

# Amber Instruments Ltd

## Low Capacity Single Point Aluminum Load Cells



### FEATURES

- Capacities 5-100kg
- Aluminum construction
- Single point 400 x 400mm platform
- OIML R60 and NTEP approved
- IP65 protection
- Available with metric and UNC threads

### OPTIONAL FEATURES

- EEx ia IIC T4 - hazardous area approval
- FM approval available
- IP67 available

### DESCRIPTION

Models SP40 and SP41 are low profile single point load cells designed for direct mounting of low cost weighing platforms.

Their small physical size, combined with high accuracy and low cost, makes these load cells ideally suited for retail, bench and counting scales.

Available in anodized aluminum these high accuracy load cells are approved to NTEP and other stringent approval standards, including OIML R60. For hazardous environments this load cell has EEx ia IIC T4 level

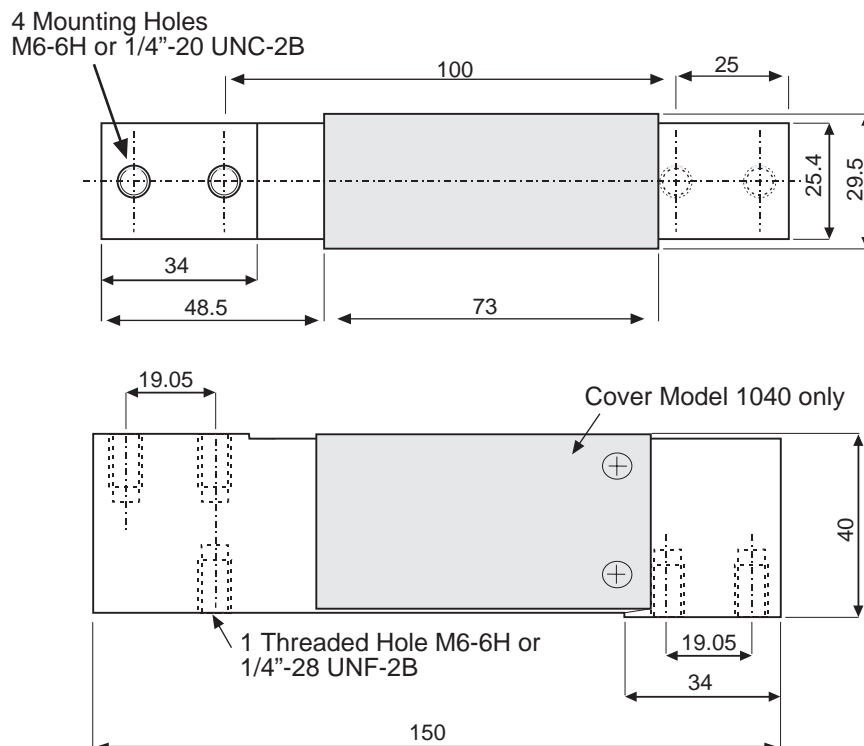
of approved option. An optional special humidity resistant protective coating assures long term stability over the entire compensated temperature range.

The two additional sense wires feed back the voltage reaching the load cell. Complete compensation of changes in lead resistance due to temperature change and/or cable extension, is achieved by feeding this voltage into the appropriate electronics.

### APPLICATIONS

- Bench scales
- Counting scales
- Grocery scales

### OUTLINE DIMENSIONS in millimeters

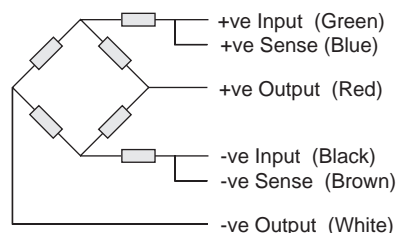


## SPECIFICATIONS

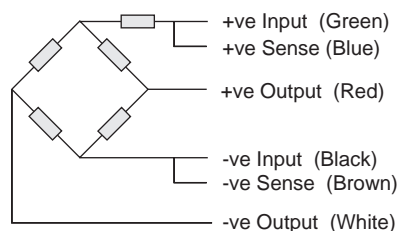
PARAMETER	VALUE			UNITS
	NTEP	Non Approved	C3*	
NTEP/OIML Accuracy class				
Maximum no. of intervals (n)	5000 single	1000	3000	
Rated capacity-R.C. ( $E_{max}$ )	5, 7, 10, 15, 20, 30, 50, 75, 100			kg
Rated output-R.O.	2.0			mV/V
Rated output tolerance	0.2			± mV/V
Zero balance	0.2			+ mV/V
Zero Return, 30 min.	0.0330	0.0300	0.0170	± % of applied load
Total Error	0.0200	0.0500	0.0200	± % of rated output
Temperature effect on zero	0.0023	0.0100	0.0023	± % of rated output/°C
$Y = E_{max}/V_{min}$	6000	1400	6000	
Temperature effect on output	0.0010	0.0300	0.0010	± % of applied load/°C
Eccentric loading error	0.0057	0.0085	0.0057	± % of rated load/cm
Temp. range, compensated	-10 to +40			°C
Temp. range, safe	-20 to +70			°C
Maximum safe central overload	150			% of R.C.
Ultimate central overload	300			% of R.C.
Excitation, recommended	10			Vdc or Vac rms
Excitation, maximum	15			Vdc or Vac rms
Input impedance	415 ± 15			Ohms
Output impedance	350 ± 3			Ohms
Insulation resistance	> 2000			Mega-Ohms
Cable length	1.0			m
Cable type	6wire, PVC, single floating screen			Standard
Construction	Plated (Anodized) aluminum 1040 Aluminum - 1041			
Environmental protection	IP65			
Platform size (max)	400 x 400			mm
Recommended torque	Up to 30 kg: 7.0 50 kg & up: 10.0			N*m

\* 50% utilization. Other utilization factors available upon request.

Wiring Schematic Diagram  
(1040 balanced bridge configuration)



Wiring Schematic Diagram  
(1041 unbalanced bridge configuration)



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Torque Transducers, Load Cells (general purpose, weighing & fatigue rated). Multi-Axis Force/Torque, Weighing Instruments, Process Instruments, Portable Data Loggers, Pressure Sensors, Proximity Sensors, Laser (Distance Measuring) Sensors, & more.