Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

FC23

Compression Load Cell

SPECIFICATIONS

- **50 – 2000 lbf Ranges**
- **High Level or mV**
- **Interchangeable**
- **Compact Load Button Design**
- **Industry Standard Packaging**
- **CE Compliance**

FEATURES

- Interchangeable
- Low Noise
- Robust: High Over-Range Capability
- High Reliability
- Low Deflection
- Low Off Center Errors
- Fast Response Time
- Long Cycle Life Expectancy

APPLICATIONS

- Batch Weighing
- Robotics End-Effectors
- Variable Force Control
- Load and Compression Sensing
- Assembly Line Force Measurement
- Pumps
- Hoist and Winch Loads
- Weighing

The **FC23** is a high compression force sensor that creates new markets previously unrealizable due to cost and performance constraints. The FC23 offers normalized zero and span for interchangeability and is thermally compensated for changes in zero and span with respect to temperature.

The FC23 incorporates MEAS' proprietary Microfused™ technology which employs micromachined silicon piezoresistive strain gages fused with high temperature glass to a high performance stainless steel substrate. Microfused™ technology eliminates age-sensitive organic epoxies used in traditional load cell designs providing excellent long-term span and zero stability. The FC23 measures direct force and is therefore not subject to lead-die fatigue failure common with competitive designs which use a pressure capsule embedded within a silicone gel-filled cavity. Operating at very low strains, Microfused™ technology provides an essentially unlimited cycle life expectancy, superior resolution, and high over-range capabilities.

The FC23 brings your OEM product to life whether you need thousands or millions of load cells annually. Although the standard model is ideal for a wide range of applications, our dedicated design team at our Load Cell Engineering Center is ready to provide you with custom designs for your OEM applications.

Please refer to models FS20 and FC22 for lower force applications.

STANDARD RANGES

Range	lbf
0 to 0050	•
0 to 0100	•
0 to 0250	•
0 to 0500	•
0 to 1000	•
0 to 2000	•

PERFORMANCE SPECIFICATIONS

Unless otherwise specified: Supply Voltage: 5.0V, Ambient Temperature: 25°C

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span (Uncompensated)	95	100	105	mV	1
Span (Unamplified)	95	100	105	mV	1
Span (Amplified)	3.8	4.0	4.2	V	1
Zero Force Output (Uncompensated)	-50	0	50	mV	1
Zero Force Output (Unamplified)	-20	0	20	mV	1
Zero Force Output (Amplified)	0.3	0.5	0.7	V	1
Accuracy (non-linearity, hysteresis, and repeatability)	-1		1	%Span	2
Input Resistance (Unamplified)		3		kΩ	
Input Resistance (Uncompensated)		2.2		kΩ	
Output Resistance (Unamplified & Uncompensated)		2.2		kΩ	
Temperature Error – Span (Amplified & Unamplified)	-2.5	±1	2.5	%Span	3
Temperature Error – Zero (Amplified & Unamplified)	-2.5	±1	2.5	%Span	3
Supply Voltage (Uncompensated)	2	3.3	6.7	V	1
Supply Voltage (Unamplified)	2	5	10	V	1
Supply Voltage (Amplified)	4.5	5	5.5	V	1
Response Time (10% to 90%)		1.0		ms	
Long Term Stability (1 year)		±1		%Span	
Maximum Overload			2.5X	Rated	
Compensated Temperature	0		50	°C	
Operating Temperature	-40		+85	°C	
Storage Temperature	-40		+85	°C	
Isolation Resistance (250Vdc)	50			MΩ	
Deflection at Rated Load			0.05	mm	
Humidity	0		90	%RH	
Weight		47.23		grams	

For custom configurations, consult factory.

