

# 1100 ULTRA PRECISION LOAD CELL (U.S. & METRIC)

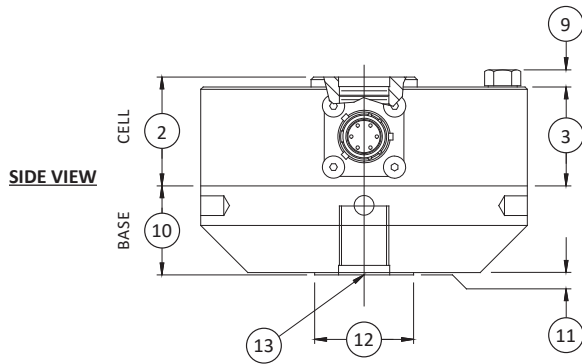
## FEATURES & BENEFITS

- Capacities from 300 to 200K lbf (1.5 to 900 kN)
- Proprietary Interface temperature compensated strain gages
- Performance to 0.02%
- High output – to 4 mV/V
- Eccentric load compensated
- Low deflection
- 0.0008%/°F (0.0015%/°C) temp. effect on output
- Shunt calibration
- High precision base included
- Barometric compensation
- Tension and compression

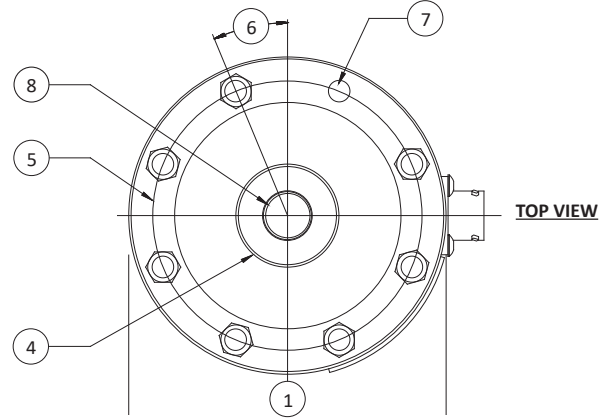
## STANDARD CONFIGURATION



Model 1120ACK-50K (Shown)



SIDE VIEW



TOP VIEW

## DIMENSIONS

See Drawing	MODEL							
	1110		1120		1132		1140	
	CAPACITY							
	U.S. (lbf)	Metric (kN)	U.S. (lbf)	Metric (kN)	U.S. (lbf)	Metric (kN)	U.S. (lbf)	Metric (kN)
	300, 500, 1K, 2K, 3K, 5K, 10K	1.5, 2.5, 5, 10, 25, 50	25K, 50K	100, 250	100K	450	200K	900
	in	mm	in	mm	in	mm	in	mm
(1)	Ø4.13	Ø104.8	Ø6.06	Ø153.9	Ø8.00	Ø203.2	Ø11.00	Ø279.0
(2)	1.38	34.9	1.75	44.5	2.50	63.5	3.50	88.9
(3)	1.25	31.7	1.63	41.4	2.25	57.2	3.00	76.2
(4)	Ø1.34	Ø34.0	Ø2.65	Ø67.3	Ø3.76	Ø95.2	Ø4.81	Ø122.2
(5)	Ø3.50	Ø88.9	Ø5.13	Ø130.3	Ø6.50	Ø165.1	Ø9.00	Ø228.6
(6)	22.5°		15.0°		11.25°		11.25°	
(7)	Ø0.28	Ø7.10	Ø0.41	Ø10.4	Ø0.53	Ø13.5	Ø0.65	Ø16.5
	8 Places		12 Places		16 Places			
(8)	½-18 UNF-3B ↓ 1.12	M16x2-4H ↓ 28.4	1 ¼-12 UNF-3B ↓ 1.40	M33x2-4H ↓ 35.6	1 ¼-12 UNF-3B ↓ 2.15	M42x2-4H ↓ 54.6	2 ¾-8 UNF-3B ↓ 3.25	M72x2-4H ↓ 82.6
(9)	0.20	5.1	0.30	7.6	0.40	10.2	0.50	12.7
(10)	1.13	28.6	1.75	44.5	2.00	50.8	3.00	76.2
(11)	0.03	0.8	0.03	0.8	0.03	0.8	0.03	0.8
(12)	1.25	Ø 31.8	Ø 2.25	Ø 57.2	Ø 3.00	Ø 76.2	Ø 4.50	Ø 114.3
(13)	½-18 UNF-3B ↓ 0.87	M16x2-4H ↓ 22.1	1 ¼-12 UNF-3B ↓ 1.40	M33x2-4H ↓ 35.6	1 ¼-12 UNF-3B ↓ 1.75	M42x2-4H ↓ 44.5	2 ¾-8 UNF-3B ↓ 2.75	M72x2-4H ↓ 69.8

