

# Model 3400 Intrinsically Safe Load Cell

- Stainless steel construction
- Sealed connector
- IP68 environmental protection
- Internally amplified 4-20 mA output, loop-powered
- Unipolar (T or C) or bipolar (T and C)
- Zero and span adjustment access
- CE certified
- Explosion protection by Intrinsic Safety (approval pending) per ATEX designation: II 2 G Ex ib IIC T4



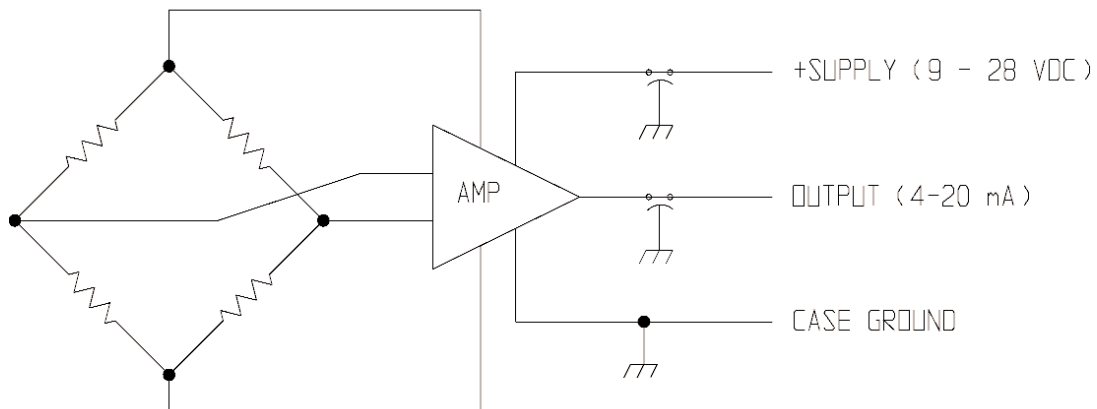
*Specially designed load cells with loop-powered intrinsically safe amplified output for use in oil field and other hazardous locations. These load cells are derived from other proven Interface models by adding high resistance strain gages for low-current loop power and shielded internal amplifier for extra low emissions and minimal EMI susceptibility.*

## SPECIFICATIONS

PARAMETERS	ALL MODELS
<b>ACCURACY – (MAX ERROR)</b>	
Nonlinearity-% FS	±0.10*
Hysteresis-% FS	±0.08*
<b>TEMPERATURE</b>	
Compensated Range-°F	0 to 150
Compensated Range-°C	-18 to 65
Operating Range-°F	-40 to 200
Operating Range-°C	-40 to 93
Zero Balance	4.00 ±0.10 mA Unipolar 12.00 ±0.10 mA Bipolar
Rated Output	16.000 ±0.016 mA Unipolar ±8.000 ±0.008 mA Bipolar
<b>ELECTRICAL</b>	
Excitation Range	+9 to +28 VDC
Maximum Loop Resistance	0 ohm @ 9VDC Excitation 950 ohm @ 28VDC Excitation

*\*Some capacities of some models have higher performance specifications, contact factory for details.*

Functional Diagram, Model 3400



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# Model 3400 Intrinsically Safe Load Cell

The Model 3400 is a family of load cells of various mechanical configurations, all with the same internal 4–20 mA loop-powered amplifier and 4000-5000 ohm strain gage bridge.

All load cells in the family are intrinsically safe when installed per the installation manual and are certified as such by the following Notified Body:

**Physikalisch-Technische Bundesanstalt**  
Braunschweig, Germany

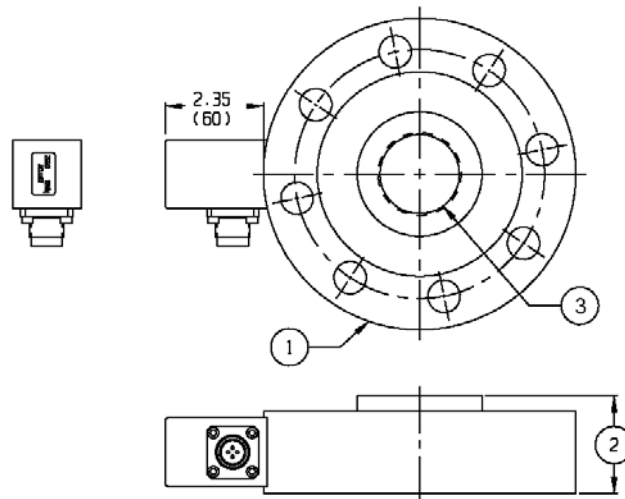
Intrinsic Safety is an explosion protection technique that ensures that a circuit operating in an explosive atmosphere cannot cause ignition. This is done by limiting the electrical and thermal energy in the load cell. The 3400 protection is for Zone 1 and the ATEX designation is:

