

# GC005 thru GC600

## Wireless Load Cell

### Features

- Standard single part line pull sizes ranging from 5,000 to 600,000 lb.
- All stainless frame and hardware
- Heavy duty construction from 17-4PH1150 stainless steel (17-4PH1025 on models 250,000lb and up)
- Accuracy of +/-1% on a single part of line
- Option available with ATEX zone 0 and CSA Class 1 division 1 certification.
- Ships calibrated
- Stock and custom bushings for most applications
- Radio range with line of sight: 4000 ft. (1300 m)
- Operates with one 'D' cell battery lithium 3.6V or alkaline 1.5V.
- 2 years battery life for typical applications
- ISM license free radio; wavelength and modulation optimized for radio communication in industrial environments.
- Temperature range: -40°C to 85°C (-40°F to 185°F)
- Temperature compensated
- Potted electronics for increased water protection
- Rugged field-replaceable antenna (TA011)
- Custom sizes on request
- 2 year warranty
- Designed with a safety factor of 5:1 on the safe working load.
- All load bearing bodies have been tested by ultrasounds, die-penetrant and proof loaded to 150% of capacity.



Wireless Load Cells Family

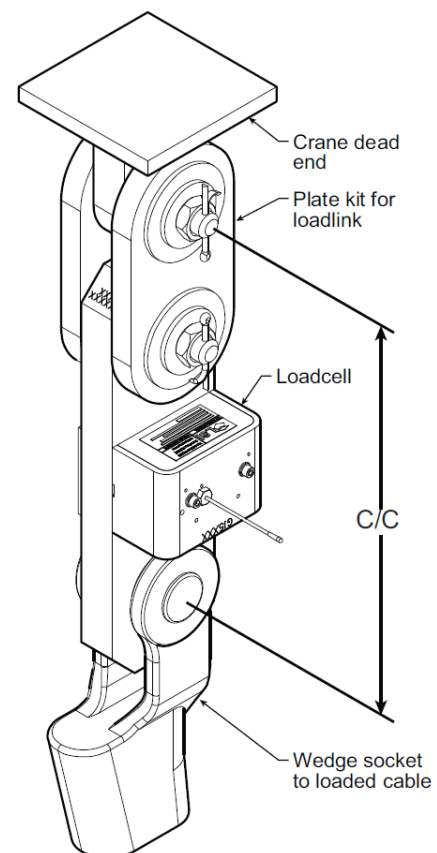


Figure: Typical installation on a crane

### Applications

Designed for all applications in the lifting industry, including offshore, that do not require the load cell to be submerged (due to radio communications). Installation above a ball, odd parted on the block, or even parted on the boom tip.

### General Description

The load cell is installed in-line with the wire-rope. This load creates minute deformations of the load cell and electronics convert it into a load value, which is transmitted to the receiving unit.

The transmitter box mounted to the load cell houses the battery, radio transmitter, and load converter.

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## Ordering Information

Model	Description
GCxxx	Load Cell. The three ‘X’ digits are working load limit (WLL) in thousands of pounds. For example, GC060 is for a 60,000-lb WLL or 27215-kg WLL. Load cell is FCC approved.
GCxxx-CSA	Load cell certified Class 1 Division 1, suitable for Div 1 and Div 2
GCxxx-ATEX	Load cell certified ATEX zone 0, suitable for zone 0, zone 1 and zone 2
GCxxx-xx-CE	Load cell CE certified, with radio frequency suitable for Europe, most of Asia and Middle East
LC6XX-XX	Appropriate adapter plate kit for load cell (see table page 6).
LC6XX-5X	Appropriate 90° adapter plate kit for load cell (see table page 8).

*Examples:*

*GC012-ATEX-CE: is a 12,000 lbs load cell with ATEX certification for Europe*

*GC170: is a 170,000 lbs load cell with FCC certification*

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### Specifications

Parameter	Test Condition	Min	Typ	Max	Unit
<b>Load Tension Measurement</b>					
Resolution	+/-	0.025	0.075	0.2	% of SWL
Accuracy	+/-	0.5	1	2	% of SWL
<b>Radio Power</b>					
	GCXXX	0.013	0.016	0.020	W
		11	12	13	dBm
<b>Radio Frequency</b>					
North American version	GCXXX	902		928	MHz
European version	GCXXX-CE	868		870	MHz
<b>Battery life</b>					
	'D' cell lithium	12	24	28	Month
	'D' cell alkaline	8	12	16	Month

### Absolute Maximum Ratings

Parameter	Test Condition	Min	Typ	Max	Unit
Ambient temperature range	Operating	-40		+60	°C
		-40		+140	°F
	Storage	-40		+85	°C
		-40		+185	°F