1100 v2.601-27-2021

## 1100 ULTRA PRECISION LOAD CELL (U.S. & METRIC)

### SPECIFICATIONS

PARAMETERS		MODEL				
		1110	1110	1120	1132	1140
		CAPACITY				
Measuring Range	U.S. (lbf)	300, 500, 1K, 2K, 3K	5K, 10K	25K, 50K	100K	200K
	Metric (kN)	1.5, 2.5, 5, 10	25, 50	100, 250	450	900
ACCURACY – (MAX ERROR)						
Static Error Band – % FS		±0.02	±0.025	±0.035	±0.05	±0.06
Nonlinearity – %FS		±0.03	±0.035	±0.035	±0.05	±0.06
Hysteresis – %FS		±0.02	±0.035	±0.045	±0.05	±0.06
Nonrepeatability – %RO		±0.01	±0.01	±0.01	±0.01	±0.01
Creep, in 20 min – %		±0.025	±0.025	±0.025	±0.025	±0.025
Side Load Sensitivity – %		±0.1	±0.1	±0.1	±0.1	±0.1
Eccentric Load Sensitivity – % / in		±0.1	±0.1	±0.1	±0.1	±0.1
TEMPERATURE						
Compensated Range	°F	+15 to +115	+15 to +115	+15 to +115	+15 to +115	+15 to +115
	°C	-10 to +45	-10 to +45	-10 to +45	-10 to +45	-10 to +45
Operating Range	°F	-65 to +200	-65 to +200	-65 to +200	-65 to +200	-65 to +200
	°C	-55 to +90	-55 to +90	-55 to +90	-55 to +90	-55 to +90
Effect on Zero – %RO / deg	°F	±0.0004	±0.0004	±0.0004	±0.0004	±0.0004
	°C	±0.0007	±0.0007	±0.0007	±0.0007	±0.0007
Effect on Output – % / deg	°F	±0.0008	±0.0008	±0.0008	±0.0008	±0.0008
	°C	±0.0015	±0.0015	±0.0015	±0.0015	±0.0015
ELECTRICAL						
Rated Output – mV/V (Nominal)		2.0	4.0	4.0	4.0	4.0
Excitation Voltage – VDC MAX		20	20	20	20	20
Bridge Resistance – Ohm (Nominal)		350	350	350	350	350
Zero Balance – %RO		±1.0	±1.0	±1.0	±1.0	±1.0
Insulation Resistance – Megohm		5000	5000	5000	5000	5000
MECHANICAL						
Safe Overload – %CAP		±150	±150	±150	±150	±150
Deflection @ RO	in	0.002	0.004	0.004	0.006	0.012
	mm	0.05	0.10	0.10	0.15	0.20
Base – P/N (Ref) (Metric)		B101 (m)	B102 (m)	B103 (m)	B112 (m)	B105 (m)
Natural Frequency – kHz		2.7, 3.5, 4.9, 7.0, 8.5	4.7, 6.6	4.6, 5.0	4.0	3.5
Weight	lbs	3.3	7.3	21.5	52	146
	kg	1.5	3.3	9.8	24	66
Calibration		Tension & Compression				
Material		Aluminum	Alloy Steel			

### OPTIONS

- Compression overload protection
- Connector protection
- Standardized output
- Transducer Electronic Data Sheet (TEDS)
- Custom calibration
- Multiple bridge
- Special threads
- Dual diaphragm
- Special temperature range
- Cable length
- Add connector to cable

### CONNECTOR OPTIONS

- Integral cable 10ft (3m)
- PT02E-10-6P bayonet connector
- PC04E-10-6P screw-type connector

### ACCESSORIES

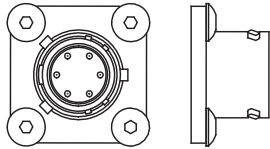
- Mating connector
- Mating cable
- Instrumentation
- Loading hardware

## 1100 ULTRA PRECISION LOAD CELL (U.S. & METRIC)

### BAYONET CONNECTOR



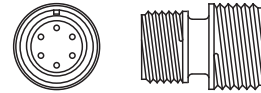
Model 1120ACK-50K (Shown)



### SCREW TYPE CONNECTOR



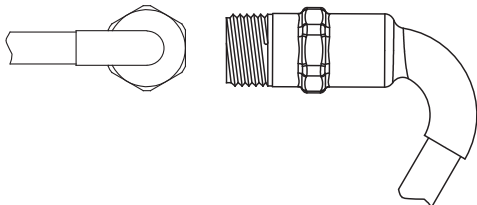
Model 1120AF-50K (Shown)



### INTEGRAL 10FT CABLE CONNECTOR



Model 1120AJ-50K (Shown)



tel: +34 915 679 700  
www.alavaingenieros.com | alava@grupoalava.com

1100 v2.601-27-2021

International System of Units (SI) dimensions and capacities are provided for conversion only. Standard products have U.S. capacities and dimensions. SI capacities available upon special request and at an additional cost.