

## Models 3140-CS

### Tension/Compression Pancake Load Cell



#### DESCRIPTION

The Model 3140-CS load cell series has been designed as a reference standard for calibration labs in automotive, aerospace, military or industrial markets. These tension/

compression load cells can be used when accuracy is a high priority requirement. Some advantages of these load cells are: compact size, high accuracy and availability.

#### FEATURES

- Enhanced accuracy, up to 0.02 %
- 300 lb to 100000 lb range
- Universal tension and compression loading
- Low profile
- 150 % full scale safe overload capability
- Available in single or optional dual bridge configuration
- Metric sizes available
- Factory installed calibration adapters
- Eccentric load compensated
- High precision base installed

# Model 3140-CS

## PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Load range <sup>1</sup>	300, 500, 1000, 2000, 5000, 10000, 25000, 50000, 100000
Operation	Tension/compression
Resolution	Infinite
Standard calibration	Tension (+) and compression (-)

	300 lb to 2K lb	5K lb to 10K lb	25K lb to 100K lb
Non-linearity error (of full scale)	±0.02 %	±0.04 %	±0.04 %
Hysteresis error (of full scale)	±0.02 %	±0.04 %	±0.05 %
Non-repeatability (of full scale)	±0.005 %	±0.005 %	±0.005 %
Output @ rated capacity (nominal)	2.0 mV/V	4.0 mV/V	4.0 mV/V

## ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating	-54 °C to 93 °C [-65 °F to 200 °F]
Temperature, compensated	-9 °C to 46 °C [15 °F to 115 °F]
Temperature effect, zero	0.08 % of rated output/100 °F
Temperature effect, output	0.08 % of reading/100 °F

## ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Strain gage type	Foil
Excitation (maximum)	10 Vdc or Vac RMS
Insulation resistance	> 5000 mOhm @ 50 Vdc
Input resistance (tolerance)	350 ohm ±40/-3.5 ohm
Output resistance (tolerance)	350 ohm ±3.5 ohm
Zero balance (tolerance)	±1.0 %
Electrical termination	PT02E-10-6P mates with PT06W-10-6S

