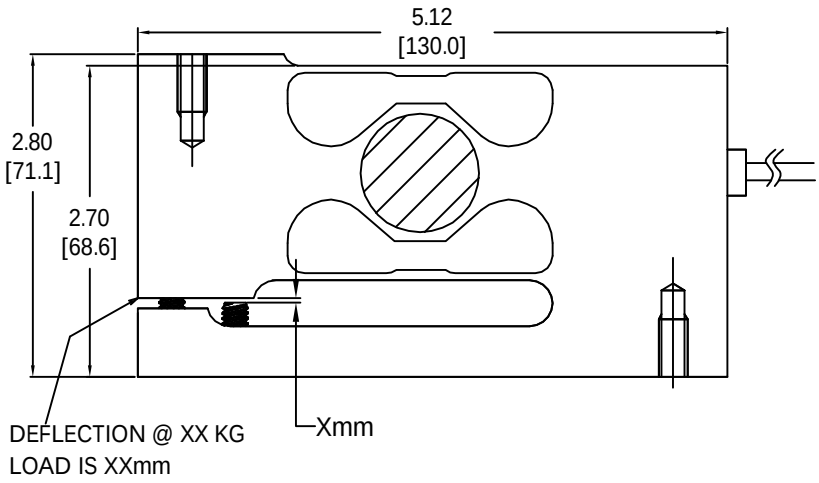
APPLICATIONS

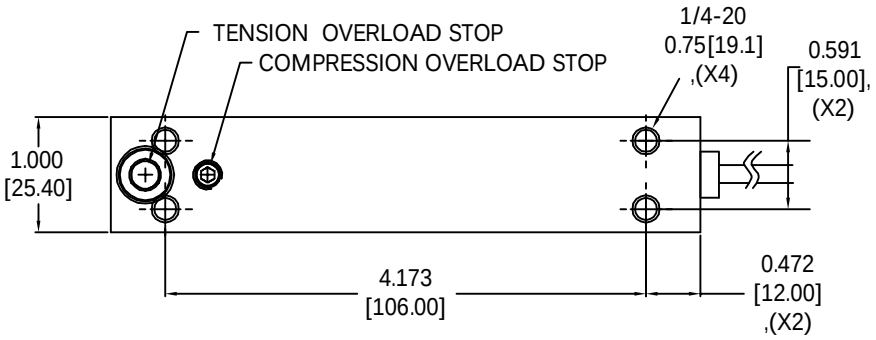
- Ideal for use in packaging and bag filling machines.

OPTIONS

- Voltage output.
- Serial digital output.

OUTLINE DIMENSIONS





Capacity(kg)	X in(mm)	XX mm
10	0.018[0.45]	0.17
30	0.009[0.22]	0.20

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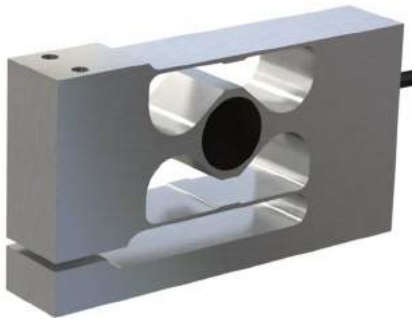
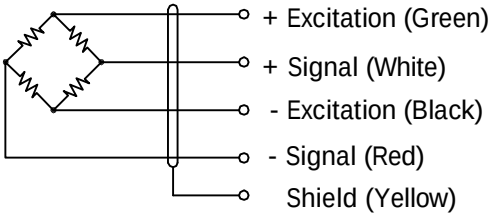
single point

SP12
4079



WIRING



Cable : 24 AWG, 4 Conductor cable.

SPECIFICATIONS

Model		4079	
Capacities		kg	10/ 30/ 50/ 100
Full scale output (FS)		mV/V	2.0±0.1%
Calibration in mV/V/Ω		%	≤±0.05
Non-linearity		%FS	≤±0.03
Hysteresis		%FS	≤±0.02
Non- repeatability		%FS	≤±0.01
Creep @ 30min		%FS	≤±0.03
Zero balance		%FS	≤±2
Temperature effect			
	Output	%FS/10°C	≤±0.014
	Zero	%FS/10°C	≤±0.02
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-20... +65
Terminal resistance			
	Input resistance	Ω	386±5
	Output resistance	Ω	350±3
Excitation voltage		VDC	10... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	150
Ultimate load		%FS	300
Cable length		ft	10
Seal type		IP67	
Element material		Anodized aluminum	
Bolt torque		Nm	10

PART NUMBERS

Capacity(kg)	Part #
10	4079-000-00
30	4079-001-00
50	4079-002-00
100	4079-003-00

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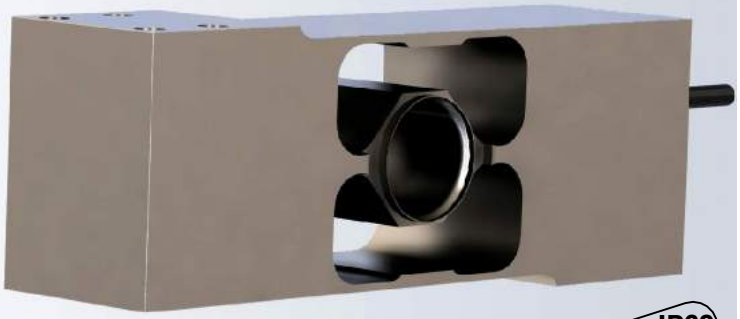
Group Four Transducers Inc

Pioneering Measured Solutions

single point

SP46H 4083

The type 4083 is a stainless steel hermetically sealed single point load cell, ideal for large bench scales, conveyor scales, filling machines, weigh feeders and for use in heavy washdown applications.



FEATURES

- Capacities from 10kg to 300kg.
- Stainless steel construction.
- Environmental Protection IP69.
- Maximum platform size up to 24in x 24in.

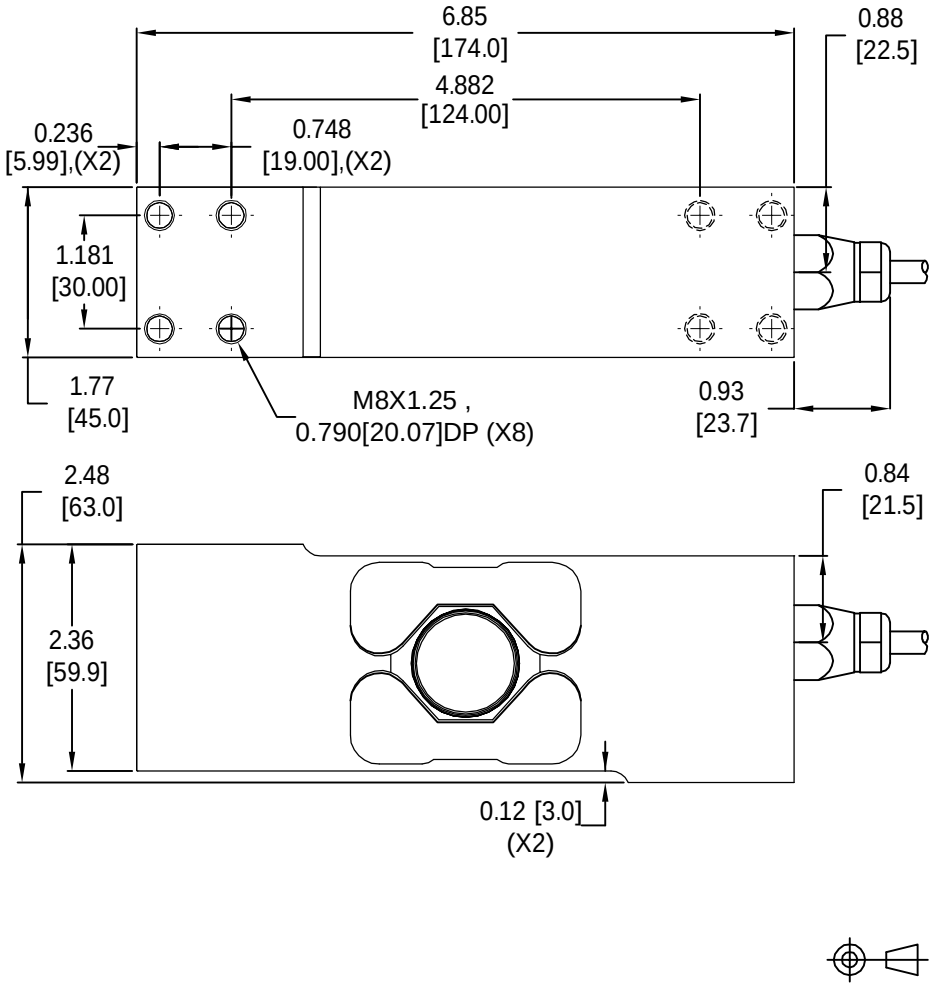
APPLICATIONS

- Bench scales, Floor scales, Conveyor scales, Filling machines, Weigh feeders and Medical scales.

OPTIONS

- Nickel plated alloy steel version.

OUTLINE DIMENSIONS



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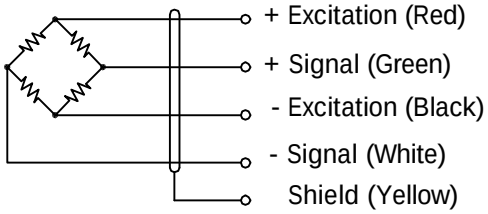
single point

SP46H
4083

WIRING



Cable : 24 AWG, 4 Conductor cable with shield.

SPECIFICATIONS

Model		4083	
Accuracy class		C3	
Capacities		kg	10/ 20/ 30/ 50/ 100/ 200/ 300
Full scale output (FS)		mV/V	2.0±5%
Combined error		%FS	≤±0.02
Creep @ 30min		%FS	≤±0.017
OCLS			
	Max platform size	in	24 x 24
	Max off-center distance	in	8.5
	OCLS Error @ 1/3 of RL	%FS/in	≤±0.0028
Zero balance		%FS	≤±1
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-40... +70
Terminal resistance			
	Input resistance	Ω	385±10
	Output resistance	Ω	350±5
Excitation voltage		VDC	10... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Maximum safe moment		kg.cm	30x Rated Capacity
Safe overload limit		%FS	150
Ultimate load		%FS	200
Weight		kg	2.5
Cable length		m	3
Seal type		IP69	
Element material		Stainless steel	

Notes : OCLS - Off Center Load Sensitivity.

PART NUMBERS

Capacities (kg)	Part #
10	4083-000-00
20	4083-001-00
30	4083-002-00
50	4083-003-00
100	4083-004-00
200	4083-005-00
300	4083-006-00

Dimensions and specifications subject to change without notice

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single point

TLC 4060

The type TLC is an aluminum single point load cell ideal for use in packaging machines.

IP67

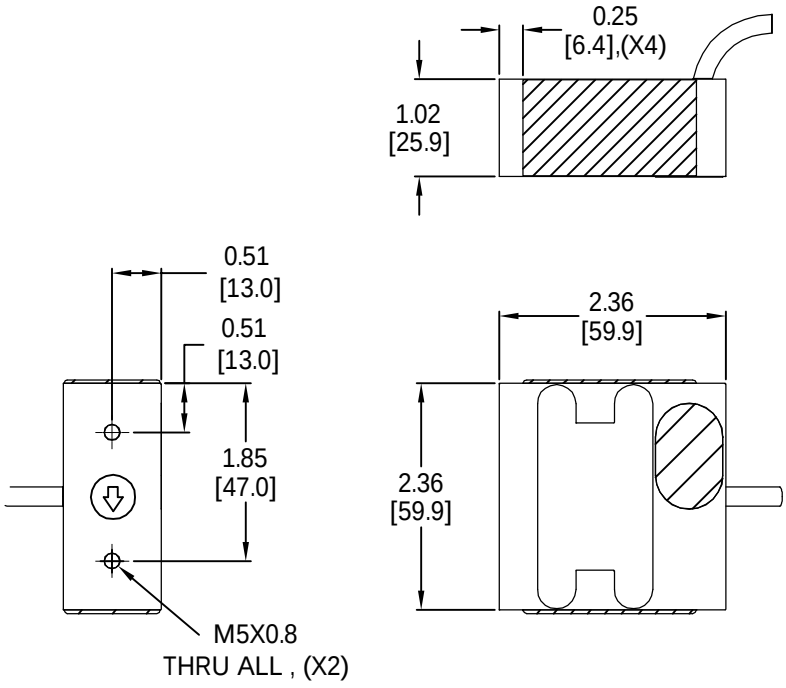
FEATURES

- Capacity 6 kg.
- Aluminum construction.
- Environmental Protection IP67.

APPLICATIONS

- Packaging machines, Ishida packaging machines.

OUTLINE DIMENSIONS



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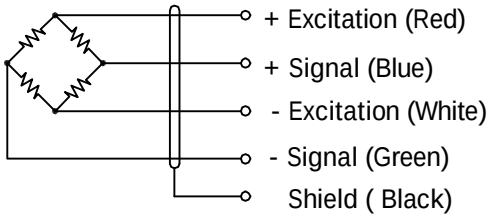
single point

TLC 4060

WIRING



Cable : 24 AWG 4 Conductor cable.

SPECIFICATIONS

Model		4060	
Capacities		kg	6
Full scale output (FS)		mV/V	1.70±0.1%
Non-linearity		%FS	≤±0.05
Hysteresis		%FS	≤±0.05
Creep @ 30min		%FS	≤±0.017
Zero balance		%FS	≤±2
Temperature effect			
	Output	%FS/10°C	≤±0.01
	Zero	%FS/10°C	≤±0.01
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-20... +60
Terminal resistance			
	Input resistance	Ω	386±10
	Output resistance	Ω	350±3
Excitation voltage		VDC	10... 15
Insulation resistance @ 50V DC		MΩ	≥1000
Safe overload limit		%FS	100
Ultimate load		%FS	300
Cable length		inch	6.5
Seal type		IP67	
Element material		Aluminum 2024	

PART NUMBER

Capacity / Cable Length	Part No.
6kg / 6.5inch	4060-000-01

Dimensions and specifications subject to change without notice

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Group Four Transducers Inc

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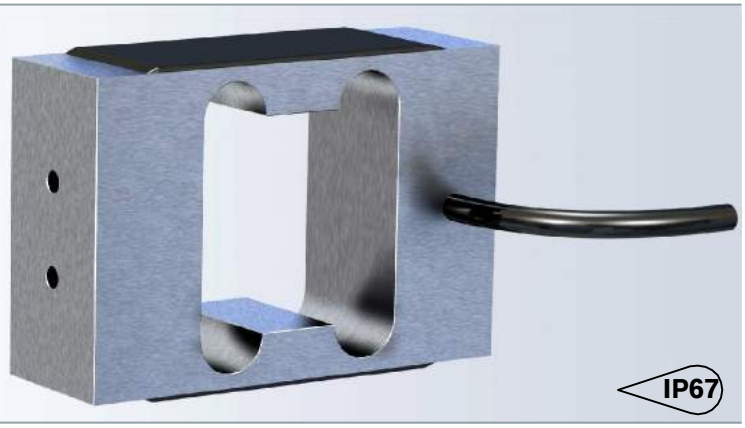
single point

NLC 4044

The type NLC is an aluminum single point load cell ideal for use in packaging machines.



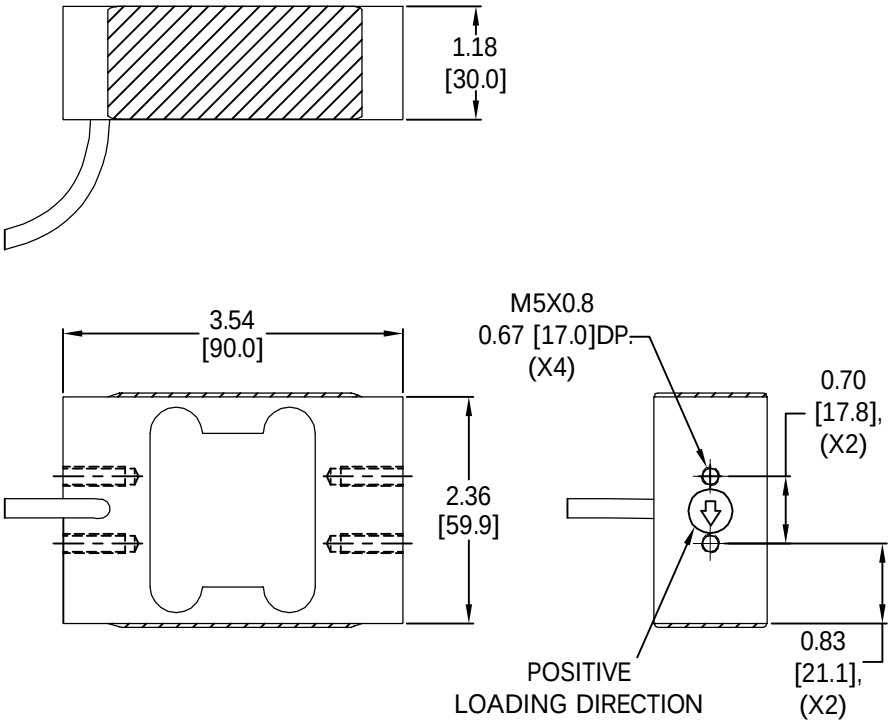
FEATURES

- Capacities 24 kg.
- Aluminum construction.
- Environmental Protection IP67.

APPLICATIONS

- Packaging machines.

OUTLINE DIMENSIONS



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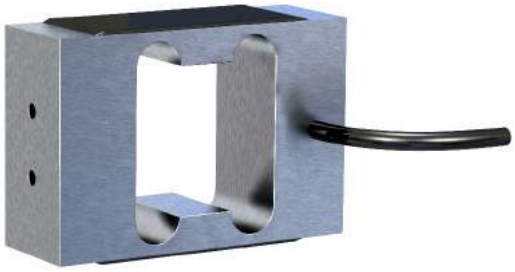
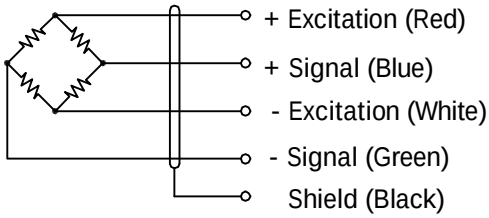
single point

NLC 4044



WIRING



Cable : 24 AWG, 4 Conductor shielded cable.

SPECIFICATIONS

Model		4044	
Accuracy class		C3	
Capacities		kg	24
Full scale output (FS)		mV/V	1.70±0.02
Non-linearity		%FS	≤±0.017
Hysteresis		%FS	≤±0.017
Creep @ 30min		%FS	≤±0.017
Zero balance		%FS	≤±2
Temperature effect			
	Output	%FS/10°C	≤±0.01
	Zero	%FS/10°C	≤±0.014
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-40... +80
Terminal resistance			
	Input resistance	Ω	385±5
	Output resistance	Ω	350±5
Excitation voltage		V DC	5... 15
Insulation resistance @ 50V DC		MΩ	≥3000
Safe overload limit		%FS	150
Ultimate load		%FS	300
Cable length		in	6.5
Weight		lb	0.35
Seal type		IP67	
Element material		Aluminum	

PART NUMBERS

Capacity (kg)	Part #
24	4044-001-02

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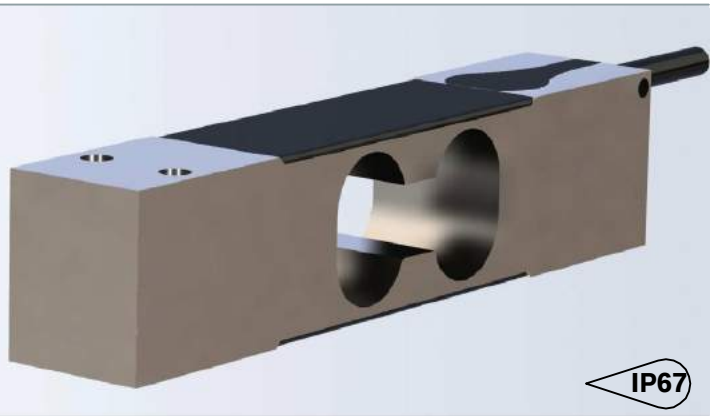
Group Four Transducers Inc

Pioneering Measured Solutions

single point

4066

With the same mounting hole spacing as our 4002 series, this load cell could be used as a stainless steel alternative to the 4002. It is designed for wet environments commonly found in food handling applications such as retail scales, portioning scales, packaging machines, and filling machines. It is also commonly used in various medical and veterinary scale applications.



FEATURES

- Capacities from 7.5 kg to 100 kg.
- Stainless steel construction.
- Environmental Protection IP67.
- Low profile design.

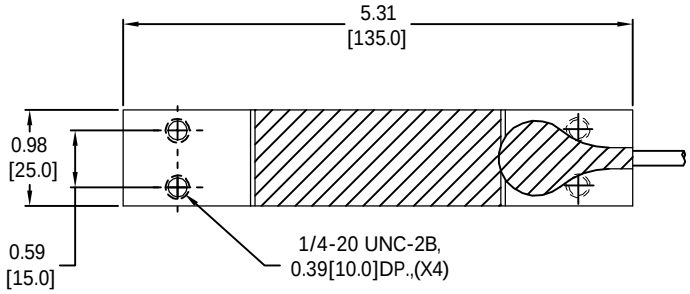
APPLICATIONS

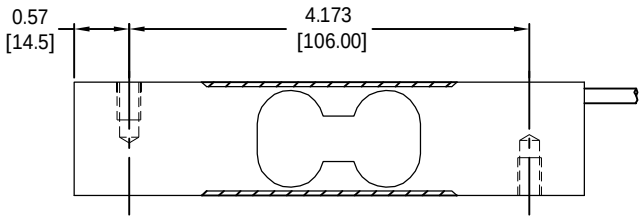
- Retail scales, bench scales ,baby scales, packaging and filling machines.

OPTIONS

- mV/V/Ω calibration.
- Digital outputs (i.e. 0-10 V, 4-20 mA, RS485).

OUTLINE DIMENSIONS





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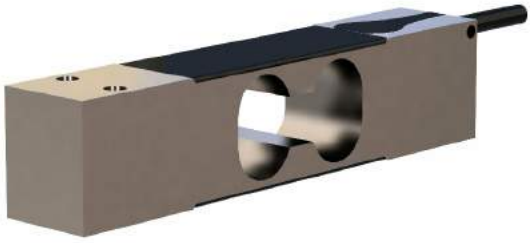
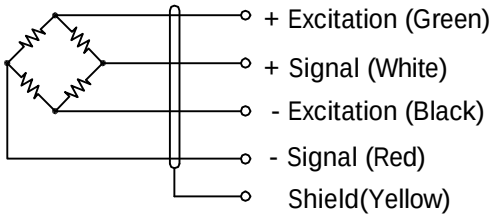
single point
4066



WIRING



Cable : 24AWG, 4 Conductor cable with shield.

SPECIFICATIONS

Model		4066	
Capacities			7.5/ 15/ 30/ 50/ 100
Full scale output(FS)		mV/V	2±0.1%
Combined error		%FS	≤±0.03
Creep@30min		%FS	≤±0.0166
OCLS			
	OCLS error	%LOAD/cm	≤±0.0049
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.04
	Zero	%FS/10°C	≤±0.01
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-20... +70
Terminal resistance			
	Input resistance	Ω	385±10
	Output resistance	Ω	350±3
Excitation voltage		VDC	10... 15
Insulation resistance@50VDC		MΩ	≥5000
Safe overload limit		%FS	100
Ultimate load		%FS	300
Cable length		ft	10
Seal type		IP67	
Element material		Stainless steel	

PART NUMBERS

Capacity(kg)	Part #.
7.5	4066-000-00
15	4066-001-00
30	4066-002-00
50	4066-003-00
100	4066-004-00

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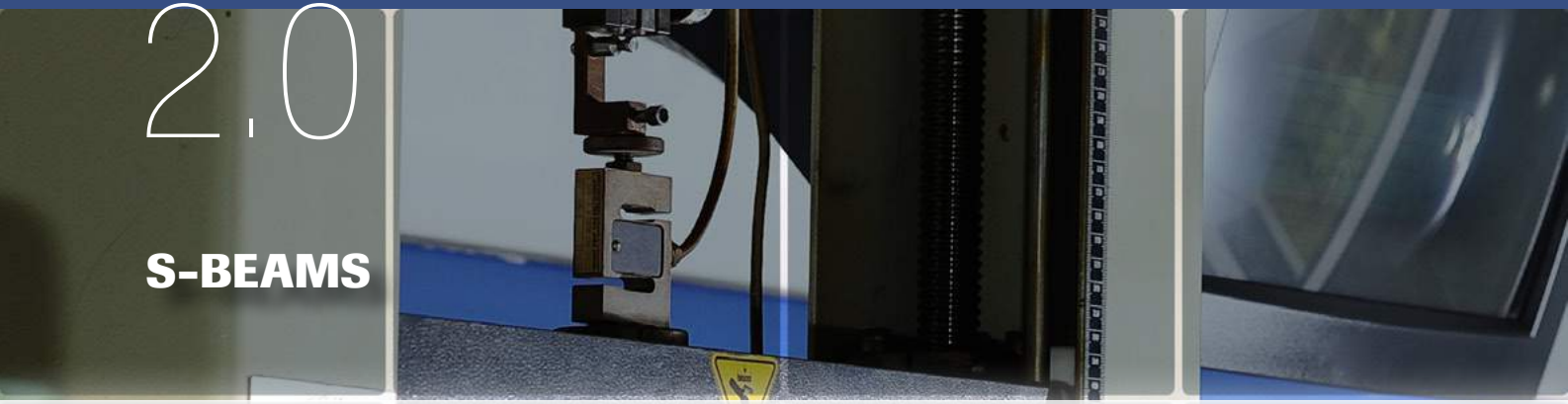
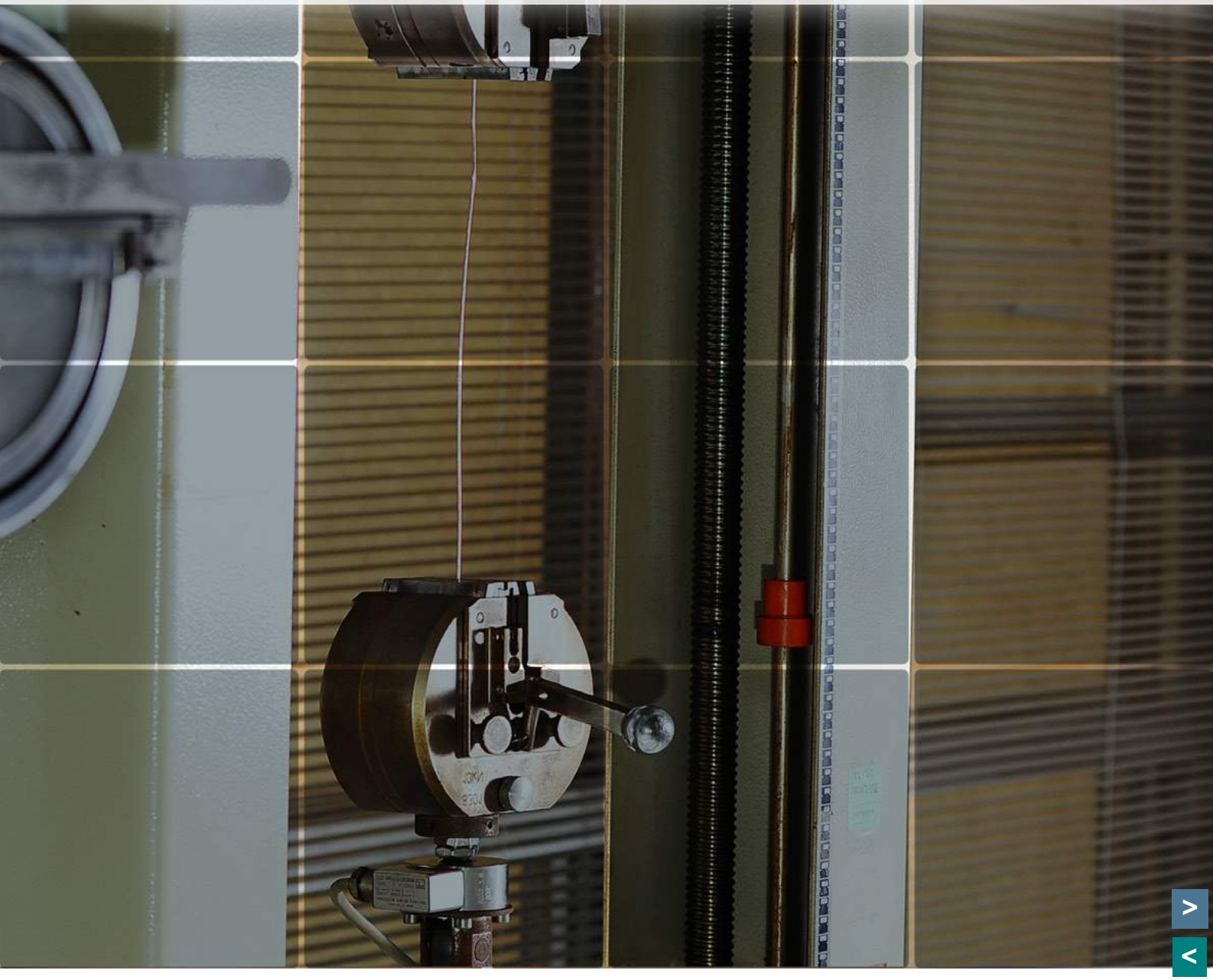
2.0

S-BEAMS



Group Four's S-Beam Load Cell products were developed in response to the market. Our customers asked us for improvements to what was already being offered…..so Group Four responded! These products range from small special S-Cells used in hand held force measuring devices to heavy capacity hermetically sealed tension cells used in agriculture weigh hoppers. The Group Four S-Cell is designed to fit the exacting needs of the customer's application. We can also add an internal signal conditioner producing a RS232 or RS485 serial output, 4-20 mA signal, or 0-10 V output directly from the load cell.



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TOC

Group Four Transducers Inc

Pioneering Measured Solutions

s-beam

GSC 3010

The GSC series s-beam load cell is ideal for measurement of both tension and compression forces. This load cell is most commonly found in bin and hopper weighing as well as test and measurement devices.

FEATURES

- Wide range of capacities from 100lb to 2.5klb.
- Plated steel construction.
- NTEP and OIML approved for use in legal-for-trade applications
- Environmentaly protected to IP67.

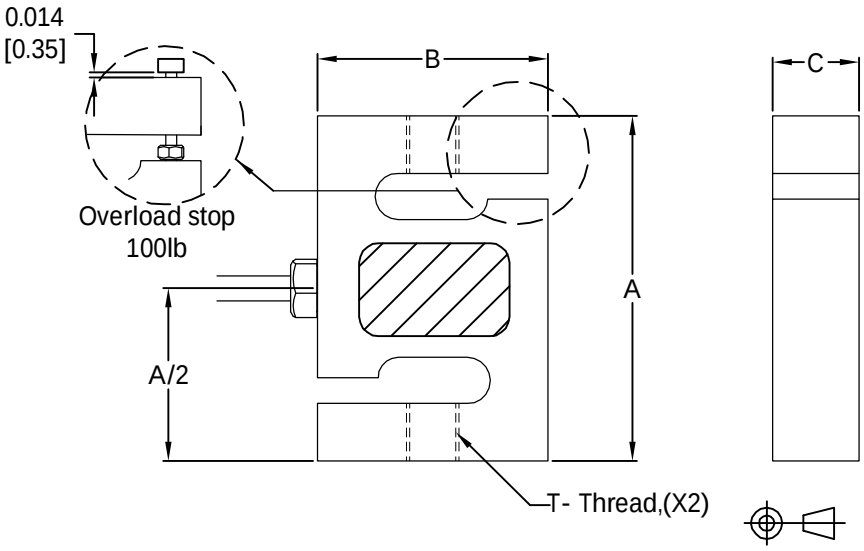
APPLICATIONS

- Crane Scales and Hanging Scales.
- Tank, Bin, and Hopper Weighing.
- Mechanical Scale Conversions to Digital Scales.
- Belt Scales.
- Test and Measurement Devices.

OPTIONS

- mV/V/Ω calibration to ±0.05% for applications where multiple load cells are used.
- GSC-SS : Stainless steel construction.
- Optional built-in overload stop.
- Metric version is available.

OUTLINE DIMENSIONS



Capacity lb	A in[mm]	B in[mm]	C in[mm]	T-Thread	Overload Stop	NTEP Approval	OIML Approval
100	2.50 [63.5]	2.00 [50.8]	0.50 [12.7]	1/4-28 UNF	Yes	Pending	Pending
150	2.50 [63.5]	2.00 [50.8]	0.50 [12.7]	1/4-28 UNF	No	Pending	Pending
250	3.00 [76.2]	2.00 [50.8]	0.75 [19.1]	1/2-20 UNF	No	Available	Pending
500	3.00 [76.2]	2.00 [50.8]	0.94 [23.9]	1/2-20 UNF	No	Available	Available
1k	3.00 [76.2]	2.00 [50.8]	0.94 [23.9]	1/2-20 UNF	No	Available	Available
1.5k	3.00 [76.2]	2.00 [50.8]	0.94 [23.9]	1/2-20 UNF	No	Available	Available
2.5k	3.00 [76.2]	2.36 [59.9]	0.94 [23.9]	1/2-20 UNF	No	Available	Available

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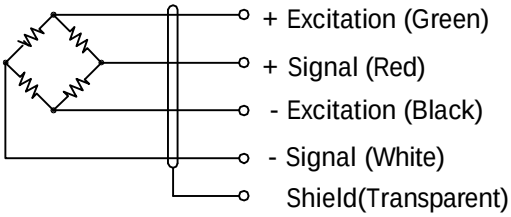
s-beam

GSC 3010

SPECIFICATIONS

Model		3010	
Accuracy class		III	
Capacities		See table	
Full scale output(FS)		mV/V	3.0±1% Calibrated in tension
Calibration in mV/V/Ω		%	See options
Combined error		%FS	≤±0.02
Non-linearity		%FS	≤±0.017
Hysteresis		%FS	≤±0.017
Non- repeatability		%FS	≤±0.01
Creep@30min		%FS	≤±0.017
Zero balance		%FS	≤±1
Temperature effect			
	Output	%FS/10°C	≤±0.015
	Zero	%FS/10°C	≤±0.027
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-10... +40
Terminal resistance			
	Input resistance	Ω	396±15
	Output resistance	Ω	350±5
Excitation voltage		VDC	10... 15
Insulation resistance@50VDC		MΩ	≥5000
Safe overload limit		%FS	150
Ultimate load		%FS	300
Safe side load		%FS	50
Cable length		ft	20±0.1
Seal type		Environmentaly protected to IP67	
Element material		Plated steel	

WIRING



Cable : 22AWG, 4-conductor AL foil shielded cable with drain.

PART NUMBERS

Capacity(lb)	Part number
100	3010-000-00
150	3010-005-00
250	3010-001-00
500	3010-002-00
1k	3010-003-00
1.5k	3010-006-00
2.5k	3010-004-00

Dimensions and specifications subject to change without notice

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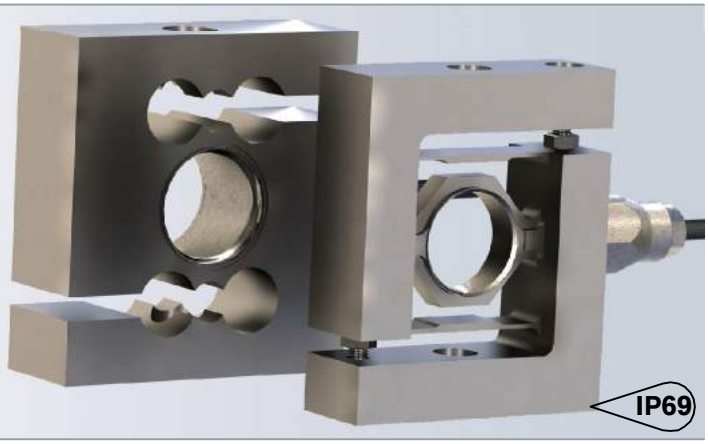
s-beam

GSCH 3015

The type 3015 is a hermetically sealed stainless steel load cell design for measuring tension or compression loads.



FEATURES

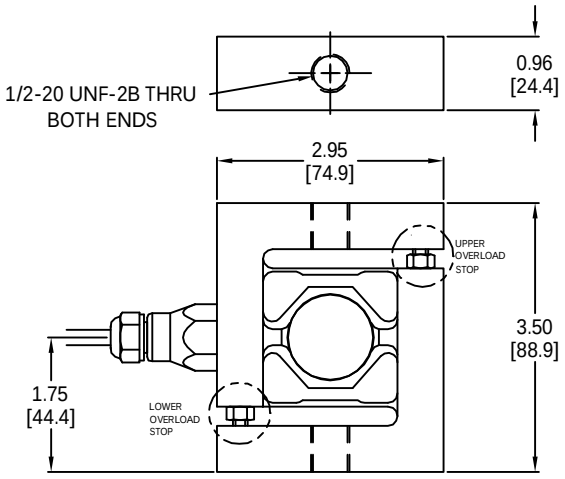
- Capacities from 20kg to 2000kg.
- Stainless steel construction.
- Environmental Protection IP69 with complete hermetic sealing.

APPLICATIONS

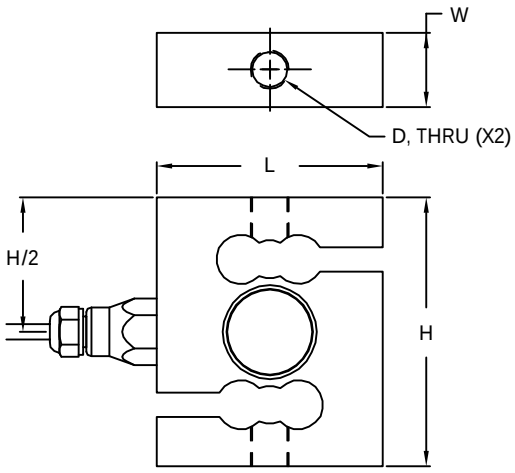
- Force measurement in material testing machines, cranes, lifts and other general tension applications.

OUTLINE DIMENSIONS

50- 200kg :



500-2000kg :



Capacity(kg)	H	L	W	THREAD - D
500	3.50[88.9]	2.96[75.2]	0.96[24.4]	1/2-20UNF
1000	3.60[91.4]	3.4[86.4]	1.18[30.0]	5/8-18 UNF
2000	3.60[91.4]	3.4[86.4]	1.18[30.0]	5/8-18 UNF

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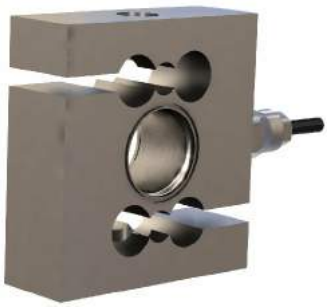
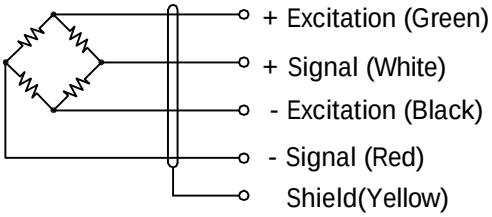
s-beam

GSCH 3015



WIRING



Cable : 24AWG, Foil shielded, 4 Conductor cable.

SPECIFICATIONS

Model		3015	
Accuracy class		C3	
Capacities		kg	20/ 50/ 100/ 200/ 500/ 1000/ 2000
Full scale output(FS)		mV/V	2.00±1%
Calibration in mV/V/Ω		%	≤±0.05
Combined error		%FS	≤±0.03
Creep@5min		%FS	≤±0.03
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.014
	Zero	%FS/10°C	≤±0.01
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-40... +80
Terminal resistance			
	Input resistance	Ω	396±50
	Output resistance	Ω	350±5
Excitation voltage		VDC	5... 15
Insulation resistance@50VDC		MΩ	≥5000
Safe overload limit		%FS	200
Ultimate load		%FS	300
Cable length		m	6
Seal type		IP69	
Element material		Stainless steel	

PART NUMBERS

Capacity(kg)	Overload Protection	Part #
20	Yes	3015-005-00
50	Yes	3015-006-00
100	Yes	3015-007-00
200	No	3015-008-00
500	No	3015-000-00
1000	No	3015-001-00
2000	No	3015-002-00

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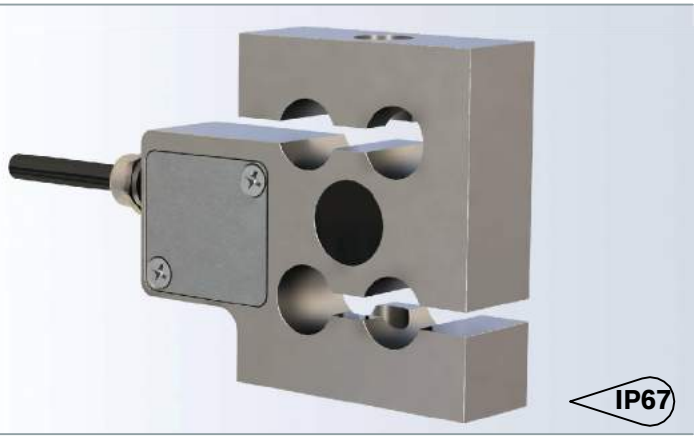
Group Four Transducers Inc

Pioneering Measured Solutions

s-beam

CSBD 3011

The type CSBD is stainless steel s-beam with voltage output, Ideal for measurement of tension and compression loads.