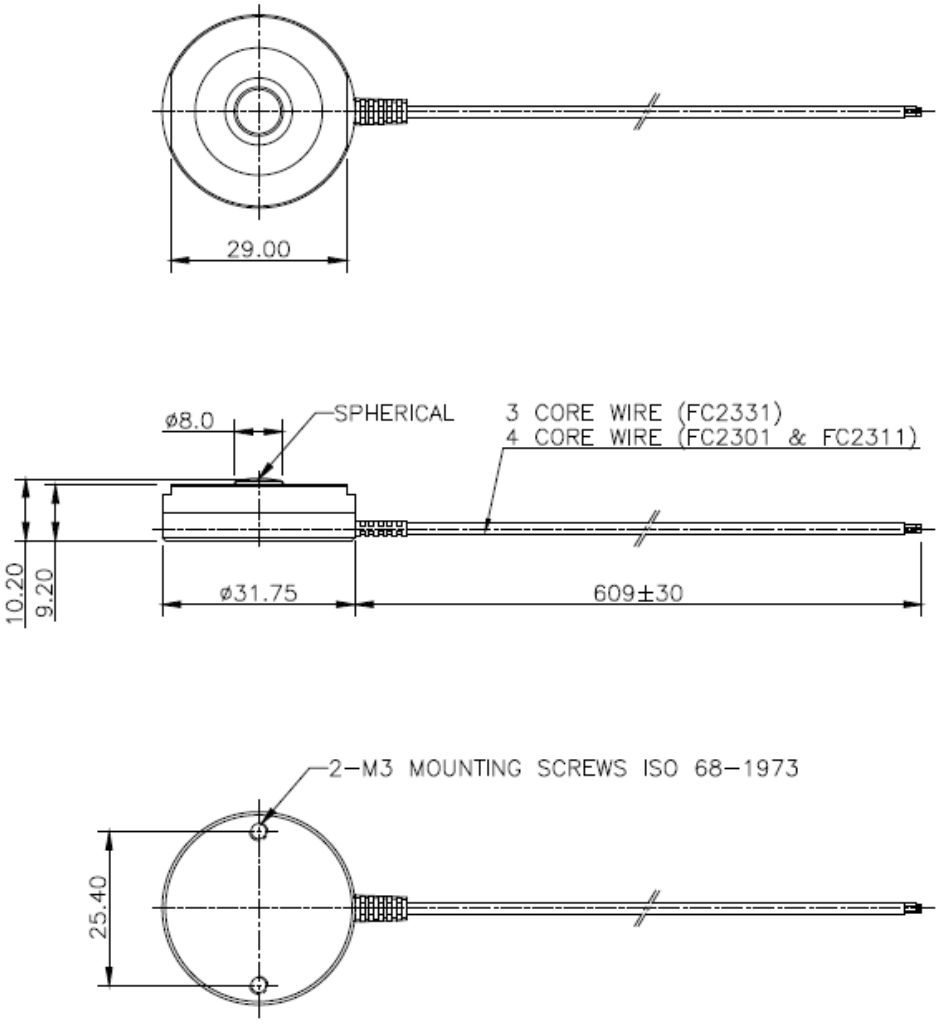
Notes

1. Ratiometric to supply.
2. Best fit straight line.
3. Maximum temperature error over compensated range with respect to 25°C.

CE Compliance

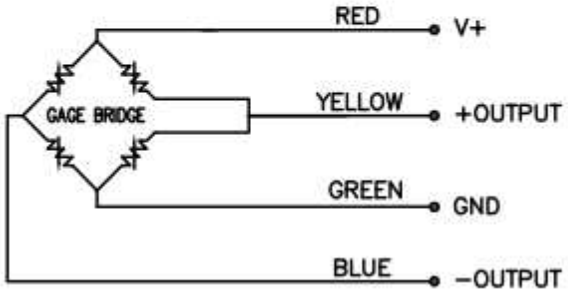
IEC61000-4-2: [4kV/ 4 kV (Air/Contact)]
IEC61000-4-3: (3 V/m)

DIMENSIONS

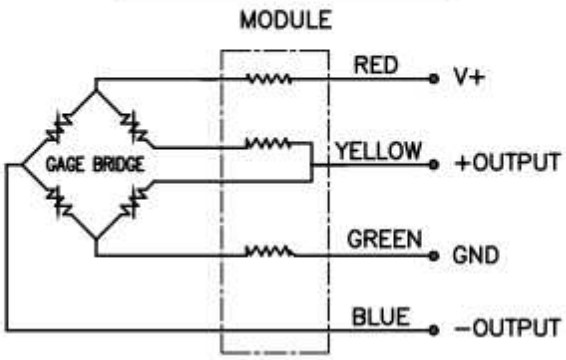

29.00
ø8.0
SPHERICAL
3 CORE WIRE (FC2331)
4 CORE WIRE (FC2301 & FC2311)
10.20
9.20
ø31.75
609±30
2–M3 MOUNTING SCREWS ISO 68–1973
25.40

CONNECTIONS

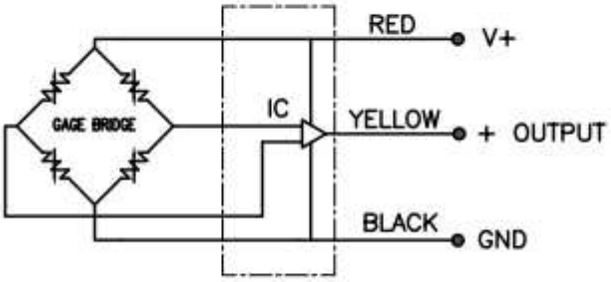
FC2301:
MILLIVOLT OUTPUT VERSION



FC2311:
MILLIVOLT OUTPUT VERSION

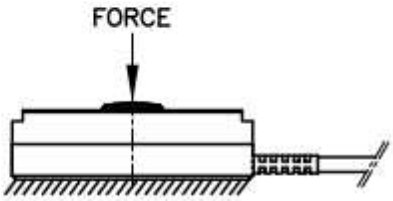


FC2331:
AMPLIFIED OUTPUT VERSION



WIRE NOTE:

P/N	WIRE CONNECTIONS
FC2301 FC2311	4 CORE WIRE (AWG32 OR AWG34, 125°C, 300V) YELLOW: +OUTPUT BLUE: –OUTPUT RED: V+ GREEN: GND
FC2331	3 CORE WIRE (AWG32 OR AWG34, 125°C, 300V) RED: V+ YELLOW: +OUTPUT BLACK: GND



ORDERING INFORMATION

FC23 3 1 – 0000 – 0100 - N

Outputs	
0	Uncompensated
1	20 mV/V
3	0.5 – 4.5 V

Connection	
1	2ft Cable

Force Units	
L	Lbf
N	Newtons

Multiplier	
-	None
K	X1000

Force Range
0050
0100
0250
0500
1000
2000

NORTH AMERICA
Measurement Specialties, Inc.,
a TE Connectivity company
45738 Northport Loop West
Fremont, CA 94538
Tel: +1 800 767 1888
Fax: +1 510 498 1578
customercare.frmt@te.com

EUROPE
MEAS France SAS,
a TE Connectivity company
26 Rue des Dames
78340 Les Clayes-sous-Bois, France
Tel: +33 (0) 130 79 33 00
Fax: +33 (0) 134 81 03 59
customercare.lcsb@te.com

ASIA
Measurement Specialties (China) Ltd.,
a TE Connectivity company
No. 26 Langshan Road
Shenzhen High-Tech Park (North) Nanshan District,
Shenzhen, 518057
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
customercare.shzn@te.com

TE.com/sensorsolutions