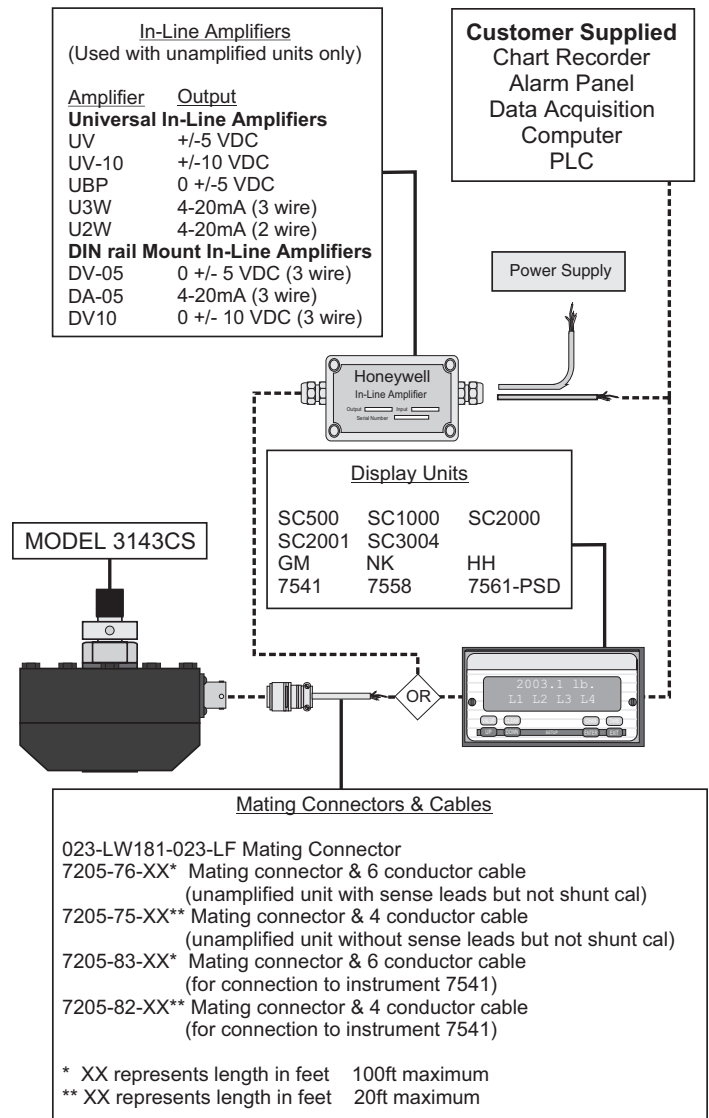
## MECHANICAL SPECIFICATIONS

Characteristic	Measure
Static overload capacity	150 % of nominal capacity
Material	Carbon steel
Creep	±0.01 %
Off-centered load sensitivity 300 lb to 2K lb	±0.10 %
Off-centered load sensitivity 5K lb to 100K lb	±0.25 %
Side load sensitivity 300 lb to 2K lb	±0.10 %
Side load sensitivity 5K lb to 100K lb	±0.25 %

## WIRING CODES

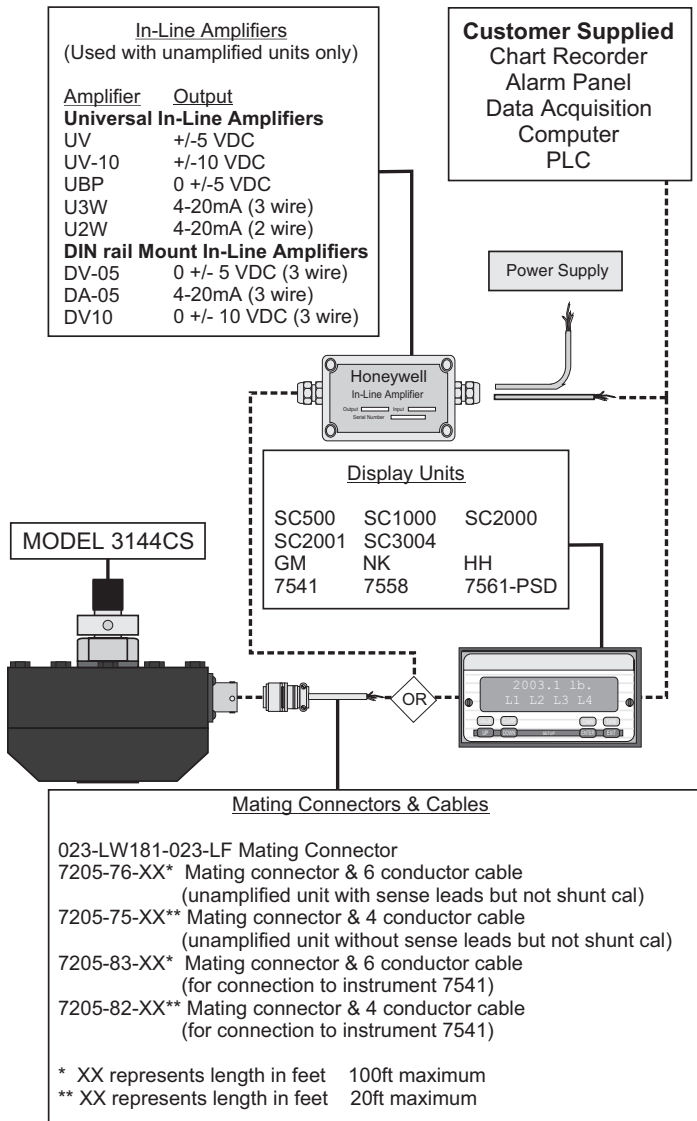
Cable	
Red	(+) excitation
Black	(-) excitation
Green	(+) output
White	(-) output