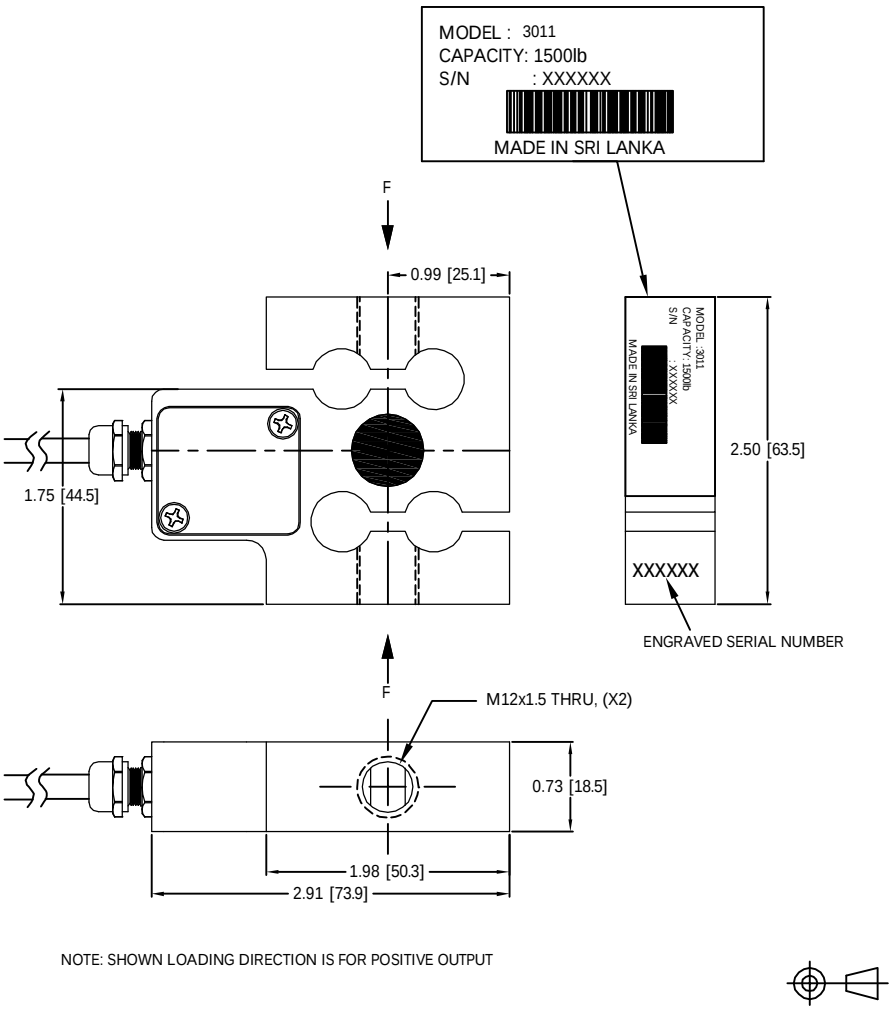
FEATURES

- Capacities from 250lb to 1500lb.
- Voltage output in response to the needs of the market.
- Stainless steel construction.
- Environmental Protection IP67.

APPLICATIONS

- Test and measurement.

OUTLINE DIMENSIONS



NOTE: SHOWN LOADING DIRECTION IS FOR POSITIVE OUTPUT

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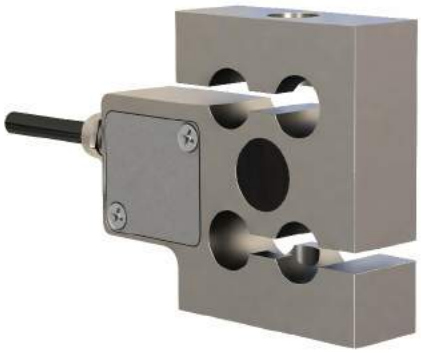
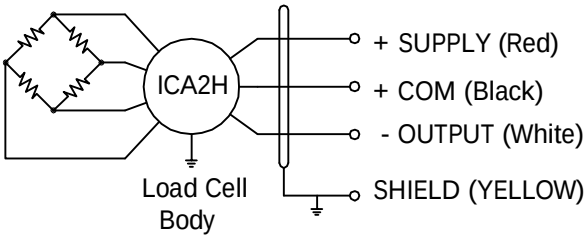
s-beam

CSBD 3011



WIRING



Cable : 24 AWG, 4 conductor cable with shield
Mantracourt analog amplifier board P/N : ICA2H

SPECIFICATIONS

Model		3011	
Capacities		lb	250/ 500/1500
Supply voltage		V	8.5-28
Zero load output		V	0.600±0.030
Output		V	±10
Non-linearity		%FS	≤±0.02
Hysteresis		%FS	≤±0.02
Non- repeatability		%FS	≤±0.01
Creep @ 30min		%FS	≤±0.06
Temperature effect			
	Output	%FS/10°C	≤±0.03
	Zero	%FS/10°C	≤±0.03
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-20... +65
Safe overload limit		%FS	180
Ultimate load		%FS	190
Cable length		ft	1 +0.1 /-0.0
Seal type		IP67	
Element material		Stainless steel	

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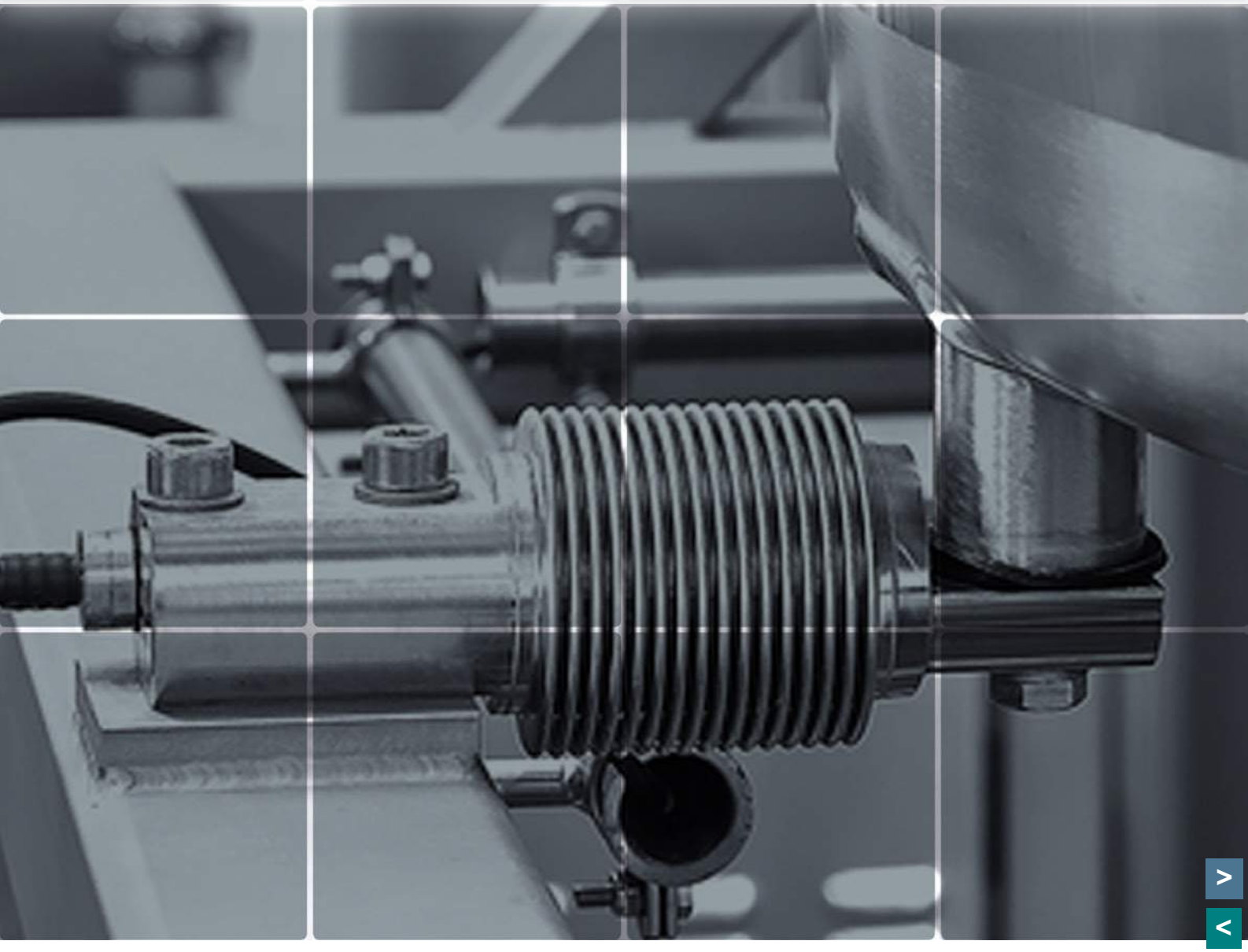
3.0

SINGLE ENDED BEAMS

Group Four's Single-Ended Beam Load Cell is ideal for use in floor scale applications, packaging machines, hopper scales and other general purpose weigh systems. Some of the features we incorporate into our design include, corner matched outputs, blind hole loading, hermetic sealing, and threaded mounting holes. The advantages of these features are simplified installation, faster set-up and calibration of the weigh system, superior performance, and exceptional durability. Group Four's engineers can customize our Single-Ended Beams to meet your exacting needs. We can also add an internal signal conditioner producing a RS232 or RS485 serial output, 4-20 mA signal, or 0-10 V output directly from the load cell.



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<
TOC

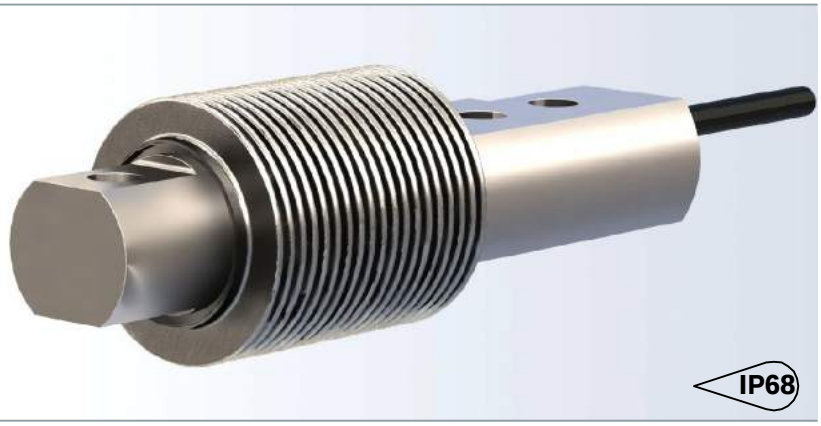
Group Four Transducers Inc

Pioneering Measured Solutions

single ended beam

SB38-STD 1001

The SB38-STD is a hermetically sealed, stainless steel beam type load cell. It is ideal for use in floor scales, bench scales, packaging and filling machines. It is a perfect fit for heavy wash down applications.



FEATURES

- Capacities from 5 kg to 200 kg.
- Stainless steel construction.
- Environmental Protection IP68.

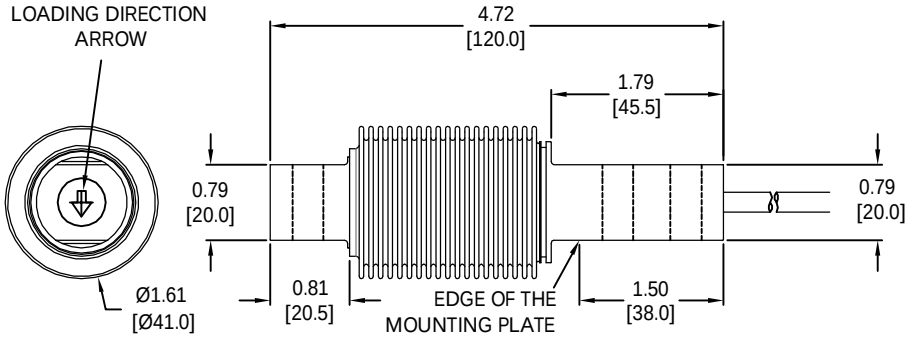
APPLICATIONS

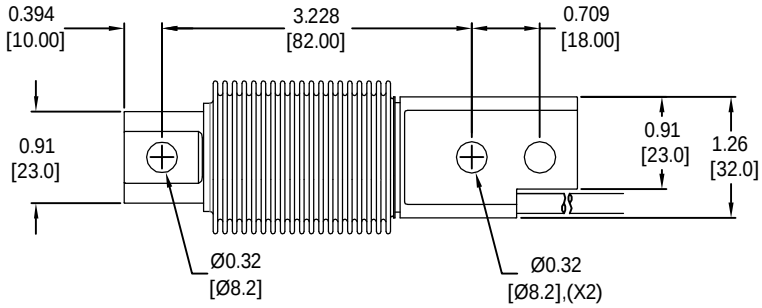
- Platform scales, bench scales, conveyor scales, small hopper and tank weighing systems, packaging and filling machines.

OPTIONS

- SB38-xx-96 (1042) : Blind hole loading.

OUTLINE DIMENSIONS





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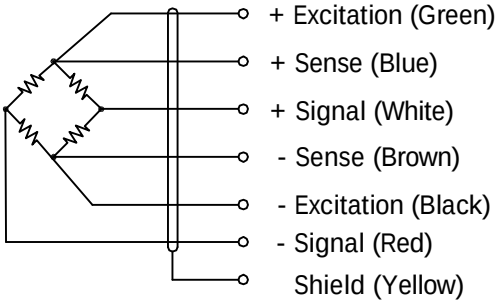
single ended beam

SB38-STD
1001

WIRING



Cable : 24 AWG, 6 Conductor cable with shield.

SPECIFICATIONS

Model		1001	
Capacities		kg	5/ 10/ 20/ 50/ 100/ 200
Full scale output (FS)		mV/V	2.0±0.1%
Calibration in mV/V/Ω		%	≤±0.05
Combined error		%FS	≤±0.02
Non-linearity		%FS	≤±0.02
Hysteresis		%FS	≤±0.03
Creep @ 30min		%FS	≤±0.017
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.01
	Zero	%FS/10°C	≤±0.014
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-40... +80
Terminal resistance			
	Input resistance	Ω	380±10
	Output resistance	Ω	350±5
Excitation voltage		VDC	5... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	200
Ultimate load		%FS	300
Safe side load		%FS	100
Cable length		ft	10+0.2/-0.0
Seal type		IP68	
Element material		Stainless steel	
Bolt torque		Nm	25

PART NUMBERS

Capacity (kg)	Part No.
5	1001-000-03
10	1001-001-03
20	1001-002-03
50	1001-003-03
100	1001-004-03
200	1001-005-03

Group Four Transducers Inc

Pioneering Measured Solutions

single ended shear beam

RB3-SS 1006

The RB3-SS is a stainless steel single ended shear beam. Ideal for use in floor scales and tank weighing systems.

FEATURES

- Capacities from 500lb to 20klb.
- Stainless steel construction.
- Environmental Protection IP68.

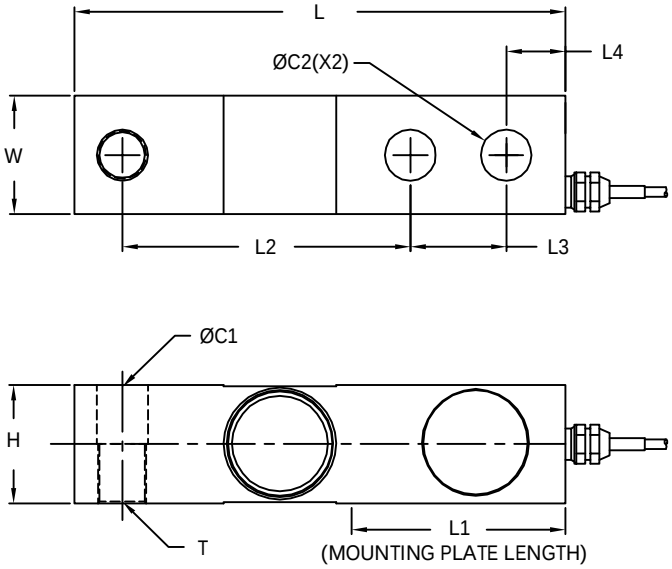
APPLICATIONS

- Floor scales and tank weighing systems.

OPTIONS

- Full scale output - 2mV/V version.
- RB3-NP(1003): Plated steel version.
- Service temperature range up to 120°C [248°F].
- Through mounting hole.
- 6-Wire circuit.
- Hermetic sealed. glass to metal connector.

OUTLINE DIMENSIONS



Rated Capacity(lb)	C1	C2	H	L	L1	L2	L3	L4	W	T
500-4000	0.53 [13.5]	0.53 [13.5]	1.22 [31.0]	5.12 [130.0]	2.25 [57.2]	3.00 [76.2]	1.00 [25.4]	0.62 [15.8]	1.22 [31.0]	1/2-20UNF-2B
5000-10000	0.79 [20.0]	0.79 [20.0]	1.50 [38.1]	6.75 [171.5]	3.00 [76.2]	3.75 [95.3]	1.50 [38.1]	0.75 [19.1]	1.50 [38.1]	3/4-16UNF-2B
15000-20000	1.03 [26.2]	1.03 [26.2]	2.00 [50.8]	8.75 [222.3]	4.00 [101.6]	4.75 [120.7]	2.00 [50.8]	1.00 [25.4]	2.00 [50.8]	1-14 UNS-2B

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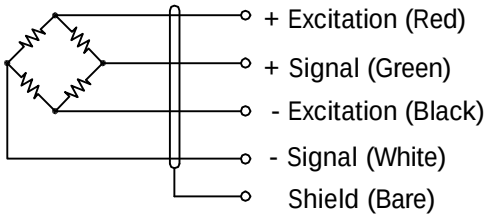
single ended shear beam

RB3-SS
1006

WIRING



Cable: Ø5.1mm, 4 Conductor cable.

SPECIFICATIONS

Model		1006
Capacities	lb	500/ 1k/ 2.5k/ 4k/ 5k/ 10k/ 20k
Full scale output (FS)	mV/V	3±0.25%
Non-linearity	%FS	≤±0.023
Hysteresis	%FS	≤±0.023
Non- repeatability	%FS	≤±0.023
Creep @ 30min	%FS	≤±0.03
Zero balance	mV/V	≤±0.06
Temperature range		
Operating	°C	-10... +40
Bridge resistance	Ω	350±7
Excitation voltage	VDC	10... 15
Insulation resistance @50V DC	MΩ	≥2000
Safe overload limit	%FS	150
Ultimate load	%FS	300
Cable length	m	6
Seal type		IP68-Welded seal
Element material		Stainless steel

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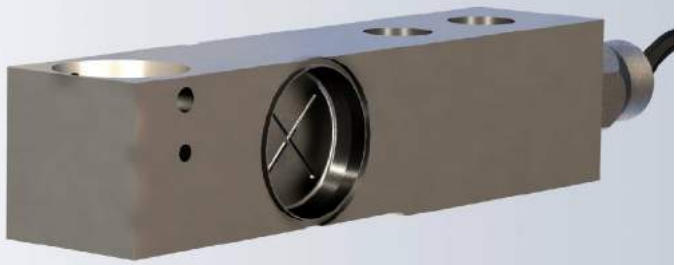
RB14
1032

Group Four Transducers Inc

Pioneering Measured Solutions

The type 1032 is a stainless steel single ended shear beam. Ideal for use in floor scales and tank weighing systems.



IP69

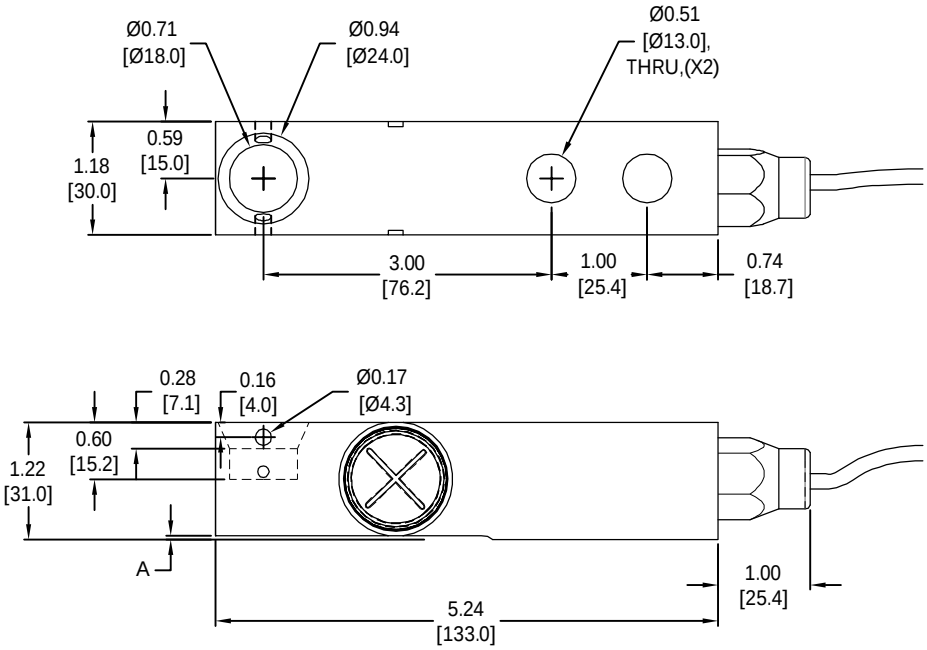
FEATURES

- Capacity range: 0.5 to 5 klb.
- Blind hole load introduction.
- Environmental Protection IP69.
- A special low profile foot is available.

APPLICATIONS

- Platform scales, Tank weighing systems.

OUTLINE DIMENSIONS



Capacity (klb)	Dimension "A"
0.5	0.31[7.8]
1	0.04[1.0]
2.5	
5	

Note :
- Welded sleeves are used to protect sensing section for 0.5klb capacity instead of welded cups.
- All dimensions : in[mm]

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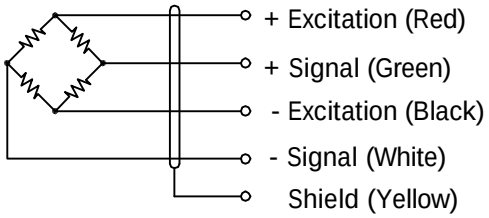
single ended beam

RB14
1032

WIRING



Cable : 24 AWG. 4-Conductor PU gray cable.

SPECIFICATIONS

Model		1032	
Accuracy class		C3	
Capacities		klb	0.5/ 1/ 2.5/ 5
Full scale output (FS)		mV/V	2.0±0.002
Calibration in mV/V/Ω		%	≤±0.05
Combined error		%FS	≤±0.03
Non-linearity		%FS	≤±0.017
Hysteresis		%FS	≤±0.017
Creep @ 30min		%FS	≤±0.017
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.02
	Zero	%FS/10°C	≤±0.04
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-40... +80
Terminal resistance			
	Input resistance	Ω	1100±10
	Output resistance	Ω	1000±2
Excitation voltage		VDC	5... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	150
Ultimate load		%FS	300
Safe side load		%FS	100
Cable length		m	3
Seal type		IP69	
Element material		Stainless steel	

PART NUMBERS

Capacity (klb)	Part #
0.5	1032-000-05
1	1032-001-05
2.5	1032-002-05
5	1032-003-05

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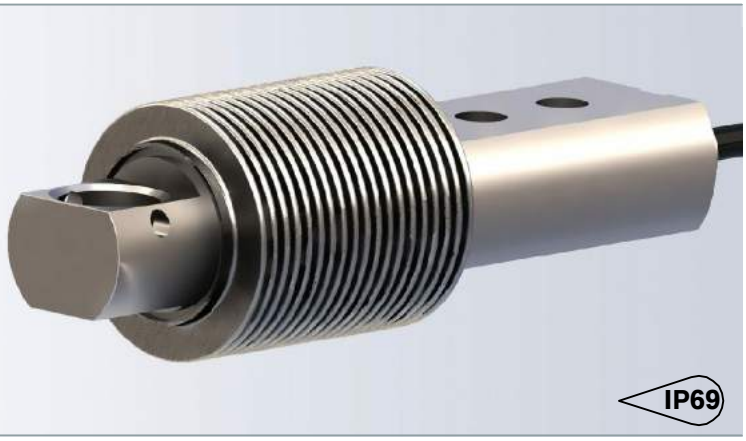
Group Four Transducers Inc

Pioneering Measured Solutions

bending beam

SB38-XX-96 1042

The SB38-XX-96 is a complete hermetically sealed, stainless steel beam type load cell. It is ideal for use in floor scales, bench scales, packaging and filling machines. It is a perfect fit for heavy wash down applications.



FEATURES

- Capacities from 5 kg to 100 kg.
- Stainless steel construction.
- Environmental Protection IP69 with complete hermetic sealing.

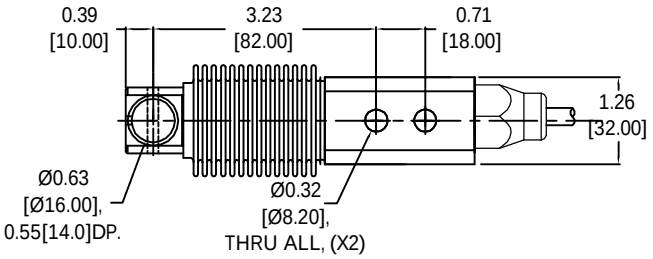
APPLICATIONS

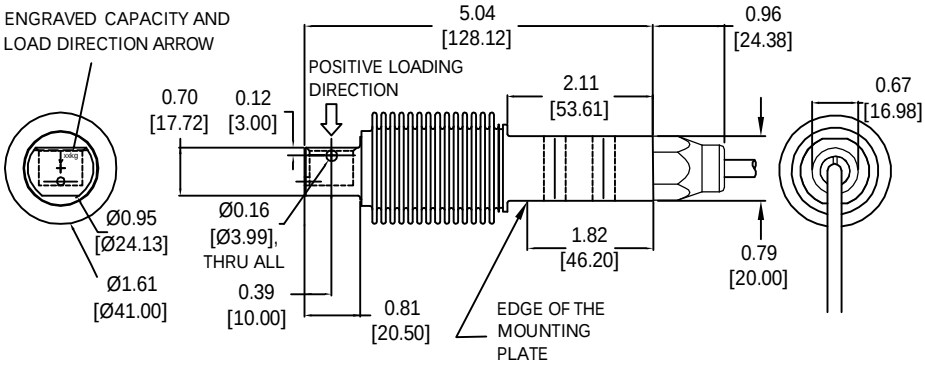
- Platform scales, bench scales, conveyor scales, small hopper and tank weighing systems, packaging and filling machines.

OPTIONS

- SB38-STD : IP68 with no header.
- A special low profile foot is available.

OUTLINE DIMENSIONS





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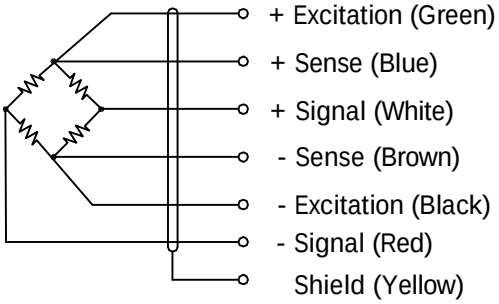
bending beam

SB38-XX-96
1042

WIRING



Cable : 24 AWG, 6 Conductor with shield.

SPECIFICATIONS

Model		1042	
Accuracy class		C3	
Capacities		kg	5/10/ 20/ 50/ 100
Full scale output (FS)		mV/V	2.0±0.1%
Calibration in mV/V/Ω		%	≤±0.005
Combined error		%FS	≤±0.02
Non-linearity		%FS	≤±0.0166
Hysteresis		%FS	≤±0.0166
Creep @ 30min		%FS	≤±0.0166
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.01
	Zero	%FS/10°C	≤±0.014
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-40... +80
Terminal resistance			
	Input resistance	Ω	1165±10
	Output resistance	Ω	1000±3
Excitation voltage		VDC	5... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	200
Ultimate load		%FS	300
Safe side load		%FS	100
Cable length		m	3
Seal type		IP69	
Element material		Stainless steel	
Bolt torque		Nm	25

PART NUMBERS

Capacity (kg)	Part No.
5	1042-000-00
10	1042-001-00
20	1042-002-00
50	1042-003-00
100	1042-004-00

Dimensions and specifications subject to change without notice

Group Four Transducers Inc

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Group Four Transducers Inc

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weigh bar

WBP 1040

The WPB is a hermetically sealed weigh bar. Ideal for use in floor scales and weighing systems commonly found in the agriculture industry.

FEATURES

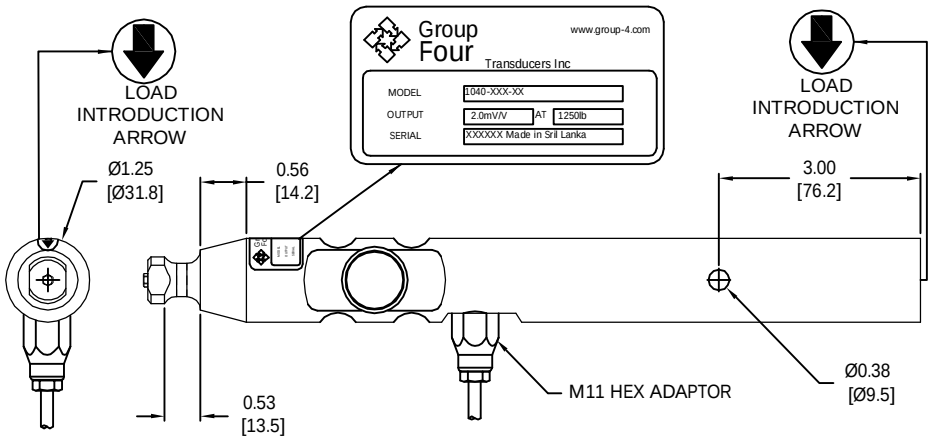
- Capacity 1.25, 2.5, 5 klb.
- Stainless steel construction.
- Environmental Protection IP69 with complete hermetic sealing.

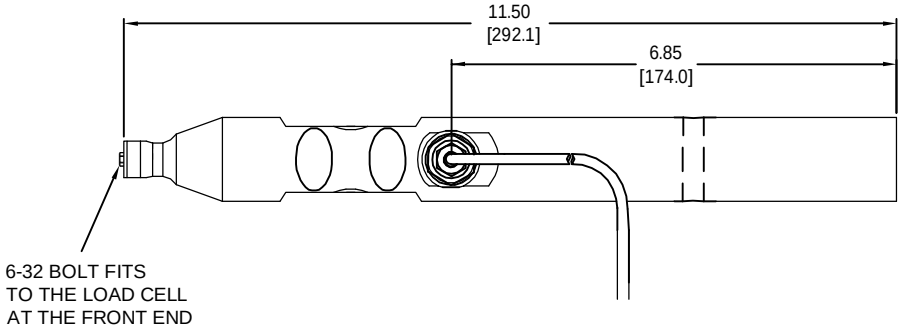
APPLICATIONS

- Floor scales, Tank mount assemblies and Weighing systems which are used in heavy wash down conditions.

OUTLINE DIMENSIONS

1.25klb :





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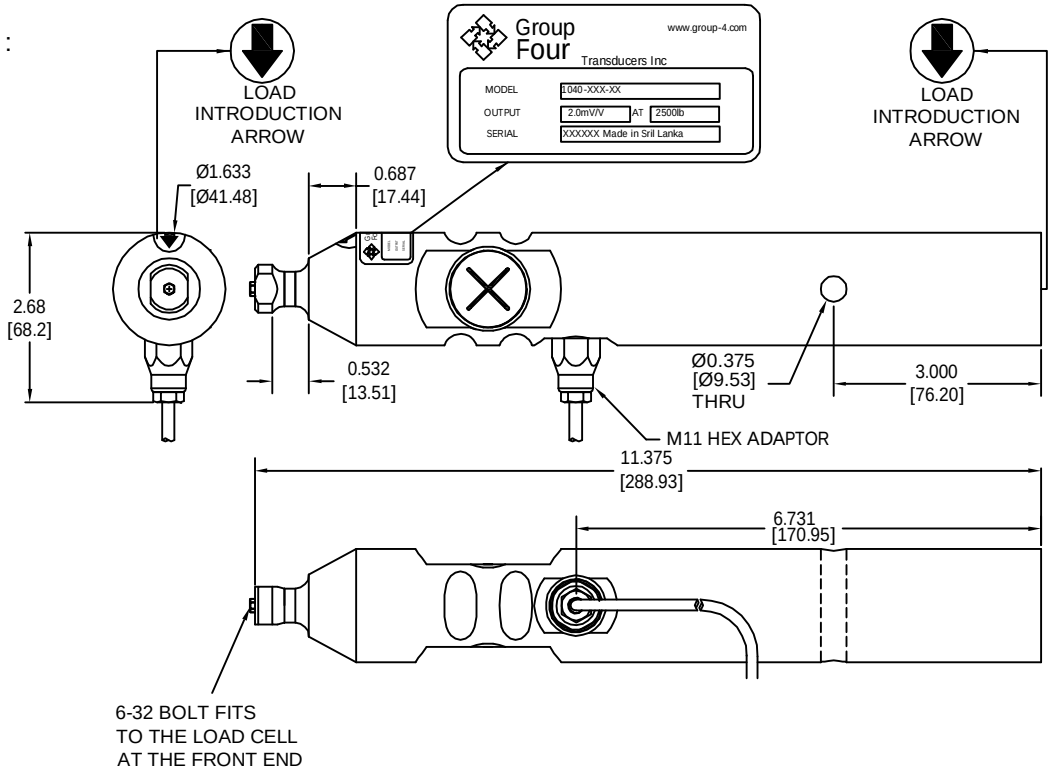
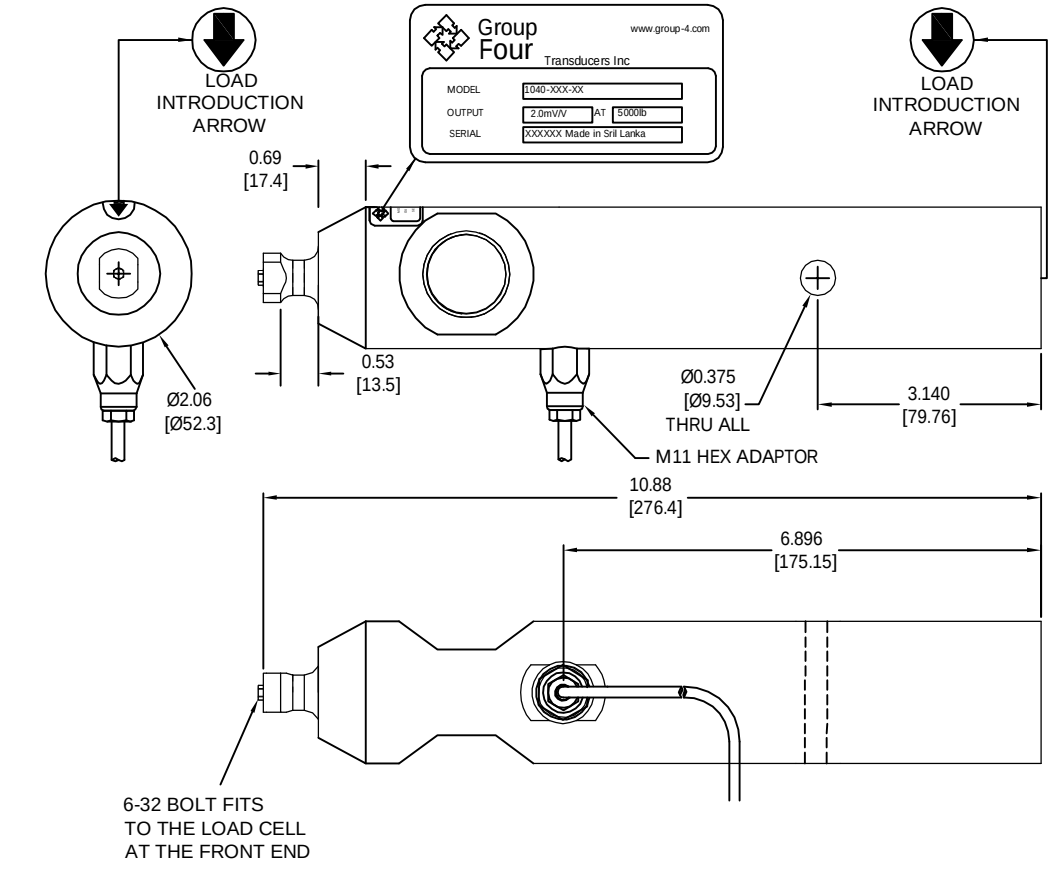
2.5klb :



5klb :



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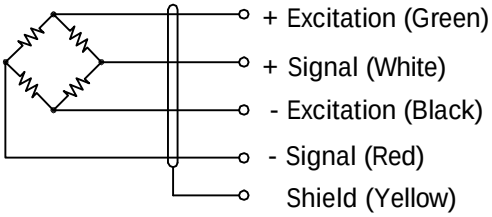
weigh bar

WBP 1040

WIRING



Cable : 24 AWG, 4-Conductor cable with shield.

SPECIFICATIONS

Model		1040	
Accuracy class		C3	
Capacities		klb	1.25/ 2.5/ 5
Full scale output (FS)		mV/V	2.0±0.1%
Calibration in mV/V/Ω		%	≤±0.05
Combined error		%FS	≤±0.05
Non-linearity		%FS	≤±0.03
Hysteresis		%FS	≤±0.04
Creep @ 30min		%FS	≤±0.01
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.02
	Zero	%FS/10°C	≤±0.02
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-10... +60
Terminal resistance			
	Input resistance	Ω	386±10
	Output resistance	Ω	350±10
Excitation voltage		VDC	10... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	150
Ultimate load		%FS	300
Safe side load		%FS	100
Cable length		ft	25
Seal type		IP69	
Element material		Stainless steel (Electropolished)	

SPECIFICATIONS

Capacity (klb)	Part #
1.25	1040-000-00
2.50	1040-001-00
5.00	1040-002-00

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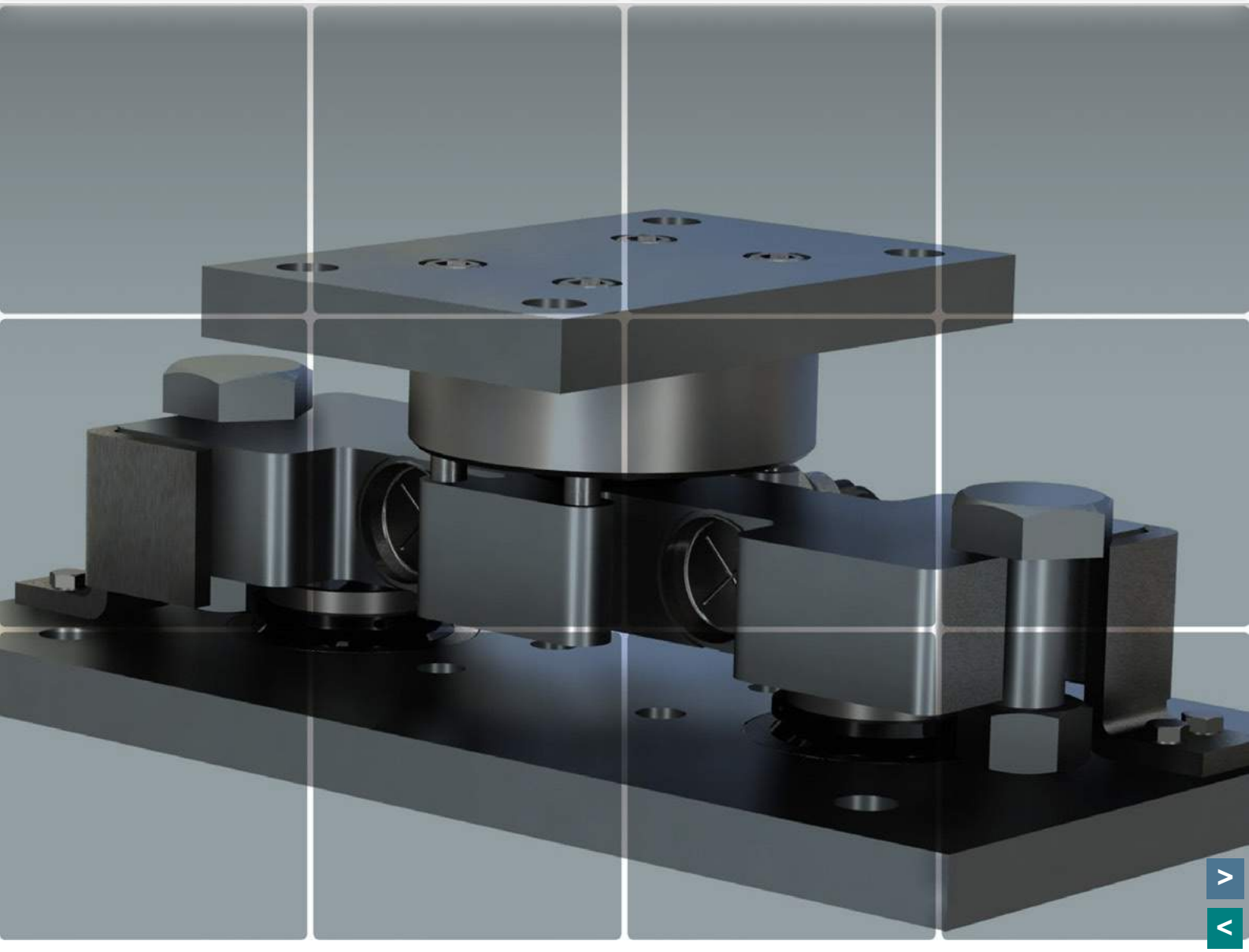
4.0

DOUBLE ENDED BEAMS

Group Four's Double-Ended Beam designs are generally used in load applications over 10,000 lb. When combined with the mounting hardware, the double-ended beam cells are mounted under the legs of silos, tanks and hoppers.

The self-checking weigh modules provide stability, safety and easy installation for our customers. We can also add an internal signal conditioner so you can have a direct RS232 or RS485 serial output, 4-20 ma, or 0-10 V outputdirectly from the load cell.



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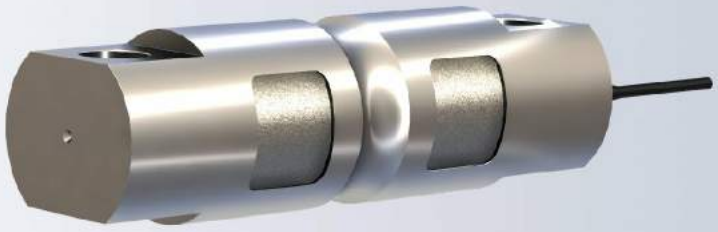
TOC

double ended beams

2004

The type 2004 is a steel double ended shear beam, commonly used in general purpose weigh systems and truck scales.



IP67

FEATURES

- Capacities from 5klb to 200klb.
- Alloy steel construction.
- Environmental Protection IP67.
- NTEP Approved (legal-for-trade) available.