II 2 G Ex ib IIC T4

Specific Models 3401 through 3499 are unique in being constructed in accordance with the certified circuit. Configurations for mechanical connections and force capacities are created to fit individual applications. The following are representative of specific models.

## Tension - Compression Low Profile Type

Dimensions See Drawing	MODEL							
	3410		3412		3414		3416	
	CAPACITY (lbf)							
	100, 250, 500, 1K		2K, 5K		10K		20K	
	inch	mm	inch	mm	inch	mm	inch	mm
(1)	3.00	76.2	3.50	88.9	5.50	140.0	6.00	152.0
(2)	1.70	43.2	1.70	43.2	1.80	45.7	1.80	45.7
(3)	3/8-24 UNF-3B		1/2-20 UNF-3B		1-14 UNF-3B		1 1/2-12 UNF-3B	



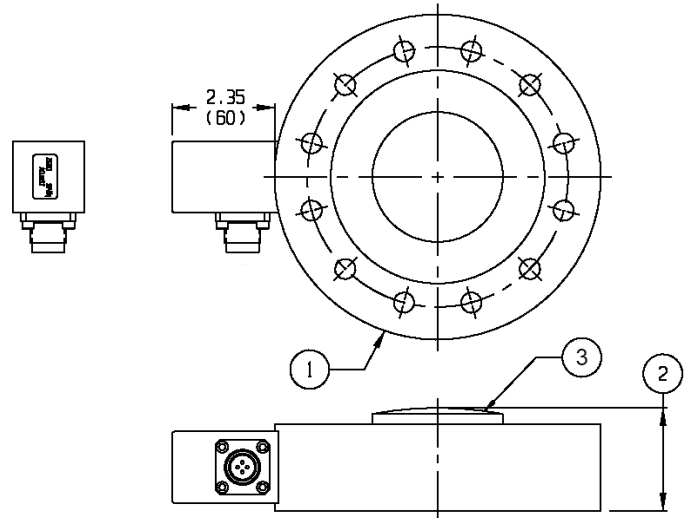
## Tension - Compression Low Profile Type

Dimensions See Drawing	MODEL							
	3420		3430		3422		3432	
	CAPACITY (lbf)							
	30K, 40K, 50K		25K, 50K, 60K		10K, 25K, 50K		100K	
	inch	mm	inch	mm	inch	mm	inch	mm
(1)	7.5	190.5	8.00	203.2	6.06	153.9	8.00	203.2
(2)	2.00	50.8	2.50	63.5	1.75	44.4	2.50	63.5
(3)	2-12 UN-2B		2-12 UN-2B		1-1/4-12 UNF-3B		1 3/4-12 UNF-3B	

# Model 3400 Intrinsically Safe Load Cell

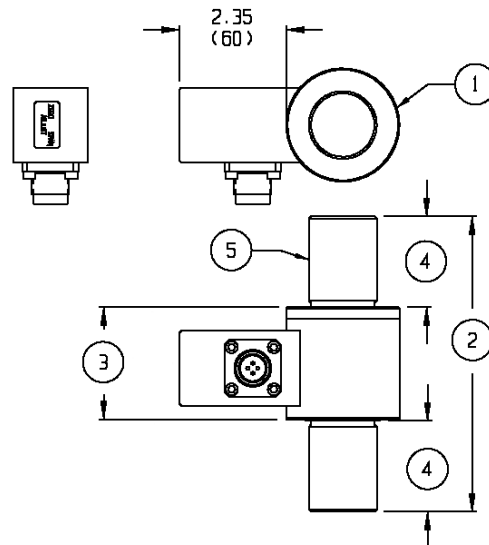
## Compression Low Profile Type

Dimensions See Drawing	MODEL (kN)					
	3421		3431		3441	
	CAPACITY (lbf)					
	10K, 25K, 50K		100K		200K	
	inch	mm	inch	mm	inch	mm
(1)	4.75	120.7	7.50	190.5	8.25	210.0
(2)	1.75	44.4	2.00	50.8	3.25	82.5
(3)	6.0 (152) sph radius		8.0 (203) sph radius		12.0 (305) sph radius	