## TYPICAL SYSTEM DIAGRAM

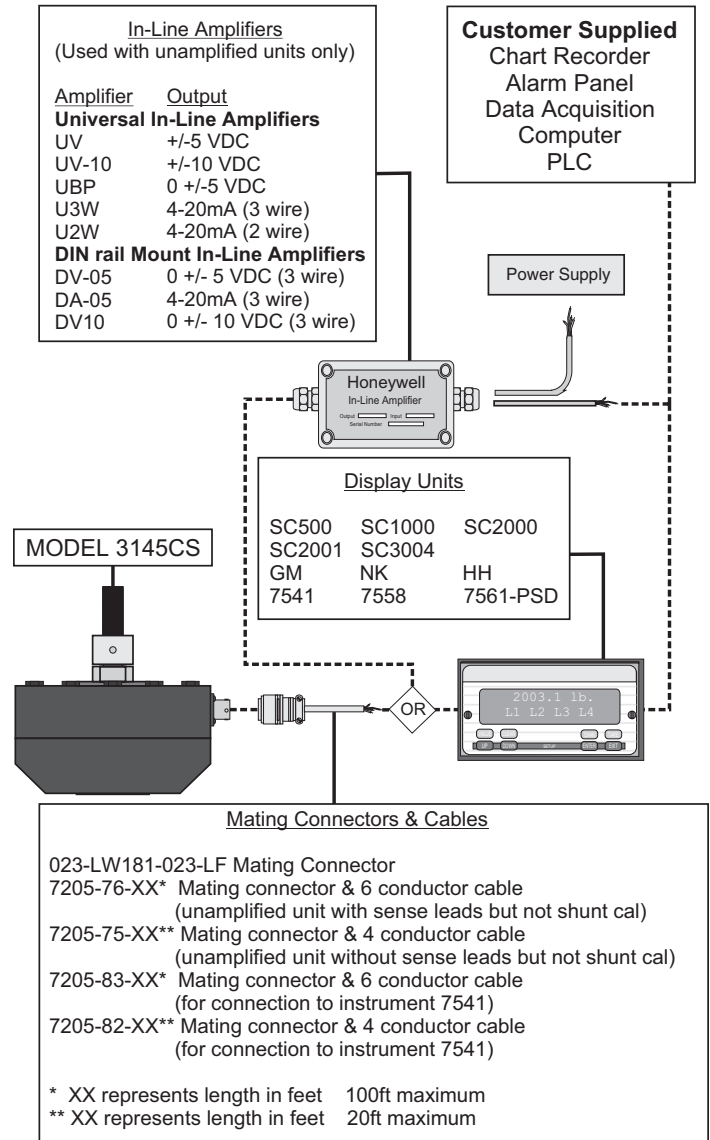


## Tension/Compression Pancake Load Cell

### TYPICAL SYSTEM DIAGRAM



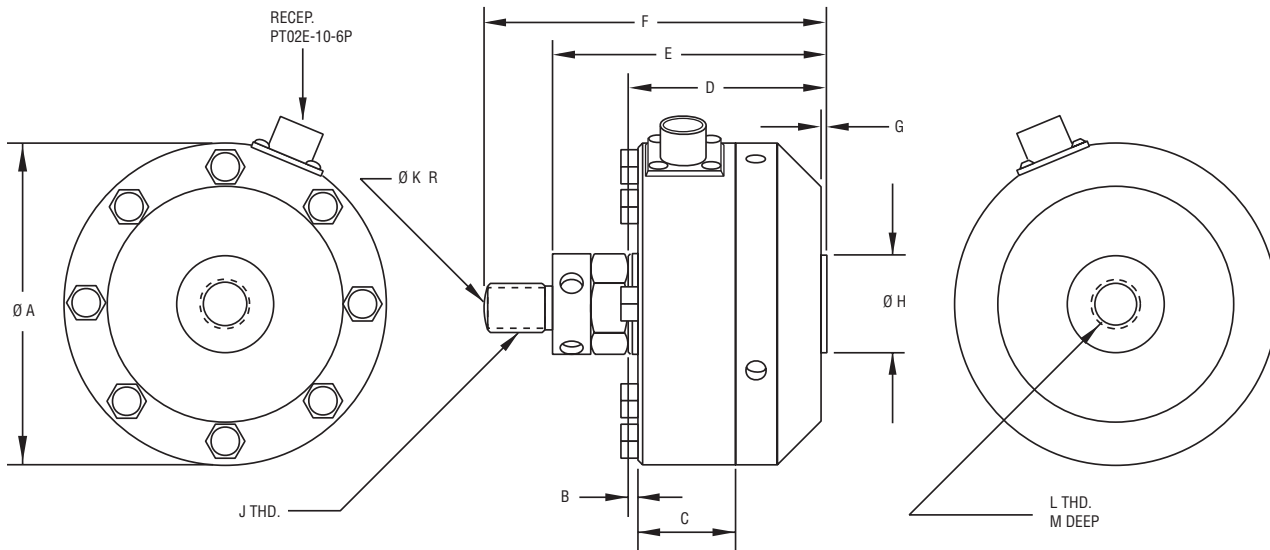
### TYPICAL SYSTEM DIAGRAM



# Model 3140-CS

## MOUNTING DIMENSIONS

Model	Capacity (lb)	Ø A in	B in	C in	D in	E in	F in	G in	Ø H in	J Thread	Ø K in	L Thread	M in.
3143-CS-300	300	4.12	0.13	1.25	2.50	3.44	4.18	0.03	1.25	1/2-20 UNF 3A	6.00	1/2-20 UNF 3B	0.88
3143-CS-500	500	4.12	0.13	1.25	2.50	3.44	4.18	0.03	1.25	1/2-20 UNF 3A	6.00	1/2-20 UNF 3B	0.88
3143-CS-1K	1000	4.12	0.13	1.25	2.50	3.44	4.18	0.03	1.25	1/2-20 UNF 3A	6.00	1/2-20 UNF 3B	0.88
3143-CS-2K	2000	4.12	0.13	1.25	2.50	3.44	4.18	0.03	1.25	1/2-20 UNF 3A	6.00	1/2-20 UNF 3B	0.88
3144-CS-5K	5000	4.12	0.13	1.25	2.50	3.44	4.19	0.03	1.25	5/8-18 UNF 3A	6.00	5/8-18 UNF 3B	0.88
3144-CS-10K	10000	4.12	0.13	1.25	2.50	3.44	4.19	0.03	1.25	5/8-18 UNF 3A	6.00	5/8-18 UNF 3B	0.88
