



APPLIED MEASUREMENTS LTD.
Transducer Specialists...

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<https://appmeas.co.uk>

UF1 Isometric Force Sensor

Key Features:

- Capacities 0-55g up to 0-1500g
- High Output 4mV/V
- Environmental Protection IP51
- High Overload Capacity
- Low Deflection
- Versatile Mounting Arrangement
- 3 Year Warranty



For Small Force Measurement Applications in Tension and Compression

The UF1 isometric force sensor is designed for measuring both tension and compression in applications where the forces to be measured are very small.

Its good level of accuracy, low deflection, flexible mounting arrangement and high overload capacity lends it to applications where the forces to be measured are very low, such as muscular and membrane movement monitoring, yarn and fabric tension control, fluid viscosity measurement and even the measurement of the force induced in butterfly wings during flight.

The UF1 isometric force sensor design provides a high output sensitivity of 4mV/V along with very high overload capacity of 2500 grams on all ranges.

The UF1 sensor can be supplied calibrated with any of our load cell instrumentation to give you a complete low capacity force measurement system.

Options:

- Customised Mounting Fixtures
- Alternative Cable Lengths
- Can be supplied calibrated as a system with any of our instrumentation range
- USB version (via DSC-USB)
- TEDS (Transducer Electronic data Sheet)
- TEDS Allows Plug & Play with TEDS Enabled Instrumentation.
- Single or Multi-Channel PC-Based Monitoring & Data Logging System.
- Wireless Version (via T24 instrumentation)

Applications:

- Fibre Tension Measurement
- Muscular Studies
- Muscular and Membrane Movement Monitoring
- Fluid Viscosity Measurement



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Specification:

UF1		
Rated Capacity (RC)	grams	0-55, 0-220, 0-1000, 0-1500
Operating Modes	Tension/Compression / Tension & Compression	
Sensitivity (RO)	mV/V	4 nominal
Zero Balance/Offset	±%/Rated Output	<±2
Accuracy	±%/Rated Output	<0.50
Output Symmetry (tension vs. compression)	±%/Rated Output	<1 typical
Repeatability	%/Rated Output	<0.10
Temperature Effect on Zero	±%/Rated Output/ °C	<0.05
Temperature Effect on Sensitivity	±%/Applied Load/ °C	<0.05
Bridge Resistance	Ohms	725 nominal (25, 55, 450g) 1000 nominal (110, 220, 1000, 1500)
Insulation Resistance	Megohms	>100 @ 50Vdc
Excitation Voltage	Volts DC	10 maximum
Operating Temperature Range	°C	-40 to +80
Compensated Temperature Range	°C	+10 to +60
Storage Temperature Range	°C	-40 to +80
Safe Overload	% of Rated Capacity	150
Maximum Overload	grams	2500 (all capacities)
Deflection @ Rated Capacity	mm	<±0.03
Natural Frequency	Hz	200
IP Rating (Environmental Protection)		IP51
Electrical Connections		4off PTFE insulated solder terminals with cable fitted.
Weight (excluding cable)	grams	90 (exc. cable)
Cable Length (as standard)	metres	2
Cable Type		4-core screened PVC, Ø3.4mm
Resolution		1 part in 250,000 (with appropriate instrumentation)

Wiring Diagram:

Wire	Designation
Red	+ve excitation
Blue	-ve excitation
Green	+ve signal
Yellow	-ve signal
Screen	To ground – not connected to load cell body



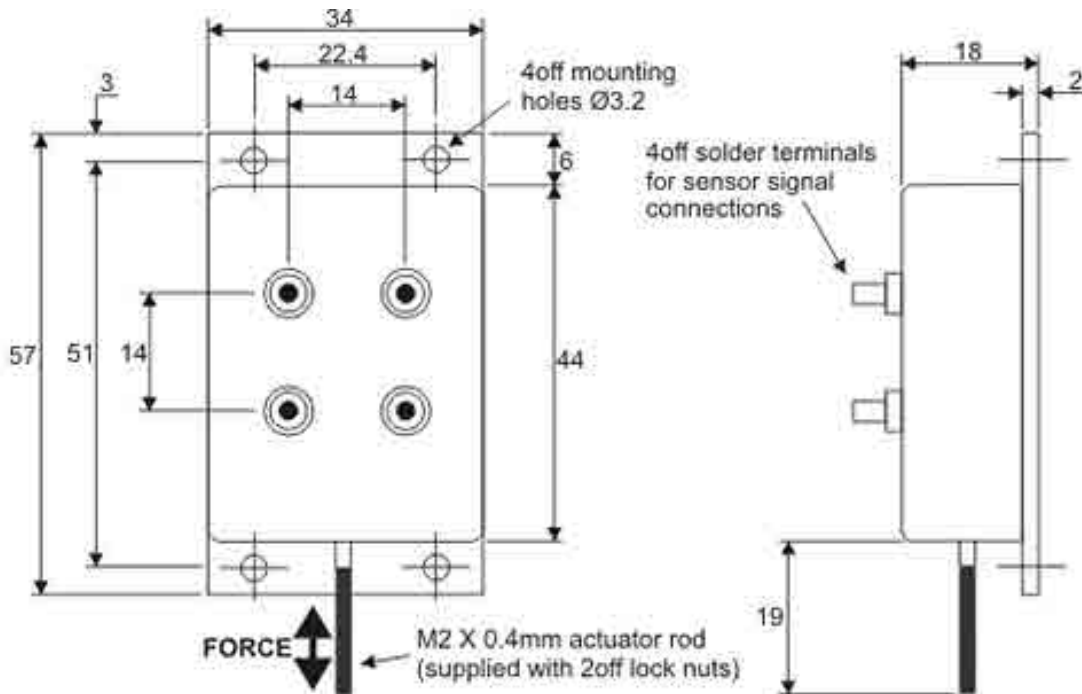
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Dimensions (mm):



Ordering Codes:

Core Product	Capacity (inc Engineering Units)	Cable Length (m)	Specials Code	Example Result
UF1	55g	002	000	UF1-55g-002-000
UF1	220g	002	000	UF1-220g-002-000
UF1	1000g	002	000	UF1-1000g-002-000
UF1	1500g	002	000	UF1-1500g-002-000

Associated Products:



[TR150 Handheld Indicator](#)



[T24 Wireless Telemetry Range](#)



[Intuitive4-L Panel-Mount Indicator](#)



[DSC-USB USB Signal Digitiser](#)



[ICA Miniature Strain Gauge Amplifier](#)



[SGA Signal Conditioner/Amplifier](#)