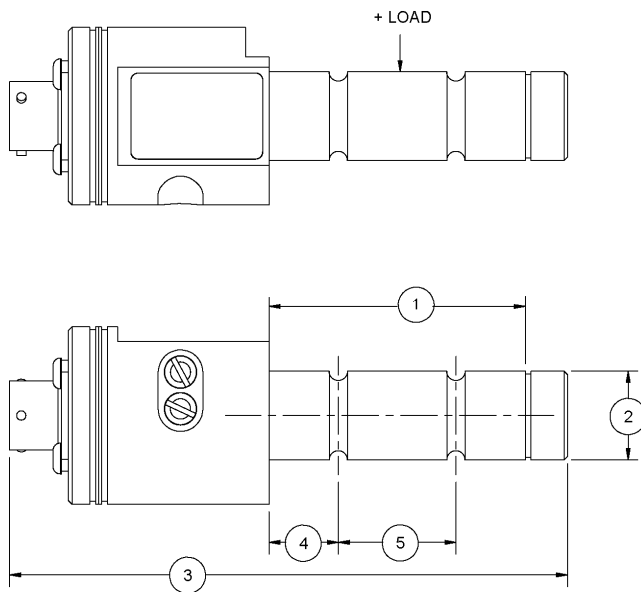


## Tension-Compression Column Type

Dimensions See Drawing	MODEL	
	3450	
	10K, 20K, 30K, 50K	
	inch	mm
(1)	2.50	63.5
(2)	6.50	165
(3)	2.47	62.7
(4)	2.00	50.8
(5)	1 1/2-12 UNF-2A	



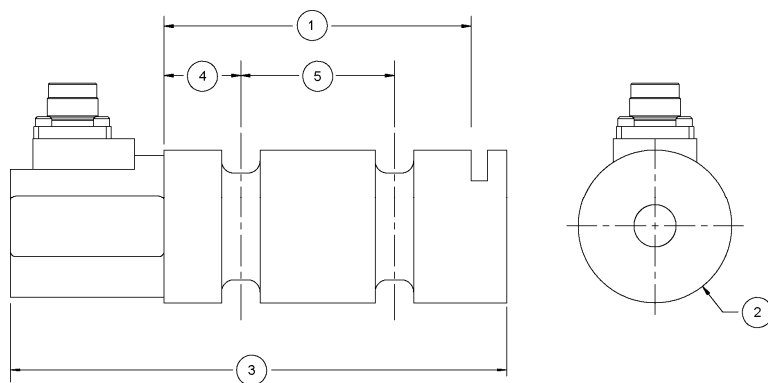
## Load Pin Type – Model 3461



### Dimensions

See Drawing	CAPACITY (lbf)									
	2K		5K		10K		20K		30K	
	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
(1)	1.75	44.5	2.18	55.4	2.26	57.4	3.00	76.2	3.51	89.2
(2)	.500	12.70	.750	19.05	1.000	25.40	1.250	31.75	1.500	38.10
(3)	4.5	114	5.0	127	5.5	140	6.0	152	6.5	165
(4)	.50	12.7	.59	15.0	.63	16.0	.81	20.6	.94	23.9
(5)	.75	19.1	1.00	25.4	1.00	25.4	1.38	35.1	1.63	41.4