3145-CS-25K	25000	6.06	0.13	1.63	3.50	4.94	6.44	0.03	1.25	1¼-12 UNF 3A	6.00	1¼-12 UNF 3B	1.50
3145-CS-50K	50000	6.06	0.13	1.63	3.50	4.94	6.44	0.03	2.25	1¼-12 UNF 3A	6.00	1¼-12 UNF 3B	1.50
3146-CS-100K	100000	8.00	0.25	2.25	4.50	6.13	7.88	0.03	3.00	1¼-12 UNF 3A	12.00	1¼-12 UNF 3B	1.75



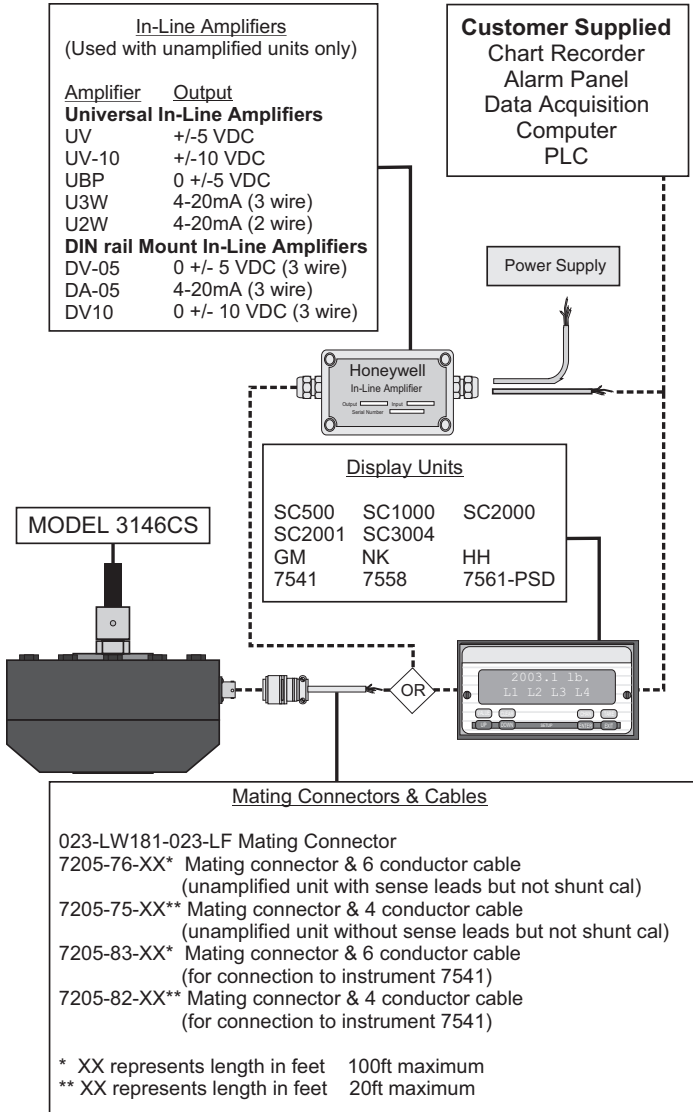
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# Tension/Compression Pancake Load Cell

## NOTES

1. This unit calibrated to Imperial (non-Metric) units.

## TYPICAL SYSTEM DIAGRAM



**Warranty.** Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

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### **WARNING** PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

### **WARNING** MISUSE OF DOCUMENTATION

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

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