### Certifications

FCC/IC/CE certification

ETSI 300-220-1, 300-220-3, EN 301 489-3  
 EN61000-3-2, EN61000-3-3, EN61000-4-3, EN61000-4-6

In option : Class 1 division 1  
 In option : ATEX zone 0

CSA C22.2 No.0.4.M2004, No.0-M1991, No.0142,M1987, No0.157-M1992, No.213-M1987  
 UL508, UL913, UL1604  
 EN61000-4, EN60079-0, EN60079-11, EN60079-26

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**Specifications by Model and Options**

Load Cell model	Max load		Weight	
	(lb)	(kg)	(lb)	(kg)
GC005	5000	2270	5	2.3
GC012	12000	5440	9.00	4.08
GC018	18000	8160	10.00	4.54
GC035	35000	15880	16.00	7.26
GC060	60000	27215	29.00	13.15
GC100	100000	45360	46.00	20.87
GC170	170000	77000	94.00	42.64
GC250	250000	113400	106.00	48.08
GC300	300000	136100	122.00	55.34
GC400	400000	181000	199.00	90.26
GC600	600000	227000	288.00	130.63

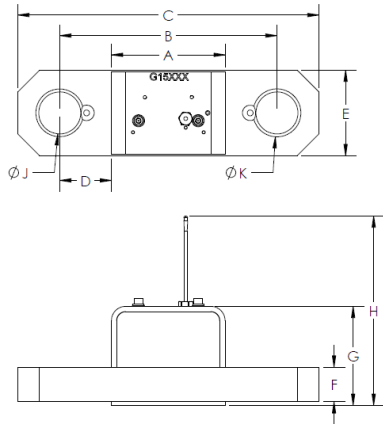
**Materials**

The load cell and hardware are made of stainless steel, AISI 304 and 17-4PH1150 (up to GC170) or 17-4PH1025 (GC250 and over). The bushings are made from 1045 steel.

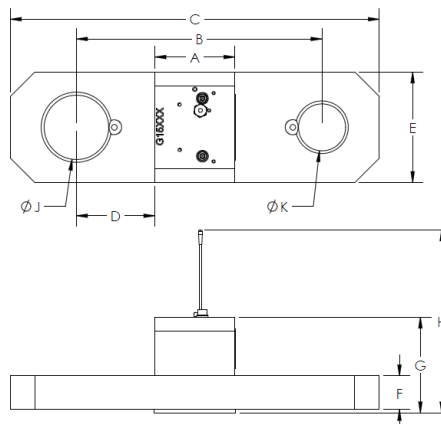
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## Dimensions (Not to Scale)