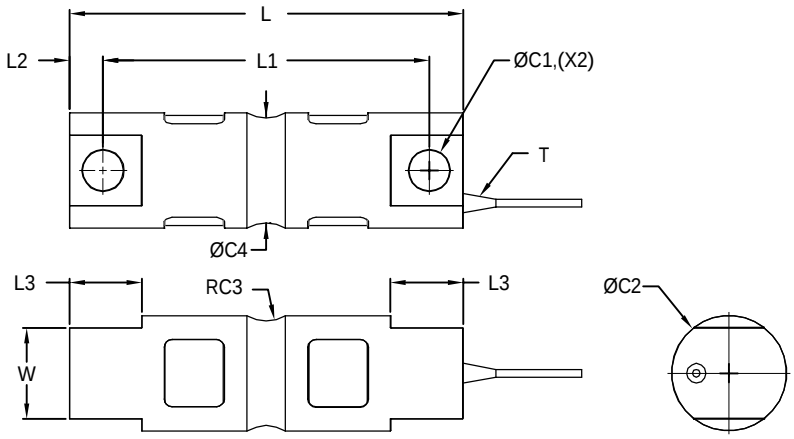
APPLICATIONS

- General purpose weigh systems and truck scales.

OPTIONS

- Service temperature range up to 120°C.
- Stainless steel version.
- 6 Wire circuit.
- Lightning protection.

OUTLINE DIMENSIONS



Capacity(klb)	C1	C2	C3	C4	L	L1	L2	L3	W	T
5-20	0.66 [16.7]	1.95 [49.5]	0.50 [12.7]	1.48 [37.6]	8.12 [206.3]	6.88 [174.6]	0.62 [174.6]	1.44 [36.6]	1.12 [28.5]	1/4-18NPT
30-75	1.06 [26.9]	3.00 [76.2]	1.00 [25.4]	2.73 [69.3]	10.25 [260.4]]	8.50 [215.9]	8.50 [215.9]	1.88 [47.8]	2.37 [60.2]	1/2-14NPT
100	1.06 [26.9]	3.50 [88.9]	1.50 [38.1]	3.24 [82.3]	11.25 [285.8]	9.50 [241.3]	9.50 [241.3]	1.88 [47.8]	2.50 [63.5]	1/2-14NPT
150	1.06 [26.9]	3.90 [99.1]	1.50 [38.1]	3.64 [92.5]	11.25 [285.8]	9.50 [241.3]	9.50 [241.3]	1.88 [47.8]	2.80 [71.1]	1/2-14NPT
200	1.56 [39.6]	5.38 [136.7]	2.00 [50.8]	5.17 [131.3]	16.10 [408.9]	13.0 [330.2]	13.0 [330.2]	3.05 [77.5]	4.60 [116.8]	1/2-14NPT

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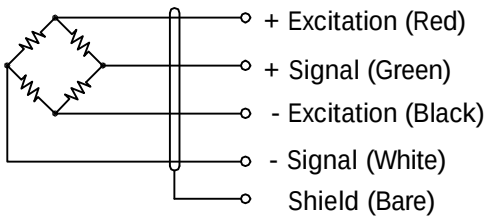
double ended beams

2004

WIRING



Cable : Ø5.1mm, 4 Conductor cable (Capacity ≤20Klb).
Ø7.6mm, 4 Conductor cable (Capacity ≥30Klb).

SPECIFICATIONS

Model		2004
Capacities	klb	5/ 10/ 20/ 30/ 40/ 50/ 60/ 75/ 100/ 150/ 200
Full scale output (FS)	mV/V	3±0.25%
Non-linearity	%FS	≤±0.03
Hysteresis	%FS	≤±0.023
Non- repeatability	%FS	≤±0.017
Creep @ 30min	%FS	≤±0.023
Zero balance	mV/V	±0.06
Temperature range		
Operating	°C	-10...+40
Bridge resistance	Ω	700±10
Excitation voltage	VDC	10... 15
Insulation resistance@50V DC	MΩ	≥2000
Safe overload limit	%FS	150
Ultimate load	%FS	300
Cable length	m	10 (Capacity≤20Klb) 18 (Capacity≥30Klb)
Seal type		IP67
Element material		Alloy steel

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5.0

CANISTERS & DISCS

The first high capacity load cells designed, back in the mid 50's were what is known today as "Canister" load cells. These load cells were typically used in motor truck scales, rail-road track scales and for heavy capacity tank weighing. Canisters are well known for their durability in the most demanding applications. Group Four's canisters maintain the tradition of uncompromising performance even in the most demanding applications.

Disc load cells are a variation of the canister and are offered in a broad capacity range from 100 lb. up to 400,000 lb. They are often commonly referred to as "hockey pucks" because of their compact dimensions. Discs are often found in test and measurement applications that require very high cycle times and consistent repeatability. We can also add an internal signal conditioner producing a RS232 or RS485 serial output, 4-20 mA signal, or 0-10 V output directly from the load cell.

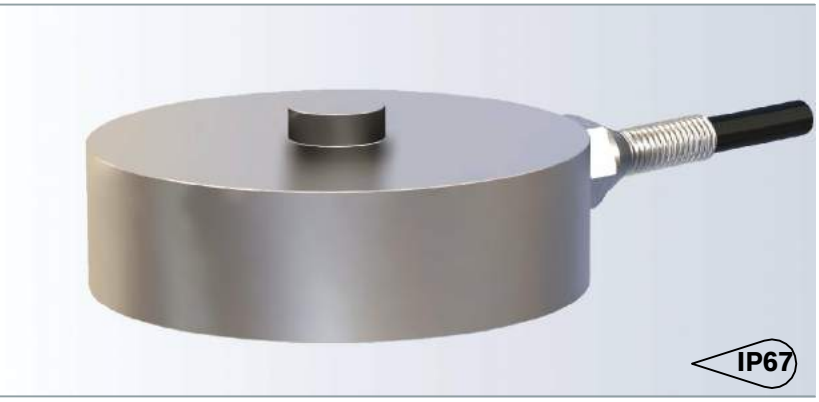
>
<
TOC

Group Four Transducers Inc

Pioneering Measured Solutions

canister
5012

The type 5012 is a steel compression load cell for force and weight measurement.



FEATURES

- Capacities from 100kg to 30000kg.
- Alloy steel construction.
- Environmental Protection IP67.

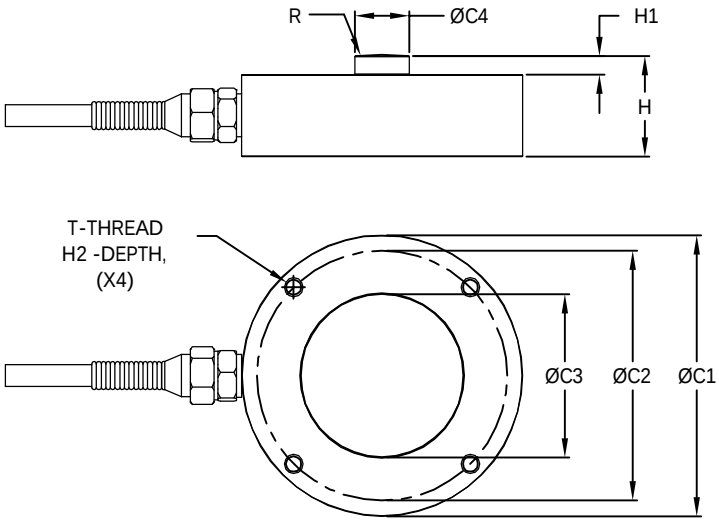
APPLICATIONS

- Force and weight measurement.

OPTIONS

- Service temperature range up to 120°C.
- 6 wire circuit.
- Lightning protection.
- Stainless steel (rated capacity 100kg).
- Environmental Protection IP68.

OUTLINE DIMENSIONS



Capacity(kg)	C1	C2	C3	C4	H	H1	H2	R	T
100-2000	2.44 [62.0]	2.17 [55.0]	1.42 [36.0]	0.47 [12.0]	0.87 [22.0]	0.16 [4.0]	0.28 [7.0]	1.97 [50.0]	M5
5000	3.86 [98.0]	2.83 [72.0]	2.46 [62.4]	0.79 [20.0]	1.57 [40.0]	0.20 [5.0]	0.51 [13.0]	5.91 [150.0]	M6
10000	3.86 [98.0]	2.83 [72.0]	2.46 [62.4]	0.79 [20.0]	1.77 [45.0]	0.20 [5.0]	0.51 [13.0]	5.91 [150.0]	M6
20000	4.65 [118.0]	3.54 [90.0]	2.46 [62.4]	0.98 [25.0]	1.97 [50.0]	0.28 [7.0]	0.59 [15.0]	9.84 [250.0]	M8
30000	5.43 [138.0]	4.53 [115.0]	2.46 [62.4]	0.98 [25.0]	2.87 [73.0]	0.31 [8.0]	0.59 [15.0]	9.84 [250.0]	M10

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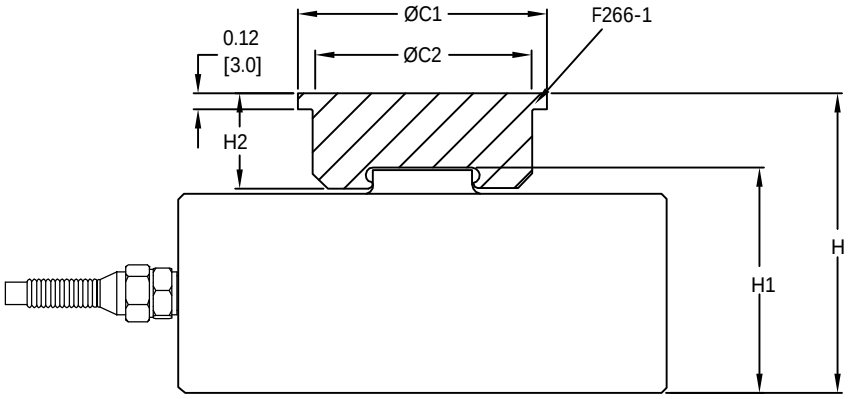
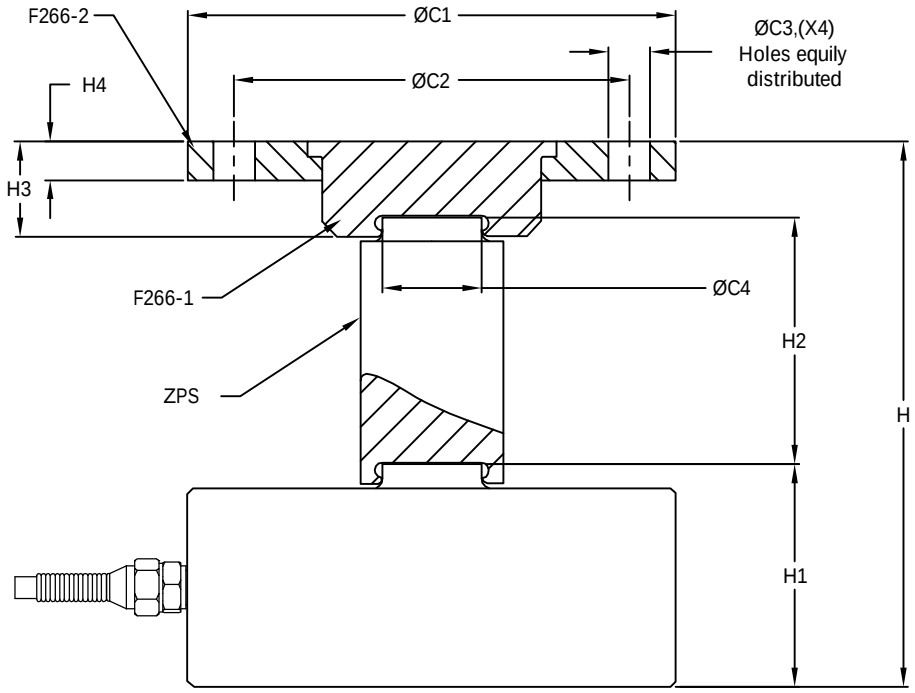
canister
5012

F266-1 EASY TOP(Mounting Hardware for 5012 Load Cell) :



Capacity(kg)	C1	C2	H	H1	H2
500-2000	1.61 [41.0]	1.38 [35.0]	1.38 [35.1]	0.87 [22.0]	0.63 [16.0]
5000	1.93 [49.0]	1.69 [43.0]	2.17 [55.1]	1.57 [40.0]	0.75 [19.0]
10000	1.93 [49.0]	1.69 [43.0]	2.37 [60.1]	1.77 [45.0]	0.75 [19.0]
20000	2.36 [60.0]	2.13 [54.0]	2.76 [70.1]	1.97 [50.0]	0.94 [24.0]
30000	2.36 [60.0]	2.13 [54.0]	3.59 [91.3]	2.88 [73.0]	0.94 [24.0]

Spindle Bearing ZPS and Spindle Support F266 :



Capacity(kg)	C1	C2	C3	C4	H	H1	H2	H3	H4
500-2000	3.19 [81.0]	2.36 [60.0]	0.35 [9.0]	0.47 [12.0]	3.19 [81.1]	0.87 [22.0]	1.81 [46.0]	0.63 [16.0]	0.28 [7.0]
5000	3.82 [97.0]	2.83 [72.0]	0.35 [9.0]	0.79 [20.0]	4.37 [111.1]	1.57 [40.0]	2.20 [56.0]	0.75 [19.0]	0.35 [9.0]
10000	3.82 [97.0]	2.83 [72.0]	0.51 [13.0]	0.79 [20.0]	4.57 [116.1]	1.77 [45.0]	2.20 [56.0]	0.75 [19.0]	0.35 [9.0]
20000	4.53 [115.0]	3.54 [90.0]	0.51 [13.0]	0.79 [20.0]	5.30 [134.6]	2.05 [52.0]	2.54 [64.5]	0.94 [24.0]	0.39 [10.0]
30000	4.53 [115.0]	3.54 [90.0]	0.51 [13.0]	0.79 [20.0]	6.13 [155.8]	2.87 [73.0]	2.54 [64.5]	0.94 [24.0]	0.39 [10.0]

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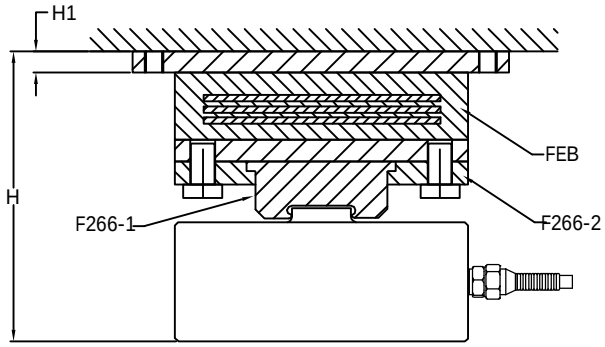
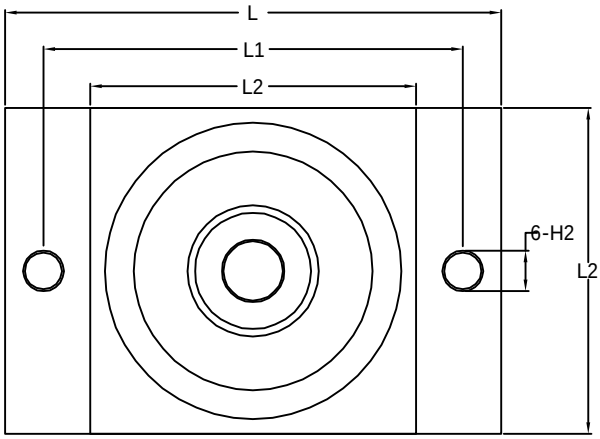
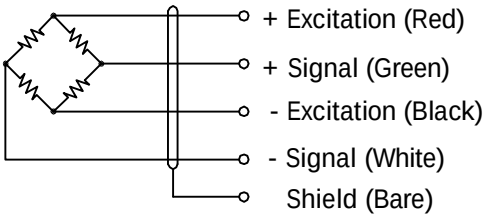
canister
5012





Capacity(kg)	H	H1	H2	L	L1	L2
500-2000	3.19 [81.0]	0.31 [8.0]	0.35 [9.0]	4.72 [120.0]	3.94 [100.0]	2.36 [60.0]
5000	3.98 [101.0]	0.39 [10.0]	0.43 [11.0]	5.91 [150.0]	4.92 [125.0]	3.94 [100.0]
10000	4.53 [115.0]	0.47 [12.0]	0.51 [13.0]	7.48 [190.0]	6.50 [165.0]	5.51 [140.0]
20000	5.22 [132.5]	0.47 [12.0]	0.51 [13.0]	11.02 [280.0]	9.84 [250.0]	8.66 [220.0]
30000	6.04 [153.5]	0.47 [12.0]	0.51 [13.0]	11.02 [280.0]	9.84 [250.0]	8.66 [220.0]

WIRING



Cable :
100-2000kg : Ø5.1 , 4 Conductor cable.
5000-30000kg : Ø6.1 , 4 Conductor cable.

PART NUMBERS

Capacity (kg)	Part #
100	5012-000-00
500	5012-003-00
2000	5012-005-00
10000	5012-007-00
20000	5012-008-00
30000	5012-009-00

SPECIFICATIONS

Model		5012	
Capacities	kg	100-2000	5000-30000
Full scale output (FS)	mV/V	2±1%	
Non-linearity	%FS	≤±0.6	≤±0.05
Hysteresis	%FS	≤±0.1	≤±0.03
Non- repeatability	%FS	≤±0.3	≤±0.1
Creep @ 30min	%FS	≤±0.1	≤±0.05
Zero balance	mV/V	±0.04	±0.05
Temperature range			
Operating	°C	-10... +40	
Bridge resistance	Ω	350±3	700±5
Excitation voltage	VDC	10... 15	
Insulation resistance @50V DC	MΩ	≥2000	
Safe overload limit	%FS	150	
Ultimate load	%FS	300	
Cable length	m	3	10
Seal type		IP67, Welded-seal	
Element material		Alloy steel	

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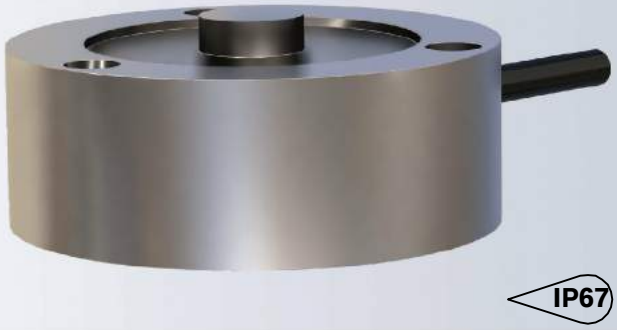
The type 5013 is a steel compression load cell for force and weight measurement.



FEATURES

- Capacities from 1t to 100t.
- Alloy steel construction.
- Environmental Protection IP67.

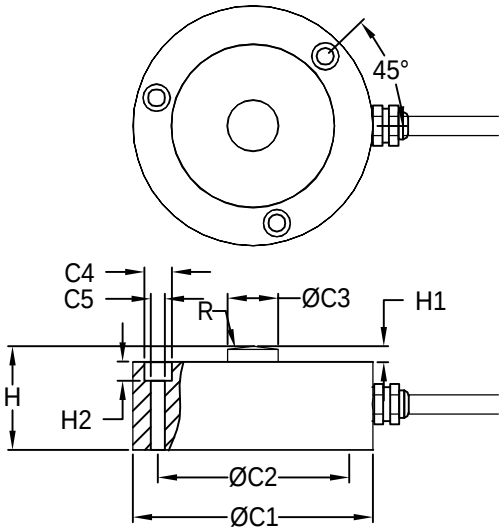
APPLICATIONS

- Force and weight measurement.

OPTIONS

- Service temperature range up to 120°C.
- 6 wire circuit.
- Stainless steel version.

OUTLINE DIMENSIONS



Capacity (t)	C1	C2	C3	C4	C5	H	H1	H2	R
5	2.36 [60.0]	2.05 [52.0]	0.37 [9.5]	0.24 [6.0]	0.13 [3.2]	0.94 [24.0]	0.16 [4.0]	0.11 [3.0]	1.18 [30.0]
10	2.50 [63.6]	2.17 [55.0]	0.53 [13.5]	0.28 [7.2]	0.17 [4.2]	1.02 [26.0]	0.16 [4.0]	0.20 [5.0]	3.94 [100.0]
25	2.99 [75.9]	2.60 [66.0]	0.80 [20.3]	0.28 [7.0]	0.19 [4.8]	1.50 [38.1]	0.18 [4.6]	0.20 [5.0]	5.91 [150.0]
50	4.13 [105.0]	3.54 [90.0]	1.18 [30.0]	0.43 [11.0]	0.28 [6.5]	2.09 [53.0]	0.28 [7.0]	0.28 [7.0]	9.84 [250.0]
100	4.84 [123.0]	3.86 [98.0]	1.69 [43.0]	0.59 [15.0]	0.41 [10.5]	3.74 [95.0]	0.59 [15.0]	0.47 [12.0]	14.96 [380.0]

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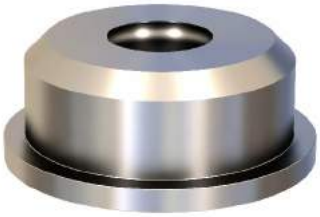
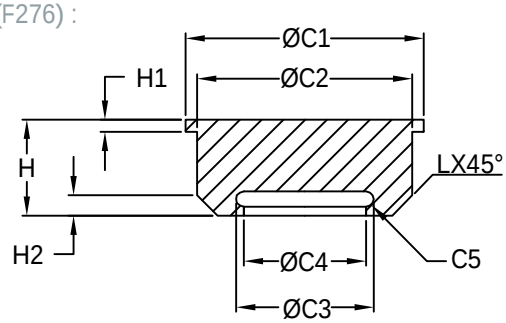
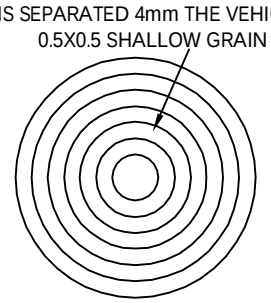
5013

Mounting Hardware for 5013 Load Cell (F276) :

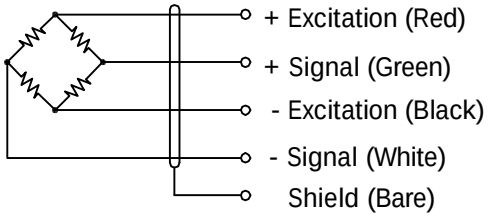






Capacity (t)	C1	C2	C3	C4	C5	H	H1	H2	L
5	1.30 [33.0]	1.06 [27.0]	0.47 [12.0]	0.39 [10.0]	0.04 [1.0]	0.51 [13.0]	0.12 [3.0]	0.11 [2.9]	0.12 [3.0]
10	1.61 [41.0]	1.38 [35.0]	0.62 [15.8]	0.54 [13.8]	0.04 [1.0]	0.63 [16.0]	0.12 [3.0]	0.11 [2.9]	0.16 [4.0]
25	1.93 [49.0]	1.69 [43.0]	0.92 [23.3]	0.81 [20.5]	0.06 [1.4]	0.75 [19.0]	0.12 [3.0]	0.15 [3.9]	0.20 [5.0]
50	2.83 [72.0]	2.60 [66.0]	1.36 [34.6]	1.22 [31.0]	0.07 [1.8]	1.42 [36.0]	0.12 [3.0]	0.22 [5.7]	0.20 [5.0]
100	3.15 [80.0]	2.91 [74.0]	2.13 [54.0]	1.73 [44.0]	0.20 [5.0]	1.97 [50.0]	0.12 [3.0]	0.49 [12.4]	0.28 [7.0]

WIRING



Cable : Ø5.1mm 4 Conductor cable.

PART NUMBERS

Capacity (t)	Part#
5	5013-000-00
10	5013-001-00
25	5013-002-00
50	5013-003-00
100	5013-004-00

SPECIFICATIONS

Model	5013	
Capacities	t	5/ 10/ 25/ 50/ 100
Full scale output (FS)	mV/V	2.5±10%
Non-linearity	%FS	≤±0.32
Hysteresis	%FS	≤±0.32
Non- repeatability	%FS	≤±0.05
Creep @ 30min	%FS	≤±0.10
Zero balance	mV/V	±0.05
Temperature range		
Operating	°C	-10... +40
Bridge resistance	Ω	350±3
Excitation voltage	V (DC/AC)	18... 25
Insulation resistance @50V DC	MΩ	≥2000
Safe overload limit	%FS	150
Ultimate load	%FS	300
Cable length	m	6 (Capacity≤10t) 10(Capacity≥20t)
Seal type	IP67	
Element material	Alloy steel	

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5014

Group Four Transducers Inc

Pioneering Measured Solutions

The type 5014 is a steel compression load cell for force and weight measurement.

FEATURES

- Capacities from 1t to 300t.
- Alloy steel construction.
- Environmental Protection IP67.

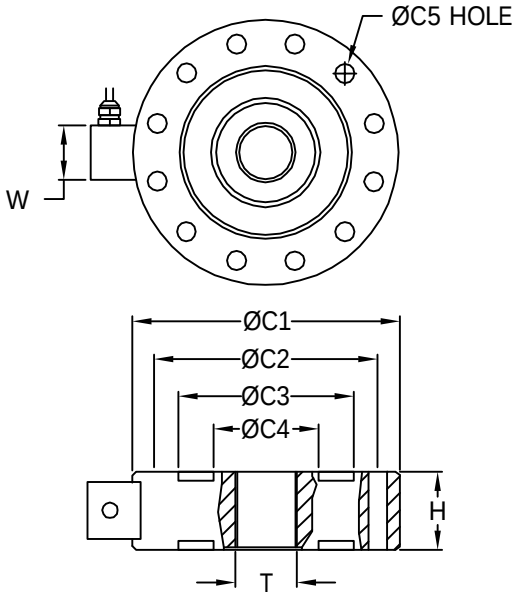
APPLICATIONS

- Force and weight measurement.

OPTIONS

- Service temperature range up to 120°C.
- 6 Wire circuit.
- Lightning protection.

OUTLINE DIMENSIONS



Capacity(t)	C1	C2	C3	C4	C5	H	W	T
1... 5	4.45 [113.0]	3.82 [97.0]	2.99 [76.0]	1.65 [42.0]	0.28[7.0], (X8)	1.38 [35.0]	1.26 [32.0]	M24x2
10... 20	6.10 [155.0]	5.12 [130.0]	3.98 [101.0]	2.40 [61.0]	0.43[11.0], (X12)	1.77 [45.0]	1.26 [32.0]	M36x2
30	7.09 [180.0]	5.91 [150.0]	4.72 [120.0]	3.15 [80.0]	0.51[13.0], (X12)	2.28 [58.0]	1.26 [32.0]	M42x2
50	8.07 [205.0]	6.50 [165.0]	4.72 [120.0]	3.15 [80.0]	0.51[13.0], (X16)	2.52 [64.0]	1.26 [32.0]	M42x2
100	11.02 [280.0]	8.98 [228.0]	6.93 [176.0]	4.88 [124.0]	0.67[17.0], (X16)	3.54 [90.0]	1.89 [48.0]	M70x3
150... 200	11.65 [296.0]	10.08 [256.0]	8.54 [217.0]	5.47 [139.0]	0.87[22.0], (X16)	4.72 [120.0]	1.89 [48.0]	M90x3
300	13.62 [346.0]	11.10 [282.0]	9.29 [236.0]	7.09 [180.0]	1.02[26.0], (X16)	7.09 [180.0]	1.89 [48.0]	M120x3

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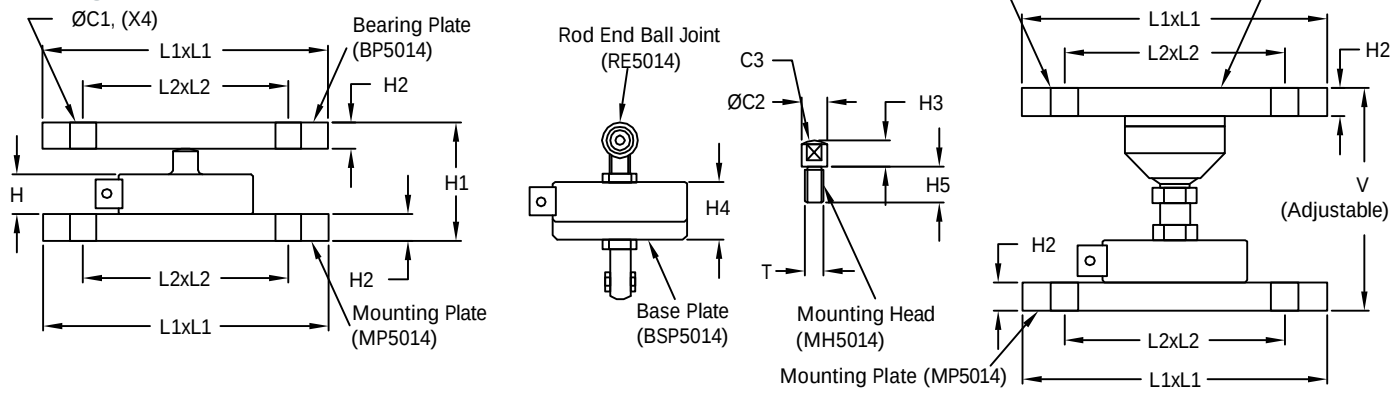
canisters and disks

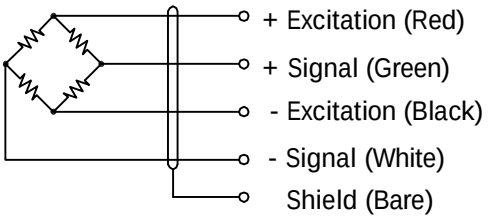
5014

Mounting Hardware for 5014 Load Cell :



Capacity(t)	C1	C2	C3	H	H1	H2	H3	H4	H5	L1	L2	T
1... 5	0.55[14.0]	1.06[27.0]	3.35[85.0]	1.38[35.0]	3.50[89.0]	0.91[23.0]	0.31[8.0]	2.52[64.0]	0.98[25.0]	5.91[150.0]	5.04[128.0]	M24x2
10... 20	0.71[18.0]	1.77[45.0]	5.91[150.0]	1.77[45.0]	4.84[123.0]	1.10[28.0]	0.87[22.0]	3.54[90.0]	1.50[38.0]	7.87[200.0]	5.51[140.0]	M36x2
30	0.71[18.0]	2.13[54.0]	7.09[180.0]	2.28[58.0]	6.14[156.0]	1.30[33.0]	1.26[32.0]	4.25[108.0]	1.89[48.0]	8.86[225.0]	6.69[170.0]	M42x2
50	0.71[18.0]	2.52[64.0]	7.87[200.0]	2.52[64.0]	7.17[182.0]	1.50[38.0]	1.65[42.0]	4.49[114.0]	2.13[54.0]	9.84[250.0]	7.87[200.0]	M42x2
100	0.71[18.0]	4.02[102.0]	11.81[300.0]	3.54[90.0]	9.37[238.0]	1.97[50.0]	1.89[48.0]	-	3.11[79.0]	12.80[325.0]	11.42[290.0]	M70x3
150... 200	0.71[18.0]	5.35[136.0]	11.81[300.0]	4.72[120.0]	13.39[340.0]	3.15[80.0]	2.36[60.0]	-	3.11[79.0]	14.37[365.0]	12.99[330.0]	M90x3
300	0.71[18.0]	6.30[160.0]	19.69[500.0]	7.09[180.0]	18.11[460.0]	3.94[100.0]	3.15[80.0]	-	3.54[90.0]	15.94[405.0]	14.57[370.0]	M120x3

WIRING



Cable : Ø6.1mm dia. 4 Conductor cable.

PART NUMBERS

Capacity (t)	Part#
1	5014-000-00
2	5014-001-00
3	5014-002-00
5	5014-003-00
10	5014-004-00
20	5014-005-00
30	5014-006-00
50	5014-007-00
100	5014-008-00
150	5014-009-00
200	5014-010-00
300	5014-011-00

SPECIFICATIONS

Model	5014		
Capacities	t	1/ 2/ 3/ 5	10/ 20/ 30/ 50/ 100/ 150/ 200/ 300
Full scale output (FS)	mV/V	2.0±1%	
Non-linearity	%FS	≤±0.05	≤±0.3
Hysteresis	%FS	≤±0.05	≤±0.3
Non- repeatability	%FS	≤±0.03	≤±0.2
Creep @ 30min	%FS	≤±0.05	≤±0.5
Zero balance	mV/V	+0.04	+0.04
Temperature range			
Operating	°C	-10... +40	
Bridge resistance	Ω	700±5	
Excitation voltage	V(DC/AC)	10... 15	
Insulation resistance @50V DC	MΩ	≥2000	
Safe overload limit	%FS	150	
Ultimate load	%FS	300	
Cable length	m	10	
Seal type	IP67		
Element material	Alloy steel		

Dimensions and specifications subject to change without notice

Group Four Transducers Inc

Pioneering Measured Solutions

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RC 5030

Group Four Transducers Inc

Pioneering Measured Solutions

The type RC is a stainless steel self centering rocker column load cell with complete hermetic sealing. It is a perfect fit for use in harsh industrial environments.

FEATURES

- Wide range of capacities from 20 t to 50 t.
- Stainless steel construction.
- Environmental Protection IP69 with complete hermetic sealing.
- Self restoring design.
- High input resistance.

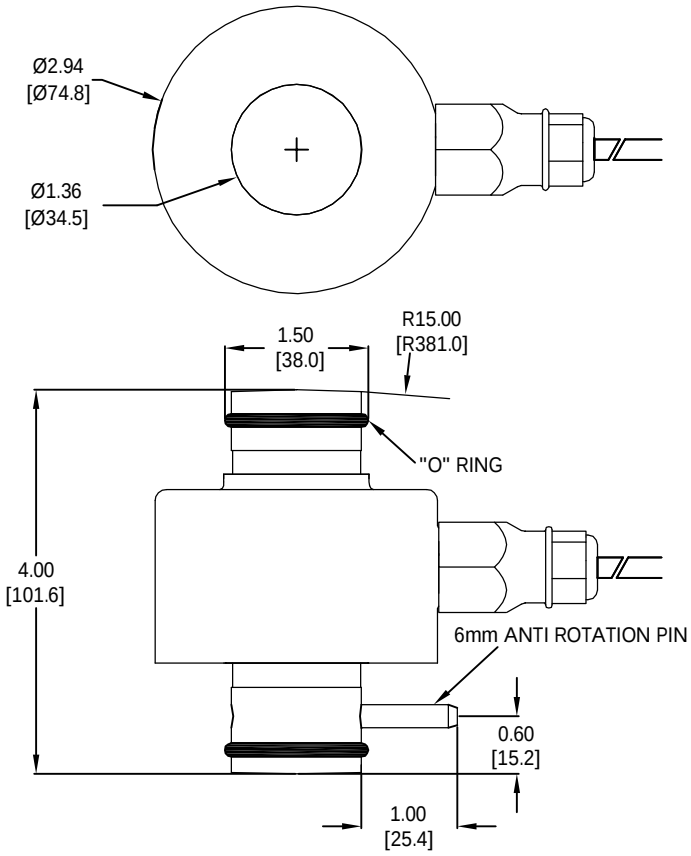
APPLICATIONS

- Weighbridges, hoppers, tanks and silos.

OPTIONS

- 4.00[101.6] and 5.50[139.7] height optional versions are available for 15, 20, 30, 40 t capacities.
- 1000Ω Bridge resistance version.

OUTLINE DIMENSIONS



Capacity (t)	D inch (mm)
20/ 30/ 40/ 50	2.99(76.0)

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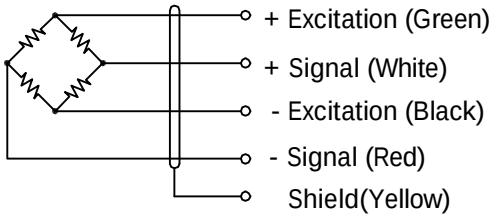
rocker column

RC 5030

WIRING



Cable : 20AWG, 4 Conductor cable with shield.

SPECIFICATIONS

Model		RC	
Capacities		t	20/ 30/ 40/ 50
Full scale output(FS)		mV/V	2.0±0.1%
Calibration in mV/V/Ω		%	≤±0.05
Non-linearity		%FS	≤±0.03
Hysteresis		%FS	≤±0.05
Creep@30min		%FS	≤±0.02
Zero Balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.01
	Zero	%FS/10°C	≤±0.0187
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-10... +65
Terminal resistance			
	Input resistance	Ω	386±50 (20t; 30t) 490±70 (40t; 50t)
	Output resistance	Ω	350±2
Excitation voltage		VDC	5... 15
Insulation resistance@50VDC		MΩ	≥5000
Safe overload limit		%FS	200
Ultimate load		%FS	300
Cable length		ft	20
Seal type		IP69	
Element material		Stainless steel	

PART NUMBERS

Capacity(t)	Part#
20	5030-002-00
30	5030-003-00
40	5030-004-00
50	5030-005-00

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Group Four Transducers Inc

Pioneering Measured Solutions

column load cell

JALH 5033

The JALH multi-column load cell is ideal for measurement of high loads. Available in capacities of 10-100 klbs.

FEATURES

- Capacities from 10klb to 100klb.
- Stainless steel construction.
- Environmental Protection IP69.
- Rotation test is done for 0°,120°,240° and 360°.
- Load cells are supplied with calibration certificates as per ASTM E74.

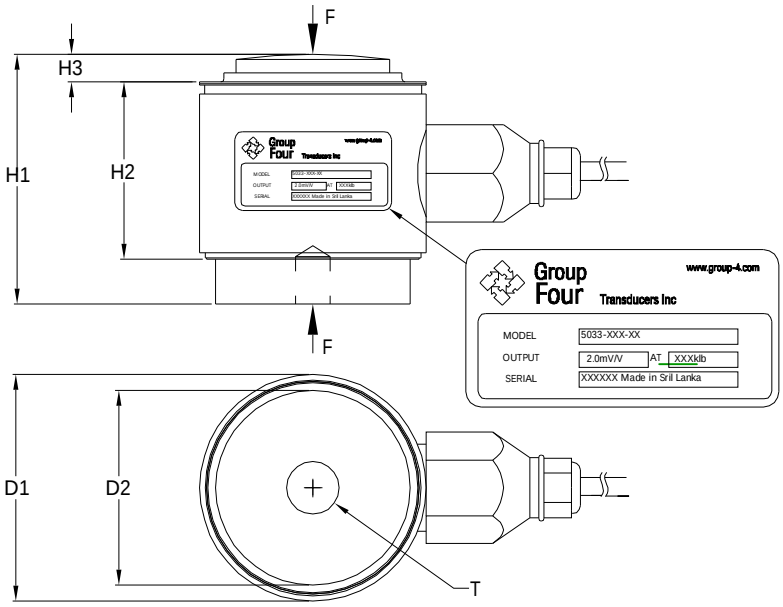
APPLICATIONS

- Aircraft weighing.
- Tank weighing.
- Truck scales.

OPTIONS

- Threaded loading hole at top.

OUTLINE DIMENSIONS



Capacity(klb)	H1	H2	H3	D1	D2	T
10	3.25 [82.6]	2.29 [58.2]	0.36 [9.1]	2.95 [74.8]	2.53 [64.3]	1/2-20UNF, 0.6[15.2]DP.
25	3.25 [82.6]	2.29 [58.2]	0.36 [9.1]	2.95 [74.8]	2.53 [64.3]	1/2-20UNF, 0.6[15.2]DP.
50	3.25 [82.6]	2.29 [58.2]	0.36 [9.1]	2.95 [74.8]	2.53 [64.3]	3/4-16UNF, 0.6[15.2]DP.
100	3.75 [95.3]	2.97 [75.3]	0.45 [11.4]	4.02 [102.0]	3.55 [90.2]	3/4-16UNF, 0.6[15.2]DP.

Notes:
- All dimensions : in[mm].
- Shown loading direction is for positive output.

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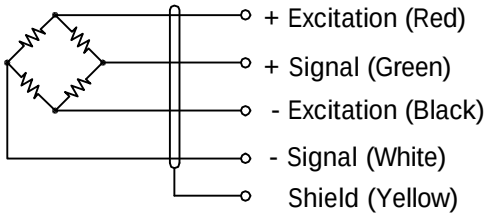
column load cell

JALH
5033

SPECIFICATIONS

Model		JALH				
Capacities		klb	10	25	50	100
Full scale output (FS)		mV/V	2.0±0.1%			
Non-linearity		%FS	≤±0.03			
Hysteresis		%FS	≤±0.03			
Creep @ 30min		%FS	≤±0.02			
Zero balance		%FS	≤±5			
Temperature effect						
	Output	%FS/10°C	≤±0.04			
	Zero	%FS/10°C	≤±0.04			
Temperature range						
	Compensated	°C	-10 ...+40		-10 ...+40	-10 ...+40
	Operating	°C	-40 ...+80		-20 ...+65	-20 ...+80
Terminal resistance						
	Input resistance	Ω	1150±50		420±50	
	Output resistance	Ω	1050±5		350±5	
Excitation voltage		VDC	5 ...15			
Insulation resistance @ 50V DC		MΩ	≥5000			
Safe overload limit		%FS	175		150	120
Ultimate load		%FS	190		160	130
Cable length		ft	52			
Seal type		IP69				
Element material		Stainless steel				

WIRING



Cable : 20 AWG, 4 Conductor black cable with shield.