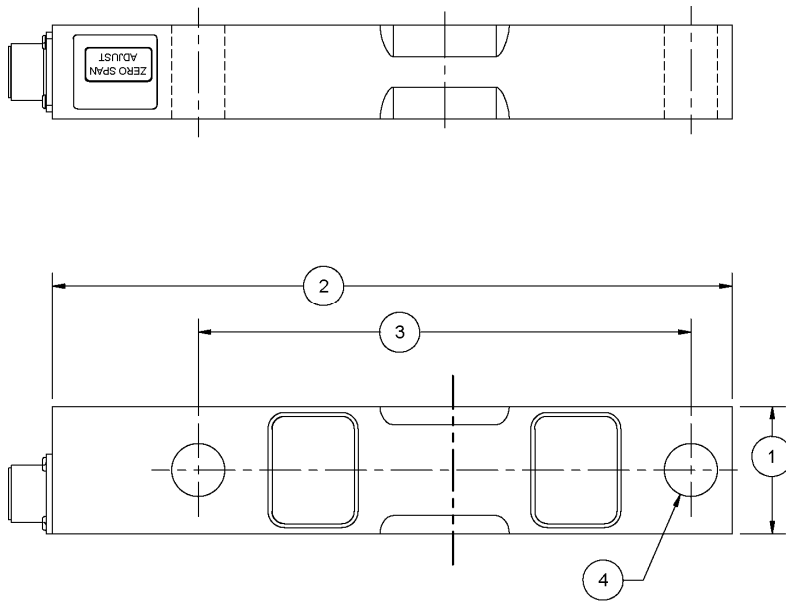
## Load Pin Type – Model 3462



### Dimensions

See Drawing	CAPACITY (lbf)							
	50K		75K		100K		200K	
	inch	mm	inch	mm	inch	mm	inch	mm
(1)	4.00	101.6	5.00	127.0	5.63	143.0	8.5	215.9
(2)	2.000	50.80	2.500	63.50	2.750	69.85	4.000	101.60
(3)	7.0	178	8.0	203	9.0	229	12.0	305
(4)	1.00	25.4	1.25	31.8	1.47	37.3	2.25	57.2
(5)	2.00	50.8	2.50	63.5	2.69	68.3	4.00	101.6

## Compression Beam Type – Model 3401

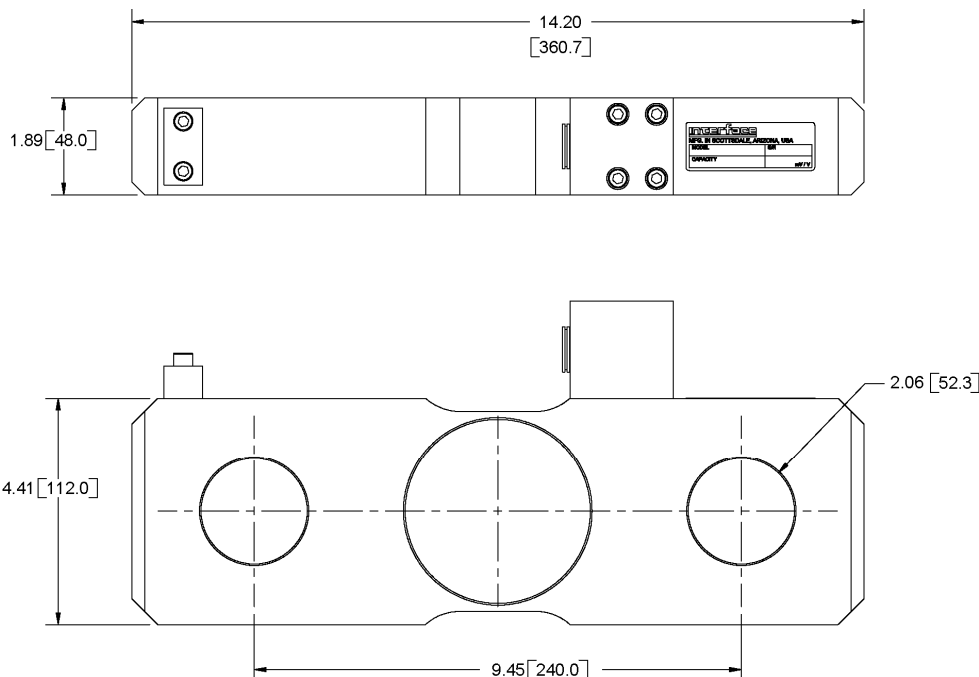


### Dimensions

See Drawing	CAPACITY (lbf)			
	10K		50K	
	inch	mm	inch	mm
(1)	1.95	49.5	2.95	74.9
(2)	10.4	264	15.0	381
(3)	7.5	191	11.50	292
(4)	0.81	20.6	1.31	33.3

## Tension Link Type – Model 3403

Capacity: 44 Klbf



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