

# PBW planar beam load cell



## product description

The PBW planar beam is an OIML certified load cell for use in ultra-low profile weighing equipment.

The planar beam is designed to be used as an alternative to a single point load cell – hence 3 or 4 units are required for each application. Optimum accuracy is ensured with mounting locations outboard of the sensing section. Constructed from aluminium and environmentally protected using potting material. The PBW is available in a range of capacities – from 5.7kg through to 109kg.

## applications

Retail scales, bench scales, medical equipment, test & measurement applications.

## approvals

OIML approval to C3 ( $Y = 7,500$ )

## accessories

Load mounts

Compatible range of electronics

## key features

Ultra-low profile

Wide range of capacities from 12.5lb to 240lb

1000 $\Omega$  strain gauge bridge for battery powered devices

Aluminium construction

Environmentally sealed by potting

High accuracy

High input resistance

Calibration in mV/V/ $\Omega$  for accuracy class C3



RoHS  
compliant



## specifications

Maximum capacity ( $E_{\max}$ )	lb	12.5 / 18.75 / 25 / 37.5 / 50 / 100 / 240*	
Metric equivalent (1 lb=0.45359 kg)	kg	5.7 / 8.5 / 11.3 / 17 / 22.7 / 45.4 / 109*	
Accuracy class according to OIML R60		(GP)	C3
Maximum number of verification intervals ( $n_{\max}$ )		n.a.	3,000
Minimum load cell verification interval ( $v_{\min}$ )		n.a.	$E_{\max} / 7,500$
Temperature effect on minimum dead load output ( $TC_0$ )	%*RO/10°C	$\pm 0.0400$	$\pm 0.0187$
Temperature effect on sensitivity ( $TC_{RO}$ )	%*RO/10°C	$\pm 0.0200$	$\pm 0.0100$
Combined error	%*RO	$\pm 0.0500$	$\pm 0.0200$
Non-linearity	%*RO	$\pm 0.0400$	$\pm 0.0166$
Hysteresis	%*RO	$\pm 0.0400$	$\pm 0.0166$
Creep error (30 minutes) / DR	%*RO	$\pm 0.0600$	$\pm 0.0166$
Rated Output (RO)	mV/V	$1 \pm 10\% / 1.2^* \pm 10\%$	$0.9 \pm 0.1\% / 1.09^* \pm 0.1\%$
Calibration in mV/V/Ω	%	n.a.	$\pm 0.05$
Zero balance	%*RO		$\pm 5$
Excitation voltage	V		5...15
Input resistance ( $R_{LC}$ )	Ω		$1,180 \pm 50$
Output resistance ( $R_{out}$ )	Ω		$1,000 \pm 10$
Insulation resistance (100 V DC)	MΩ		$\geq 5,000$
Safe load limit ( $E_{lim}$ )	%* $E_{\max}$		300 / 250*
Ultimate load	%* $E_{\max}$		400
Safe side load	%* $E_{\max}$		200
Compensated temperature range	°C		-10...+40
Operating temperature range	°C		-10...+65
Load cell material			aluminium
Sealing			environmentally sealed
Protection according EN 60 529			IP65
Packet weight	g	35 (12.5lb), 45 (18.75lb), 41 (25lb), 50 (37.5lb), 50 (50lb), 70 (100lb), 88 (240lb)	

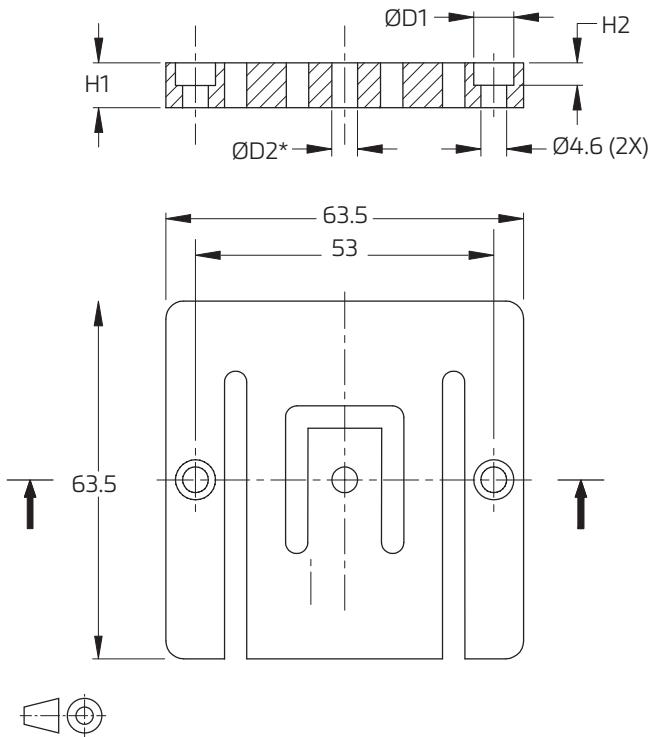
The limits for Non-Linearity, Hysteresis, and  $TC_{RO}$  are typical values.

The sum of Non-linearity, Hysteresis and  $TC_{RO}$  meets the requirements according to OIML R60 with  $p_{LC}=0.7$ .

\* - Safe load limit is 250% of  $E_{\max}$  for the 240lb (109kg) model.



## product dimensions (mm)



Type	H1	H2	ØD1	ØD2*	Deflection (mm) at E <sub>max</sub>
12.5 lb	2.5	--	--	4.2	0.42
18.75 lb	4	--	--	4.2	
25 lb	3.2	--	--	4.2	0.49
37.5 lb	4	--	--	6.2	0.38
50 lb	4	--	--	6.2	0.48
100 lb	6.4	--	--	6.2	
240 lb	8	3.2	7.4	8.2	0.46

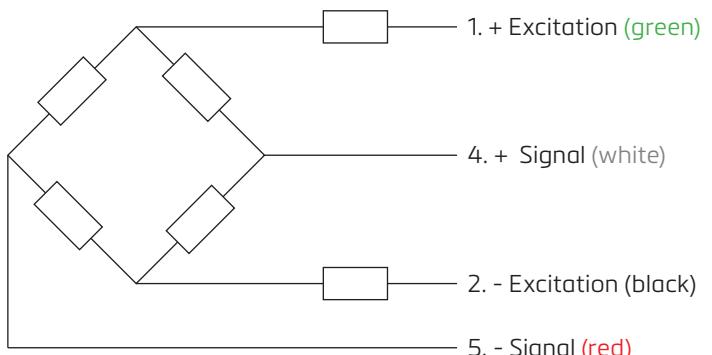
Other loading holes on request.

## wiring

The load cell is provided with a 4 conductor ribbon cable and with AMP #103957-4 connector

Cable length:    1.0 m for 12.5...50 lb  
                  1.5 m for 100...240 lb

A special junction box type KPB-4 is available



Specifications and dimensions are subject to change without notice.