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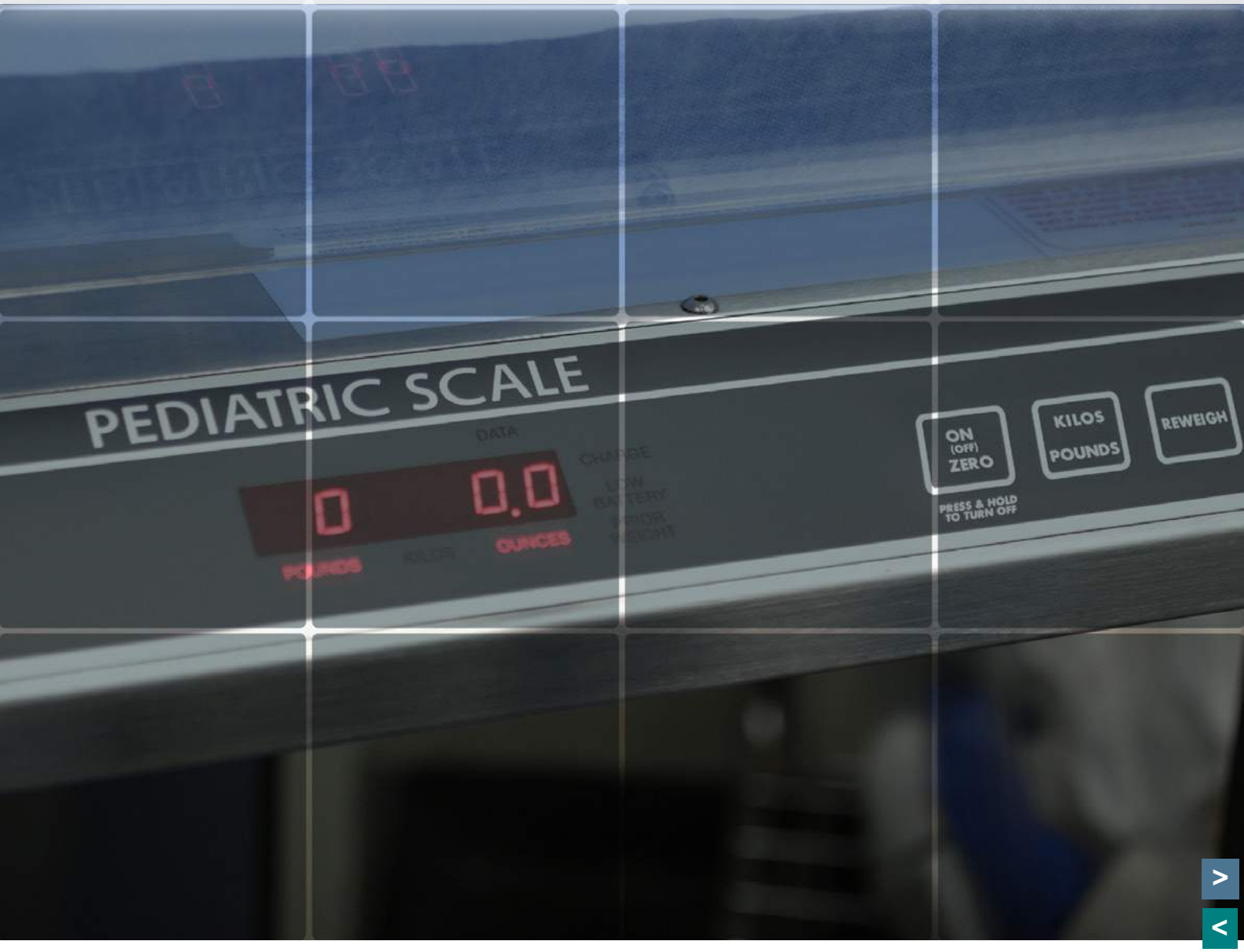
6.0

PLANAR BEAMS

The Planar Beam load cell is designed to allow your engineers the maximum level of flexibility when designing their weighing system. Ideally suited for scales in capacity from 5kg to 200 kg, Group Four Planar Beams are often used in; airport baggage scales, self-check-out verification systems, medical scales and other high accuracy systems. The low profile of the planar beam allows for use where space is limited. Group Four incorporates matched outputs, millivolt per volt per ohm matching, and superior gage sealing into our design for maximum performance and value to the customer.



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TOC

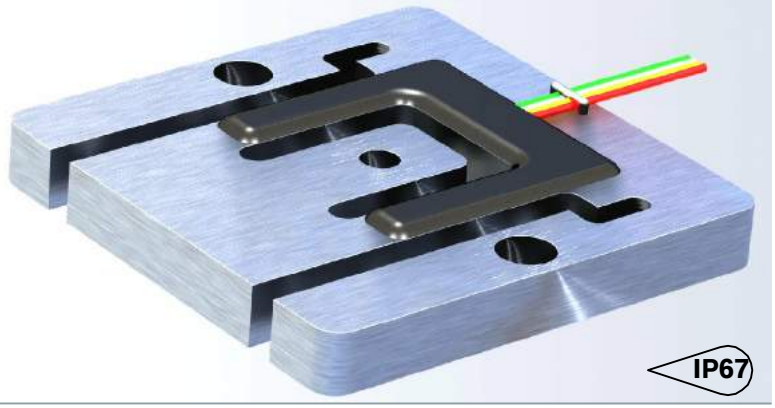
Group Four Transducers Inc

Pioneering Measured Solutions

planar beam

WMB 6002

The type 6002 is a very low profile planar beam load cell. Load cell installation is simplified by the winged mounting arms providing optimum load cell performance in all types of scale structure.



FEATURES

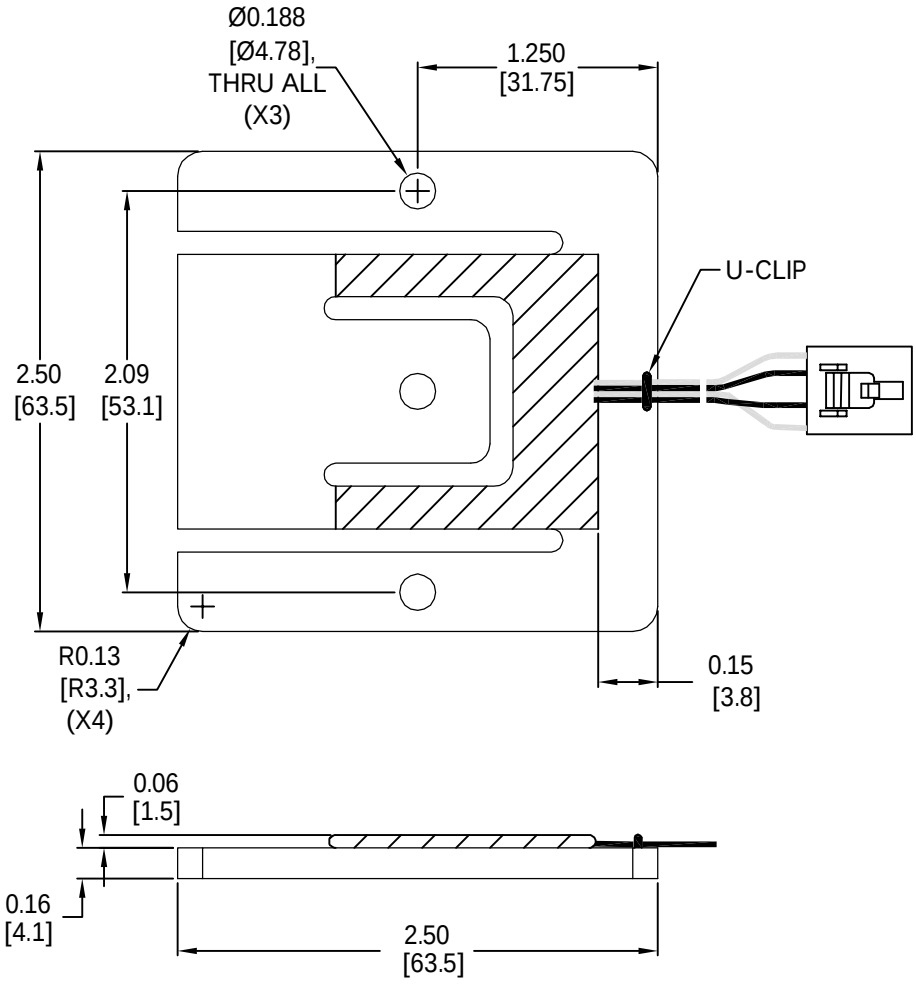
- Capacities 37.5lb, 75lb and 200lb.
- Aluminum construction.
- Environmental Protection IP67.
- Very low profile design.

APPLICATIONS

- Compact scales, bench and floor scales, retail and counting scales, special applications in medical and other areas.

OUTLINE DIMENSIONS

Capacity 37.5lb :



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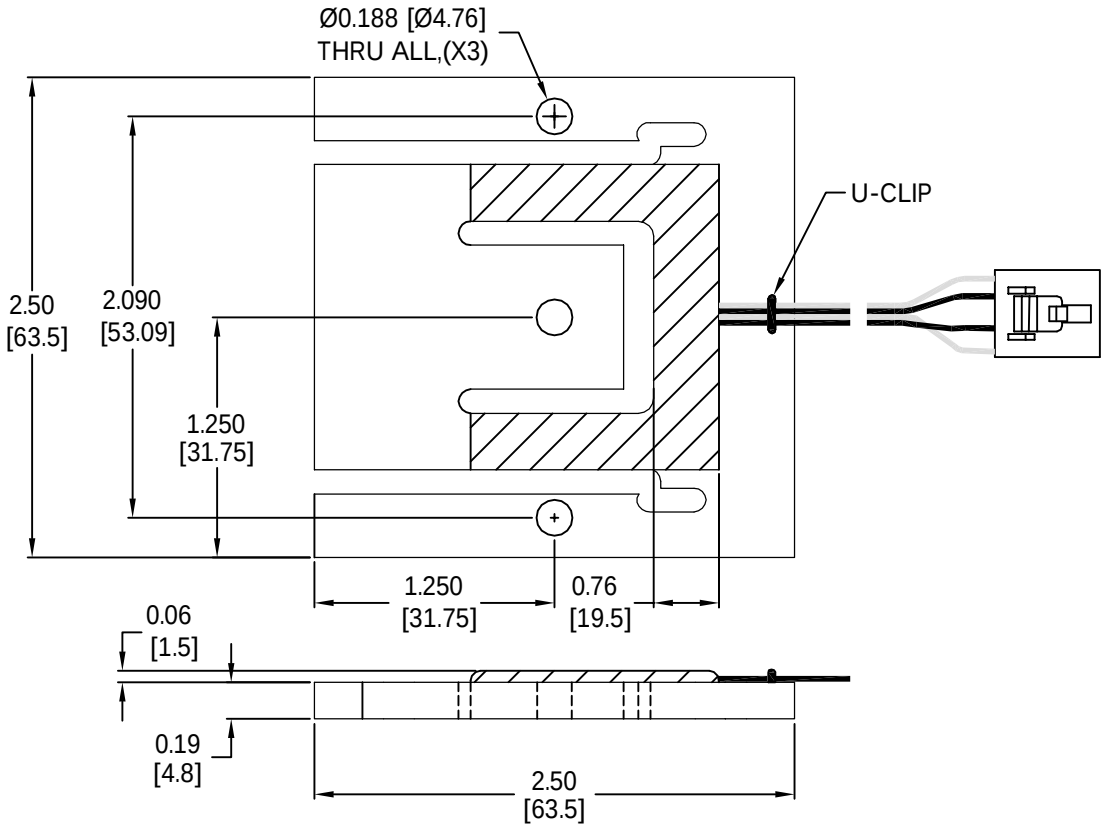
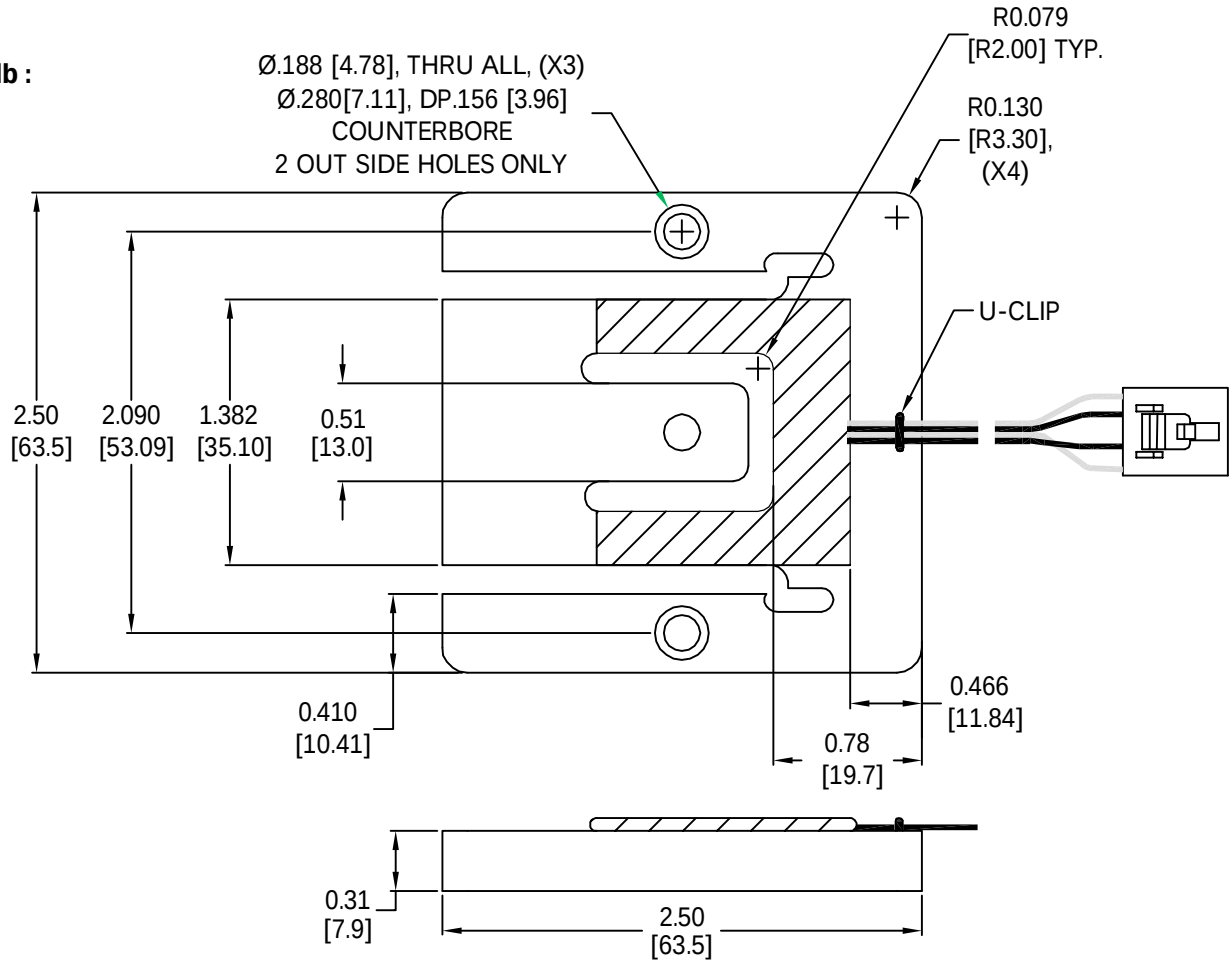
planar beam

WMB 6002

Capacity 75lb :



Capacity 200lb :



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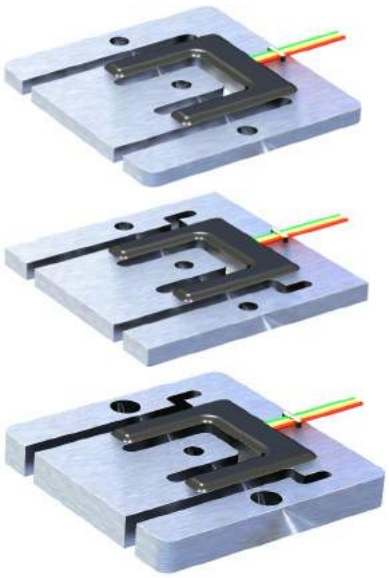
planar beam

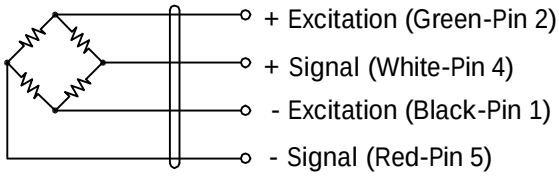
WMB 6002



SPECIFICATIONS

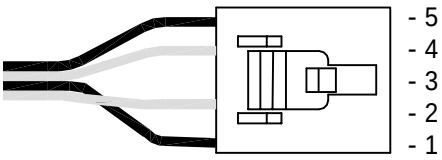
Model		WMB		
Capacities	lb	37.5	75	200
Full scale output (FS)	mV/V	0.9±0.1%		
Calibration in mV/V/Ω	%	≤±0.05		
Combined error	%FS	≤±0.02		
Non-linearity	%FS	0- 0.015	≤±0.02	-
Hysteresis	%FS	≤±0.015	≤±0.02	-
Non- repeatability	%FS	≤±0.01		
Creep @ 20min	%FS	≤±0.03		
Zero balance	mV/V	≤±0.3	≤±0.045	≤±0.3
Temperature effect				
Output	%FS/10°C	≤±0.04		
Zero	%FS/10°C	≤±0.04		
Temperature range				
Compensated	°C	-10... +40		
Operating	°C	-10... +65		
Terminal resistance				
Input resistance	Ω	1179±40	1178±10	1178±5
Output resistance	Ω	1000±5	1000±5	1000±5
Excitation voltage	VDC	5... 15		
Insulation resistance @ 50V DC	MΩ	≥5000		
Safe overload limit	%FS	150	200	
Ultimate load	%FS	300		
Cable length	in	10	20	10
Seal type	IP67			
Element material	Aluminum			

WIRING



Cable : 26AWG Color coded ribbon cable.
Connector : AMP#5-103957-4.

Pin configuration:



Note:
When a quantity of four 37.5 pound loadcells are assembled into a 68.04 kg x 0.02 kg (3402 division) load receiving element,and the load receiving element is tested to the requirements set forth in the current "NIST handbook 44", the load receiving element shall meet class iii acceptance tolerances for seperate main elements.

The 75 lb capacity is manufactured such that when a quantity of four units is assembled into a 113.40 kg x 0.02 kg scale , the scale will meet class iii acceptance tolerances when tested in accordance to NIST handbook 44

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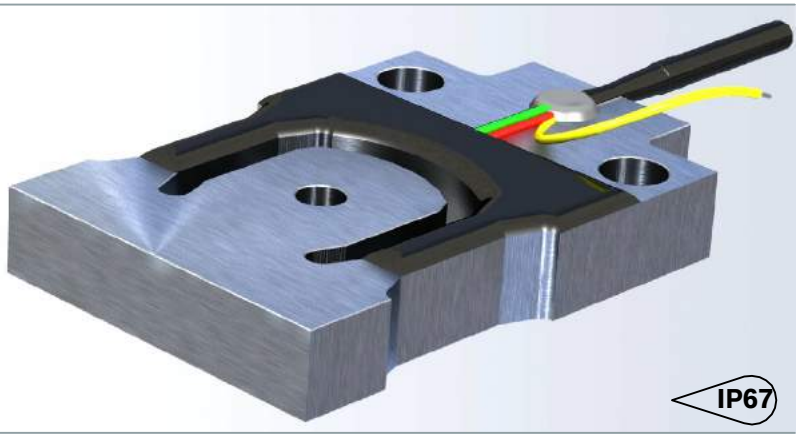
Group Four Transducers Inc

Pioneering Measured Solutions

planar beam

HPB 6003

The type HPB series planar beam load cells are commonly used in a variety of weighing applications. They are normally installed in sets of 3 or 4 under a platform in conjunction with a summing network. It's low profile construction is ideal for scale design where space is limited such as postal scales, airport baggage scales or retail checkout scales.



FEATURES

- Capacities from 2.5 to 100kg.
- Aluminum construction.
- Low profile design.
- Environmental Protection IP67.

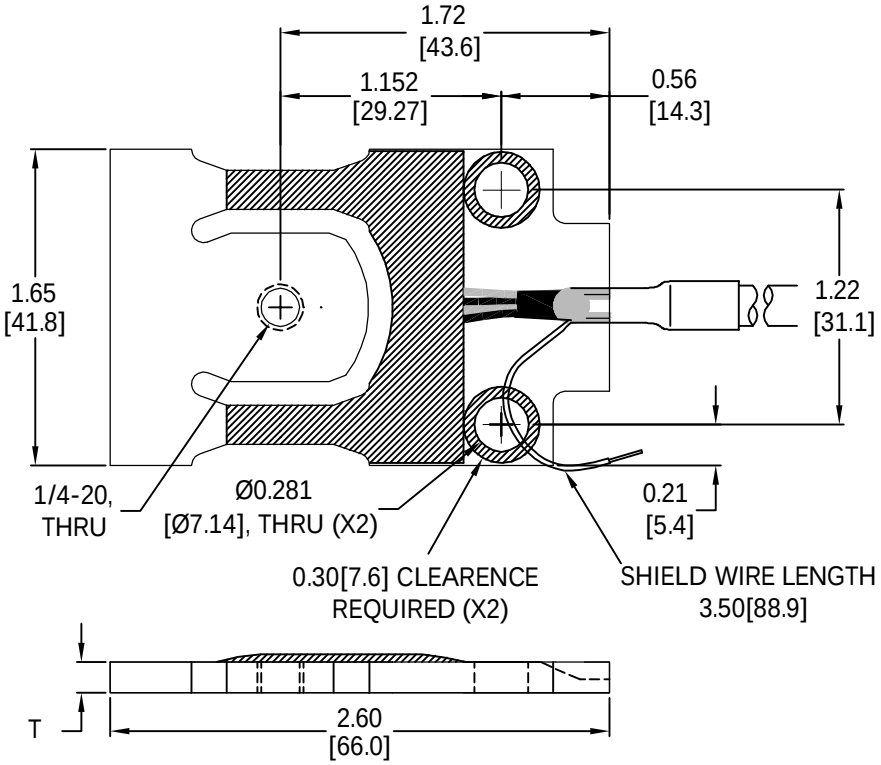
APPLICATIONS

- Postal scales, airport baggage scales or retail checkout scales.

OPTIONS

- Color coded ribbon cable version.
- AMP #5-103957-4 Connector version.

OUTLINE DIMENSIONS



CAPACITY/ (kg)	T / in(mm)
2.5	0.062[1.57]
5	0.080[2.03]
7.5	0.100[2.54]
10	0.118[3.00]
20	0.160[4.06]
50	0.250[6.35]
100	0.375[9.53]

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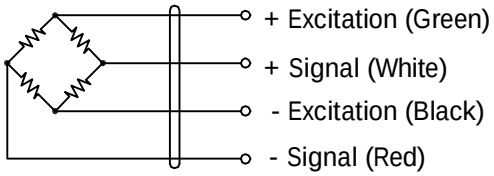
planar beam

HPB 6003

WIRING



Cable : 28 AWG, 4 Conductor cable with shield.

SPECIFICATIONS

Model		6003	
Capacities		kg	2.5/ 5/ 7.5/ 10/ 20/ 50/ 100
Full scale output (FS)		mV/V	1.0±0.1%
Calibration in mV/V/Ω		%	≤±0.05
Combined error		%FS	≤±0.02
Non-linearity		%FS	≤±0.02
Hysteresis		%FS	≤±0.02
Creep @ 30min		%FS	≤±0.06
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.04
	Zero	%FS/10°C	≤±0.02
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-10... +65
Terminal resistance			
	Input resistance	Ω	1165±10
	Output resistance	Ω	1000±5
Excitation voltage		VDC	5... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	300
Ultimate load		%FS	400
Cable length		ft	6
Seal type		IP67	
Element material		Aluminum	

PART NUMBERS

Capacity (kg)	Part #
2.5	6003-004-00
5	6003-000-00
7.5	6003-005-00
10	6003-001-00
20	6003-002-00
50	6003-006-00
100	6003-003-00

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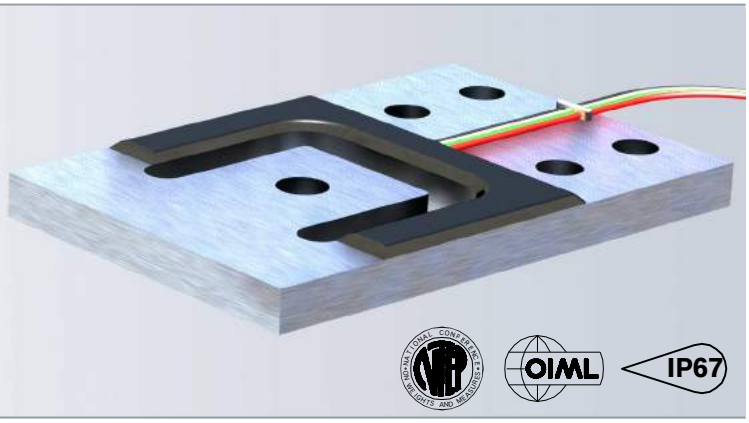
Group Four Transducers Inc

Pioneering Measured Solutions

planar beam

GPB 6001

The type GPB is a very low profile load cell. Its unique design allows for great flexibility in scale design.



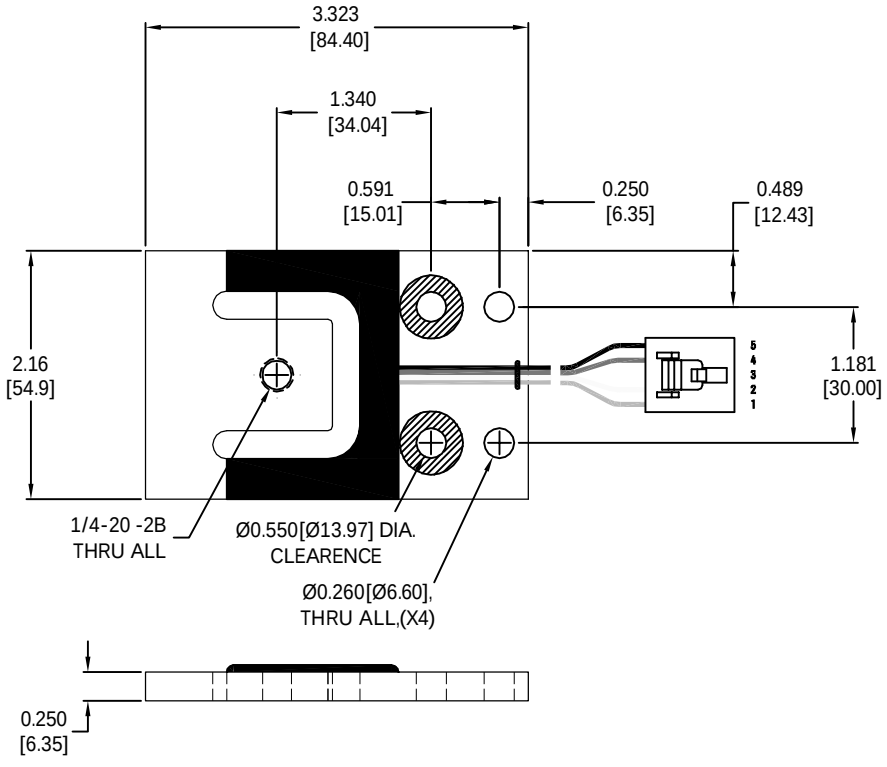
FEATURES

- Capacity from 75kg to 375kg.
- Aluminium construction.
- Environmental Protection IP67.
- Very low profile design.
- High input resistance.
- Calibration in mV/V/Ω for accuracy class C3.
- OIML and NTEP approved.

APPLICATIONS

- Compact scales, bench and floor scales, retail and counting scales, special applications in medical and other areas.

OUTLINE DIMENSIONS



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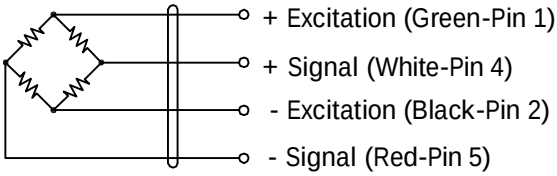
planar beam

GPB 6001

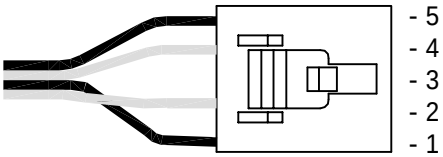
WIRING



CABLE : 26AWG 26 AWG COLOR CODED AMPHENOL RIBBON CABLE

CONNECTOR : 5CKT IDC CONN 22-26AWG POLAR LACHING GOLD AMP#103957-4

PIN CONFIGURATION :



SPECIFICATIONS

Model		6001
Capacities		kg	75/ 150/ 375
Full scale output(FS)		mV/V	0.9±0.1%
Minimum dead load		kg	0
Calibration in mV/V/Ω		%	±0.05
Maximum number of loadcell varification intervals (n_{max})			3000
Combined error		%FS	≤±0.02
Creep@30min		%FS	≤±0.02
Non repeatability		%FS	≤±0.01
Zero balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.01
	Zero	%FS/10°C	≤±0.0187
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-10... +65
Terminal resistance			
	Input resistance	Ω	1175±50
	Output resistance	Ω	1000±3
Excitation voltage		VDC	5... 15
Insulation resistance@50VDC		MΩ	≥5000
Safe overload limit		%FS	300
Ultimate load		%FS	400
Safe side load		%FS	200
Cable length		m	1.5
Seal type			IP67
Element material			Aluminum

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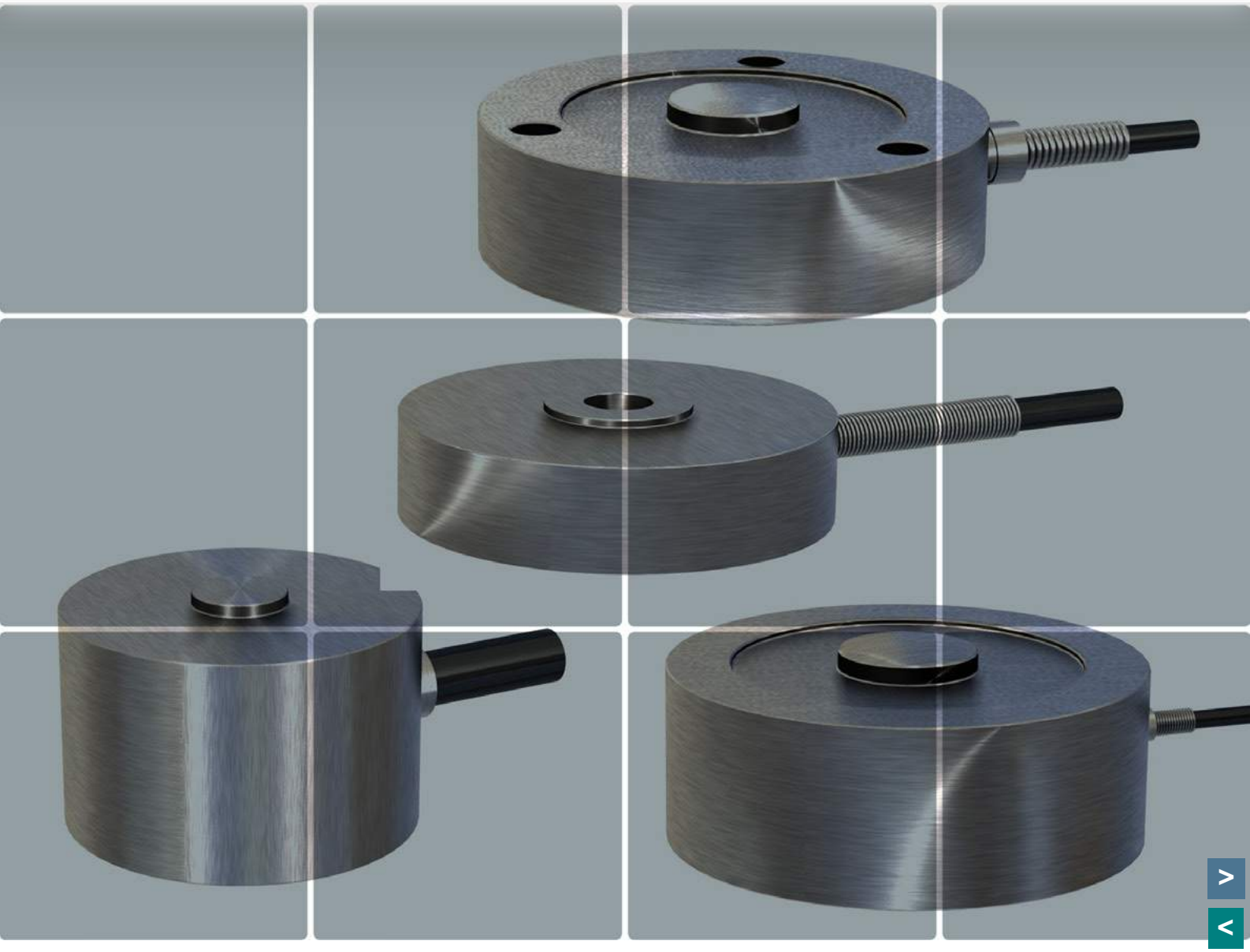
7.0

LOAD BUTTONS

Group Four Load Button load cells are designed to fit into tight spaces. Capacity ranges from 45 lb to 10,000 lb, they are ideal for measuring press fit forces, insertion forces, and clamping forces.

Space constraints can sometimes make it difficult to choose the correct load cell for your test and measurement application. Keeping these challenges in mind Group Four designed the load button series of load cells.



TOC

Group Four Transducers Inc

Pioneering Measured Solutions

The type GBLZ is a stainless steel button type load cell for force and weight measurement.

IP67

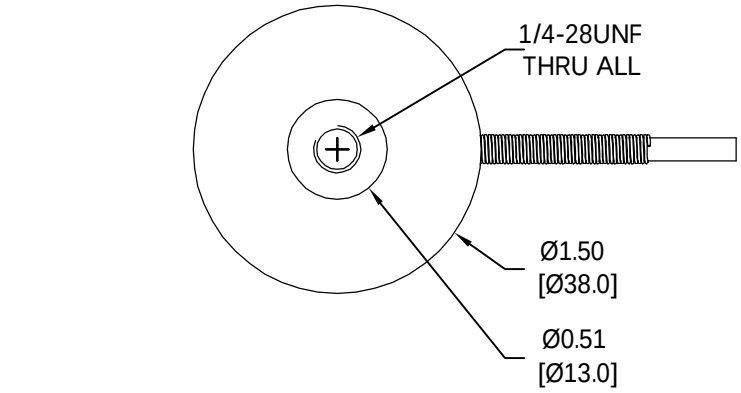
FEATURES

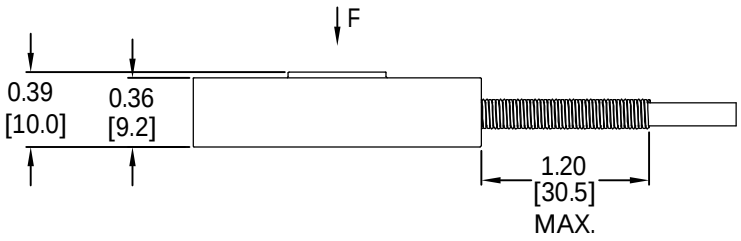
- Capacities 750lb and 1000lb.
- Stainless steel construction.
- Environmental Protection IP67.

APPLICATIONS

- Force and weight measurement.

OUTLINE DIMENSIONS





Note :
All dimensions : in[mm].
Shown loading direction is for positive output.

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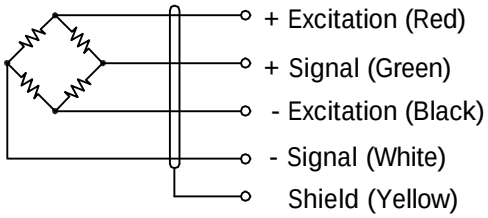
load button

GBLZ 5034

WIRING



Cable : 28AWG, 4 conductor gray cable with shield.

SPECIFICATIONS

Model		GBLZ	
Capacities		lb	See table
Full scale output (FS)		mV/V	2.0±0.1
Non-linearity		%FS	≤±2
Hysteresis		%FS	≤±2
Non- repeatability		%FS	≤±2
Creep @ 30min		%FS	≤±2
Zero balance		%FS	≤±2
Temperature effect			
	Zero	%FS/10°C	≤±0.07
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-40... +60
Terminal resistance			
	Input resistance	Ω	380±50
	Output resistance	Ω	350±5
Excitation voltage		VDC	10... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	150
Ultimate load		%FS	300
Cable length		in	68
Seal type		IP67	
Element material		Stainless steel	

PART NUMBERS

Capacity (lb)	Part#
750	5034-001-00
1000	5034-002-00

Group Four Transducers Inc

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load button

GBL 5035

The type GBL is a stainless steel button type load cell for force and weight measurement.

IP67

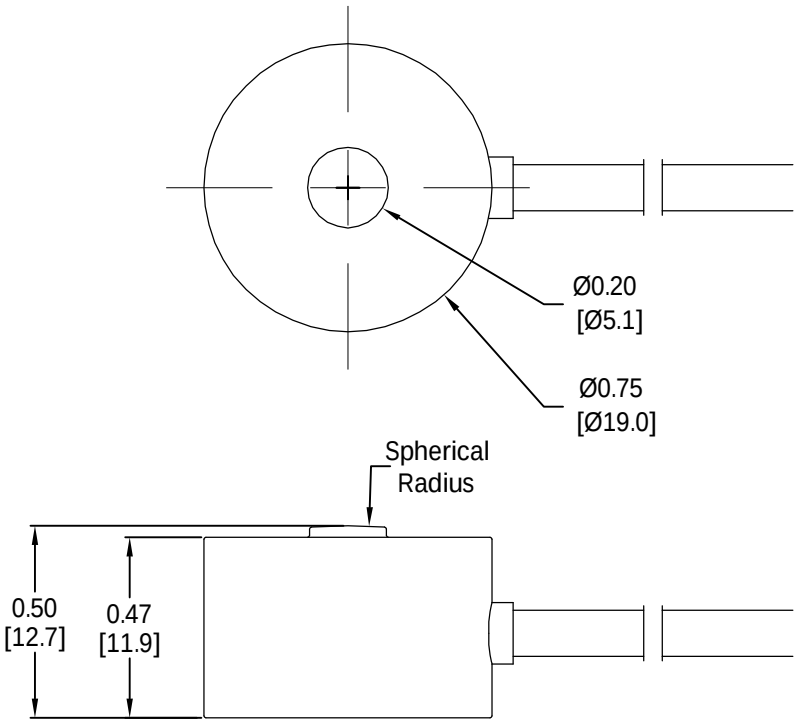
FEATURES

- Capacities 200N and 500N.
- Stainless steel construction.
- Environmental protection IP67.

APPLICATIONS

- Force and weight measurement.

OUTLINE DIMENSIONS



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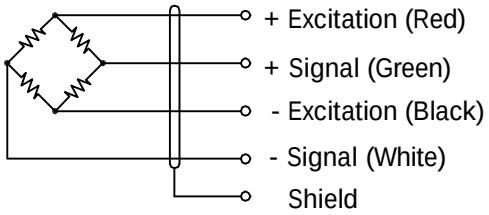
load button

GBL 5035

WIRING



Cable: 28 AWG, 4 Core braided shield pvc gray cable.

SPECIFICATIONS

Model		5035	
Capacities		See table	
Full scale output (FS)		mV/V	1±0.15
Non-linearity		%FS	≤±0.5
Hysteresis		%FS	≤±0.5
Non- repeatability		%FS	≤±0.5
Creep @ 5min		%FS	≤±0.5
Zero balance		%FS	≤±2
Temperature effect			
	Output	%FS/10°C	≤±0.04
	Zero	%FS/10°C	≤±0.04
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-10... +65
Terminal resistance			
	Input resistance	Ω	350±50
	Output resistance	Ω	350±50
Excitation voltage		VDC	5... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	150
Cable length		m	1.5
Seal type		IP67	
Element material		Stainless steel	

PART NUMBERS

Capacity (N)	Part #
200	5035-000-00
500	5035-001-00

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Group Four Transducers Inc

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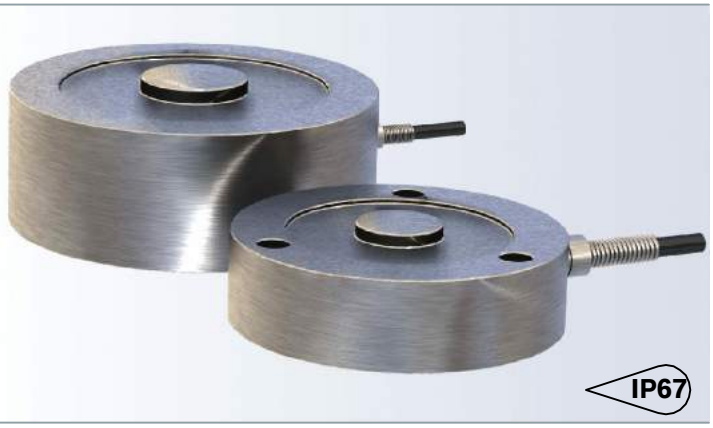
load button

MBL 5036

The type MBL is a stainless steel compression button load cell for force and weight measurement.



FEATURES

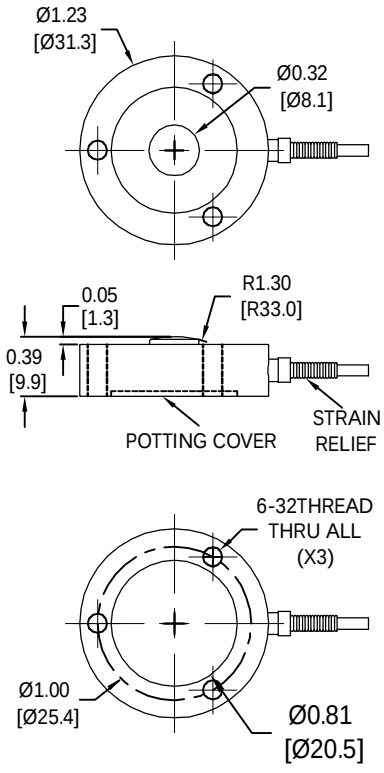
- Capacities from 100lb to 10000lb.
- Stainless steel construction.
- Environmental Protection IP67.

APPLICATIONS

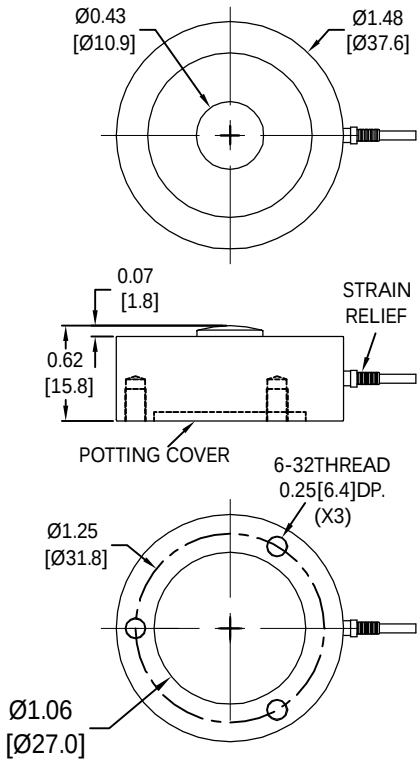
- Force and weight measurement.

OUTLINE DIMENSIONS

100-2000lb:



5000-10000lb:



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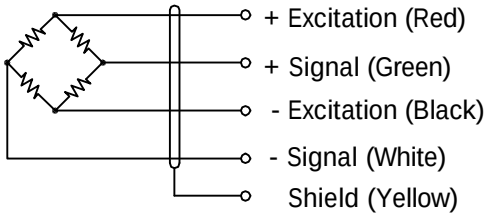
load button

MBL 5036

WIRING



Cable : 28 AWG, 4 Conductor cable with shield.

