

# AP5 low profile force sensor



## product description

The model AP5 is a very low capacity, compact force transducer ideal for a range of measurement tasks.

The low profile, small diameter design ensures measurement tasks are straightforward even in confined spaces within assembly machinery or test equipment. Perform highly accurate measurements of compression forces with ease by utilising the simple mounting arrangement and the central load introduction facility.

Full-bridge, bonded foil strain gauge technology provides excellent long-term stability and ensures high performance even in applications requiring over 1 million load cycles.

Optional amplified output signal is available along with a range of cable types, cable lengths and connectors. As an additional aid to system integrators, the AP5 can be supplied as a TEDS (transducer electronic data sheet) enabled smart transducer. This feature provides an on board memory chip storing manufacturing and calibration data.

## accessories + options

Available with a range of cable lengths and connector options

Comprehensive range of electronic modules available

Optional amplified output version

TEDS IEEE 1451.4 memory chip

Alternative mounting holes available on enquiry

## key features

High accuracy  $\pm 0.1\%$

Low profile design

Very low capacity

Lightweight

Simple 3 point mounting system

Compression force measurement

Aluminium sensor with stainless steel covers

Compensated temp.  $-15^{\circ}\text{C}$  to  $+71^{\circ}\text{C}$

Environmental protection to IP40

## applications

Test & measurement tasks

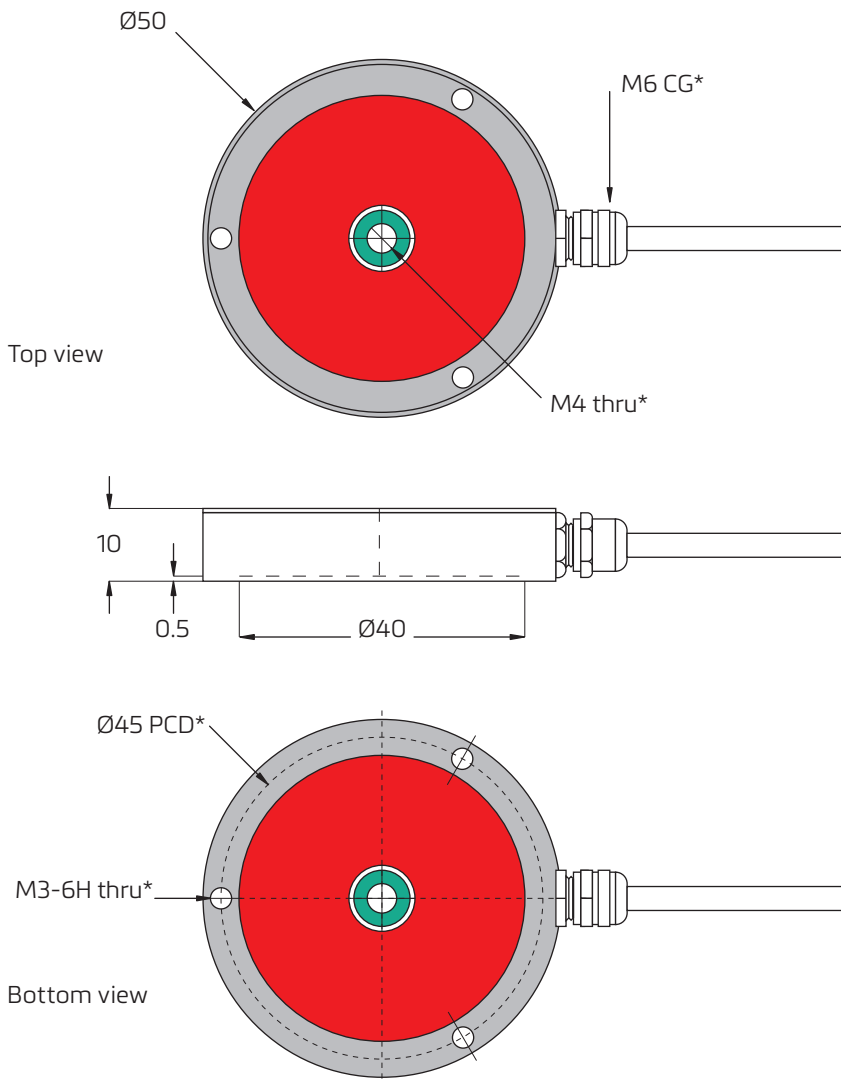
Calibration of assembly machinery



## specifications

Rated capacity	kg	1 / 2 / 5 / 10
Rated output (RO)	mv/V	1 nominal (0.5 – 4.5VDC from amplifier version)
Safe overload	% of R.O	150
No load offset (Zero balance)	% of R.O.	±2
