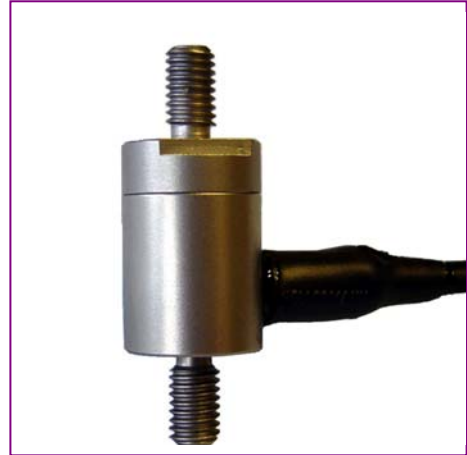


Miniature Tension/Compression Load Cells

- ▶ Full Scale Ranges 500 N and 1000 N
- ▶ Static and Dynamic applications
- ▶ Tension and/or compression
- ▶ Rugged construction
- ▶ Sealed to IP67
- ▶ Custom designs
- ▶ Integral conditioning amplifier
- ▶ mV (strain gauge) or V (amplified) output



The robust **DEMS** Series has been developed, with miniature size and low weight, to measure tension and/or compression in static and dynamic applications.

The **DEMS** Series sensing element is a fully temperature-compensated strain gauge bridge equipped with high stability strain gauges to optimise performance at low ranges and frequencies. Available with full range capabilities of either 500N or 1,000N, the **DEMS** Series transducers can be supplied with connections directly to the strain gauge so that you can use your own conditioning electronics (we can offer several options), or with a built-in conditioning amplifier to give a 0.5 to 4.5V output; if you are working in tension and compression, let us know and we will set up the output to cover your working range. Built from 17-4PH stainless steel, the **DEMS** Series has an operating temperature range of -20°C to +120°C, a compensated temperature range of 0°C to +70°C, and a response time of 0.1 ms (bandwidth 10kHz).

The **DEMS** Series is just one of the ranges of miniature sensors, strain gauge conditioning electronics and process control equipment offered by Celsum Technologies. We can supply compression, tension/compression, tension, torque and pressure transducers, digital and analogue conditioning instruments, right through to instruments specifically geared for dedicated weighing control operations. We supply systems to a wide range of industries, including aerospace, defence, automotive, pharmaceutical, plastics and rubber, offshore, manufacturing, and to universities and research and development establishments world-wide.

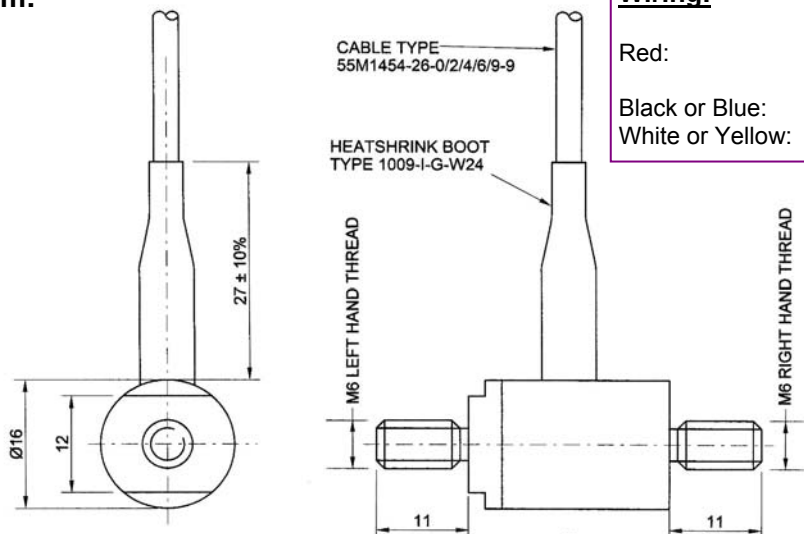
Additionally Celsum Technologies are happy to look at your application if you need custom-designed mechanics, electrical/electronic packages and software. Please do contact us with details of your requirements.



Technical Specifications:

Range, Full Scale: Newtons	500, 1000
Over-range:	Without damage: 1.5 x Full Scale
Response time (Bandwidth):	0.1 ms (10kHz)
Accuracy:	Non-linearity : $\leq \pm 0.25\%$ F.S. Hysteresis : $\leq 0.30\%$ F.S.
Temperature Range:	Operating Temp. Range (OTR): -20 to +120°C Compensated Temp. Range (CTR): 0 to + 70 °C Zero Shift: $<\pm 0.005\%$ F.S. / °C Sensitivity Shift: $<\pm 0.005\%$ of reading / °C
Construction:	17-4PH Stainless Steel
Electrical Characteristics:	
Supply Voltage:	8 to 16V DC
Current (max)	20 - 40 mA, depending on supply voltage
Power supply ripple	100 mV AC peak-to-peak
Electrical Termination:	26 awg, 0.5 metre long, 55M spec, Boot DR25 over
Protection:	IP67
Options:	M7, M8, UNF Threads Right-angled boot or small cable gland Longer cable length

Dimensions in mm:



Wiring:

Red: +ve supply (8 to 16VDC)
Black or Blue: 0V (common)
White or Yellow: + signal



Order Codes:

DEMS – RANGE – AMP – FITTINGS – BOOT

RANGE: In Newtons: **500N, 1000N**

AMP: Built-in Conditioning Amplifier: Not Fitted = **N**, Fitted = **F**

FITTINGS: **MM** both Male, **FF** both female, **MF** one of each. Add thread size in brackets

BOOT: **NB** = normal boot, **RB** = Right Angled Boot, **SG** = small cable gland

Example:

DEMS - 500N - F - (1/4x28)FF- SG

500N with conditioning amplifier (ie 5V voltage output), 1/4"x28 female fittings, small cable gland

Please contact us for special requirements, such as different threads

Specifications subject to change without notice. E & OE Vsn 06G261

Manufactured in the European Union and distributed by

Celsum Technologies Limited, Willow House, Braemar Close, Mountsorrel, Leicester LE12 7ES, UK

Company Registration No: 4769781 **VAT Reg No:** GB 812 8796 04

Telephone: +44-(0)116-210-6319 **Facsimile:** +44-(0)870-120-9370

Email: sales@celsum.com **Web:** http://www.celsum.com

Directors: B A Carter and R E Carter MSc FIM³ CEng