SPECIFICATIONS

Model		MBL	
Capacities		lb	100, 250, 500, 1000, 2000, 5000, 10000
Full scale output (FS)		mV/V	2.0±0.2
Non-linearity		%FS	≤±1
Hysteresis		%FS	≤±0.5
Non- repeatability		%FS	≤±0.5
Creep @ 5min		%FS	≤±0.05
Zero balance		%FS	±2
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-10... +65
Temperature effect			
	Zero	%FS/10°C	≤±0.04
Terminal resistance			
	Input resistance	Ω	350±80
	Output resistance	Ω	350±10
Excitation voltage		VDC	5... 15
Insulation resistance @ 50V DC		MΩ	≥5000
Safe overload limit		%FS	150
Cable length		ft	10
Seal type		IP67	
Element material		Stainless steel	

PART NUMBERS

Capacity (lb)	Part#
100	5036-000-00
250	5036-001-00
500	5036-002-00
1000	5036-003-00
2000	5036-004-00
5000	5036-005-00
10000	5036-006-00

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8.0

WEIGH MODULES

Group Four's weighing modules are designed with ease of installation and superior performance in mind. Weigh modules consist of a load cell combined with mounting hardware. The mounting hardware ensures that the loads are introduced to the load cell at the proper angles to optimize their performance. The weigh modules are designed to accommodate thermal expansion and contraction, uneven loading, and imperfect installations….all very common in tank and vessel weighing.

For weighing in potentially explosive environments, Group Four offers ATEX or FM approved weigh modules. Group Four weigh modules are constructed from high grade alloy steel or stainless steel. With the appropriate hermetically sealed load cells our stainless steel mounts are waterproof to IP69 standards and able to survive in harsh outdoor or heavy wash down applications.

Group Four weigh module capacities cover a broad range of requirements from 10 lbs. to 200,000 lbs. Please contact one of our application engineers to discuss your vessel weighing application We are experts at identifying the best value for your application without sacrificing quality or performance.

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TOC

Group Four Transducers Inc

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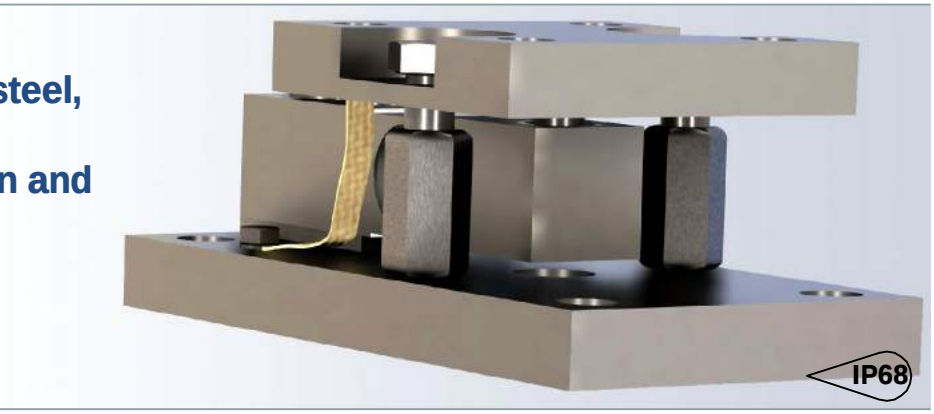
weighing module

1000WM3

The type 1000 WM3 alloy steel, hermetically sealed weigh module is ideal for tank, bin and hopper weighing.



FEATURES

- Capacity range: 500lb to 5000lb.
- Alloy steel construction.
- Environmental Protection IP68 .
- Optimized structure design for easy installation.
- Low profile design.

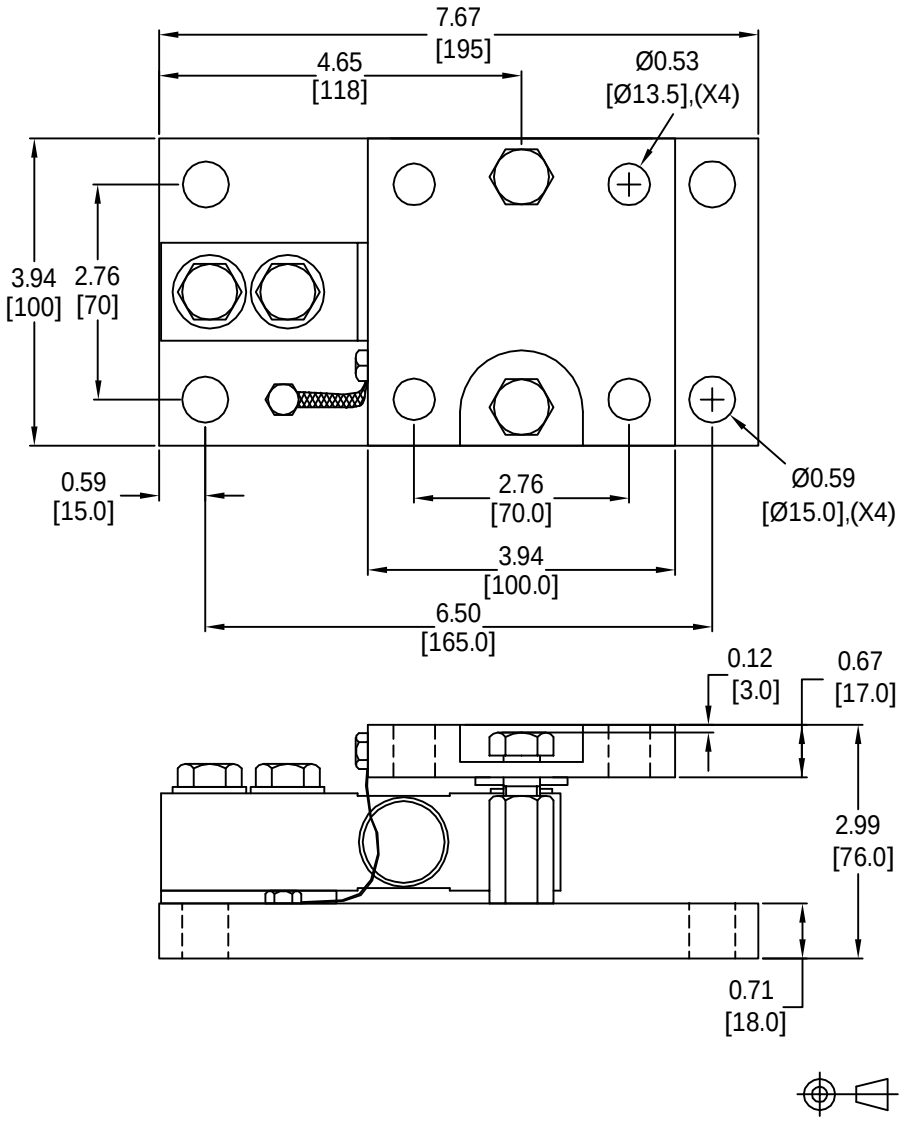
APPLICATIONS

- Especially designed for hopper, mixer and platform scales.

OPTIONS

- 1000WM5 : Stainless steel version.

OUTLINE DIMENSIONS



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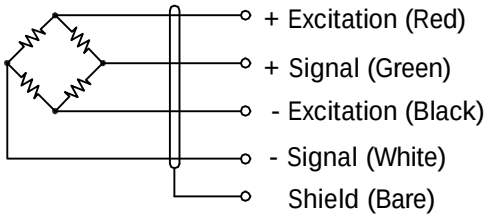
weighing module
1000WM3

WIRING



Cable :5.1mm dia. 4 Conductor cable.

SPECIFICATIONS

Model		1000WM3	
Capacities		lb	500 - 5000
Full scale output (FS)		mV/V	2.0±0.25%
Non-linearity		%FS	≤±0.023
Hysteresis		%FS	≤±0.023
Non- repeatability		%FS	≤±0.023
Creep @ 30min		%FS	≤±0.030
Zero balance		mV/V	±0.06
Temperature range			
	Operating	°C	-10... +40
Terminal Resistance			
	Input resistance	Ω	386±10
	Output resistance	Ω	350±5
Excitation voltage		VDC	10... 15
Insulation resistance @ 50V DC		MΩ	≥2000
Safe overload limit		%FS	150
Ultimate load		%FS	300
Cable length		m	6
Seal type		IP68	
Element material		Alloy steel	

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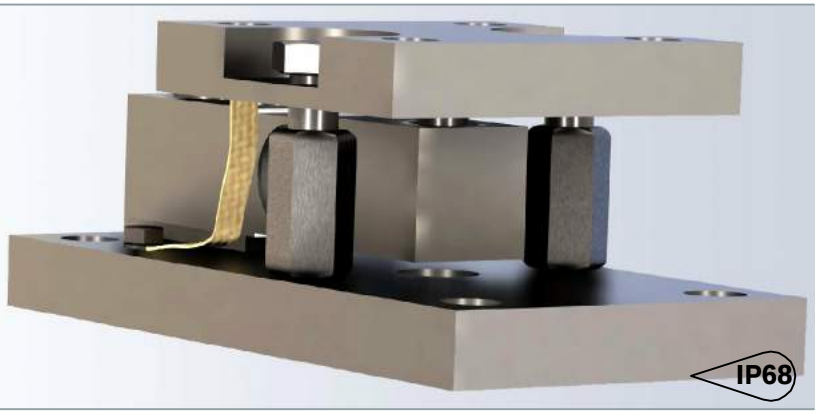
Group Four Transducers Inc

Pioneering Measured Solutions

weighing module

1000WM5

The type 1000 WM5 stainless steel, hermetically sealed weigh module is ideal for tank, bin and hopper weighing.



FEATURES

- Capacity range: 500lb to 10000lb.
- Stainless steel construction.
- Environmental Protection IP68 .
- Optimized structure design for easy installation.
- Low profile design.

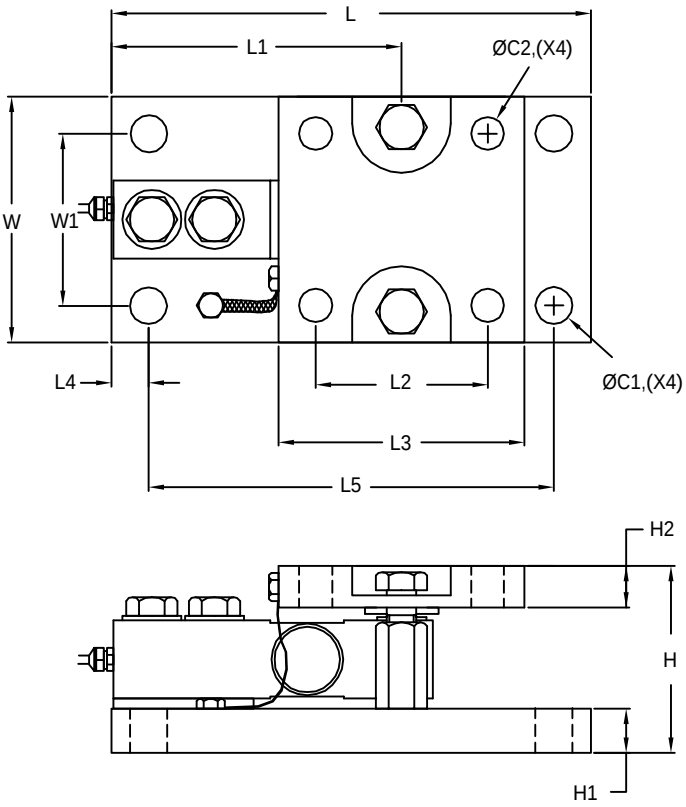
APPLICATIONS

- Especially designed for hopper, mixer and platform scales.

OPTIONS

- 1000WM3 : Plated steel version.

OUTLINE DIMENSIONS



LOAD CELL CAPACITY(lb)	C1	C2	H	H1	H2	L	L1	L2	L3	L4	L5	W	W1
500-4000;5000SE	0.59 [15.0]	0.53 [13.5]	2.99 [76.0]	0.71 [18.0]	0.67 [17.0]	7.68 [195.0]	4.65 [118.0]	2.76 [70.0]	3.94 [100.0]	0.59 [15.0]	6.50 [165.1]	3.94 [100.0]	2.76 [70.0]
5000-10000	0.71 [18.0]	0.59 [15.0]	4.33 [110.0]	1.06 [27.0]	0.98 [25.0]	9.57 [243.0]	6.00 [152.5]	3.35 [85.0]	4.72 [120.0]	0.75 [19.0]	8.07 [205.0]	4.72 [120.0]	3.35 [85.0]

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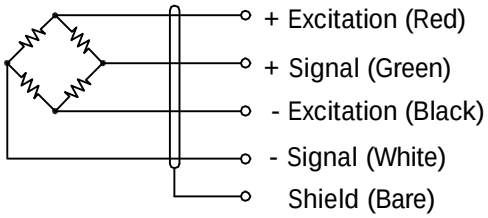
weighing module
1000WM5

WIRING



Cable :5.1mm dia. 4 Conductor cable.

SPECIFICATIONS

Model	1000WM5	
Capacities	lb	500 - 10000
Full scale output (FS)	mV/V	2.0±0.25%
Non-linearity	%FS	≤±0.023
Hysteresis	%FS	≤±0.023
Non- repeatability	%FS	≤±0.023
Creep @ 30min	%FS	≤±0.030
Zero balance	mV/V	±0.06
Temperature range		
Operating	°C	-10... +40
Terminal resistance		
Output resistance	Ω	350±7
Excitation roltage	VDC	10... 15
Insulation resistance @ 50V DC	MΩ	≥2000
Safe overload limit	%FS	150
Ultimate load	%FS	300
Cable length	m	6
Seal type	IP68	
Element material	Stainless steel	

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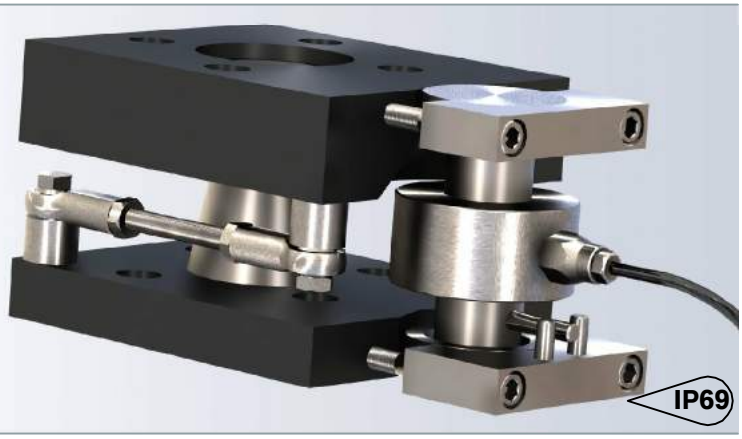
Group Four Transducers Inc

Pioneering Measured Solutions

weigh module

RC-WM 5000WM3

The type RC-WM is a self aligning weigh module with superior load introduction.
The weigh module will be shipped completely pre-assembled, ready for installation by welding or bolting.



FEATURES

- Capacities from 5-50 ton
- Self aligning
- Totaly hermetically sealed load cell
- Integral checking
- Up lift protected

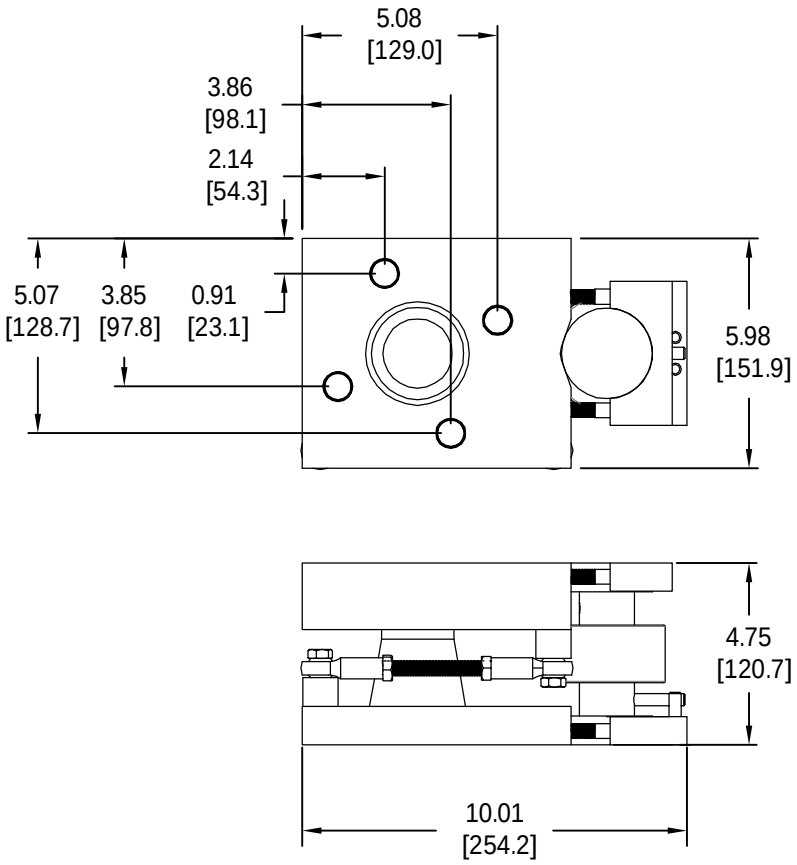
APPLICATIONS

- Tank, bin and hopper weighing, silo weighing

OPTIONS

- Stainless steel assembly
- Top and Bottom mounting plate

OUTLINE DIMENSIONS



Recommended mounting bolts:
Grade 8 - 3/4-10 or Grade 10.9-20 mm x 2.5 mm

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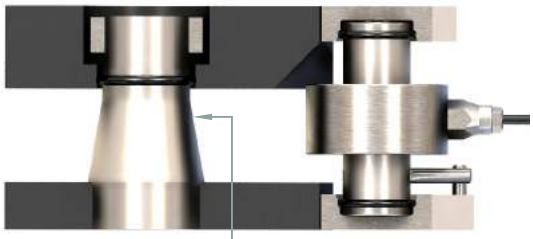
weigh module

RC-WM 5000WM3

Integral check link

Section view



Integral uplift and side load stop

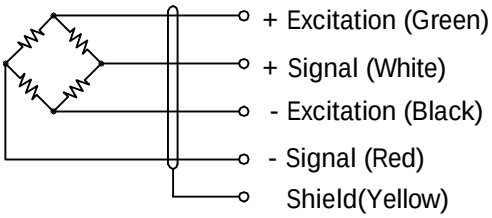
Optional mounting plates

Mounting plates

Mounting plate dimensions:

- Length=12in, Width=12in, Thickness=1.25in.
- Total height of assembly with M.Plates=7.25in.

WIRING



Cable: 20 AWG, 4-conductor with shield

SPECIFICATIONS

Model		RC-WM	
Accuracy class		C3	
Capacities		ton	5/ 10/ 20/ 30/ 40/ 50
Full scale output(FS)		mV/V	2.0±1%
Calibration in mV/V/Ω		%	≤±0.05
Non-linearity		%FS	≤±0.02
Hysteresis		%FS	≤±0.02
Creep@30min		%FS	≤±0.02
Zero Balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.01
	Zero	%FS/10°C	≤±0.0187
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-10... +65
Terminal resistance			
	Input resistance	Ω	386±50
	Output resistance	Ω	350±5
Excitation voltage		VDC	5... 15
Insulation resistance@50VDC		MΩ	≥5000
Load cell ultimate load limit		%FS	200
Weigh pod ultimate load limit		%FS	300
Maximum uplift force		klb	80
Maximum side force		klb	40
Cable length		ft	30
Seal type		IP69	
Load cell material		Stainless steel	
Assembly material		Plated steel	
Load mount weight		lb	35

PART NUMBERS

Capacity(ton)	Part #
5	5000WM3-000-00
10	5000WM3-001-00
20	5000WM3-002-00
30	5000WM3-003-00
40	5000WM3-004-00
50	5000WM3-005-00

Dimensions and specifications subject to change without notice

Group Four Transducers Inc

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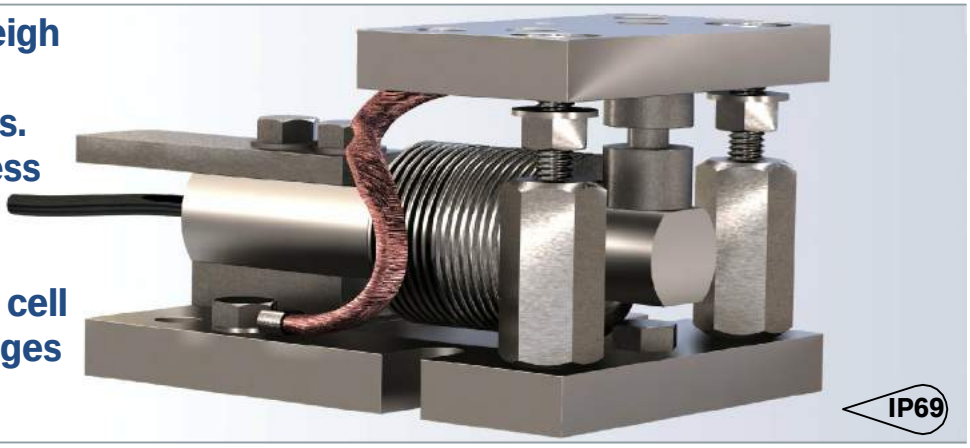
Group Four Transducers Inc

Pioneering Measured Solutions

weighing module

1000WM1

The model 1000WM1 weigh module is designed for wash down environments. food and chemical process applications.
This stainless steel, hermetically sealed load cell is offered in capacity ranges from 10kg up to 500 kg.



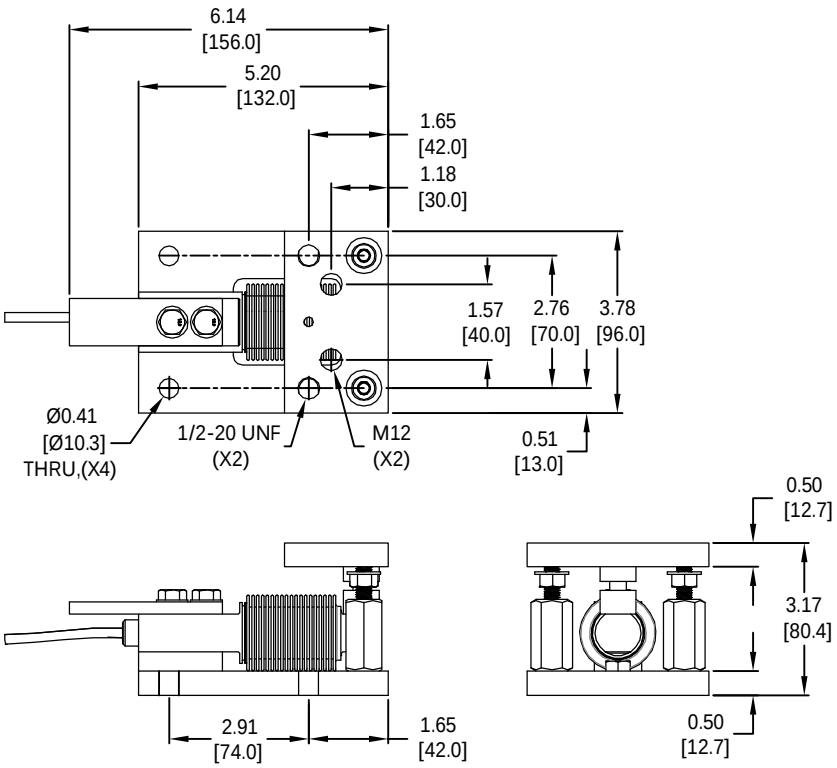
FEATURES

- Capacities from 10 kg to 500 kg.
- Stainless steel construction.
- Environmental Protection IP69 with complete hermetic sealing.

APPLICATIONS

- Small hopper, bin and tank weighing systems and other similar systems.

OUTLINE DIMENSIONS



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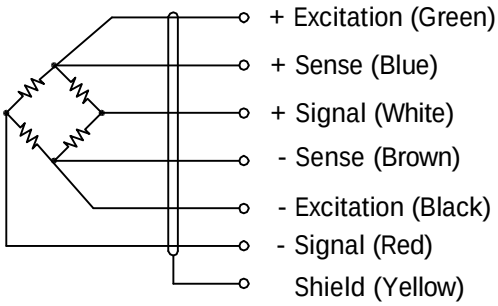
weighing module
1000WM1

WIRING



Cable : 26 AWG, 6 Conductor with Shield.

SPECIFICATIONS

Model		1000WM1	
Accuracy class		C3	
Capacities		kg	10/ 20/ 50/ 100/ 200/ 250/ 500
Full scale output(FS)		mV/V	2.0±0.1%
Calibration in mV/V/Ω		%	≤±0.005
Combined error		%FS	≤±0.02
Non-linearity		%FS	≤±0.0166
Hysteresis		%FS	≤±0.0166
Creep@30min		%FS	≤±0.0166
Zero Balance		%FS	≤±5
Temperature effect			
	Output	%FS/10°C	≤±0.01
	Zero	%FS/10°C	≤±0.014
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-40... +80
Terminal resistance			
	Input resistance	Ω	380±10
	Output resistance	Ω	350±3
Excitation voltage		VDC	5... 15
Insulation resistance@50VDC		MΩ	≥5000
Safe overload limit		%FS	200
Ultimate load		%FS	300
Safe side load		%FS	100
Cable length		m	3
Seal type		IP69	
Element material		Stainless steel	
Bolt torque		Nm	25

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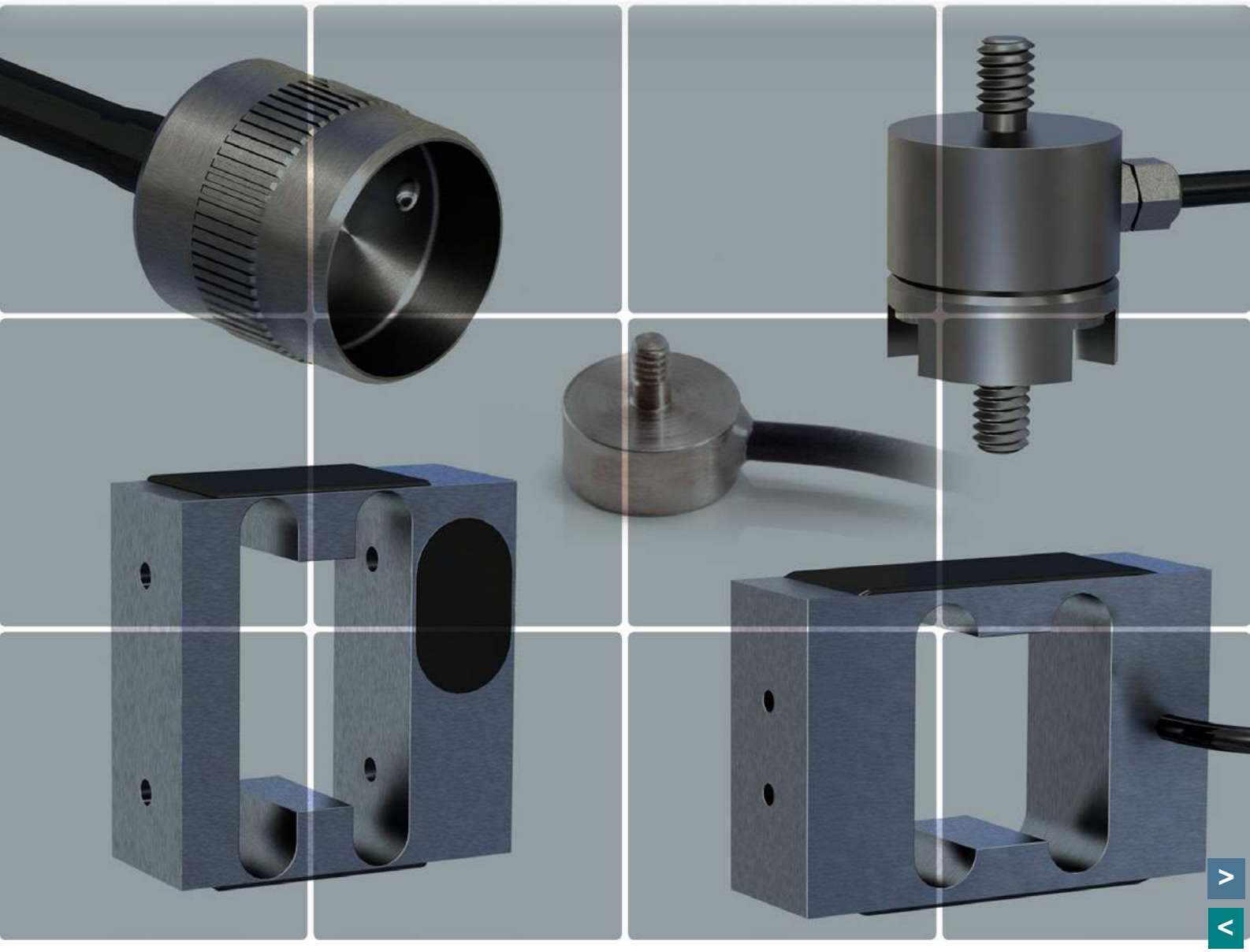
9.0

OTHER LOAD CELLS & CUSTOM DESIGNS

Just because it has not been done before does not mean it cannot be done! Load Buttons, Load Pins, and Tension link load cells are all examples of the types of special load cells we design and manufacture for our customers. We excel at custom designing load cells specifically for your unique application. Our design engineers have a keen eye for value to maximize your return on investment in bringing new products to the marketplace. Our proprietary Failure Analysis Software allows us to create software models of different theoretical designs to see which design will likely lead to your success. This software also allows Group Four to minimize the time it takes to create a prototype from initial conception.



INSERT SENSOR 8011

Group Four Transducers Inc

Pioneering Measured Solutions

Insert Force Sensor is designed to be fixed to the leg of a tank or silo or vessel. It is ideal for measurement of level and is used in cases where the silo is very large or when it is difficult to place the tank on standard load cells.

IP68

FEATURES

- Capacity ranging from hundreds of kg to thousands of t, all with the same sensor; depending on your structure.
- Simple press fit mounting.
- Easily installable in existing structures.
- Stainless steel construction.
- Hermetically sealed.
- Minimal temperature effect.
- Measures compression, tension, shear, bending and torsion.
- Easy adaptable in OEM products.

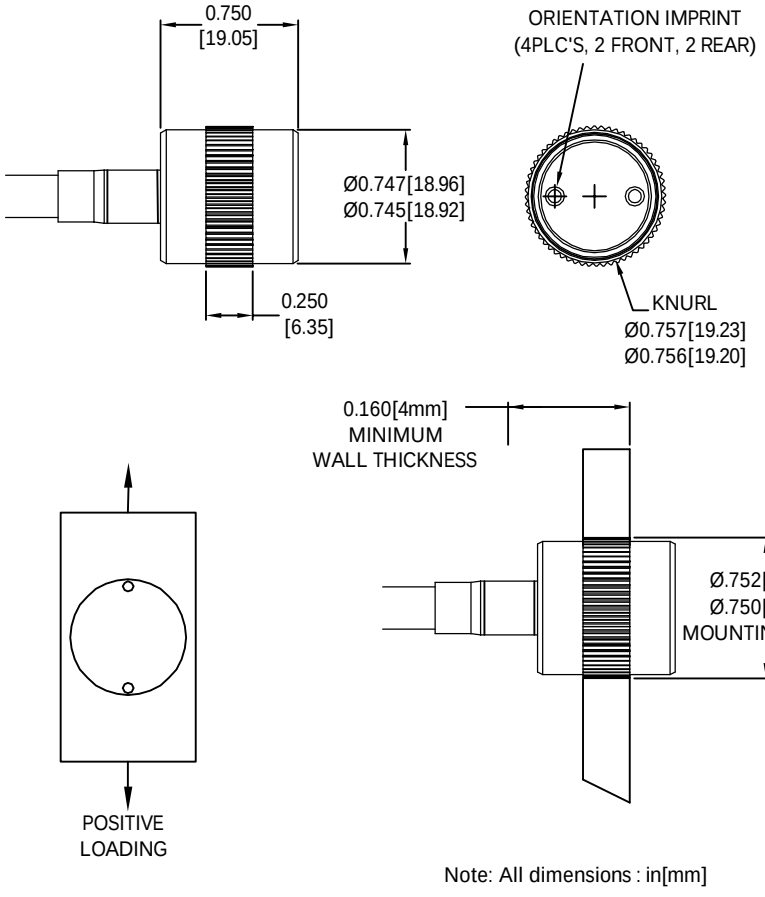
APPLICATIONS

- Silo weighing systems.
- Tank weighing systems.
- Agricultural equipment.
- Lift trucks.
- Structural load measuring.
- Crane weighing.
- Crane overload protection sensing.
- Rolling mill sensing.
- Machine tool wear sensing.

OPTIONS

- 10m length cable.

OUTLINE DIMENSIONS



Note: All dimensions : in[mm]

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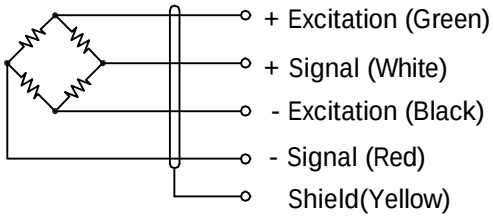
specialty sensors

INSERT SENSOR 8011

WIRING



Cable : 24 AWG, 4-Conductor cable with shield.

SPECIFICATIONS

Model		8011	
Output(nominal)			
	Steel in compression/tension	2900 psi, output≥0.2mV/V	
	Steel in shear	1450 psi, output≥0.2mV/V	
Non-linearity		%FS	≤±1
Hysteresis		%FS	≤±0.5
Non- repeatability		%FS	≤±0.1
Zero balance		%FS	≤±0.05
Temperature effect			
	Zero	mV/V/°F	≤±0.0002
	Output	%Load/°F	≤±0.02
Atmospheric effect on zero balance		%FS	±1.0@13-16psi
Temperature range			
	Storage	°C	-10... +40
	Operating	°C	-10... +65
Terminal resistance			
	Input resistance	Ω	700±20
	Output resistance	Ω	700±20
Excitation voltage		VDC	15
Insulation resistance@50VDC		MΩ	≥5000
Fatigue life		10° Full cycles	
Cable length		m	0.5
Seal type		IP68	
Element material		17-4ph	

PART NUMBERS

Capacity (psi)	Part #
2900 compression/tension, 1450 shear	8011-000-00

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Group Four Transducers Inc
Pioneering Measured Solutions

The type SSRLCN is a stainless steel compression type load cell with complete hermetic sealing. It is a perfect fit for pump off control systems.

FEATURES

- Capacity of 30klb, 50klb.
- Stainless steel construction.
- Environmental Protection IP69 with complete hermetic sealing.
- Sealing level is verified by 100% Helium leak test(back filled with nitrogen).

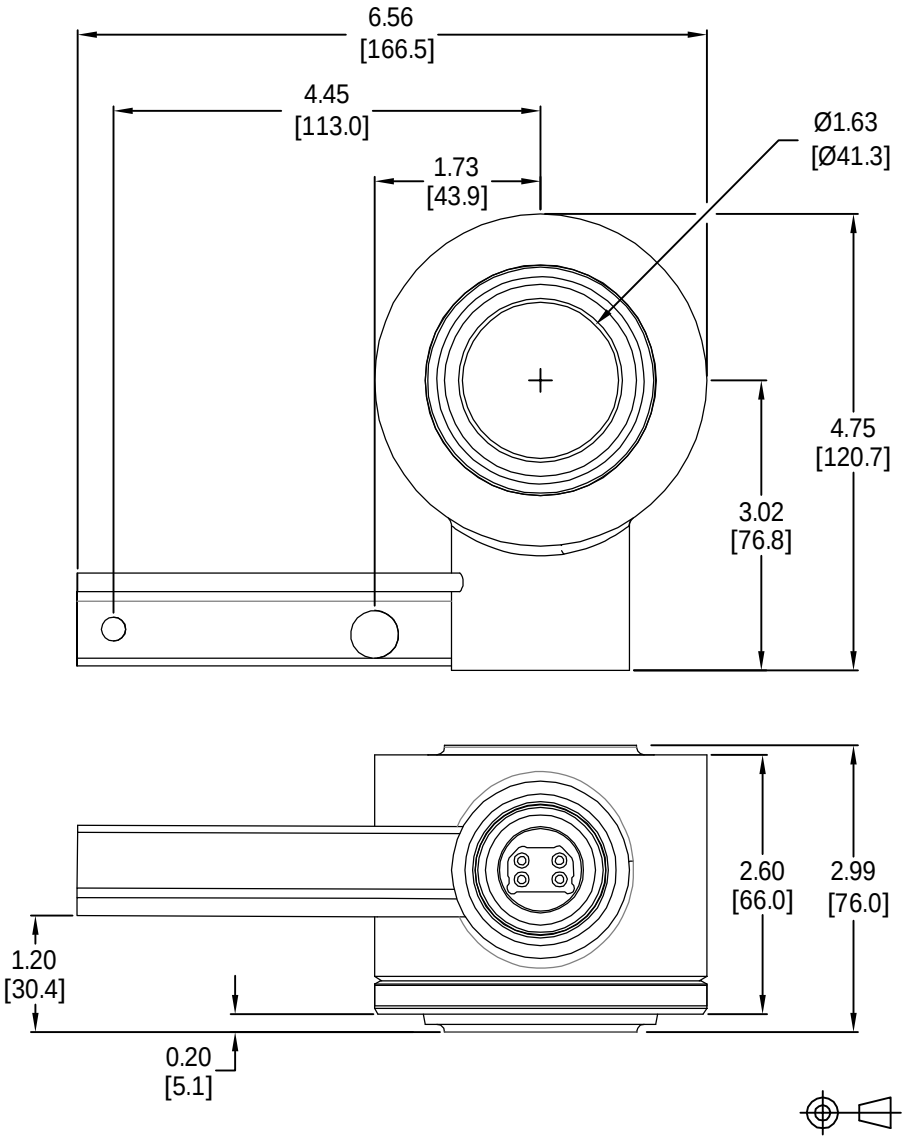
APPLICATIONS

- Pump off control systems.

OPTIONS

- Lightening protection.
- Spherical washer load introduction kit.

OUTLINE DIMENSIONS



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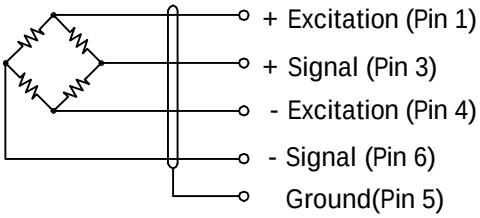
SSRLCN 8027

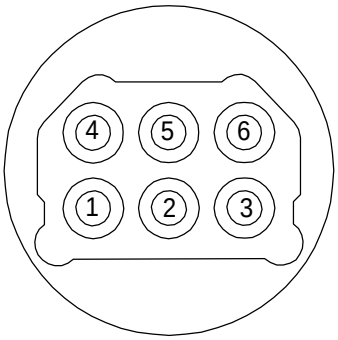
SPECIFICATIONS

Model		8027	
Capacities		klb	30/ 50
Full scale output(FS)		mV/V	2.0±0.5%
Combined error		%FS	≤±0.5
Zero balance		%FS	≤±1
Temperature effect			
	Output	%FS/10°C	≤±0.04
	Zero	%FS/10°C	≤±0.04
Temperature range			
	Compensated	°C	-10... +50
	Operating	°C	-10... +82
Terminal resistance			
	Input resistance	Ω	725±25
	Output resistance	Ω	700±5
Excitation voltage		VDC	5... 15
Insulation resistance@50VDC		MΩ	≥5000
Static overload capacity		%FS	150
Seal type		IP69	
Element material		Stainless steel	

WIRING



Pin configuration :



PART NUMBERS

Capacity(klb)	Part #
30	8027-000-00
50	8027-001-00

Cable entry thread type : NPT-3/4

Connector :

Mating Connector Housing - Molex P/N 03-09-1064

Mating Crimp Pins - Molex P/N 02-09-5111

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10.0

DIGITAL LOAD CELLS

Group Four's digital load cells are ideal for connecting your weighing or force measurement application directly to a digital network. These sensors are available with outputs that allow for direct connection to a computer, data acquisition system, touch screen terminal (a.k.a. HMI), PLC or your own proprietary control system. The direct digital connection allows for a faster, more accurate measurement, while eliminated unnecessary connections and minimizing conversion errors. These state-of-the-art sensors are perfect for checkweighing, filling and dosing applications.

TOC

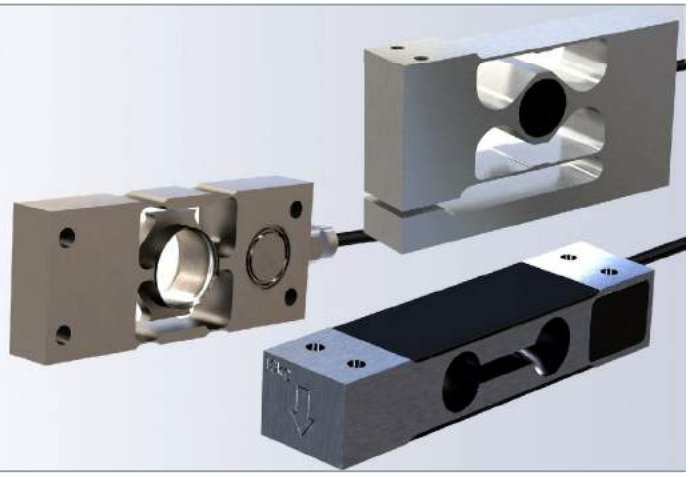
Group Four Transducers Inc

Pioneering Measured Solutions

group four

DIGITAL LOAD CELLS

Group Four's digital load cells are ideal for connecting your weighing or force measurement application directly to a computer, DAS, HMI, or your proprietary controls. The direct digital connection allows for a faster, more accurate measurement. These high technology sensors are perfect for check-weighing, filling and dosing applications.



FEATURES

- Interfaces
  - RS485,
  - Analog(0-10V, 4-20mA).
- Protocols
  - Modbus RTU,
  - MantraCAN.
- Simple installation.
- Free professional software for setting up a digital load cell.

APPLICATIONS

- Dynamic weighing, sorting, filling and dosing.