Excitation	VDC or VAC	10 Max, 5 recommended (5VDC for amplifier version)
Input impedance	Ω	350 nominal
Output impedance	Ω	350 nominal
Non-linearity	% of R.O.	±0.1
Hysteresis	% of R.O.	±0.1
Non repeatability	% of R.O	±0.05
Creep (30 mins)	% of R.O.	<=0.1
Temp shift zero	% of R.O./°C	±0.018 (±0.01% of R.O./°F)
Temp shift span	% of LOAD/°C	±0.018 (±0.01% of LOAD/°F)
Compensated temp.	°C	-15 to 71 (5 to 160 °F)
Operating temp	°C	-40 to 93 (-40 to 200 °F)
Weight (approx)	g	40 (0.09 lb)
Material	-	Aluminium (stainless steel option for 2kg and above)
Deflection	mm	0.1 (0.0004") nominal
Natural frequency	Hz	1kg - 1500 2kg - 2400 5kg - 4000 10kg - 6500
IP Rating	-	IP40
Calibration test excitation	VDC	5
Calibration (STD)	-	5 pt. COMPRESSION (tension calibration optional)
Connector	-	None (default) M8 Male connector mounted on the load cell (optional) DB9 cable mounted connector, Male or Female (optional)
Compliance	-	Restriction of Hazardous Substances Directive (RoHS) Amplified version: ESD safe, EMC compliant with EN61326-2-3:2006, CE marked.

## product dimensions (mm)



### key

- Active loading surface
- Non-loading surface
- Fixed mounting surface

M6-CG\* - M6 cable gland

M4 thru\* - Threaded central through hole for load introduction

PCD\* - Pitch circle diameter for the outer thru-holes' position

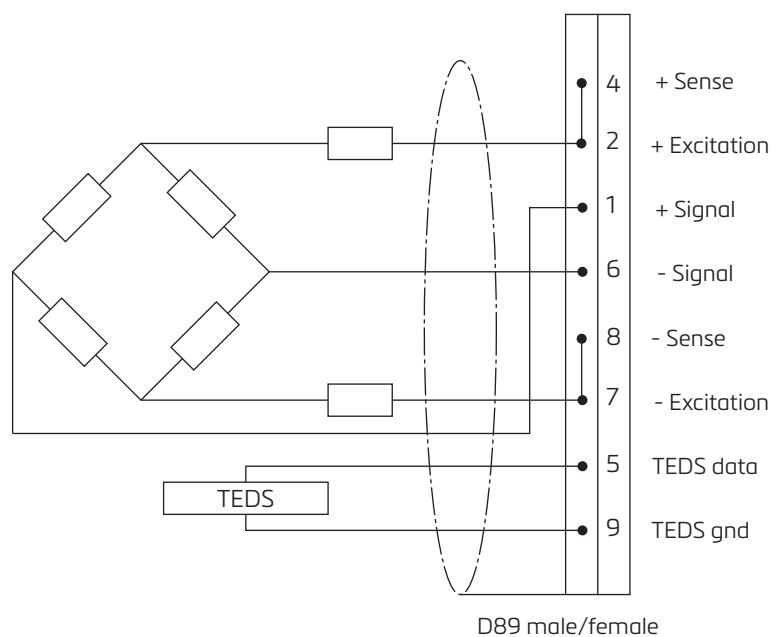
M3-6H thru\* - Threaded through holes for mounting (3x)

## wiring

The load button is provided with a #28 AWG 4-conductor braided shielded cable with outer jacket, 3mm (0.12") diameter, 0.6m (2ft) long, with no connection between the shield and the sensor body.

Optional DB9 cable mounted connector pin configuration as shown here.

M8 load cell mounted connector also available - contact factory for pinout details.



Specifications and dimensions are subject to change without notice.