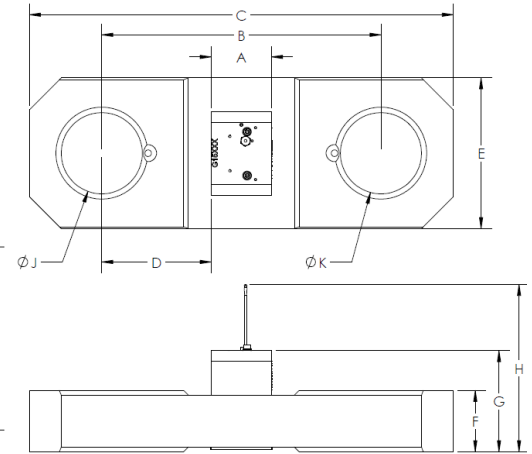
GC005-GC018



GC035-GC100



GC170-GC600



Load Cell		DIMENSIONS									
		A	B	C	D	E	F	G	H	Ø for Pin	ØK for Pin
GC005	(in)	3.93	6.20	8.30	1.14	2.95	0.65	3.00	6.12	7/8	7/8
	(mm)	99.8	157.5	210.8	28.9	74.9	16.5	76.2	155.4	22	22
GC012	(in)	3.93	7.50	10.40	1.79	2.95	0.95	3.17	6.28	1-1/4	1-1/4
	(mm)	99.8	190.5	264.2	45.4	74.9	24.1	80.4	159.6	32	32
GC018	(in)	3.93	7.50	10.40	1.79	2.95	1.20	3.44	6.55	1-3/8	1-3/8
	(mm)	99.8	190.5	264.2	45.4	74.9	30.5	87.2	166.4	35	32
GC035	(in)	2.86	8.75	13.15	2.79	3.95	1.20	3.42	6.54	2-1/4	1-5/8
	(mm)	72.5	222.3	334.0	70.9	100.3	30.5	86.7	166.0	57	41
GC060	(in)	2.86	9.00	14.58	3.32	4.95	1.65	3.92	7.04	2-1/2	2-1/2
	(mm)	72.5	228.6	370.33	84.3	125.7	41.9	99.5	178.7	63	63
GC100	(in)	2.86	11.60	18.90	4.37	6.00	2.00	4.22	7.34	3	3
	(mm)	72.5	294.6	480.1	111.0	152.4	50.8	107.1	186.3	76	76
GC170	(in)	2.86	13.00	21.20	5.07	7.00	3.00	4.98	8.10	3-1/8	3-1/8
	(mm)	72.5	330.2	538.5	128.8	177.8	76.2	126.5	205.7	80	80
GC250	(in)	2.86	14.50	23.56	5.82	7.10	2.88	4.76	7.87	3-3/4	3-3/4
	(mm)	72.5	368.3	598.4	147.9	180.3	73.2	120.8	200.0	95	95
GC300	(in)	2.86	14.00	23.688	5.57	7.44	3.38	5.04	8.15	4-1/4	4-1/4
	(mm)	72.5	355.6	601.5	141.5	189.0	85.7	127.9	207.1	108	108
GC400	(in)	2.86	17.50	28.78	7.32	8.67	3.88	5.32	8.44	5	5
	(mm)	72.5	444.5	731.0	186.0	220.2	98.4	135.1	214.3	127	127
GC600	(in)	2.86	19.00	32.08	8.07	10.70	3.88	5.44	8.55	5-1/4	5-1/4
	(mm)	72.5	482.6	814.8	205.0	271.8	98.4	138.0	217.2	133	133

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## Standard Bushings

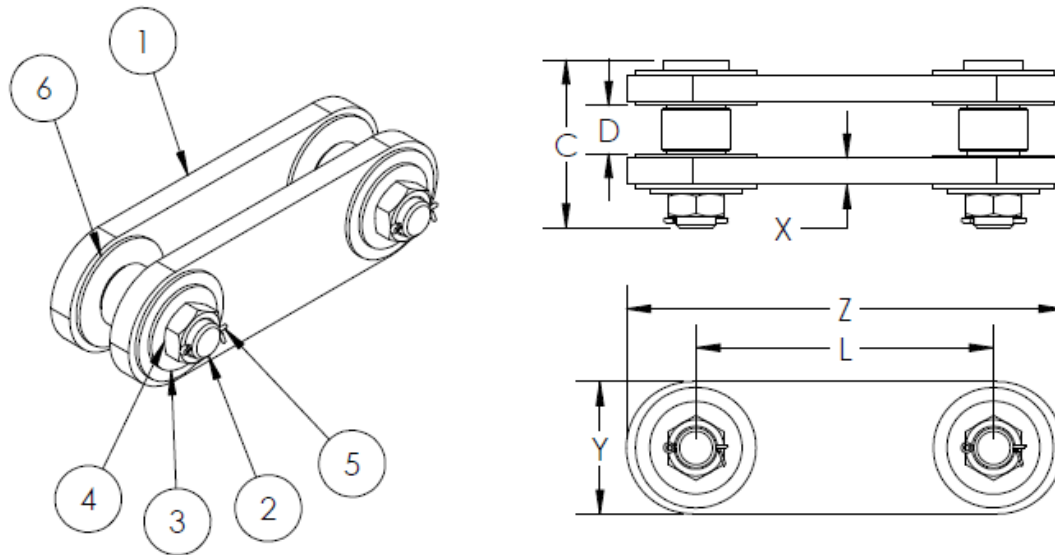
Load Cell	Bushing	ADAPTS TO PIN $\phi$	
		(in)	(mm)
GC012	<b>PC401</b>	<b>1</b>	<b>25</b>
GC018	<b>PC118</b>	<b>1-1/4</b>	<b>32</b>
GC035	<b>PC424</b>	<b>1-1/2</b>	<b>38</b>
	PC425	1-5/8	41
	PC426	1-3/4	44
	PC427	1-7/8	48
	PC428	2	50
	PC429*	1-1/4	32
GC060	<b>PC114</b>	<b>2-1/4</b>	<b>57</b>
	<b>PC115</b>	<b>2</b>	<b>8</b>
GC100	PC416	2-1/2	64
	PC419	2-3/4	70
	PC431	2	51
GC170	PC448	2-1/4	57
	PC449	2-1/2	64
GC250	PC443	2-1/4	57
	PC444	2-3/4	70
	PC445	3-1/4	83
GC300	PC446	3-3/4	96
	PC447	4-1/8	105
GC400	PC453	4-1/8	105
	PC454	4-1/4	108
	PC455	4-3/4	121
GC600	PC456	5	127

Standard included bushings are in **bold** and depends on adapter plate kit when load cell and adapter plate kit are ordered together.