PRODUCTS

- SP2
- SP4
- GHPS
- SP12

SPECIFICATIONS

Description	Unit	Min	Typical	Max
Resolution (noise stable) *				
@ 1Hz	counts/divsions		66000	
@ 10Hz	counts/divsions		40000	
@ 100Hz	counts/divsions		10000	
@ 500Hz	counts/divsions		5000	
Communication				
RS485 data rate	baud	2400		230k
CAN bit rate	bits/sec	10k		1M
Electrical				
Power supply	VDC	5.6	12	18

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Group Four Transducers Inc

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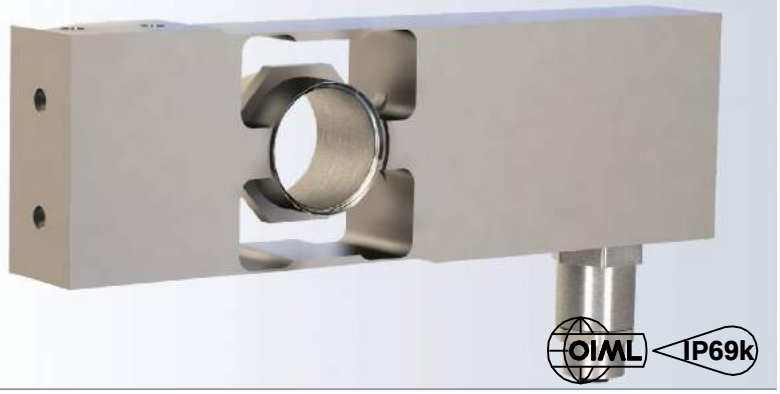
single point

SPF5 4086D

Digital single point load cell designed for high speed filling and check weighing applications. The stainless steel load cell is hermetically sealed and is ideal for use in heavy washdown applications



FEATURES

- Capacities from 10 to 50 kg.
- Stainless steel construction.
- Accuracy class C3 and C6.
- Environmental Protection IP69k with complete hermetic sealing.
- AD conversion rate up to 1200upd./sec.
- Free professional software for setting up the digital load cell.
- Maximum platform size up to 450 x 450 mm.

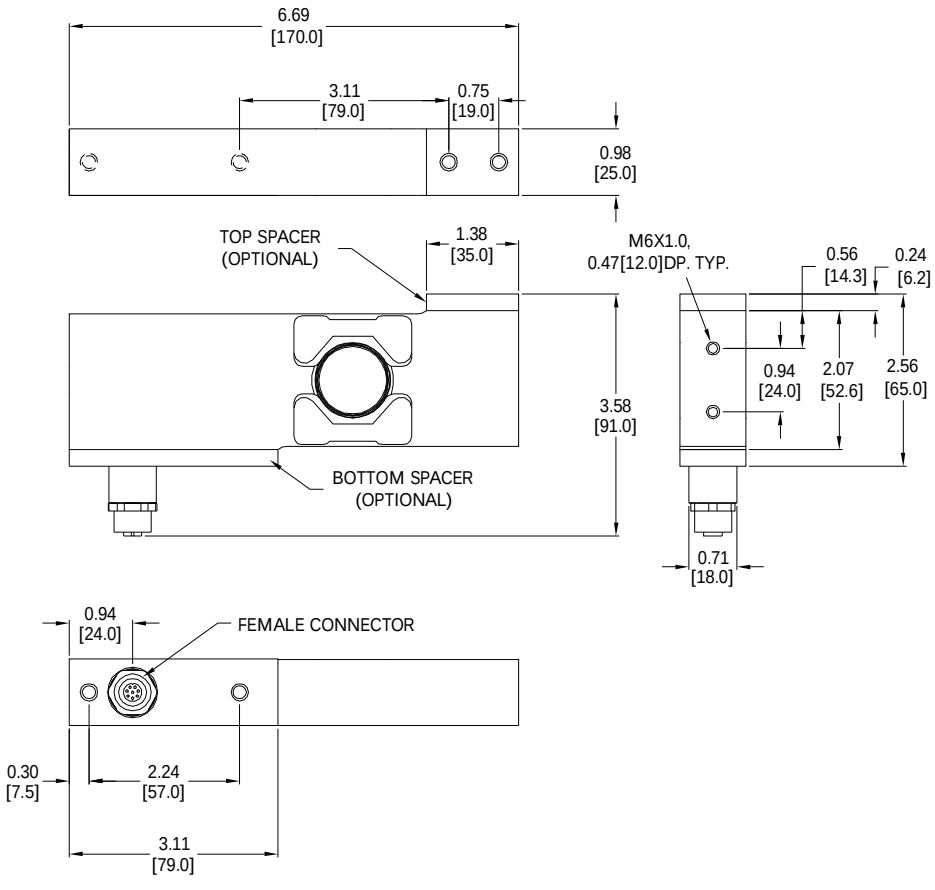
APPLICATIONS

- Bench scales, conveyor scales, check weighers, filling plants, packaging machines and industrial process control.

APPROVALS/ CERTIFICATIONS

- OIML Certificate of conformity for accuracy class C7. Certificate No. R60/2000-DK3-17.02

OUTLINE DIMENSIONS



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single point

SPF5
4086D

SPECIFICATIONS

Model	SPF5			
Capacities (Emax)	kg	10	20	50
Recommended min. external division	g	0.2	0.5	1
PERFORMANCES				
Accuracy class according to the OIML R60	C6			
Minimum load cell verification interval(Vmin)	Emax/50000			
Combined error	%FS	≤±0.012		
Creep @ 30min	%FS	≤±0.012		
Zero balance, raw counts	increment	±2000		
Output resolution at full load, raw counts	increment	256000	512000	512000
Internal AD conversion rate	upd./sec	1200		
Fix, digital low pass IIR filter, default	Hz	18 (Supress 50Hz and 60Hz influence)		
Adjustable , digital low pass IIR filter Adjustable , digital low pass FIR filter	Hz	18-0.25; Selectable in 8 steps 40-5; Selectable in 8 steps		
Adjustable, external output update rate	upd./sec	1200-9; Selectable in 8 steps		
WEIGHING SCALE FUNCTIONS In accordance with OIML R76 Zero and Max calibration Span calibration point by choice with extrapolation. Selectable calibrated or called Zero. Selectable Zero tracking One division defined as 1; 2; 5; 10; 20; 50; 100; 200 or 500 Decimal point as xxxx; xxx.x; xx.xx or x.xxx Local gravity acceleration (g=m/sec2) compensation.				
GENERAL I/O's				
Hardware interface, CAN version Hardware interface, RS version	CAN and RS232 RS485 and RS422 (Both four wire)			
Data transmission rates CAN Data transm. rates RS485/RS422/RS232	kb	125;250;500;1000 9.6;19.2;38.4;57.6;115.2;230.4;460.8		
Protocol CAN Protocol RS485/ RS422/ RS232	CAN Open ASCII or Modbus RTU			
Logical input, programmable	Trigger Level 2-30Vdc,<3mA,Ref to Gnd.			
Power supply	VDC	10-30 ≤ 0.4 Watt		
Connections	Standard 8 pin, female M12AF 0008			
OPERATING SOFTWARE	Complete Set-up, Calibration and Analysis program available.			

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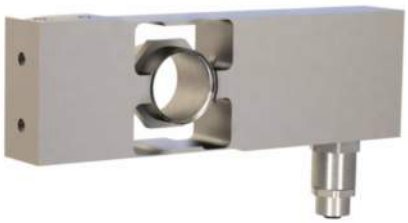
single point

SPF5
4086D



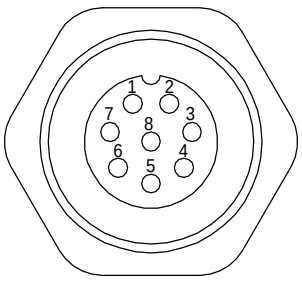
SPECIFICATIONS

INFLUENCES				
Safe load limit	%* Emax	300	150	150
Ultimate load	%* Emax	600	300	300
Eccentric loading error acc. to OIML R76	%FS	±0.0233		
Max platform size	mm x mm	450 x 450		
Temperature effect on zero	%FS/°C	0.001		
Temperature effect on span	%FS/°C	0.001		
Temperature range	°C	Operating: -10/+40 Storage: -40/+70		
EMC performance	MID Class E2 (Industrial locations)			
I/O protection, all pins	Reversed polarity; Excess voltage and surge			
Insulation body/ Electronics @ 500VDC	GΩ	≥1		
Vibration	2.5G operational; 5G non-operational			
Environmental Protection	Body IP69k; Connectors IP68			
Corrosion resistance	All stainless steel (Electro polished)			

WIRING

Female Connector Signal Electronics M12AF0008		
Pin No.	RS-232+CAN	RS-485+RS-422
1	GND1	GND1
2	PROGRAM	PROGRAM
3	CANH	Rx+
4	TRIGGER INPUT	TRIGGER INPUT
5	CANL	Rx-
6	RxD	Tx-
7	TxD	Tx+
8	PWR+	PWR+

PIN Configuration



PART NUMBERS

Capacity (kg)	Option	Part No.
10	• Single IO (RS232+CAN) • Accuracy Class C3	4086D-000-00
20		4086D-001-00
50		4086D-002-00
10	• Single IO (RS485+RS422) • Accuracy Class C3	4086D-000-01
20		4086D-001-01
50		4086D-002-01
10	• Single IO (RS232+CAN) with Optional spacer • Accuracy Class C3	4086D-000-04
20		4086D-001-04
50		4086D-002-04
10	• Single IO (RS485+RS422) with Optional spacer • Accuracy Class C3	4086D-000-05
20		4086D-001-05
50		4086D-002-05

Dimensions and specifications subject to change without notice

Group Four Transducers Inc

Pioneering Measured Solutions

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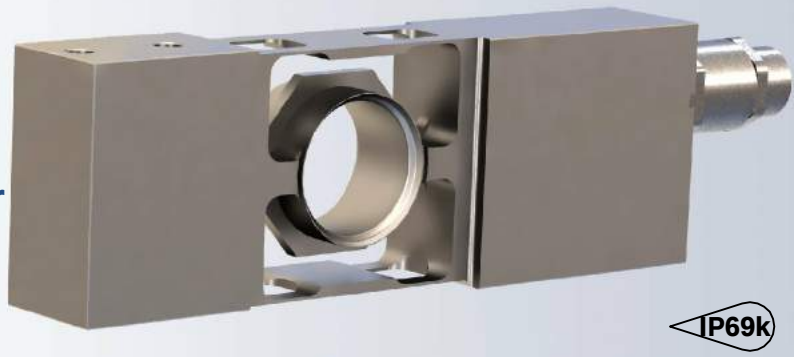
Group Four Transducers Inc

Pioneering Measured Solutions

single point

SPD 4046D

Digital single point load cell designed for high speed filling and check weighing applications. The stainless steel load cell is hermetically sealed and is ideal for use in heavy washdown applications



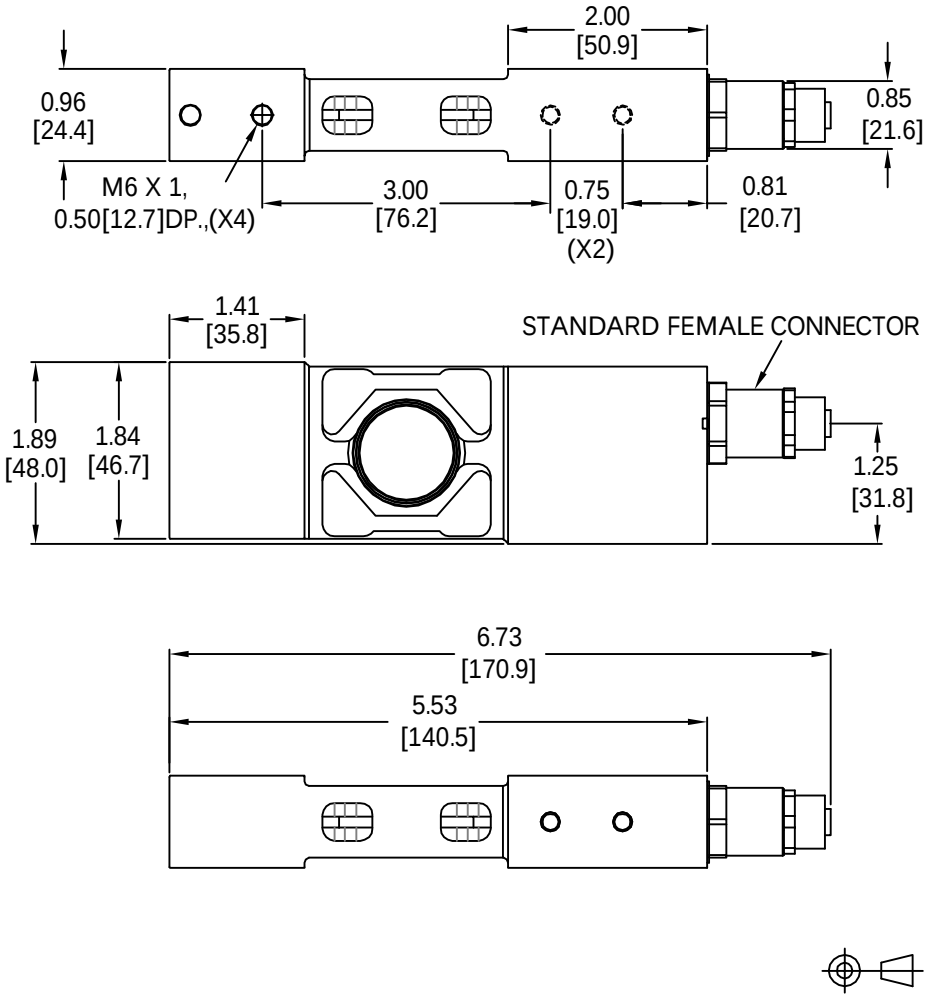
FEATURES

- Capacities from 10 to 50 kg.
- Stainless steel construction.
- Environmental Protection IP69k with complete hermetic sealing.
- AD conversion rate up to 1200upd./sec.
- Free professional software for setting up the digital load cell.
- Maximum platform size up to 450 x 450 mm.

APPLICATIONS

- Bench scales, conveyor scales, check weighers, filling plants, packaging machines and industrial process control.

OUTLINE DIMENSIONS



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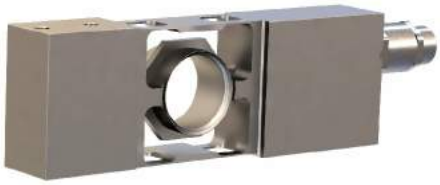
single point

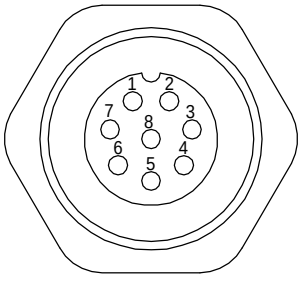
SPD 4046D



WIRING

Standard Female Connector Signal Electronics M12AF0008		
Pin No.	RS-232+CAN	RS-485+RS-422
1	GND1	GND1
2	PROGRAM	PROGRAM
3	CANH	Rx+
4	TRIGGER INPUT	TRIGGER INPUT
5	CANL	Rx-
6	RxD	Tx-
7	TxD	Tx+
8	PWR+	PWR+

PIN Configuration



SPECIFICATIONS

Model	SPD			
Capacities (Emax)	kg	10	20	50
Recommended min. external division	g	1	2	5
PERFORMANCES				
Accuracy class according to the OIML R60	C3			
Maximum load cell verification interval(Vmin)	Emax/10000			
Combined error	%FS	≤±0.017		
Creep @ 30min	%FS	≤±0.017		
Zero balance, raw counts	Increments	±2000		
Output resolution at full load, raw counts	Increments	256000	512000	512000
Internal AD conversion rate	upd./sec	1200		
Fix, digital low pass IIR filter, default	Hz	18 (Supress 50Hz and 60Hz Influence)		
Adjustable , digital low pass IIR filter Adjustable , digital low pass FIR filter	Hz	18-0.25; Selectable in 8 Steps 40-5; Selectable in 8 Steps		
Adjustable, external output update rate	upd./sec	1200-9; Selectable in 8 Steps		
GENERAL I/O's				
Hardware interface, CAN version Hardware interface, RS version	CAN and RS232 RS485 and RS422 (Both four wire)			
Data transmission rates CAN Data transm. rates RS485/RS422/RS232	kb	125;250;500;1000 9.6;19.2;38.4;57.6;115.2;230.4;460.8		
Protocol CAN Protocol RS485/ RS422/ RS232	CAN open ASCII or Modbus RTU			
Logical input, programmable	Trigger level 2-30Vdc,<3mA,Ref to Gnd.			
Power supply	VDC	10-30 ≤ 0.4 Watt		
Connections	Standard 8 pin, female M12AF 0008			
INFLUENCES				
Safe load limit	%* Emax	300	150	150
Ultimate load	%* Emax	600	300	300
Eccentric loading error acc. to OIML R76	%FS	±0.0233		
Max Platform Size	mm	450 x 450		
Temperature fffect on zero	%FS/°C	0.001		
Temperature effect on span	%FS/°C	0.001		
Temperature range	°C	Operating: -10/+40 Storage: -40/+70		
EMC Performance	MID Class E2 (Industrial locations)			
I/O Protection, all pins	Reversed polarity; Excess voltage and surge			
Insulation body/ Electronics (VDC)	GΩ	≥1		
Vibration	2.5G Operational; 5G Non-Operational			
Environmental Protection IEC529	Body IP69k; Connectors IP68			
Corrosion resistance	All stainless steel			

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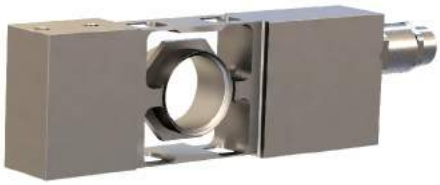
single point

SPD 4046D



PART NUMBERS

Capacity (kg)	Option	Part No.
10	Single IO (RS232+CAN)	4046D-001-00
20	Single IO (RS232+CAN)	4046D-000-00
50	Single IO (RS232+CAN)	4046D-002-00
10	Single IO (RS485+RS422)	4046D-001-01
20	Single IO (RS485+RS422)	4046D-000-01
50	Single IO (RS485+RS422)	4046D-002-01

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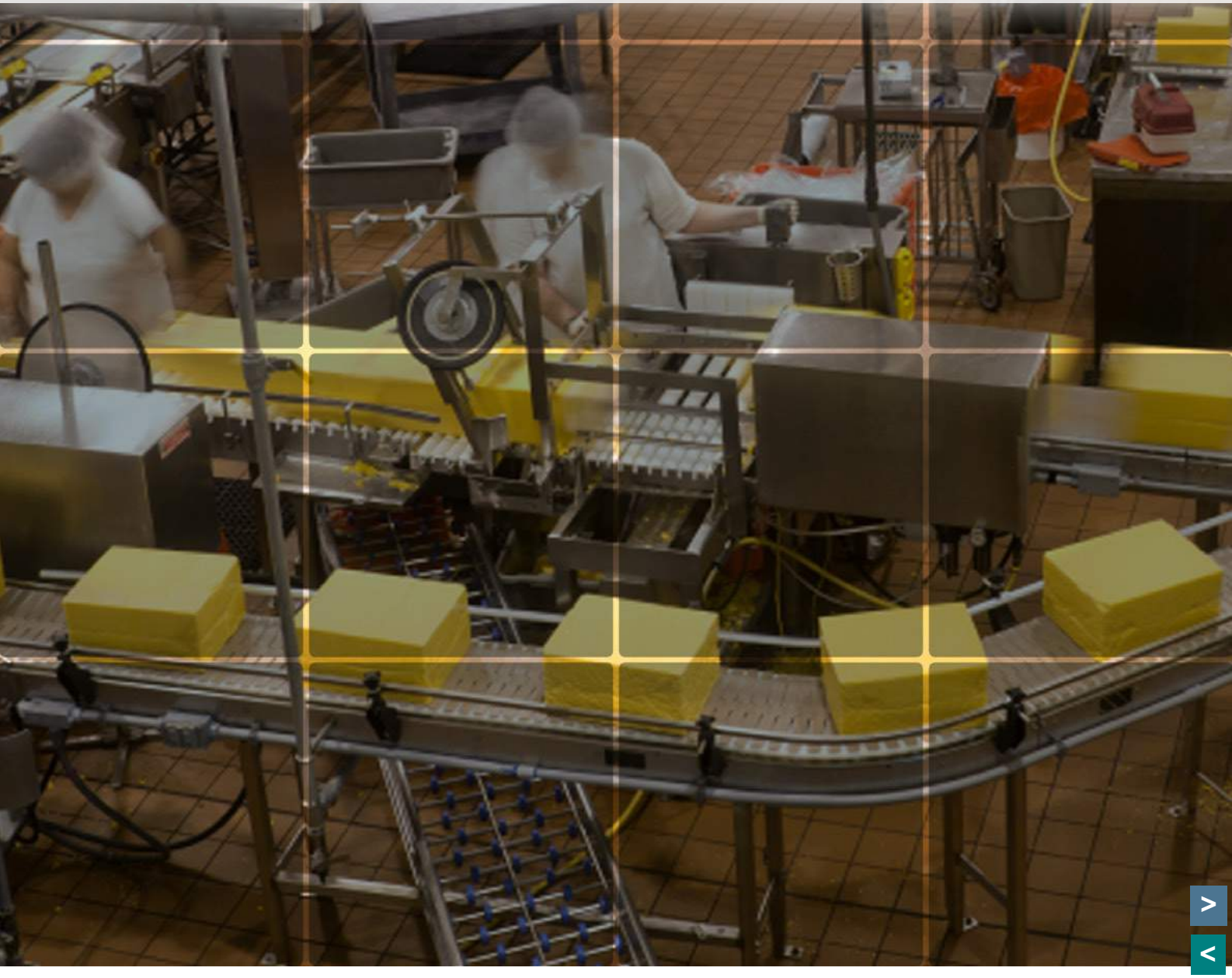
11.0

SCALES

Group Four's scales offer complete flexibility in size and capacity for use in a wide range of weighing applications. Group Four has the unique ability to customize the size of your platform without charging a premium price. These slim designs are light weight, aesthetically pleasing, and offer resolution and accuracy that outperforms the competition.

Common applications include Veterinary Scales, Automated Inventory Control Systems, and Automated Vending Machines. You also have the option of a RS232 or RS485 serial output, 4-20 mA signal, or 0-10 V output directly from the scale platform.



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TOC

Group Four Transducers Inc

Pioneering Measured Solutions

bench scale

BSP

The BSP planar beam bench scales offers complete flexibility in size and capacity for use in a wide range of weighing applications.

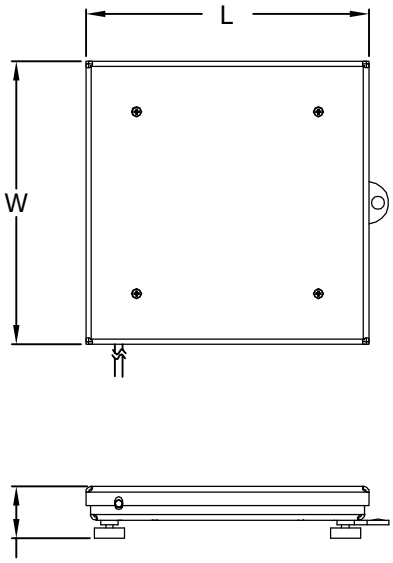
FEATURES

- Capacities from 6kg(13lb) to 400kg(882lb).
- Platform sizes are from 200mmx200mm(8in x 8in) to 600mmx600mm(24in x 24in).
- Anodized alumunum construction.

APPLICATIONS

- Laboratory and industrial installations.

OUTLINE DIMENSIONS



NOMINAL HEIGHT 2.5 [64]
HEIGHT WILL CHANGE SLIGHTLY
WITH PLATE THICKNESS
AND ADJUSTABILITY OF LEGS.

Capacity kg(lb)	Dimensions mm(in)	Height mm(in)	Ship weight kg(lb)
6(13)	200 x 200 (8 x 8)	50(2)	5(10)
30(66)	200 x 200 (8 x 8)	50(2)	5(10)
60(132)	200 x 200 (8 x 8)	65(2.5)	5(10)
150(330)	300x 300 (12 x 12)	65(2.5)	10(22)
400(882)	600x 600 (24 x 24)	76(3)	20(45)

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bench scale

BSP

WIRING

+ Excitation	Green
+ Signal	White
- Excitation	Black
- Signal	Red
Shield (Floating)	Yellow

Cable: 26 AWG, 4 Conductor cable with shield.

SPECIFICATIONS

Model		BSP	
Capacities		See table	
Full scale output(FS)		mV/V	0.9
Combined error		%FS	≤±0.03
Creep@30min		%FS	≤±0.03
Zero Balance		%FS	±5
Max Cornering Error		0.06% (1/2 full scale load, 1/2 way to corner)	
Temperature effect			
	Output	%FS/°C	≤±0.04
	Zero	%FS/°C	≤±0.04
Temperature range			
	Compensated	°C	-10... +40
	Operating	°C	-10... +65
Terminal resistance			
	Input resistance	Ω	300±20
	Output resistance	Ω	250±5
Excitation voltage		VDC	5... 15
Safe overload limit		%FS	300
Ultimate load		%FS	400
Cable length		ft	10
Material construction		Anodized alumunum	

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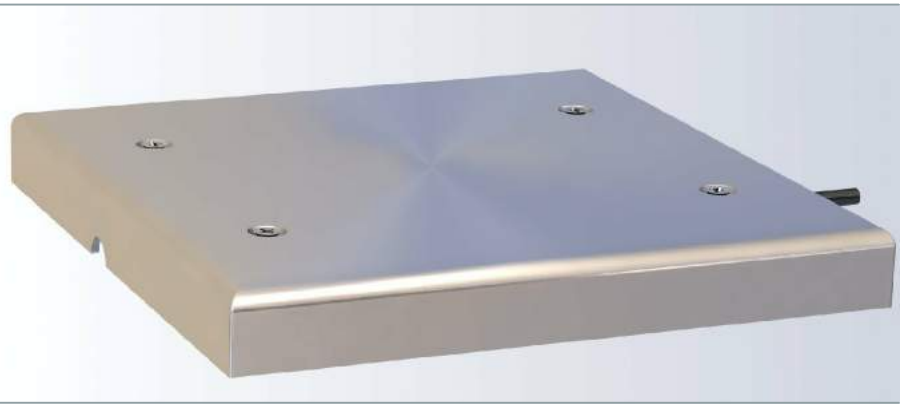
scale

GBSA

The type GBSA is a bench scale ideal for use in industrial weighing.



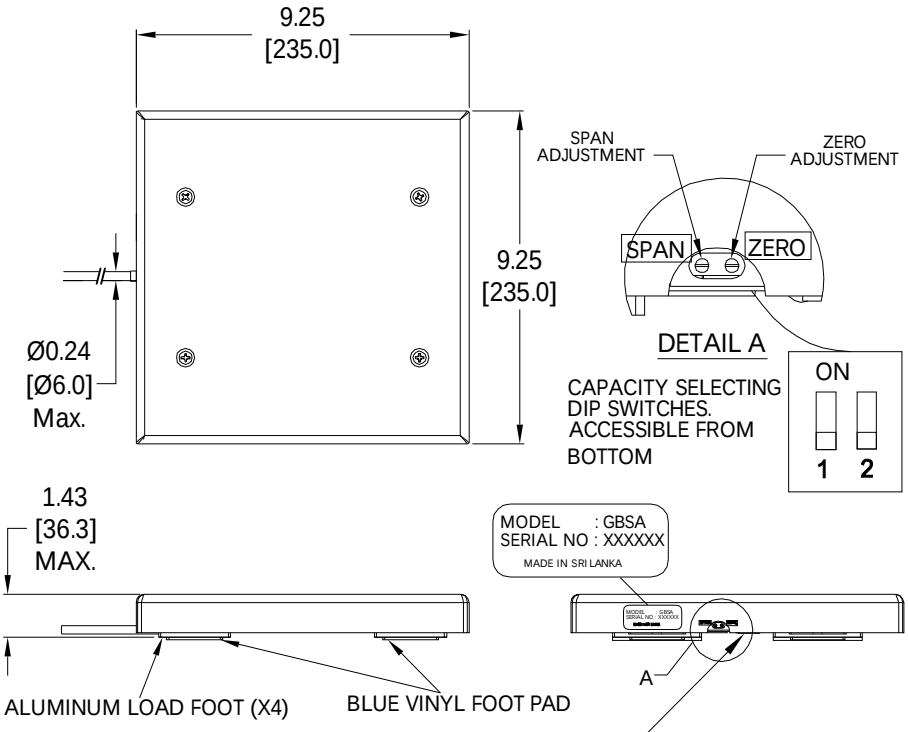
FEATURES

- Capacities 60/ 100/ 300lb.
- Stainless steel platform.
- Platform size 9.25in X 9.25in.
- Inbuilt overload protection.

APPLICATIONS

- Industrial Weighing.

OUTLINE DIMENSIONS



CAPACITY	POSITION	
	1	2
60 lb	OFF	OFF
100 lb	OFF	ON
	ON	OFF
300 lb	ON	ON

ON
1 2

CAPACITY	POSITION	
60lb	OFF	OFF
100lb	OFF	ON
	ON	OFF
300lb	ON	ON

ALWAYS RECALIBRATE AFTER CHANGING SCALE CAPACITY

NOTES:

1. CAPACITY WILL BE SET AT PRODUCTION ACCORDING TO PURCHASE ORDER.
2. SCALE PLATFORM WILL BE ELECTRICALLY CONNECTED TO THE SHIELD AND DRAIN.
3. OVERLOAD PROTECTION WILL BE ADJESTED TO WITHSTAND, 150% OF FULL-SCALE CAPACITY DROPPED FROM A HEIGHT OF 300 mm (1ft).
4. SCALE OUTPUT IS 20 ± 0.1 mA FOR 300lbs MASS

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scale

GBSA

SPECIFICATIONS

Model		GBSA	
Capacities		lb	60/ 100/ 300
Full Scale Output (FS)		mA	20±0.1
Non- Repeatability		%FS	≤±0.1
Creep @ 30min, for 30days		%FS	≤±0.017, ≤±0.25
Zero Balance		mA	4±0.1
Temperature Effect			
	Output	%FS/10°C	≤±0.2
	Zero	%FS/10°C	≤±0.2
Temperature Range			
	Operating	°C	-10 ... +65
Operating Humidity		%RH	0-95
Excitation Voltage		VDC	12 ... 25
Safe Overload Limit		%FS	150
Cable type		24AWG, 2 Conductor cable with shield and drain.	
Cable Length		ft	See table

PART NUMBERS

Cable length(ft)	Part #
10 +0.02/-0.00	GBSA-60-300-2

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12.0

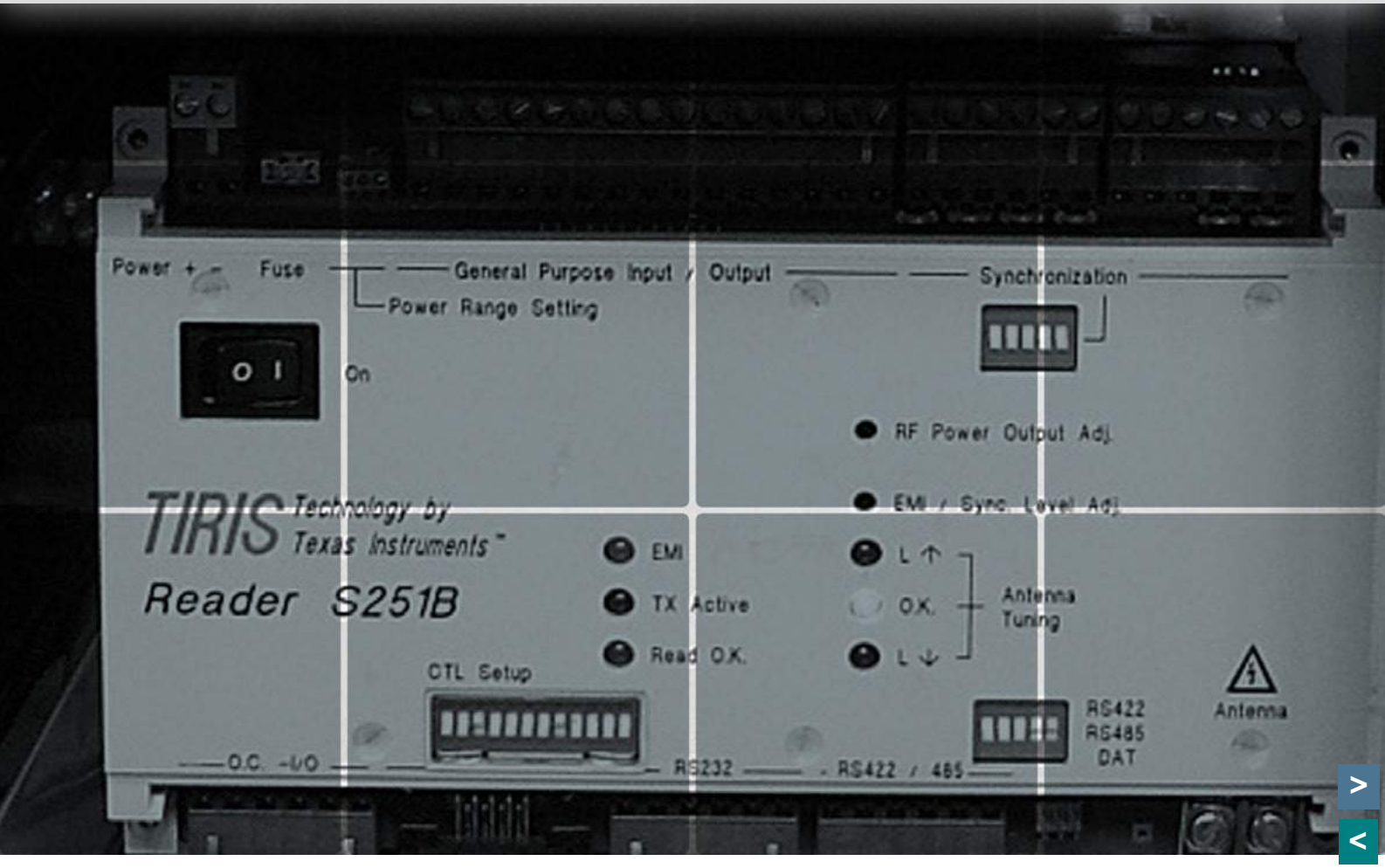
DIGITAL INDICATORS

Group Four Indicators ensure that all the parts of your measurement system work harmoniously as a total solution. Electronics associated with load cells are an integral part of the measurement chain. The electronics are commonly referred to as, digital weight indicator, digital display, signal conditioner, and controller. The electronics are needed to provide a power source to the load cell and to translate the millivolt signal from the load cell into a weight value.

The electronics can also transmit the weight information to other plant control systems. Some common systems include PLC's, HMI's and DCS'. With a wide variety of electronics solutions Group Four can optimize a solution to best fit your application needs.

- With or Without a Digital Display
- Hi Speed with Hi Resolution or Slower Speed with Greater Signal Stability
- Common Outputs - Modbus, Profibus, RS232, 4-20ma, 0-10 volts, Ethernet IP
- Signal Inputs and Outputs for Relay Control

Group Four can also provide integrated electronics with your sensor. These load cells with the digitizing board built-in, save space, eliminate unnecessary connections and improve cost while simultaneously optimizing the overall performance.



Group Four Transducers Inc

Pioneering Measured Solutions

indicator

GR300

The GR300 series of indicators builds on over 20 years of design experience to create a series of cost effective reliable products

FEATURES

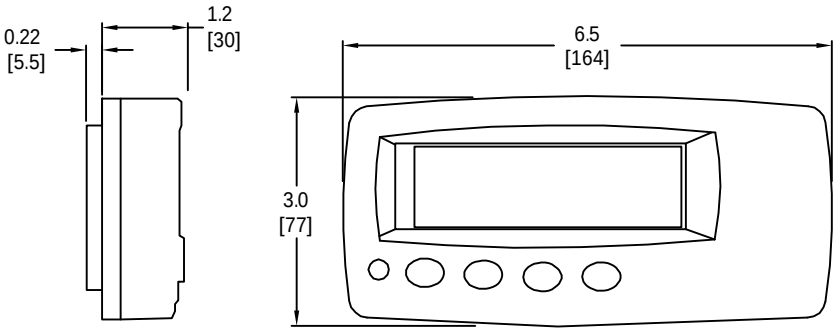
- Tough, compact ABS housing or Stainless Steel housings.
- AC, DC and rechargeable NiMH battery options.
- 20mm (0.8in) LCD display with LED backlight.
- Versatile mounting options.
- Opto-link connector.

APPLICATIONS

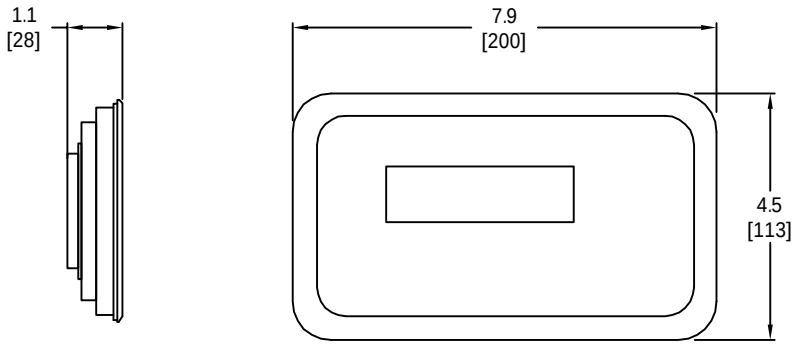
- Mobile applications such as forklifts, platforms, inside truck cabs and crane scales, OEM applications.

OUTLINE DIMENSIONS

GR320 (ABS Housing)



GR323(Stainless steel)



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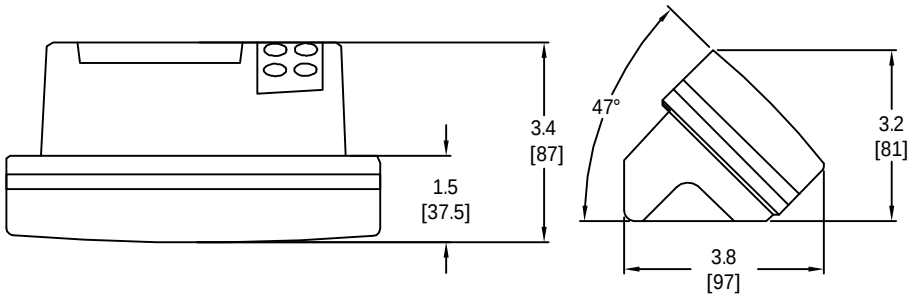
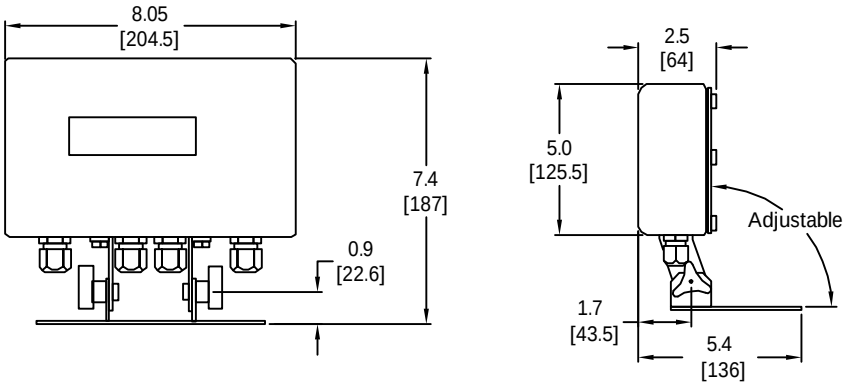
indicator

GR300

ABS with Rear Boot Desk Stand (M3001)



Stainless Steel with Rear Housing and Stand



GR320 :

GR323 :

SPECIFICATIONS

Model		GR320	GR323
Resolution		Up to 30,000 divisions, minimum of 0.25 µV/division	
Zero Cancellation		±2.0mV/V	
Span Adjustment		0.1mV/V to 3.0mV/V full scale	
Excitation		5 volts for up to 4 x 350 or 8 x 700 ohm load cells (4-wire or 6-wire plus shield) Maximum total load cell resistance: 3,500 ohms(4X350 ΩNontrade 8X350 Ω)	
A/D Type		24bit Sigma Delta with 8,388,608 internal counts, 20 updates/second	
Operating Environment		Temperature: –10 to +50°C ambient Humidity: <90% non-condensing IP65 when panel mounted	
Display		LED Backlit LCD with six 20mm high digits with units and annunciators	
Setup and Calibration		Full digital with visual prompting in plain messages	
Digital Filter		Sliding window average from 0.1 to 4.0 seconds	
Zero Range		Selectable from ±2% to ±100% of full scale	
Standard Power Input		7 to 24VDC, 4.8, 9.6,12 and 24V batteries (2.5 VA max) ON/OFF key with memory feature	
Variants	AC	AC Plug pack: 110/240VAC 50/60Hz in 12VDC 1.5A out	AC Power supply: 110/240VAC 50/60Hz in 12VDC 1.2A out
	Battery	12V battery pack (rechargeable NiMH)	12V battery pack (rechargeable NiMH)
		4 x AA batteries	-
Case Material		ABS Housing	Stainless Steel Flush Mount
Packing Weight		Basic Indicator: 0.34kg	Basic Indicator: 0.49kg
Optical Data Communications		Magnetically coupled infra-red communications Conversion cables available for RS-232 or USB	

Dimensions and specifications subject to change without notice

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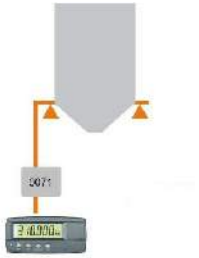
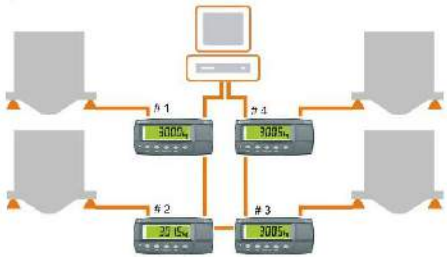
indicator
GR300

APPLICATIONS

Tank weighing

Tank weighing from a single tank to a tank farm can be handled with GR320 & GR323.
The R320 and R323 provide basic weighing functionality at the tank. The two high current isolated outputs can provide local control which could be used for level control for example. The communications port can be used to work back to a PC or in a larger installation multiple indicators can be configured in a ring network, saving on cabling.



