

DIGITAL SINGLE POINT LOAD CELL FOR HIGH SPEED WEIGHING

capacities 15kg - 50kg



The T12D digital stainless steel single-point load cell is ideal for high resolution, high-speed weight measurement with off-centre loads in challenging applications. It provides a direct output in weight units, such as kg, that can be connected to a PLC without any additional transmitter, amplifier or indicator. This provides significant cost savings. The direct output is via a CAN bus interface using a CANopen protocol.

It offers a fast data capture rate of 1600 readings per second and selectable digital filters (programmable via CAN bus), which ensures excellent precision, accuracy and repeatability – especially in high-speed and dynamic weighing applications.

The hermetically sealed and fully welded construction, giving protection to class IP68 and IP69K, is very important for use in applications involving regular washdown at high temperatures and pressures defined by ISO 20653. Typical industries in which this protection is important are food and pharmaceutical.

Connectivity is versatile, thanks to the integral 8-pin M12 x 1 male connector (Code A) allowing customers to choose their own interface to the load cell. A mating connector and 5m or 10m long Polyurethane cable is available as an option.

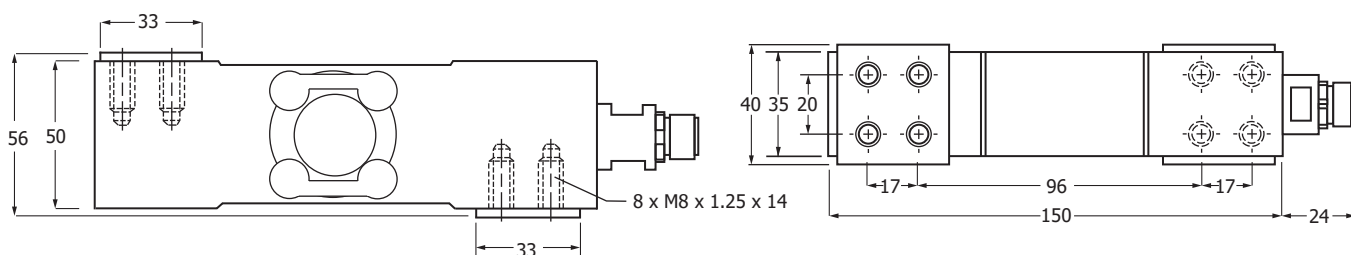
Typical applications include multihead weighers, checkweighers, packaging machines, bagging machines, filling machines and weighing platforms with dimensions up to 600mm x 600mm. The T12D has a wide operating temperature range, making it a very cost-effective solution for many weighing applications.

- Stainless steel load sensor
- Double bending beam single point type
- 1,000,000 counts signal output
- Fully welded and hermetically sealed to IP68 and IP69K
- High accuracy with off-centre loads
- 5 year warranty
- Output in weight units (not mV/V) for direct connection to PLC
- Fast measurement rate: 1600 readings per second
- Selectable digital filters (programmable via CAN bus) for high-speed weighing
- Digital CAN bus interface with CANopen protocol
- Suitable for a 600mm x 600mm platform (with load cell placed centrally underneath)



T12D

technical specification...



Qty. 2 spacer plates supplied with load cell, as shown above. Dimensions of each plate are 40mm x 33mm x 3mm.

T12D Load Cell

	Load cell specifications	Units
Load Cell Capacities (E_{max})	15, 20, 30, 50	kg
Rated Output (S_n)	1000000 \pm 0.05%	Counts*
Combined Error	$< \pm 0.017$	% S_n
Non-repeatability	$< \pm 0.004$	% S_n
Creep (30 minutes)	$< \pm 0.016$	% S_n
Minimum Load Cell verification interval (v_{min}) = E_{max}/Y	15kg and 30kg capacities $E_{max} / 15000$ 20kg and 50kg capacities $E_{max} / 20000$	-
Temperature Effect on Zero Balance	$< \pm 0.0008$	% $S_n / ^\circ C$
Temperature Effect on Span	$< \pm 0.0012$	% $S_n / ^\circ C$
Compensated Temperature Range	-10 to +40	$^\circ C$
Operating Temperature Range	-20 to +70	$^\circ C$
Safe Overload	150	% E_{max} **
Ultimate Overload	200	% E_{max} **
Zero Balance	$< \pm 0.1\%$	% S_n
Recommended Supply Voltage (U_B)	9 - 30	V DC
Supply Current	50	mA (max.)
Environmental Protection	IP68 & IP69K	-
Conversion Speed	1600	Hz
CAN Interface	CAN 2.0A	
Protocol	CANopen	
Data Rate	50 - 1000	kBit/s
Maximum Transmission Cable Length	< 1000 @ 50kBit/s < 200 @ 250kBit/s < 25 @ 1MBit/s	m
Maximum Deflection at E_{max}	0.3 - 0.5	mm
Maximum Platform Size ⁺	600 x 600	mm
Nominal Shipping Weight	1.8	kg

* User Programmable

** Only applies to central loads on the load cell. Not for off-centre loads.

+ The load cell must be placed centrally under the platform.

Electrical Connections

Load cell supplied with an 8-pin M12 x 1 male connector (code A). Shield connected to load cell body.

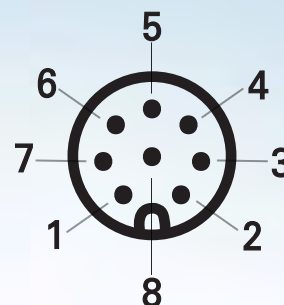
A mating connector and 5m or 10m long Polyurethane cable is available as an option.

Part Numbers:

5m - T12D-CABLE-5M+M12-CONN

10m - T12D-CABLE-10M+M12-CONN

View of load cell connector showing pin designations



PIN	Connection
1	U_B (power input)
2	GND
3	CAN H In
4	CAN L In
5	-
6	CAN L Out
7	CAN H Out
8	Shield

DISTRIBUTED BY:



THAMES SIDE SENSORS LTD

Unit 10, io Trade Centre, Deacon Way, Reading, Berkshire RG30 6AZ, UK

tel: +44 (0) 118 941 1387

sales@thames-side.co.uk

www.thames-side.com

Issue: T12D.08.24



Our policy is one of continuous product enhancement. We therefore reserve the right to incorporate technical modifications without prior notification.



www.thames-side.com