\*Fits in the 1-5/8 hole, the other bushings for the GC035 fit in the 2-1/4 hole.

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## Adapter Plate Kits



Load Cell	Kit #	Plate ITM 1	Pin Number	Pin ITM 2	Nut Washer ITM 3	Nut ITM 4	Cotter Pin ITM 5	Washer ITM 6		Bushing* ITM 7
									Qty	
GC012	LC612-01	PC612-01	1	PC501	QW912	QV930	QP003S	QW901	6	PC401
			2	PC502	QW912	QV930	QP003S	QW902	6	
GC018	LC618-01	PC618-01	1	PC502	QW912	QV930	QP003S	QW902	4	PC118
			2	PC503	QW912	QV930	QP003S	QW906	4	
GC035	LC635-01	PC635-01	1	PC502	QW912	QV930	QP003S	QW902	2	PC429
			2	PC502	QW912	QV930	QP003S	QW902	2	PC423
	LC635-02	PC635-02	1	PC506	QW902	QV950	QP003S	QW903	6	
			2	PC504	QW907	QV951	QP004S	QW904	6	PC428
	LC635-03	PC635-03	1	PC506	QW902	QV950	QP003S	QW903	6	
			2	PC505	QW902	QV950	QP003S	QW903	6	PC424
	LC635-04	PC635-04	1	PC506	QW902	QV950	QP003S	QW903	6	PC424
			2	PC505	QW902	QV950	QP003S	QW903	6	PC424
	LC635-09	PC635-05	1	PC522	QW903	QV951	QP004S	QW904B	4	
			2	PC506	QW903	QV950	QP003S	QW903	4	
GC060	LC660-01	PC660-01	1	PC506	QW902	QV950	QP003S	QW903	2	PC108
			2	PC506	QW902	QV950	QP003S	QW903	2	PC108
	LC660-02	PC660-02	1	PC508	QW903	QV951	QP004S	QW904B	4	PC114
			2	PC507	QW903	QV951	QP004S	QW904	4	PC115
	LC660-03	PC660-03	1	PC508	QW903	QV951	QP004S	QW904B	4	PC114
			2	PC507	QW903	QV951	QP004S	QW904	4	PC115
	LC660-04	PC660-04	1	PC508	QW903	QV951	QP004S	QW904B	4	PC114
			2	PC507	QW903	QV951	QP004S	QW904	4	PC115
	LC660-05	PC660-05	1	PC509	QW904	QV952	QP004S	QW904C	10	
			2	PC509	QW904	QV952	QP004S	QW904C	10	
	LC660-06	PC660-06	1	PC509	QW904	QV952	QP004S	QW904C	10	
			2	PC509	QW904	QV952	QP004S	QW904C	10	

\* Bushings not included. Required bushings included with load when load cell and adapter plate are ordered together.

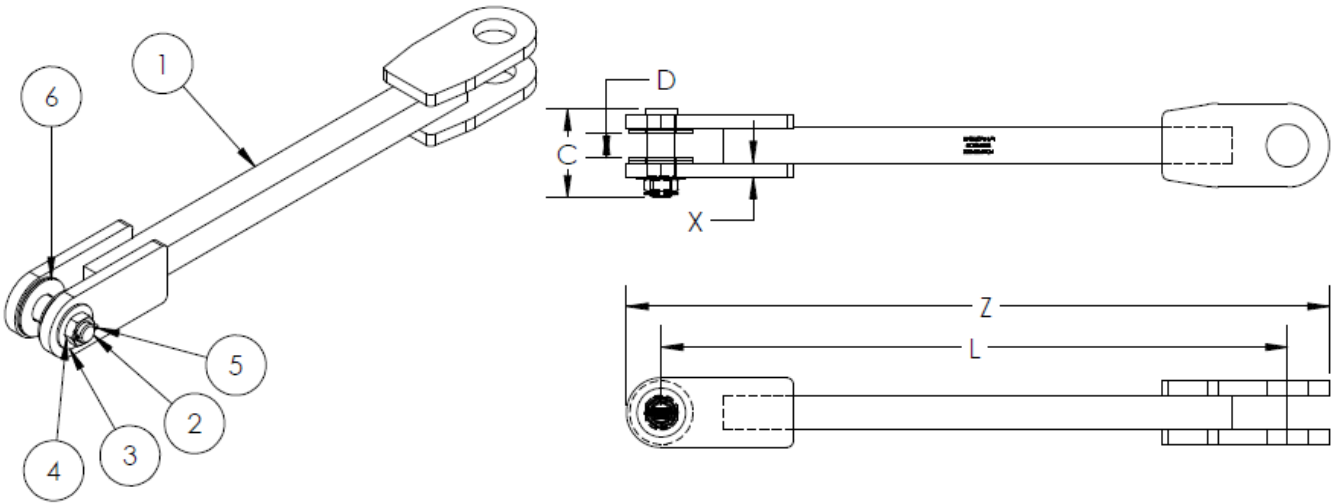
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## Adapter Plate Geometry