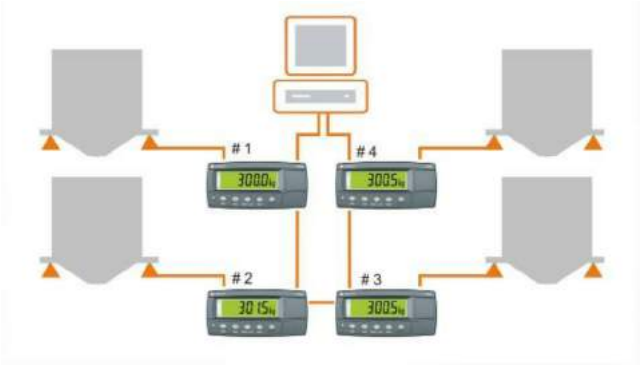


Ring Networking

The R320 and R323 support can be configured into a ring network back to a computer using R232.
- Connect up to 31xR320/R323s into a ring network.
- Simple setup with the R300 Viewer.

Benefits:
- Uses only one communication port on the computer
- Saves on communications cabling.

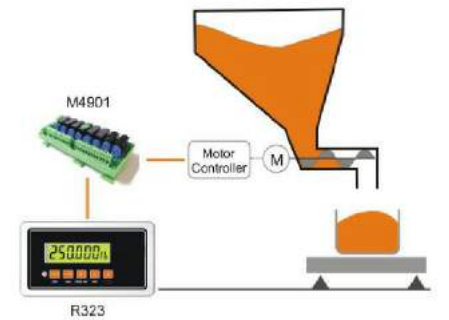
Idea for:
- Tank farms.
- Multiple silo and bin weighing applications.
- Multiple scale applications.
- Process Control applications.

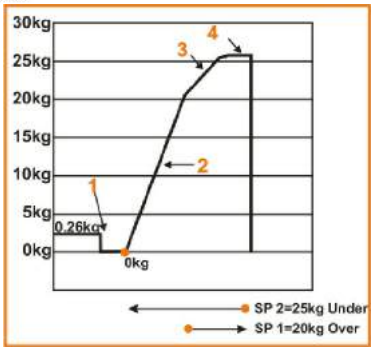


Set Point Control

The R320 and R323 feature two outputs and one input. The outputs are used to control a two speed screw feed auger.

The set points are used to control the filling speed change over point and the final cut off weight. The filling auger starts at high speed until set point one is reached where the speed slows until set point two is reached and filling is stopped.





Remote TARE Function: To allow for varying bag weights (tare weight) the remote TARE function is used to maintain a true zero starting point.

Programmable Function Key - can be configured to allow the operator to view and edit the set point targets

Dimensions and specifications subject to change without notice

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Group Four Transducers Inc

Pioneering Measured Solutions

indicator

GR400

The GR400 series of indicators are designed with both the installer and operator in mind and cover a wide range of applications.

FEATURES

- 100,000 d @ 0.25 µV/d.
- Built in RS232/RS485 communication modules.
- IP65 ABS or stainless steel housing.
- Designed to take 16x320 ohm load cells.
- Ethernet and Profibus DP support.
- Robust precise analogue output module.
- 250 Product storage.
- Counting with piece weight entry.
- Custom unit switching.
- Set pointing configured on a product basis.
- Reporting.
- Custom printing.

APPLICATIONS

- Weigh bridges, general trade weighing, multiple indicator weighing systems and process control.

GR420 (ABS housing):

GR423 (Stainless steel housing):

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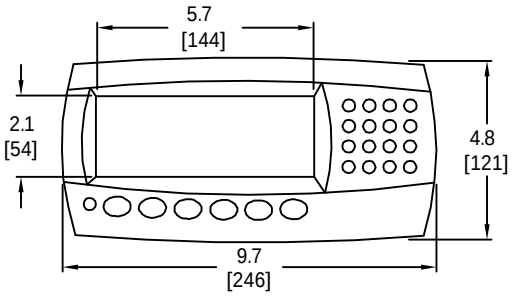
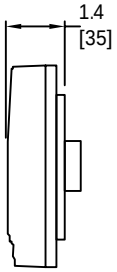
indicator
GR400

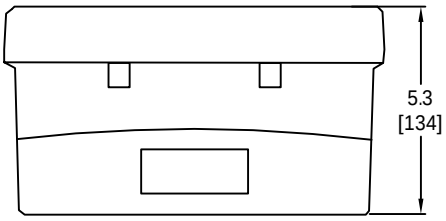
OUTLINE DIMENSIONS

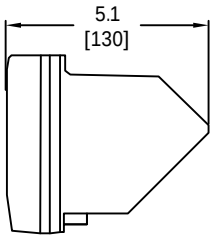
ABS Panel Mount :



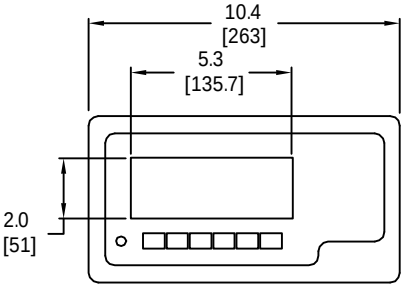


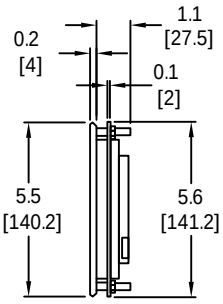
ABS with Rear Boot :



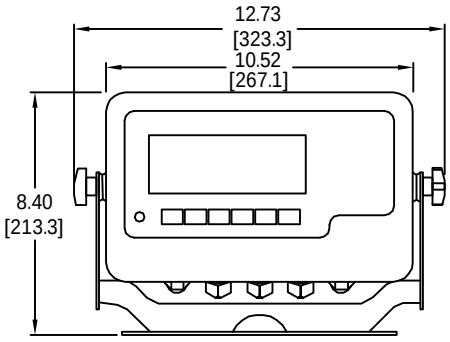


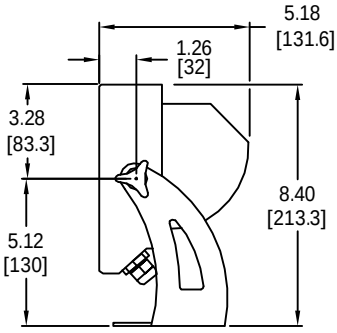
Stainless Steel Panel Mount:





Stainless Steel with Rear Housing and Stand:





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indicator
GR400

SPECIFICATIONS

Resolution			Up to 100,000d minimum of 0.25uV/d				
Approvals			10,000d@0.7uV/d NMI(S-463), OIML R76 III/III L-NTEP 08-720 MID 2004/22/EC-WELMEC 2.1 & 7.2 FCC, CE, C-tick				
Zero Cancellation			±2.0 mV/V				
Span Adjustment			0.1mV/V -3.0mV/V				
Excitation			7.4V for up to 16 x 350 or 32 x 700 ohm load cells (4-wire or 6-wire plus shield) Maximum total load cell resistance: 1,000 ohms				
A/D Type			24bit Sigma Delta with ±8,388,608 internal counts				
Operating Environment			Temperature: –10 to +50°C ambient (14 °F to 122 °F) Humidity: <90% non-condensing				
Display			LCD with 4 alpha-numeric displays and LED backlighting: Primary display: 6 x 28.4mm (1.12") high digits with units and annunciators 2nd display: 9 x 17.6 mm (0.7") digits with units 3rd display: 8 x 6.1 mm (0.2") digits 4th display: 4 x 7.6 mm (0.3") digits				
Setup and Calibration			Full digital with visual prompting in plain messages				
Digital Filter			Sliding window average from 0.1 to 30.0 seconds				
Zero Range			Adjustable from +/- 2% to +/- 20% of full capacity				
Standard Power Input			12 to 24VDC (15 VA max) - ON/OFF key with memory feature				
Variants	AC		AC power supply Input: 110/240VAC 50/60Hz Output: 12VDC 15VA				
	Battery		2.5AH NiMH rechargeable battery pack Charger Input: 110/240VAC 50/60Hz Output: 12VDC				
Optical Data Communications			Magnetically coupled infra-red communications Conversion cables available for RS232 or USB				
Correction			10 point linearity correction				
Serial Outputs			Serial 1A: RS-232 serial port for remote display, network or printer supports. Serial 1B: RS485 transmit only for remote display Transmission rate: 2400, 4800, 9600 or 19200 baud				
Assignable Function Keys			3				
Operating Modes			Single Range, Dual Range and Dual Interval				
Battery Backed Clock Calendar			Battery life 10 years minimum				
Application Software	**K401**	**K402**	**K404**	**K410**	**K411**	**K412**	
Functions	Custom printing, custom unit switching, counting, manual hold, peak hold, auto output totalising		Single pass weighing Two pass weighing Dedicated truck key Custom printing Temporary Truck IDs Preset Tare Specialised truck dockets	1 Material	6 Material	20 Material	
				Up to 10 Batching Stages 3 Speed Fill Fill, Dump & Pulse stages Inflight & jogging correction, Negative batching Batch suspend Timer (RTC) based multiple batching			
Products/Recipes	1	250	250 Trucks	100 Recipes			
Analogue Output * (M4401)	1		-		1	-	
Set points	8						
Additional Communications *	Module: RS232/RS232 Module: RS232/RS485 Module: RS485/RS485						
Button Input *	4 Buttons						
Data Storage Device * (M4501)	1						
Profibus-DP	Used with Group Four 1400 Profibus-DP Module						
Ethernet * (M4221)	1						
Housing Options	**GR420**			**GR423**			
Case Materials	ABS			Stainless Steel			
Packing Weights	Indicator: 1kg (35 oz)			Indicator: 1.2kg (42 oz)			
Environmental IP Rating (panel mounted or with rear boot)	IP65			IP66			

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indicator
GR400

APPLICATIONS

Tank weighing

Tank weighing from a single tank to a tank farm can be handled with GR400.

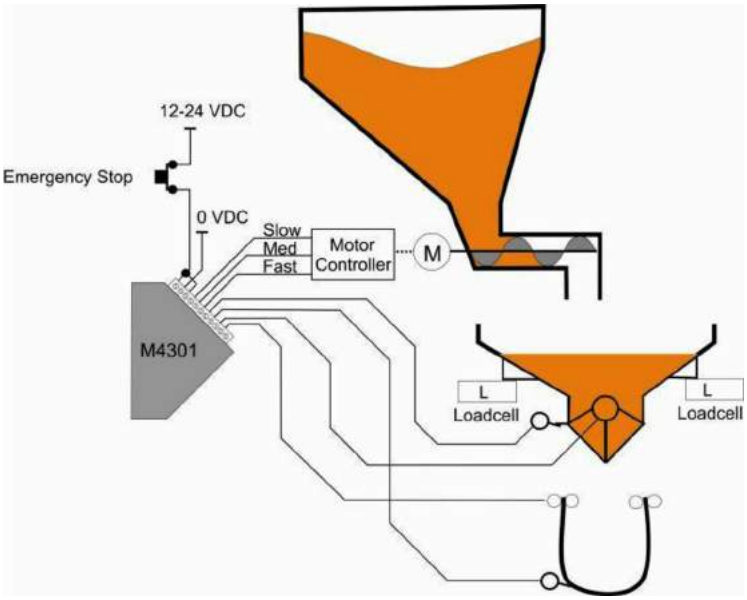
The GR400 indicators provide the most flexibility and control as they can be configured with multiple IO and communication options - including Profibus and Ethernet.

An GR400 indicator is suitable as a standalone controller or as a networked unit.

Filling and negative batching

Batching specifications

100 Recipes (Products)
3 fixed batching stages- Fill, Dump and Finish
1 Material
3 Speed Fill
Fill correction using jogging or in-flight
Dump to time or weight
Negative batching
Batch suspend
Timer (RTC) based multiple batching



Negative batching

- Negative batching is supported by setting the fill direction which defines if the weight is increasing or decreasing while batching.
- Ideal for discharge and dosing applications.

Batch suspend

- A suspend function key can be set that will pause the batch and adjust the tare weight when resuming the batch.
- Ideal for when a material feeding the batch needs to be topped up during the batch without affecting the batched amount. Or when feeding from multiple bulker bags etc.

Time of day batching

- Timer based multiple batching
- The Real Time Clock is used to control the batch timing for time based batching.
- Ideal for bio-fuel applications or where exothermic reactions occur.

Applications -
- Dosing, bag and silo filling
- Filling applications using negative batching, for example discharge from a silo into a truck.

Input/Output Modules - the inputs are isolated to resist against system noise. The outputs are rate to 400mA drive current at 12-24VDC - capable of driving low voltage actuators directly or can be connected directly with PLC controllers. Optional external relay PCB can switch 250VAC to 8A, an ideal component for standalone batching.

Operator friendly – the large two line display uses logical prompts and there are dedicated and programmable function keys. Printing can be tailored with custom record, docket or reports printouts.

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Group Four Transducers Inc

Pioneering Measured Solutions

Strain Gauge, Load Cell & mV Meter

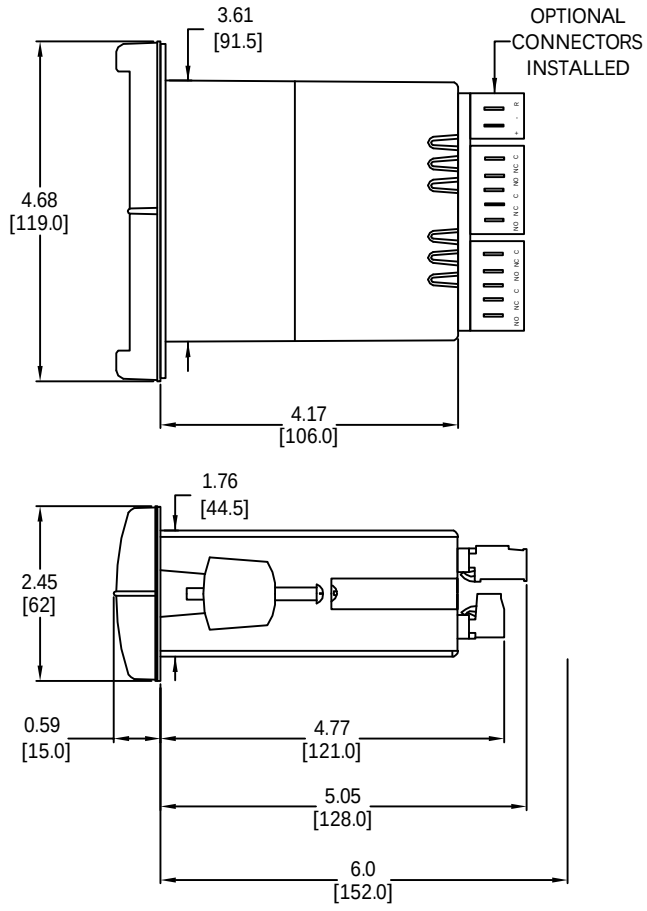
G4610

The G4610 is a full-featured multipurpose, easy-to-use digital strain gauge & load cell meter ideal for weight and force measurement applications. With a max current of 350 mA at 10 V, it can support up to twelve (12) 350 Ω load cells (minimum load resistance of 28 Ω), making it ideal for multipoint weight measurement applications. It accepts mV input signals up to 300 mV (unipolar) and ± 250 mV (bipolar). The G4610's powerful dual-scale capability allows the measurement to be displayed in two different units of measure.

FEATURES

- 15, 30, 150, 300 mV Unipolar Input Ranges.
- ±15, ±25, ±150, ±250 mV Bipolar Input Ranges.
- Selectable 5 or 10 VDC Sensor Excitation.
- Supports up to twelve (12) 350 Ω Load Cells (Minimum Load Resistance of 28 Ω).
- Capture or Programmable Tare Feature.
- Auto-Zero Feature Eliminates Zero Drift.
- Ratiometric Operation.
- Max/Min or Peak/Valley Hold Feature.
- Large Dual-Line 6-Digit Display, 0.60" & 0.46".
- Dual-Scale Feature – Single Input.
- Rounding Function 1, 2, 5, 10, 20, 50, or 100.
- Programmable Display & Function Keys.
- 32-Point Linearization.
- NEMA 4X, IP65 Front.
- Input Power Options Include 85-265 VAC or 12/24 VDC.
- 2 or 4 Relays + Isolated 4-20 mA Output Options.
- External 4-Relay & Digital I/O Expansion Modules.
- USB, RS-232, & RS-485 Serial Communication Options.
- Modbus® RTU Communication Protocol Standard
- Configure, Monitor, and Datalog from a PC with Free MeterView® Pro Software.

OUTLINE DIMENSIONS



Notes:

1. Panel cutout required: 1.772" x 3.622" (45 mm x 92 mm)
2. Panel thickness: 0.040 - 0.250" (1.0 mm - 6.4 mm)
3. Mounting brackets lock in place for easy mounting
4. Clearance: Allow 6" (152 mm) behind the panel

Group Four Transducers
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Strain Gauge, Load Cell & mV Meter

G4610

KEY FEATURES

Precise, Accurate, and More Informative

The large 0.6" upper display provides a highly accurate and precise 6-digit view of the process measurement. Its 24-bit A/D is accurate to ±0.03% of calibrated span ±1 count.

Configurable

The upper display can be programmed to indicate PV, maximum (peak), minimum (valley), alternating maximum/minimum, one of eight alarm set points, or Modbus input. The lower display can also be configured to display engineering units, set points, user defined legends, or simply turned off.

Function Keys

There are three function keys available to the user. These keys can be programmed to trigger certain events (e.g. tare the display, reset the tared display, zero the displayed value, acknowledge alarm states, etc.), provide direct menu access points, and more.

Rugged

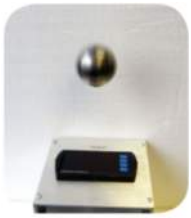
A unique front panel design makes the G4610 nearly impenetrable in typical applications. Here, the G4610 easily survives a direct hit on the display from a heavy 2" solid stainless steel ball dropped from a height of eight feet.

Optional SunBright Display Models

The G4610's SunBright display models have an extraordinarily bright LED display. They are perfect for applications where the meter is in direct sunlight or in applications where visibility may be impaired by smoke, fog, dust, or distance. Option is available on all G4610 models.

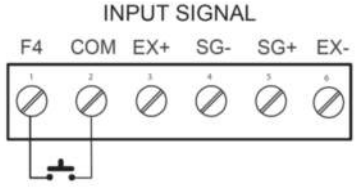
On-Board Digital Input

The G4610 includes a digital input as a standard feature. This digital input can operate with the tare, reset tare, or interlock relays feature, force relays on from a signal from a PLC or relay on other equipment, and much more. This is ideal for installations where the meter is inaccessible behind a cover, or where an additional function key is needed for customized operation.



UV Resistant
Sunlight Readable Models

Front Panel
NEMA 4X Rated



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Zero the Meter

The zero function zeroes out the display. In the case where there has been drift in the strain gauge output over time, zero is used to eliminate this drift and provide a true zero reading. For example, if an empty scale were to display a value other than zero, the zero function would tell the meter to show zero regardless of the current
input signal.

Capture Tare

The tare function also zeroes out the display. In the case of scale weight, tare is used to eliminate container weight and provide net weight readings. If the tare value is a known constant, such as a container weight, this may be programmed in manually. The captured tare may be reset manually with any function key or digital input.

Before tare | After capture tare | After reset tare

Automatic Unit Conversion

In addition to entering a custom unit or tag, pre-defined engineering units may be selected: lb, kg, ounce, gram, ton (short), tonne (metric ton). Automatic unit conversions are done when switching between pre-defined units, without the need for additional scaling. The meter converts the reading according to the unit selected (e.g. 100.00 lb = 45.36 kg = 45359.2 g = 1600 oz).

Auto-Zero

The auto-zero feature corrects for drift that can occur over time that causes the input signal to slowly change. The meter will continue to read zero despite slow and small changes to the input signal around zero. The auto-zero sensitivity is set by the user as a percent of full scale.

Rounding

The rounding feature is used to give the user a steadier display with fluctuating signals. It causes the display to round to the nearest value according to the rounding value selected (1, 2, 5, 10, 20, 50, or 100). For example, with a rounding value of 10, and a input of 12346, the display would indicate 12350.

Shunt Calibration Check

The G4610 is equipped with a means of simulating strain in a strain gauge bridge circuit, via an included shunt resistor in the meter. This technique can be used as a means of verifying the meter setup and output behavior by simulating a physical input. With no load connected, the enabling of the shunt resistor will simulate a 70% full scale load in the case of a 350Ω Strain Bridge.

Ratiometric Compensation

This feature compensates for changes in the strain gauge input signal that are due to variations in the internal or external excitation voltage. The compensation is effective for up to ±5% variation in the excitation power supply.

Dual-Scale Display Feature

The G4610 has a rather unique, and very flexible dual-scale capability; a second scaled display can represent the measured input in a different form (i.e. gallons & height). This is of particular value in level applications. Please see the examples shown below. Both displays are independently scaled and are based on the 4-20 mA input signal. Beyond level, this function has been used for pressure & force, weight & piece count, feet & meters, and more.

Volume & Height | Pressure & mV

Advanced Linearization Capability

The includes a 32-point linearizer. In non-linear level applications (i.e. some pumping or lift stations), it can easily compensate for submerged equipment or plumbing that displace usable volume. A second independent 8-point linearizer is available for a second scaled display (PV2) when the dual scale feature is enabled. The free MeterView Pro PC-based software greatly simplifies the construction of the linearization tables. The software can save this data to the meter and/or PC.

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Strain Gauge, Load Cell & mV Meter

G4610

DIGITAL COMMUNICATIONS

Modbus® RTU Serial Communications

With the purchase of a serial communication adapter, The G4610 meter can communicate with any Modbus Master device using the ever-popular Modbus communications protocol that is included in every G4610 meter. This greatly increases the flexibility of the meter. Modbus provides much more capability than read PV and write set points. Below are some examples of other things that can be done with The G4610's Modbus communications.

- Send a 6-character message to the lower display upon an event
- Convert a digital value to a 4-20 mA signal
- Remote user control (i.e. change set points, acknowledge alarms)
- Input a Modbus digital PV (in place of analog input)
- Remote override of any, or all, relays and analog outputs

Modbus PV Input

Remote Message

Meter Copy

The Copy feature is used to copy (or clone) all the settings from one G4610 to other G4610 meters in about 20 seconds! The Copy function is a standard feature on all meters. It does not require a communications adapter, only an optional cable assembly, P/N PDA1200. See part numbers section for complete details.

FIELD EXPANSION MODULES

Add functionality to the G4610 in the field with easy-to-install external expansion modules. Add USB, RS-232, or RS-485 communications, I/O modules (up to 2), and 4-relay expansion module. The menu items for these modules do not appear until the module is connected, simplifying the basic menu. See part numbers section for details.

METERVIEW® PRO SOFTWARE

Configure, monitor, and datalog a G4610 strain gauge meter from a PC using MeterView Pro Software.

OUTPUTS

Relay Outputs

The G4610 has up to four 3 A Form C relays (SPDT) with multiple power loss fail-safe options. Relays can be configured for proper protective action upon input loop break. Relay ON and OFF delay times are user adjustable. Up to eight front panel indicators show alarm and/or relay state. All relays can be configured for 0-100% deadband.

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Relay Operation/Configuration

There are powerful relay functions that can be configured in the G4610 strain gauge meter, including:

- Automatic reset only (non-latching)
- Automatic + manual reset at any time (non-latching)
- Latching (manual reset only)
- Latching with clear (manual reset only after alarm condition has cleared)
- Pump alternation control (automatic reset only)
- Sampling (activated for a user-specified time)
- User selectable fail-safe operation
- Relay action for loss (break) of 4-20 mA input signal
- Time delay (on and off), independent for each relay
- Manual control mode
- Interlock relay mode

Analog Output

The isolated analog retransmission signal can be configured to represent the process variable (PV), maximum (peak) value, minimum (valley) value, the value for any of the eight relay set points, or Modbus input. While the output is nominally 4-20 mA, the signal will accurately accommodate under- and over-ranges from 1 to 23 mA.

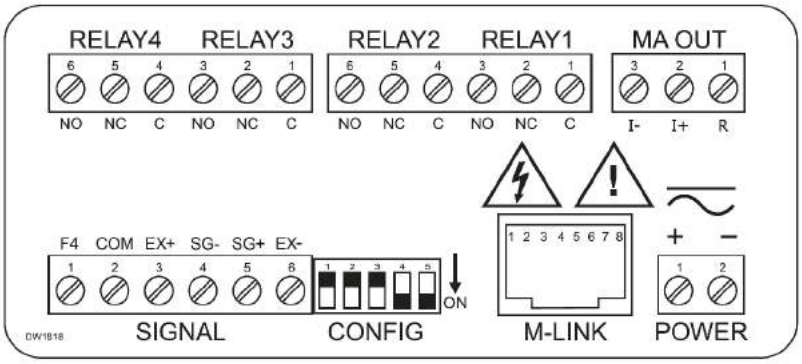
Manual Output Control

Take control of any output with this feature. All relays can be forced ON or OFF, and the 4-20 mA output signal can be set to any value within its range. When the relays and 4-20 mA output are controlled manually, an LED labeled “M” is turned on and the associated Alarm LEDs (1-8) flash every 10 seconds indicating that the meter is in manual control mode.

Isolated Transmitter Power Supplies

A powerful isolated power supply is a standard feature on the G4610 meter. It can be configured for 5, 10 (default), or 24 V (not to be used with strain gauge or load cell) by means of a simple internal jumper (see manual). An additional power supply (24 V @ 40 mA) is standard with the 4-20 mA output option.

CONNECTIONS



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Strain Gauge, Load Cell & mV Meter

G4610

SPECIFICATIONS

Model	G4610
General	
Display	Upper display: 0.60" (15 mm) high. Lower display: 0.46" (12 mm) high. Both are 6 digits (-99999 to 999999), red LEDs.
Display Intensity	Eight intensity levels
Display Update Rate	5/second (200 ms)
Overrange	Display flashes 999999
Underrange	Display flashes -99999
Display Assignment	The displays may be assigned to PV1, PV2, PCT, max & min, set points, PV & units, units (lower display only), net & gross weight, Modbus input, and display millivolts.
Units	lb, kg, ounce, gram, ton, metric ton (tonne), custom units.
Front Panel	NEMA 4X, IP65
Programming Methods	Four front panel buttons, digital inputs, PC and MeterView Pro software, Modbus registers, or cloning using Copy function.
F4 Digital Input Contacts	3.3 VDC on contact. Connect normally open contacts across F4 to COM.
F4 Digital Input Logic Levels	Logic High: 3 to 5 VDC, Logic Low: 0 to 1.25 VDC
Noise filter	Programmable from 2 to 199 (0 will disable filter)
Filter Bypass	Programmable from 0.1 to 99.9% of calibrated span
Rounding	Select 1, 2, 5, 10, 20, 50, or 100 (e.g. rounding = 10, value = 123.45, display = 123.50).
Recalibration	All ranges are calibrated at the factory. Recalibration is recommended at least every 12 months.
Max/Min Display	Max/min readings reached by the process are stored until reset by the user or until power to the meter is cycled.
Password	Three programmable passwords restrict modification of programmed settings.
Non-Volatile Memory	All programmed settings are stored in nonvolatile memory for a minimum of ten years if power is lost.
Power Options	85-265 VAC 50/60 Hz, 90-265 VDC, 20 W max, or jumper selectable 12/24 VDC ±10%, 15 W max.
Fuse	Required external fuse: UL Recognized, 5 A max, slow blow; up to 6 meters may share one 5 A fuse.
Isolated Transmitter Power Supply	Terminals P+ & P-: 10 VDC or 5 VDC ± 10%.12/24 VDC powered models selectable for 24 (should not be used for strain gauge/load cell), 10, or 5 VDC supply (internal jumper J4). (G4610): 85-265 VAC models rated @ 200 mA max, 12/24 VDC powered models rated @ 100 mA max, @ 50 mA max for 5 or 10 VDC supply. Note: Do not use 24 VDC to power strain gauge bridge
Normal Mode Rejection	Greater than 60 dB at 50/60 Hz
Isolation	4 kV input/output-to-power line. 500 V input-to-output (powered by external supply).
Overvoltage Category	Installation Overvoltage Category II: Local level with smaller transient overvoltages than Installation Overvoltage Category III.
Environmental	PROVU Series (G4610): Operating temperature range: -40 to 65°C Storage temperature range: -40 to 85°C Relative humidity: 0 to 90% non-condensing
Connections	Removable screw terminal blocks accept 12 to 22 AWG wire, RJ45 for external relays, digital I/O, and serial communication adapters.
Enclosure	1/8 DIN, high impact plastic, UL 94V-0, color: black
Mounting	1/8 DIN panel cutout required: 3.622" x 1.772" (92 mm x 45 mm). Two panel mounting bracket assemblies are provided.
Tightening Torque	Screw terminal connectors: 5 lb-in (0.56 Nm)
Dimensions	4.68" x 2.45" x 5.64" (119 mm x 62 mm x 143 mm) (W x H x D)
Weight	9.5 oz (269 g)
Warranty	3 years

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SPECIFICATIONS

Strain Gauge Input	
Inputs	Field selectable: 0-15, 0-30, 0-150, 0-300 mV, ±15, ±25, ±150, ±250 mV, or Modbus PV (Slave)
Accuracy	±0.03% of calibrated span ±1 count
Minimum Load Resistance	28 Ω @ 5 V or 10 V
Maximum Excitation Current	350 mA @ 5 V or 10 V
Temperature Drift	0.002% of calibrated span/ºC max from 0 to 65ºC ambient, 0.005% of calibrated span/ºC max from -30 to 0ºC ambient
Function	Linear with multi-point linearization
Low-Flow Cutoff	0-999999 (0 disables cutoff function)
Decimal Point	Up to five decimal places or none: d.ddddd, dd.dddd, ddd.ddd, dddd.dd, ddddd.d, or dddddd.
Calibration Range	Input Range — Minimum Span Input 1 & Input 2 15 mV — 0.2 mV 25 mV, 30 mV — 0.4 mV 150 mV — 2.0 mV 250 mV, 300 mV — 4.0 mV An Error message will appear if the input 1 and input 2 signals are too close together.
Input Impedance	Voltage ranges: greater than 1 M Ω.
Relays	
Rating	2 or 4 SPDT (Form C) internal and/or 4 SPST (Form A) external; rated 3 A @ 30 VDC and 125/250 VAC resistive load; 1/14 HP (≈ 50 watts) @ 125/250 VAC for inductive loads.
Noise Suppression	Noise suppression is recommended for each relay contact switching inductive loads.
Deadband	0-100% of span, user programmable
High or Low Alarm	User may program any alarm for high or low trip point. Unused alarm LEDs and relays may be disabled (turned off).
Relay Operation	automatic (non-latching), latching (requires manual acknowledge), sampling (based on time), pump alternation control (2 to 8 relays), Off (disable unused relays and enable interlock feature, manual on/off control mode).
Relay Reset	User selectable via front panel buttons or digital inputs. 1. Automatic reset only (non-latching), when input passes the reset point. 2. Automatic + manual reset at any time (non-latching). 3. Manual reset only, at any time (latching). 4. Manual reset only after alarm condition has cleared (latching). Note: Front panel button or digital input may be assigned to acknowledge relays programmed for manual reset.
Time Delay	0 to 999.9 seconds, on & off relay time delays. Programmable and independent for each relay.
Fail-Safe Operation	Programmable and independent for each relay. Note: Relay coil is energized in non-alarm condition. In case of power failure, relay will go to alarm state.
Auto Initialization	When power is applied to the meter, relays will reflect the state of the input to the meter.
Serial Communications	
Protocol	Modbus® RTU
Slave ID	1 - 247 (Meter address)
Baud Rate	300 - 19,200 bps
Transmit Time Delay	Programmable between 0 and 199 ms or transmitter always on for RS-422 communication
Data	8 bit (1 start bit, 1 or 2 stop bits)
Parity	Even, odd, or none with 1 or 2 stop bits
Byte-to-Byte Timeout	0.01 - 2.54 seconds
Turn Around Delay	Less than 2 ms (fixed)

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Strain Gauge, Load Cell & mV Meter

G4610

SPECIFICATIONS

Isolated 4-20 mA Transmitter Output	
Output Source	Process variable (PV), max, min, set points 1-8, manual control setting, or Modbus input
Scaling Range	1.000 to 23.000 mA for any display range
Calibration	Factory calibrated: 0.00 to 100.0 = 4-20 mA output
Analog Output Programming	1.000 mA minimum and 23.000 mA maximum for all parameters: Overrange, underrange, max, min, and break
Accuracy	± 0.1% of span ± 0.004 mA
Temperature Drift	0.4 µA/°C max from 0 to 65°C ambient, 0.8 µA/°C max from -40 to 0°C ambient Note: Analog output drift is separate from input drift.
Isolated Transmitter Power Supply	Terminals I+ & R: 24 VDC ± 10% . May be used to power the 4-20 mA output or other devices (except load cell/strain gauge). (G4610): All models rated @ 40 mA max.
External Loop Power Supply	35 VDC maximum
Output Loop Resistance	Power supply Minimum Maximum 24 VDC 10 Ω 700 Ω 35 VDC (external) 100 Ω 1200 Ω
Digital I/O Expansion Module	
Channels	4 digital inputs & 4 digital outputs per module
System	Up to 2 modules for a total of 8 inputs & 8 outputs
Digital Input Logic	High: 3 to 5 VDC Low: 0 to 1.25 VDC
Digital Output Logic	High: 3.1 to 3.3 VDC Low: 0 to 0.4 VDC
Source Current	10 mA maximum
Sink Current	1.5 mA minimum
+5 V Terminal	To be used as pull-up for digital inputs only.
4-Relay Expansion Module	
Relays	Four Form A (SPST) rated 3 A @ 30 VDC and 125/250 VAC resistive load; 1/14 HP (≈ 50 watts) @ 125/250 VAC for inductive loads.

Except where noted all specifications apply to operation at +25°C.

PART NUMBERS

Standard Models		SunBright Display Models		Options Installed
85-265 VAC Model	12/24 VDC Model	85-265 VAC Model	12/24 VDC Model	
G4610-6R0	G4610-7R0	G4610-6H0	G4610-7H0	None
G4610-6R2	G4610-7R2	G4610-6H2	G4610-7H2	2 Relays
G4610-6R3	G4610-7R3	G4610-6H3	G4610-7H3	4-20 mA Output
G4610-6R4	G4610-7R4	G4610-6H4	G4610-7H4	4 Relays
G4610-6R5	G4610-7R5	G4610-6H5	G4610-7H5	2 Relays & 4-20 mA Output
G4610-6R7	G4610-7R7	G4610-6H7	G4610-7H7	4 Relays & 4-20 mA Output

ACCESSORIES

Model	Description
PDA1002	DIN Rail Mounting Kit for Two Expansion Modules
PDA1004	4-Relay Expansion Module
PDA1044	4 Digital Inputs & 4 Digital Outputs Module
PDA1200	Meter Copy Cable
PDA1232	RS-232 Serial Adapter
PDA1485	RS-422/485 Serial Adapter

Model	Description
PDA7485-I	RS-232 to RS-422/485 Isolated Converter
PDA7485-N	RS-232 to RS-422/485 Non-Isolated Converter
PDA8008	USB Serial Adapter
PDA8232-N	USB to RS-232 Non-Isolated Converter
PDA8485-I	USB to RS-422/485 Isolated Converter
PDA8485-N	USB to RS-422/485 Non-Isolated Converter
PDX6901	Suppressor (snubber): 0.01 µF/470 Ω, 250 VAC

Dimensions and specifications subject to change without notice

Group Four Transducers Inc

Pioneering Measured Solutions

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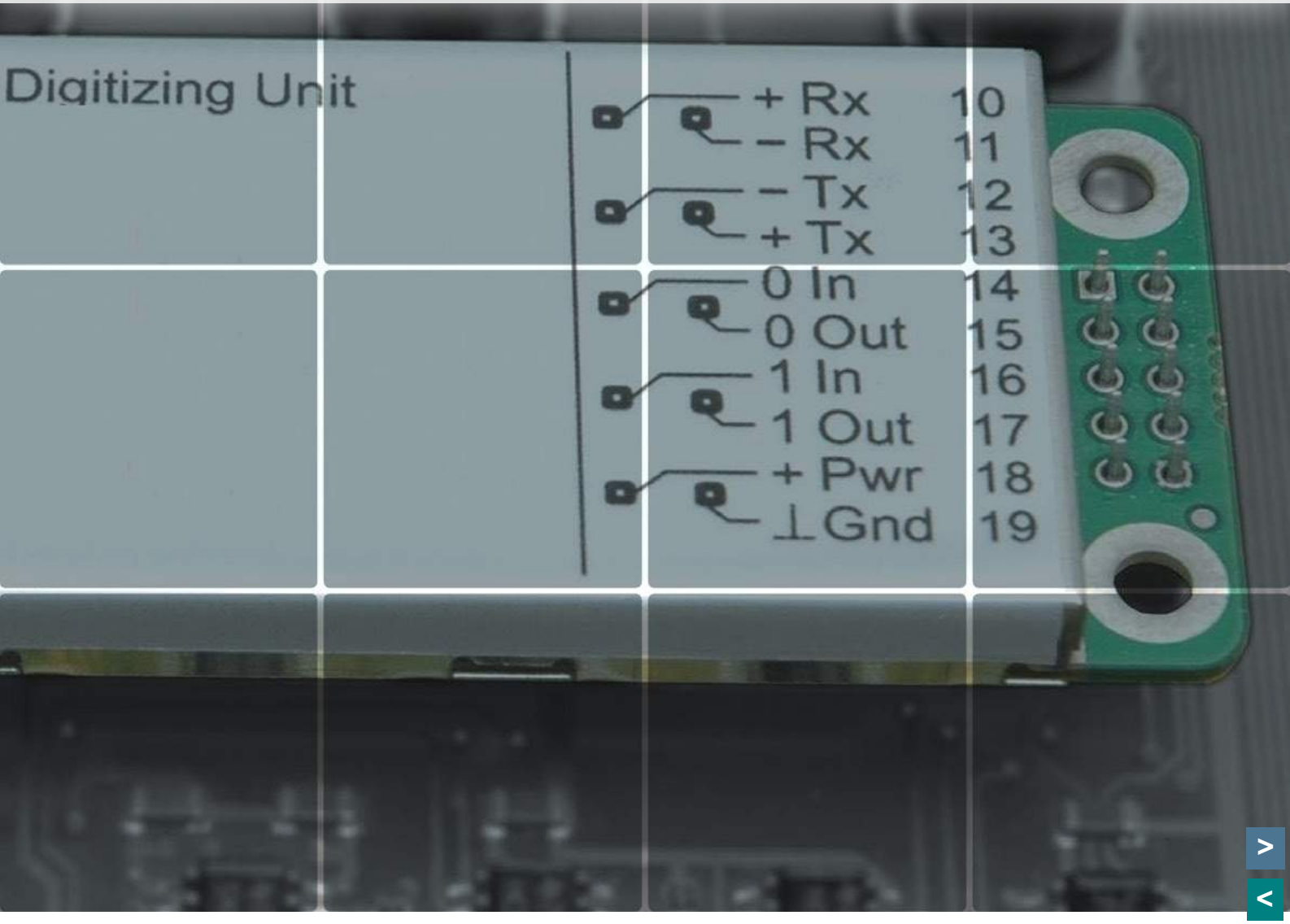
13.0

ELECTRONICS

The DAD and GLDU solutions were designed with the OEM's (Original Equipment Manufacturers) in mind. OEM's will often customize their own controls package to optimize the performance of their equipment. The DAD and GLDU perform the same function as a digital weight indicator. However, they eliminate some of the peripheral components like the keypad and display. The output on these electronics are a networkable RS422/ RS485 signal. If you prefer analog, these electronics are also offered with a 4-20 mA signal as the output. 4-20 mA is universal and the most common interface used with PLC's today. Precision filling and checkweighing are just two examples of applications that can take advantage of the advanced digital filtering technology offered with these electronics. When every millisecond counts, these electronics are the key to reliable, high-speed, precise measurements.



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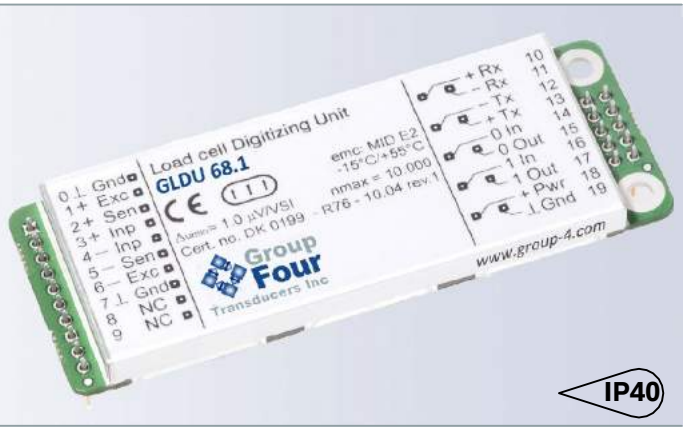
TOC

Group Four Transducers Inc

Pioneering Measured Solutions

load cell digitizer
GLDU68.1

The GLDU 68.1 is ideal for force and weight measurement applications where high resolution and high accuracy are required.



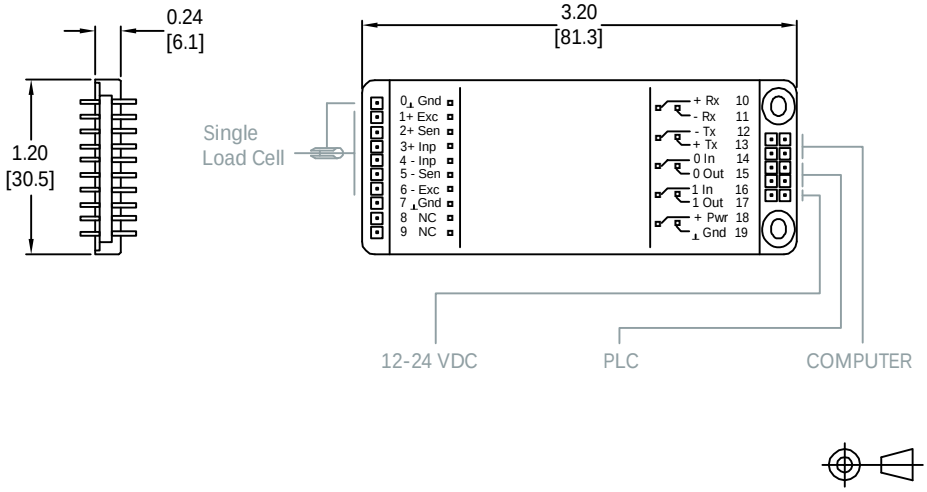
FEATURES

- An economic solution for most standard weighing application.
- Internal precision reference 2.000.0mV/V for mV/V calibration.
- Supports any automatic or manual weighing device with normal requirements as to speed and precision.
- Communicates via a RS 422/485 full duplex interface in 32 node networks or point to point.
- Offers dual logic outputs and dual logic inputs for various control, filling and sorting operations.
- A graphic presentation, analysis and setup PC program, DOP is available.