Load Cell	Kit #		Pin 1 Diameter	Pin 2 Diameter	C	D	L	X	Y	Z	
GC012	LC612-01	(in)	1.00	1.25	4.23	2.00	3.75	0.50	3.00	6.75	
		(cm)	25.4	31.8	107.4	50.8	95.3	12.7	76.2	171.5	
GC018	LC618-01	(in)	1.25	1.38	4.23	1.75	4.25	0.63	3.00	7.35	
		(cm)	31.8	34.9	107.4	44.5	108.0	15.9	76.2	186.7	
GC035	LC635-01	(in)	1.25	1.25	4.23	1.50	4.25	0.75	4.00	8.25	
		(cm)	31.8	31.8	107.4	38.1	108.0	19.1	101.6	209.6	
	LC635-02	(in)	1.63	2.00	5.84	2.50	7.25	0.75	4.00	11.50	
		(cm)	41.3	50.8	148.3	63.5	184.2	19.1	101.6	292.1	
	LC635-03	(in)	1.63	1.50	5.53	2.50	10.25	0.75	4.00	14.50	
		(cm)	41.3	38.1	140.5	63.5	260.4	19.1	101.6	368.3	
	LC635-04	(in)	1.63	1.50	5.53	2.50	36.00	0.75	4.00	40.25	
		(cm)	41.3	38.1	140.5	63.5	914.4	19.1	101.6	1022.4	
	LC635-09	(in)	2.25	1.63	5.84	2.50	6.00	0.75	4.00	10.10	
		(cm)	57.2	41.3	148.3	63.5	152.4	19.1	101.6	256.5	
	GC060	LC660-01	(in)	1.63	1.63	5.53	2.00	5.25	1.00	5.00	10.25
			(cm)	41.3	41.3	140.5	50.8	133.4	25.4	127.0	260.4
LC660-02		(in)	2.25	2.00	6.34	2.50	5.25	1.00	5.00	10.50	
		(cm)	57.2	50.8	161.0	63.5	133.4	25.4	127.0	266.7	
LC660-03		(in)	2.25	2.00	6.34	2.50	11.25	1.00	5.00	16.50	
		(cm)	57.2	50.8	161.0	63.5	285.8	25.4	127.0	419.1	
LC660-04		(in)	2.25	2.00	6.34	2.50	24.00	1.00	5.00	29.25	
		(cm)	57.2	50.8	161.0	63.5	609.6	25.4	127.0	743.0	
LC660-05		(in)	2.50	2.50	8.09	3.00	7.25	1.00	5.00	12.50	
		(cm)	63.5	63.5	205.5	76.2	184.2	25.4	127.0	317.5	
LC660-06		(in)	2.50	2.50	8.09	3.00	11.25	1.00	5.00	16.50	
		(cm)	63.5	63.5	205.5	76.2	285.8	25.4	127.0	419.1	

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**Adapter Plate Kits**



Load Cell	Kit #	Adapter Bar ITM 1	Pin Number	Pin ITM 2	Nut Washer ITM 3	Nut ITM 4	Cotter Pin ITM 5	Washer		Bushing ITM 7
								ITM 6	Qty	
GC035	LC635-51	PC635-51	1	PC531	---	QV954	QP003	---	---	---
			2	PC530	---	QV954	QP003	---	---	PC405
GC060	LC660-51	PC660-51	1	PC507	QW903	QV951	QP004S	QW904	4	PC108
			---	---	---	---	---	---	---	---

Load Cell	Kit #		Pin 1 Diameter	Pin 2 Diameter	C	D	L	X	Z
GC035	LC635-51	(in)	1.63	1.50	3.93	1.50	24.00	0.75	28.00
		(cm)	41.3	38.1	99.8	38.1	609.6	19.1	711.2
GC060	LC660-51	(in)	2.00	3.00*	6.34	2.50	45.00	1.00	50.50
		(cm)	50.8	76.2*	161.0	63.5	1143.0	25.4	1282.7

\*Pin not included with Adapter kit