QUALITIES

±131000 counts input signal resolution, 100 nV/count, 90 A/D conversions/sec.
Digital filter performance 60 db/decade LP filter 5 to 0,02Hz.
Can drive 250 ohm load cells, e.g. 4 pc, each 1000 ohm, at 5 Vdc.
Dual logic inputs for position sensors or valve feed back etc. can define a time frame for automatic operations.
Dual logic outputs provide external control of actuators etc., or for internal computing.
Signal conditioning, zero and tare operations convert the load cell output into a calibrated unit (g; kg; lbs; etc.).
To be designed into customers' PCB or bolted on the side a load cell.
Fits with a selection of Unit Adaptors, offering many I/O facilities and mounting options.
The LDU 68.1 is pin and protocol compatible with other members of the LDU family, (68.2/68.3/69.1/78.1), thus
offering a selection of precision levels, functionality and cost.

OUTLINE DIMENSIONS



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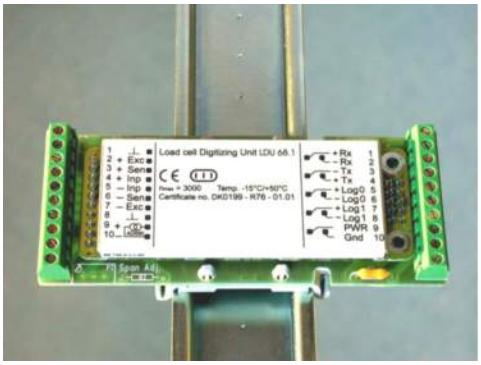
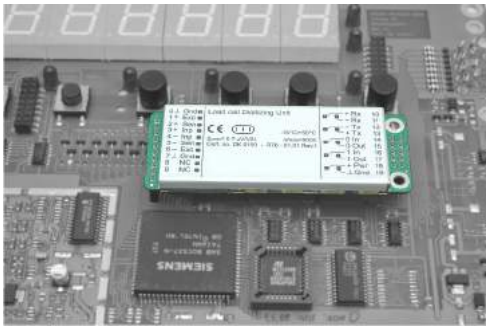
load cell digitizer
GLDU68.1

DIN TS35 rail mounted :



Load cell mounted :

PCB mounted :



SPECIFICATIONS

Input and A/D	
Linearity	<0.005 % of full scale
Load cell excitation voltage	5 Vdc
Load cell drive capability	250-2000 ohm
Load cell wiring system	6 wires inclusive sense
Load cell input range	±2.2 mV/V equivalent to ±11 mVdc
Load cell input resolution	<100 nV/incr. (>100 000 counts at 2 mV/V input)
A/D-performance	90 updates/second; resolution: 130000 increments
Analog LP filter performance	2,8 Hz; 20 db/decade
Digital LP filter performance	5-0.02 Hz; 40db/decade, selectable in 8 steps
Averaging period (display output)	0.2-3.2 seconds, selectable in 16 steps
General I/O's	
Hardware interfaces	RS485, 32 nodes or RS422 – full duplex
Data transmission, rates	9.6; 19.2; 38.4; 57.6; 115.2 kB
Data transmission, protocol	Get results or auto transmit
Logic inputs	2 (10-30 V; 1-3 mA; ref to gnd.)
Logic outputs	2 open collectors (30 Vdc; 0.2 A; ref to gnd.)
Power supply	12-24 Vdc max 100 mA
Influences	
Temperature effect on Zero	Typical 5 ppm/°K, Max 10ppm/°K
Temperature effect on Span	Typical 3 ppm/°K, Max 5ppm/°K
Temperature range	Operating: -15°C/+50°C; Storage -30°C/+70°C
Relative humidity	0-95 % non condensing
EMI	10 V/m (1-2000 MHz)
General I/O protection, all pins	Reversed polarity, excess voltage and surge
Vibration	2.5 G operational; 5 G non-operational
Protection, environment	IP40
Dimensions	
Height /length/width	H 6mm excl. pins; L 81.3mm; W 30.5mm
Weight	27 g (1 oz)
I/O pins	2x5 pins, 2.54 mm pitch; 1x10 pins, 2.54 mm pitch
Standards	
CE EMC directive 89/336	EN 61326/A1 Table A.1. passed
Certificate of approval	Cert.no. DK 0199-R76-02.02. Rev.1 (EN45.501)
Certified accuracy	Class III: 5000e; 0,7 µV/VSI

ACCESSORIES/ OPTIONAL

Enclosures: A number of metal or plastic enclosures are available, all IP65 proof.
Extensions: A number of Unit Adaptors provide screw terminals, fuse protection, DIN TS35 rail mounting and data bus-converters.
The Unit Adaptors can be built to specific customer demands.

Dimensions and specifications subject to change without notice

Group Four Transducers Inc

Pioneering Measured Solutions

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Group Four Transducers Inc

Pioneering Measured Solutions

load cell digitizer

GLDU 69.1

GLDU 69.1 is a high accuracy, high stabilty load cell digitalizer. Ideal for applications where there is high dead load to live load relationship. Perfect for filling and packaging machines.

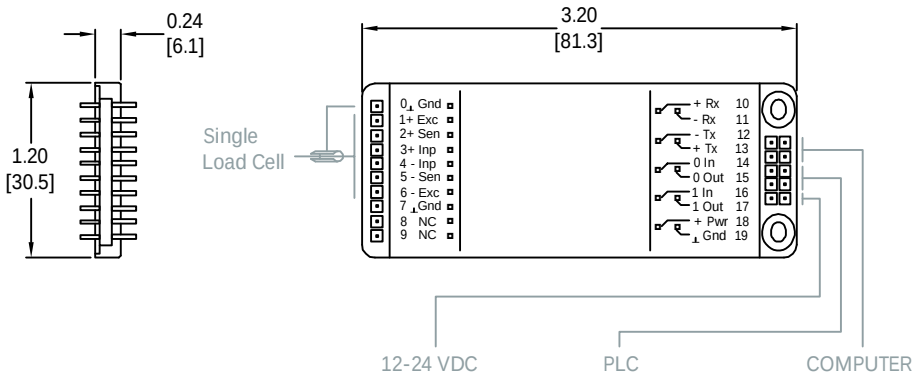
FEATURES

- Supports any weighing or reference application, which requires precision beyond normal.
- Offers extreme stability over time and temperature.
- Internal precision reference 2.000.0mV/V for mV/V calibration.
- Eases the design of any digital device dealing with a load cell input.
- Communicates via a RS 422/485 full duplex interface in 32 node networks or point to point.
- A graphic presentation, analysis and set up PC program, DOP is available.

APPLICATIONS

- The GLDU 69.1 is often used as calibration equipment by quality inspectors and manufactures of load cells and test machines.

DIMENSIONS



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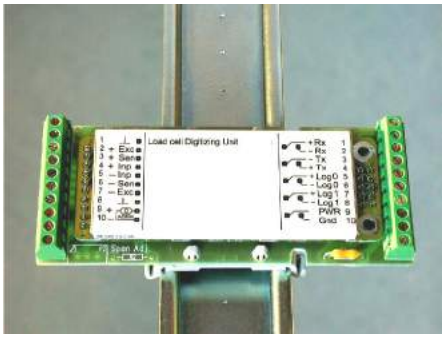
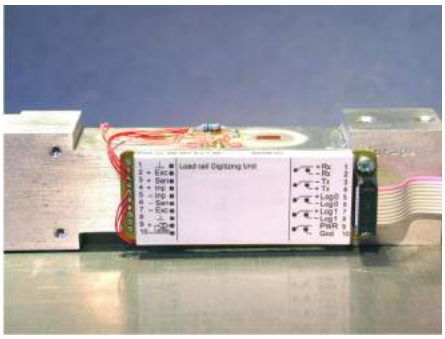
load cell digitizer

GLDU 69.1

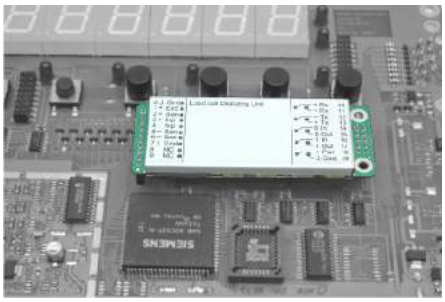
DIN TS35 rail mounted :



Load cell mounted :



PCB mounted :



SPECIFICATIONS

Input and A/D	
Linearity	<0.002 % of full scale
Load cell excitation voltage	5 Vdc polarity shifting at 172Hz
Load cell drive capability	R_{LC} 250-2000 ohm
Load cell wiring system	6 wires inclusive sense
Load cell input range	±3.2 mV/V equivalent to ±16 mVdc
Load cell input resolution	<20nV/increment.
A/D-performance	172 updates/second; 1000000 incr. resolution
Analog LP filter performance	3 Hz; 20 db/decade
Digital LP filter performance	3-0.2Hz; 40db/decade, selectable in 6 steps
Averaging period (display output)	5 updates/second, variable rolling averaging
General I/O's	
Hardware interfaces	RS485, 32 nodes or RS422 –full duplex
Data transmission, rates	9.6; 19.2; 38.4; 57.6; 115.2 kB
Data transmission, protocol	Get results or auto transmit
Output data rate	21-172 updates/second
Logic inputs	-
Logic outputs	-
Power supply	12-24Vdc max 100mA (12-14 Vdc if R_{LC}<200ohm)
Influences	
Temperature effect on Zero	Typical 1ppm/°K, Max 2ppm/°K
Temperature effect on Span	Typical 1ppm/°K, Max 2ppm/°K
Temperature range	Operating: -10°C/+40°C; Storage -20°C/+60°C
Long term stability of Zero	Typical 5ppm/year at room temperature
Relative humidity	0-95 % non condensing
EMI	10 V/m (1-2000 MHz)
General I/O protection, all pins	Reversed polarity, excess voltage and surge
Vibration	2.5 G operational; 5 G non-operational
Protection, environment	IP40
Dimensions	
Height /length/width	H 6mm excl. pins; L 81.3mm; W 30.5mm
Weight	27 g (1 oz)
I/O pins	2x5 pins, 2.54 mm pitch; 1x10 pins, 2.54 mm pitch
Standards	
CE EMC directive 89/336	EN 61326/A1 Table A.1. passed
Certificate of approval	Cert.no. DK 0199-R76-03.01. (EN45.501)
Certified accuracy	Class III: 10000e; 0,1 µV/VSI

ACCESSORIES/ OPTIONAL

Enclosures : A number of metal or plastic enclosures are available, all IP65 proofed.

Extensions : A number of Unit Adaptors provides screw terminals, fuse protection, DIN TS35 rail mounting and data bus-converters. The Unit Adaptors can be built to specific customer demand.

Dimensions and specifications subject to change without notice

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Group Four Transducers Inc

Pioneering Measured Solutions

load cell digitizer

GLDU 78.1

GLDU 78.1 converts the load cell signal to digital format for reliable, precision weighing operations at high speed .

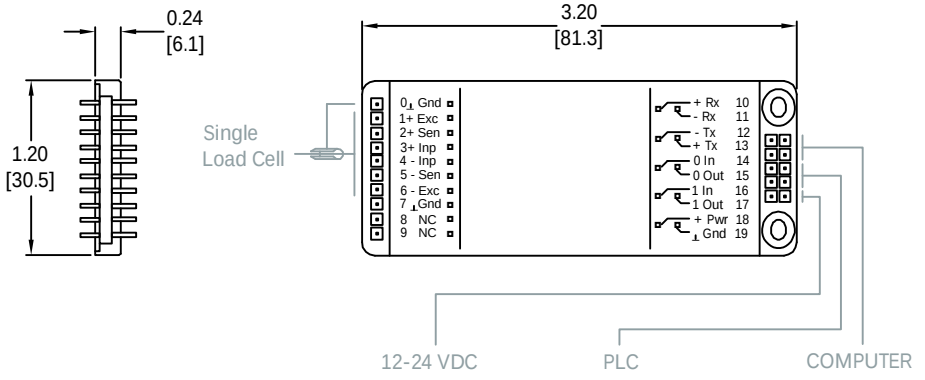
FEATURES

- Drives up to four 350 ohm load cells.
- A library of included firmware for check weighing, grading or filling applications.
- RS 422/485 full duplex interface in 32 node networks or point to point.
- Offers dual logic outputs and dual logic inputs for the control of filling and sorting operations.
- A graphic presentation, analysis and set up PC program is available.

APPLICATIONS

- Especially designed for dynamic weighing such as check-weighing and filling systems.
- All LDU's are designed to be embedded into customers' equipment, to be plugged into a Unit Adaptor (Accessory) or otherwise integrated with a hosting device.

DIMENSIONS



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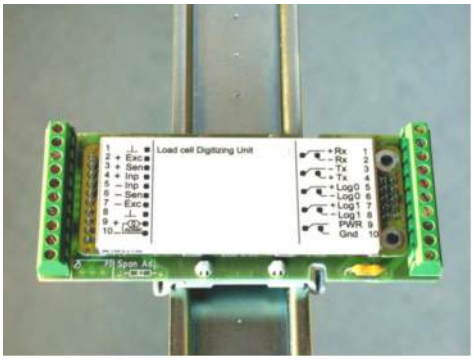
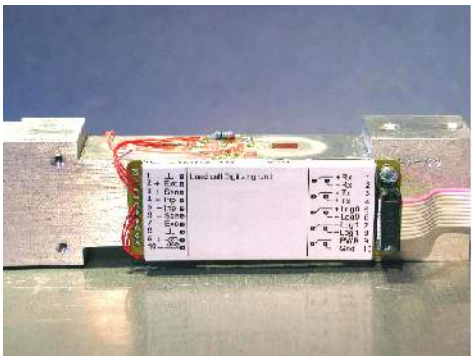
load cell digitizer

GLDU 78.1

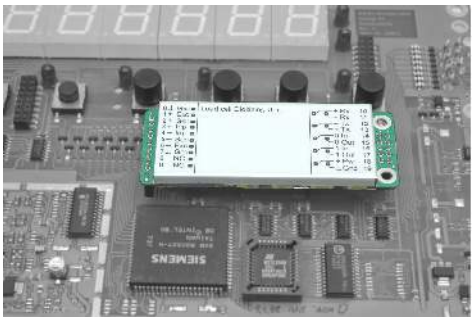
DIN TS35 rail mounted :



Load cell mounted :



PCB mounted :



SPECIFICATIONS

Input and A/D	
Linearity	<0.002 % of full scale
Load cell excitation voltage	5 Vdc
Load cell drive capability	R_{LC} 80-2000 ohm (12-14 Vdc supply voltage)
	R_{LC} 300-2000 ohm (14-24 Vdc supply voltage)
Load cell wiring system	6 wires inclusive sense or 4 wires
Load cell input range	±2.2 mV/V equivalent to ±11 mVdc
Load cell input resolution	<50nV/incr. (>±200 000 counts at ±2 mV/V input)
A/D-performance	2400 updates/second; 260000 incr. resolution
Analog LP filter performance	17 Hz; 60 db/decade
Digital IIR LP filter performance	18-0.25Hz; 40db/decade, selectable in 8 steps
Digital FIR LP filter performance	19.7-2.5Hz, selectable in 8 steps
Averaging period (display output)	600-0.6 updates/second, selectable in 8 steps
General I/O's	
Hardware interfaces	RS485, drives 32 nodes or RS422 –full duplex
Data transmission, rates	9.6; 19.2; 38.4; 57.6; 115.2 kB
Data transmission, protocol	Get results or auto transmit
Logic inputs	2 (10-30 V; 1-3 mA; ref to gnd.)
Logic outputs	2 open collectors (30 Vdc; 0.2 A; ref to gnd.)
Power supply	12-24Vdc max 100mA (12-14 Vdc if R_{LC}<300ohm)
Influences	
Temperature effect on Zero	Typical 5 ppm/°K, Max 10ppm/°K
Temperature effect on Span	Typical 2 ppm/°K, Max 5ppm/°K
Temperature range	Operating: -15°C/+55°C; Storage -30°C/+70°C
Relative humidity	0-95 % non condensing
EMC performance	EN61000 Severity level 4-x (all issues)
General I/O protection, all pins	Reversed polarity, excess voltage, burst and surge
Vibration	2.5 G operational; 5 G non-operational
Protection, environment	IP40
Dimensions	
Height /length/width	H 6mm excl. pins; L 81.3mm; W 30.5mm
Weight	27 g (1 oz)
I/O pins	2x5 pins, 2.54 mm pitch; 1x10 pins, 2.54 mm pitch
Standards	
CE EMC directive 2004/22/EC	MID Class E2 (industrial locations) passed
Emission	EN55022/EN55011 Class B
Certificate of approval	Cert.no. DK 0199-R76-10.08
OIML R76 certified accuracy	Class III: 10000e; 0,3 µV/VSI

ACCESSORIES

Enclosures: A selection of IP65 plastic enclosures are available for 1; 2 or 4 LDU's.

Extensions: A selection of Unit Adaptors provide screw terminals, fuse protection, DIN TS35 rail mounting, RS232 converters and various operating- and connection facilities.
The Unit Adaptors can be custom made to meet special requirements.

Dimensions and specifications subject to change without notice

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Group Four Transducers Inc

Pioneering Measured Solutions

digital amplifier

GDAD141.1

The Digital Amplifier, GDAD141.1 is the ideal solution for non-automatic and automatic weighing, filling or loss-in-weigh applications.

FEATURES

• Weighing mode, Input:
- Drives up to 6 pcs 350 ohm Load cells.
- External resolution ±200 000 increments at ±2mV/V input.
- Output update rate 1-600 upd./sec.
- Bandwidth 0,2-20Hz.
- OIML R-76 Class III: 10000e; e=0.25 µV/VSI.

• Input/Outputs, standard:
- Analogue current output.
- Analogue voltage output.
- Triple logic output.
- Dual logic input.
- Ethernet TCP/IP, selection of protocols.
- RS485 full duplex.

• Built in special programs:
- Check-weighing.
- Dozing and filling of bulk goods (pending).
- Loss-in-weigh applications (pending).

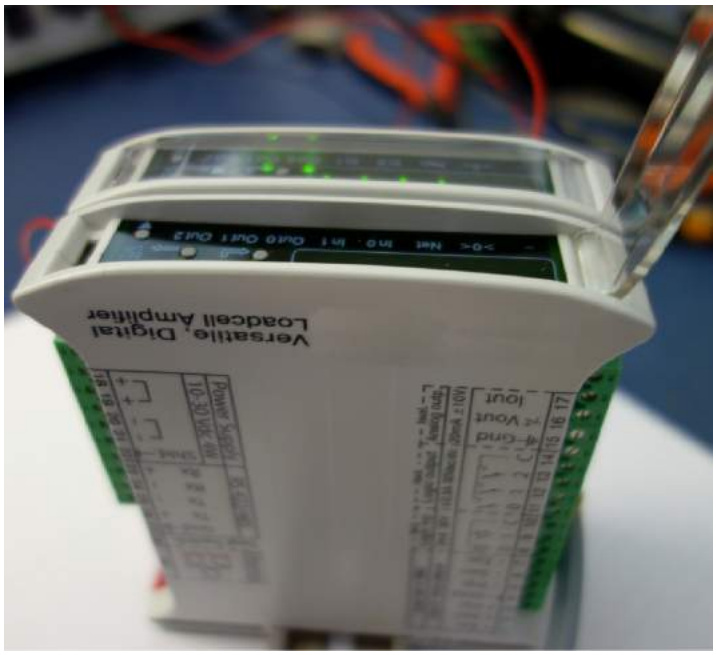
• Features:
- Android App for remote set-up and calibration via a LAN (Wi-Fi or Blue Tooth).
- Six digit display and keyboard for direct set-up, calibration and operation.
- Advanced digital filter performance (FIR or IIR etc.).
- Load cell (mV/V) calibration.
- PC programme (Buzzard DOP) is available for set-up, calibration and process analysing.

APPLICATIONS

- Non-automatic and automatic weighing, filling or loss-in-weigh operations.
- Analog current- and voltage output, Ethernet, RS485 and logic I/O's for direct control of valves or bars and simple remote operations.

DIMENSIONS

Height /length/width	L:105mm (4.1"); H:120mm (4.7"); W22.5mm (.9")
Weight	170g (6oz)
All connection pins	Pluggable, coded, 5,08mm (0.2") pitch.
Mounting	To be clipped on to DIN Rail TS35



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digital amplifier

GDAD141.1

SPECIFICATIONS

Performance	Linearity	<0.001% of full scale.
	Load cell excitation voltage	5 Vdc
	Load cell drive capability	R_{LC} 58-2000 Ω (≤6 pc 350 Ω load cells)
	Load cell wiring system	6 wires inclusive sense
	Load cell input range	±3.3 mV/V equivalent to ±16,5 mVdc.
	Load cell input resolution	≈50 nV/incr. (≈200 000 counts at 2 mV/V input)
	A/D-conversion rate	600 updates/second
	Fix LP filter, default	20 Hz; 60 db/decade
	Adjustable digital IIR LP filter	18-0.25Hz; 40db/decade, selectable in 8 steps
	Adjustable digital FIR LP filter	19.7-2.5Hz, selectable in 8 steps
	Output update rate	600-0.6 updates/second, selectable in 8 steps
	Display averaging rate	5 updates/second
General I/O's	Hardware interfaces	RS485, drives 32 nodes or RS422 –full duplex
	Data transmission, rates, RS485	9.6; 19.2; 38.4; 57.6; 115.2 kB
	Data transmission, protocol	Get results or auto transmit
	Ethernet TCP/IP	Modbus and other protocols available. Isolated
	Analogue current output	0-20mA or 4-20mA. 500ohm. Isolated
	Analogue voltage output	0-10V; 0-5V; ±5V; ±10V. 10kohm. Isolated
	Logic inputs	2 (10-30 V; 1-3 mA) Separate grnd.; Isolated.
	Logic outputs	3 FET's (30 Vac; 0.5 A) Separate grnd.; Isolated.
	Internal calibration reference	2,000.0mV/V
	Power supply	10-30Vdc ≤15% ripple; ≤4Watt. Isolated.
Facilities	Display, optical spectral filtered	6 digit, 7seg. Green LED's, 5.08mm.
	Indicators	8 green LEDs.
	Keyboard	4 pc Ø3mm robust, short travel push buttons
	Sealing for legal operations (Green M)	Plug and key-board lid to be sealed with labels
Influences	Temperature effect on Zero	Typical ±2ppm/°K, Max ±4ppm/°K
	Temperature effect on Span	Typical ±4ppm/°K, Max ±8ppm/°K
	Temperature effect on Calibration Ref.	Typical ±4ppm/°K, Max ±8ppm/°K
	Relative humidity	0-95 % non condensing
	General I/O protection, all connections	Reversed polarity, excess voltage and surge
	Vibration	2.5 G operational; 5 G non-operational
	Protection un-installed, environment	IP40
Standards	Conform to Council Directive	CE in accordance with 2011/77/EC ; 2004/108/EC
	Certificate of EMC performance	2004/22/EC MID E2 (for industrial applications).
	Certified accuracy	OIML R-76 Class III: 10000e; e=0.25 µV/VSI

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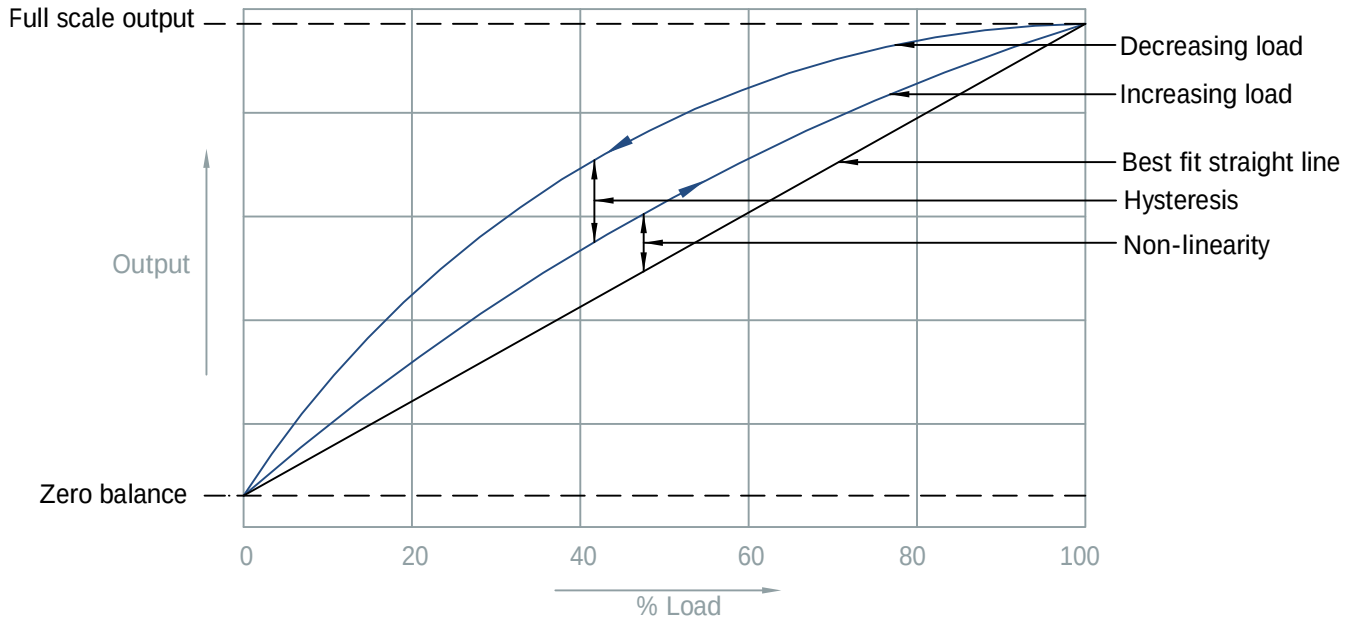
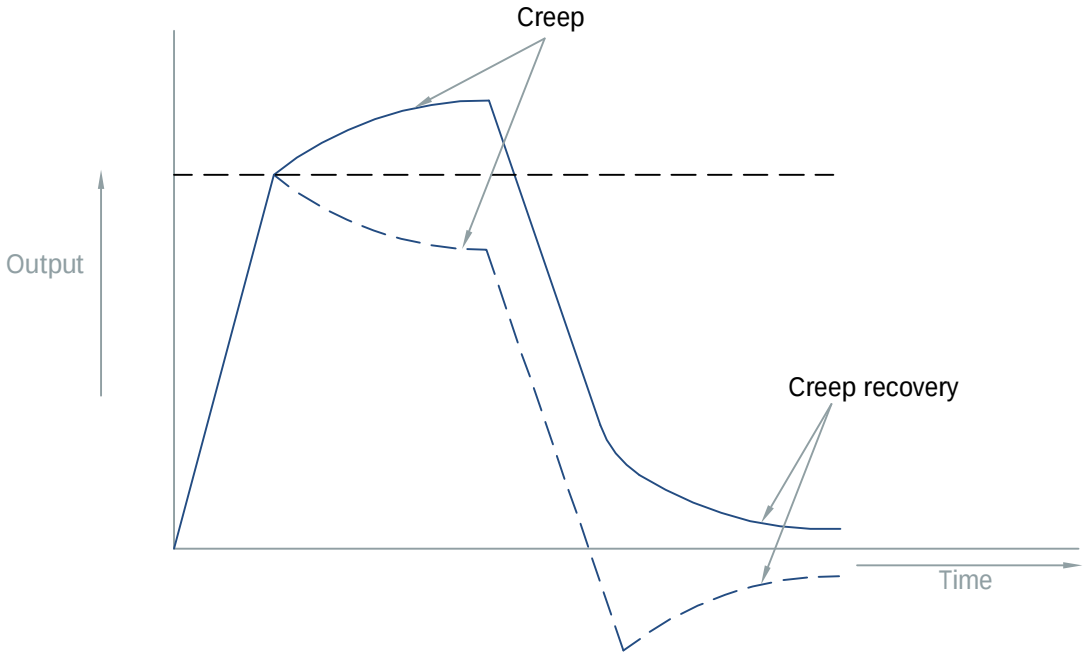
LOAD CELL TERMINOLOGY

Rated capacity	The maximum load for which the load cell is designed.
Span	Full scale output
Zero balance(ZO)	Load cell output with no load applied
Full scale output (FS)	Load cell output at rated capacity (full scale), Expressed in mV/V (millivolts output per volt excitation) as net value (output at rated capacity minus output at zero)
Best fit straight line	Best fit straight line derived by the method of least squares, used to determine load cell output errors. Plotting linearity and hysteresis data.
Non-linearity	The deviation of load cell output from the best fit straight line, recorded with increasing loads. Expressed as % FSO
Hysteresis	The difference in load cell outputs from equivalent increasing and decreasing loads. Expressed as % FSO
Maximum error / Combined error	The maximum error of load cell output from the best fit straight line, considering both non-linearity and hysteresis. Expressed as % FSO
Non-repeatability	The difference in recorded output from successive loadings under constant conditions. Expressed as % FSO



Creep	The change in FSO occurring over time with all conditions remaining constant. All materials exhibit creep effects to varying degrees. Load cell creep can be minimized by matching the creep compensation of the strain gauge to the load cell element material used. Expressed as % FSO / specified time period (usually 5, 20 or 30 minutes).
Creep return	The change in no-load output occurring with time after removal of a load which had been applied for a specific period of time. Expressed as % FSO / specified time period.



Temperature effect on zero	The change in zero output due to a specified change in temperature. Expressed as % FSO / °C
Temperature effect on span	The change in output due to a specified change in temperature. Expressed as % FSO / °C
Excitation voltage	The safe voltage used to obtain expected output values. Expressed in Vdc or Vac.
Input resistance	The electrical resistance of the load cell's strain gage circuit, measured across excitation connections with signal connections open circuit. Expressed in Ohms
Output resistance	The electrical resistance of the load cell's strain gage circuit, measured across signal connections with excitation connections open circuit.
Insulation resistance	The electrical resistance measured between the load cell's strain gage circuit and the load cell element. Expressed in Ohms
Safe overload	The maximum load in percent of rated capacity which can be applied without causing a permanent change in the performance specifications.
Ultimate overload	The maximum load in percent of rated capacity which can be applied without producing a structural failure.

LOAD CELL CATEGORIES BASED ON OUTPUT

Analog load cells :

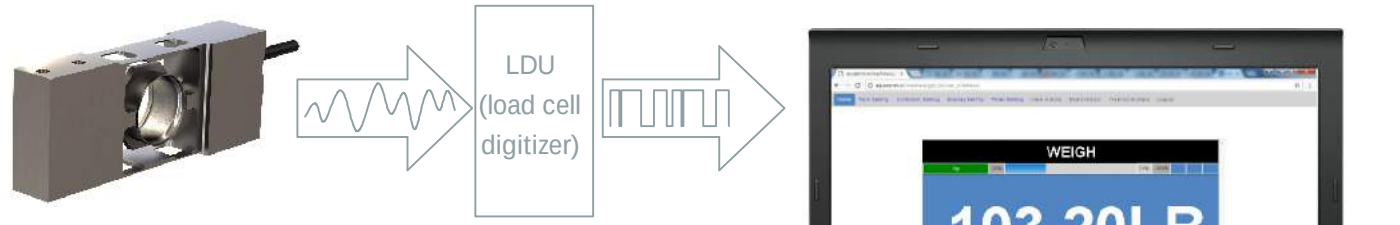
- mV/V
- Voltage output(eg. 0-5V)
- Current output (eg. 4-20mA)

Note : A load cell digitizer should be used to convert analog load cell inputs to digital output.

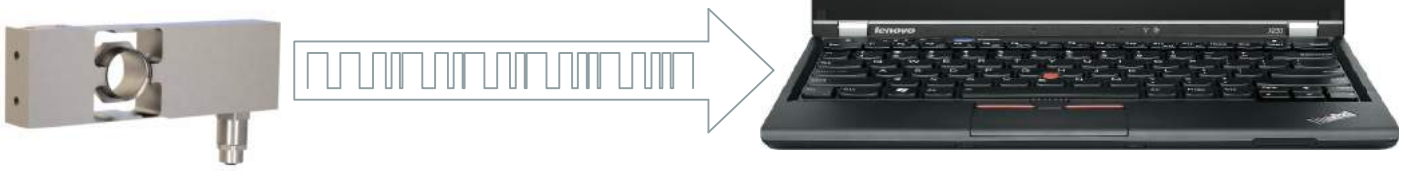
Digital load cells :

- Logical input/output.
- Serial communication RS485/ RS422/ RS232.
- Controller area network (CAN bus) communication.

Analog load cells



Digital load cells



PRODUCT CERTIFICATIONS

OIML	OIML certificate attests the conformity of recommendations of International Organization of Legal Metrology (OIML). OIML recommendations for load cells and weighing instruments are stated as per below, 1. OIML R60 : Metrological regulation for load cells. 2. OIML R76 : Non-automatic weighing instruments.
NTEP	The National Conference on Weights and Measures (NCWM) issues an NTEP certificate of conformance following successful completion of an evaluation of a device. It indicates that the device(s) described in the certificate is/are capable of meeting applicable requirements of the NIST Handbook 44.
VCAP	The National Conference on Weights and Measures (NCWM) has mandated that devices with NTEP certificates of conformance be subject to a third-party VCAP audit process in order to ensure that device performance is periodically tested to the appropriate environmental requirements identified in NCWM Publication 14, in accordance with the test protocols contained in NIST Handbook 44.
ATEX	ATEX stands for ATmosphères EXplosibles(French title). It's a European Union directive from the European Committee for Standardization that covers "equipment and protective systems intended for use in potentially explosive atmospheres." An atmosphere can be explosive for several reasons, including flammable gases, mists or vapors, or combustible dust. Manufacturers of Ex products that are placed on the European market must declare compliance with the ATEX Directive (ATEX 94/9/EC, up to 19/04/2016 and 2014/34/EU from 20/04/2016).
IECEx	The IECEx scheme is administered by the International Electrotechnical Commission (IEC) for the recognition of electrical equipment used in hazardous-classified locations. This IECEx scheme is a certification scheme covering Ex product that meets the requirements of International Standards–generally the IEC 60079 series of standards prepared by IEC Technical Committee 31.
RoHS	RoHS stands for Restriction of Hazardous Substances, and impacts the entire electronics industry and many electrical products as well. The original RoHS, also known as directive 2002/95/EC, originated in the European Union in 2002 and restricts the use of six hazardous materials found in electrical and electronic products. All applicable products in the EU market since July 1, 2006 must pass RoHS compliance.
CE	The letters "CE" are the abbreviation of French phrase "Conformité Européene" which literally means "European Conformity". CE marking is a certification mark that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area (EEA). The CE marking is also found on products sold outside the EEA that are manufactured in, or designed to be sold in the EEA. This makes the CE marking recognizable worldwide even to people who are not familiar with the European Economic Area. The CE marking is the manufacturer's declaration that the product meets the requirements of the applicable EC directives.

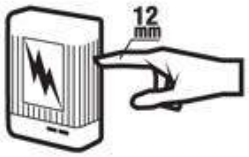
IP (Ingress Protection) Ratings Guide

SOLIDS

1

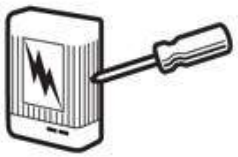
Protected against a solid object greater than 50 mm such as a hand.

2



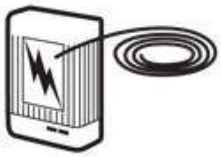
Protected against a solid object greater than 12.5 mm such as a finger.

3



Protected against a solid object greater than 2.5 mm such as a screwdriver.

4



Protected against a solid object greater than 1 mm such as a wire.

5

Dust Protected.
Limited ingress of dust permitted. Will not interfere with operation of the equipment.
Two to eight hours.

6

Dust tight.
No Ingress of dust.
Two to eight hours.

Rating Example:

IP65

INGRESS PROTECTION

WATER

1

Protected against vertically falling drops of water.
Limited ingress permitted.

2

Protected against vertically falling drops of water with enclosure tilted up to 15 degrees from the vertical.
Limited ingress permitted.

3

Protected against sprays of water up to 60 degrees from the vertical.
Limited ingress permitted for three minutes.

4

Protected against water splashed from all directions.
Limited ingress permitted.

5

Protected against jets of water.
Limited ingress permitted.

6

Water from heavy seas or water projected in powerful jets shall not enter the enclosure in harmful quantities.

7

Protection against the effects of immersion in water between 15 cm and 1 m for 30 minutes.

8

Protection against the effects of immersion in water under pressure for long periods.

Group Four Transducers. Inc.
Warranty/Repair Policy

Limited warranty on products

Any of our products which, under normal operating conditions, proves defective in material or Workmanship within one year from the date of shipment by GROUP FOUR Transducers, Inc., ("GROUP FOUR") will repair or replace free of charge provided that you obtain a Return Material Authorization from GROUP FOUR. Send the defective product, transportation charges prepaid with notice of the defect, and establish that the product has been properly installed, maintained, and operated within the limits of rated and normal usage. Replacement product will be shipped F.O.B. our plant. The terms of this warranty do not extend to any product or part thereof which, under normal usage, has an inherently shorter useful life than one year. The replacement warranty detailed here is the buyer's exclusive remedy, and will satisfy all obligations of GROUP FOUR whether based on contract, negligence, or otherwise. GROUP FOUR is not responsible for any incidental or consequential loss or damage, which might result from a failure of any Group Four Transducer, Inc. product. This express warranty is made in lieu of any and all other warranties, expressed or implied, including implied warranty of merchantability or fitness for particular purpose. Any unauthorized disassembly or attempt to repair voids this warranty. Removal of load cell label voids warranty.

Obtaining service under warranty

Advance authorization (RMA) is required prior to the return to GROUP FOUR. Before returning the item either write to the Repair Department, Group Four Transducers, Inc., 22 Deer Park Drive, East Longmeadow, MA 01028, or call (413) 525-2705 with

1.) A part number; 2.) A serial number for defective product; 3.) Shipping and billing addresses; and 4.) A technical description of the defect. (In order to properly repair a product, it is absolutely necessary for Group Four to receive information specifying the reason the product is being returned. Specific test data, written observations on the failure and the specific corrective action you require, are needed.) Shipment to GROUP FOUR shall be at Buyer's expense and must be labeled with RMA Number. Repaired items will be shipped to you F.O.B. our plant in East Longmeadow, Massachusetts. Non-verified problems or defects may be subject to a $55 evaluation charge.

Obtaining non-warranty service

1.) Advance authorization (RMA) is required prior to the return to GROUP FOUR. Please follow same procedure as "Obtaining Service Under Warranty." After the product is evaluated by GROUP FOUR we will contact you to provide the estimated repair costs before proceeding. The minimum evaluation charge is $55. Shipment to GROUP FOUR shall be at Buyer's expense and repaired items will be shipped to you F.O.B. our plant in East Longmeadow, Massachusetts.

Repair warranty

All repairs of GROUP FOUR products are warranted for a period of 90 days from date of shipment. This warranty applies only to those items, which are found defective and repaired. It does not apply to Products in which no defect was found and which are returned, "as is" with the exception of recalibration. Out of warranty products may not be capable of being returned to the exact original specifications or dimensions.

Group Four Transducers
22 Deer Park Drive,
E. Longmeadow, MA 01028
www.groupfourtransducers.com
Phone : **(800) 419 1444**
Fax : (413) 525 -6182
sales@group-4.com

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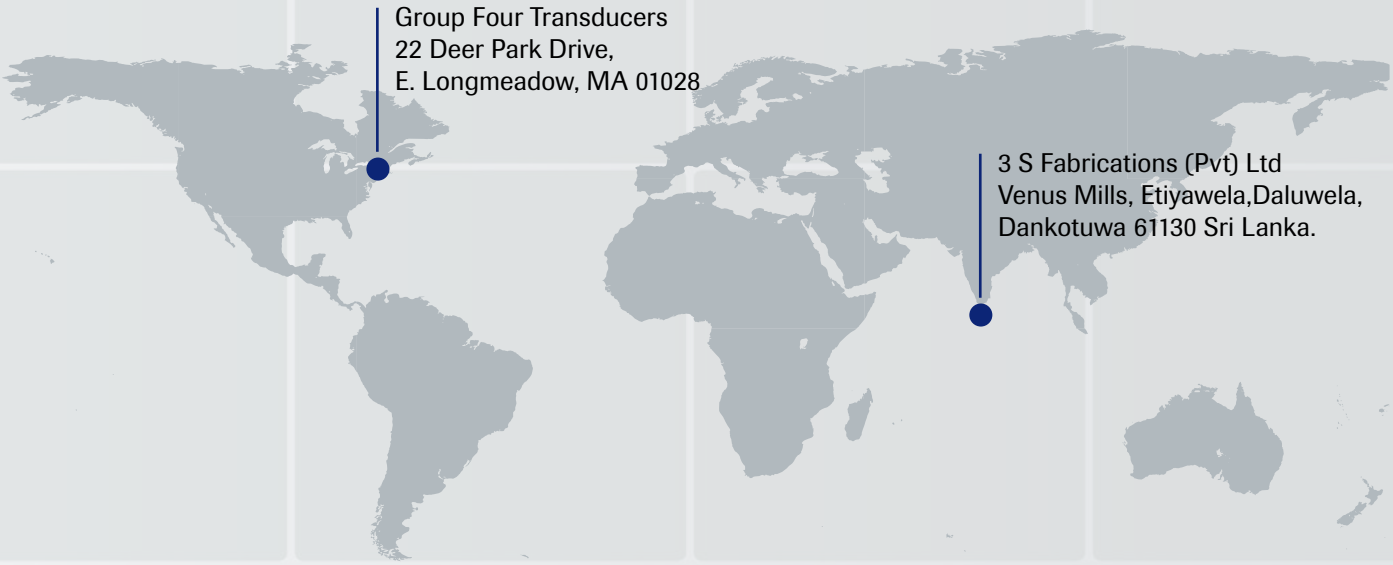
Group Four Transducers Inc

Pioneering Measured Solutions

Sales Agents and Distributors



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