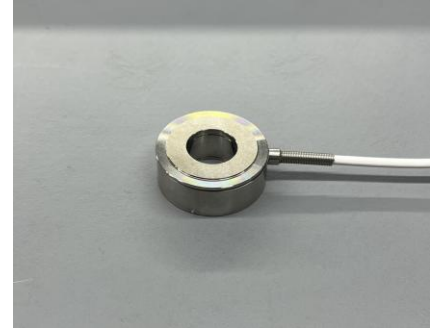


FC FMT Series

Load Washer sensor

Ref: 3404

Rev: A



DESCRIPTION

The FC FMT is designed to measure clamping and screwing forces.

The sensor design reduces the hysteresis and sensitivity variations associated with torque generated by friction during tightening.

The Mesurex FC FMT has a high stiffness and can be used in static and dynamic applications.

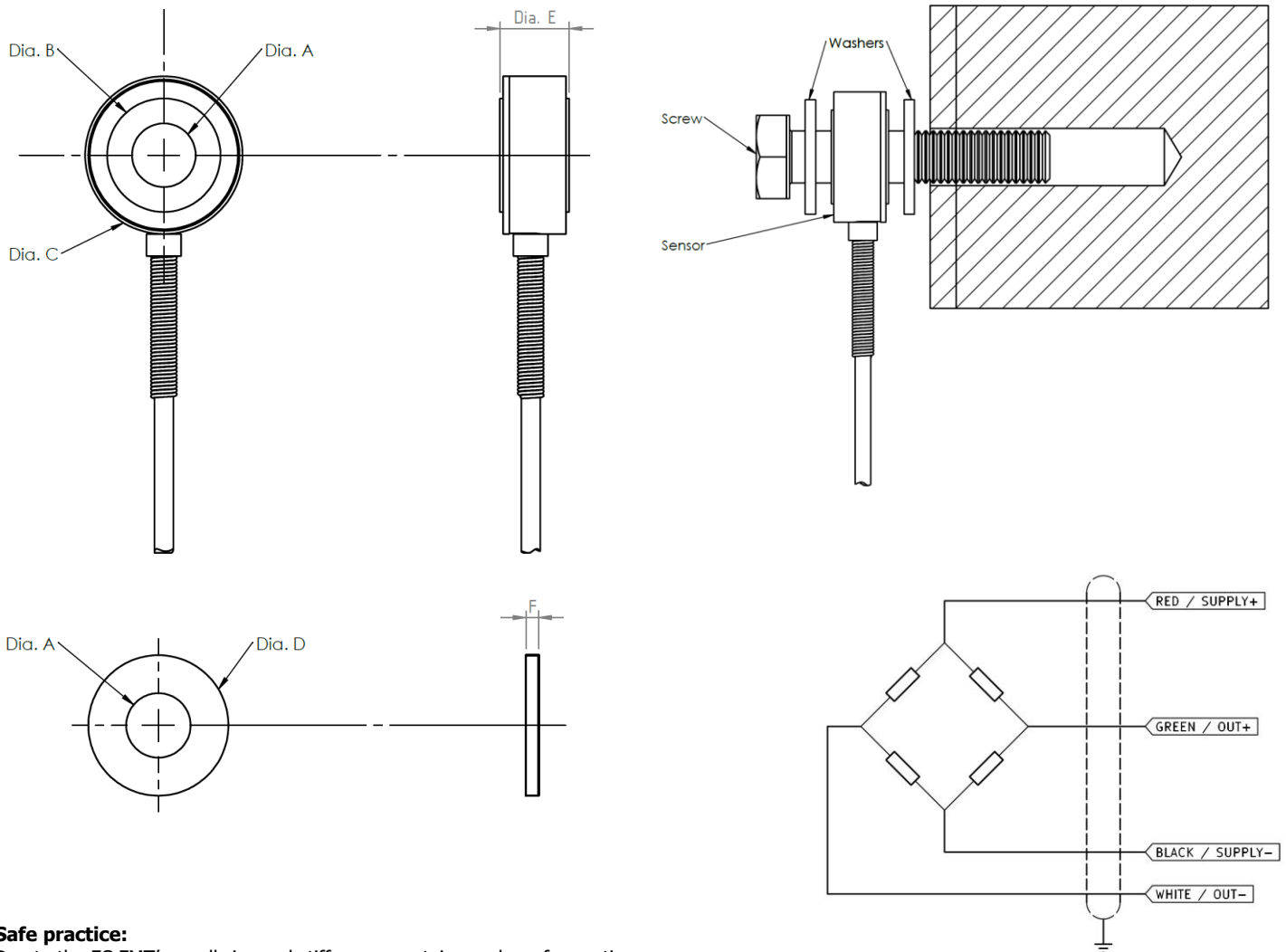
TECHNICAL DATA

Unless otherwise specified, all values at 20°C

PARAMETERS		Values									
Measuring range	N	20K	35K	55K	80K	110K	140K	180K	220K	270K	320K
Stiffness	N/m	2.1E+09	2.3E+09	3.3E+09	4.8E+09	6.0E+09	7.1E+09	8.0E+09	9.2E+09	1.1E+10	1.1E+10
Material	Body: Stainless Steel / Cover: aluminum alloy / Support Washer: Steel										
Overload (without damage)	1.5 x range										
Supply voltage	10 VDC										
OUTPUT											
Full Scale Output (FSO) @10 VDC	20 mV										
Sensitivity	2mV/V										
Output Impedance	700 Ω										
Input Impedance	700 Ω										
Zero offset	<± 1 mV										
Linearity + Hysteresis	<±1 to 5% FS										
Insulation	> 100 MΩ @ 50 VDC										
ENVIRONMENTAL											
Operating Temperature Range	-20 °C to 80 °C										
Compensated Temperature Range	0 °C to 60 °C (see Options for other ranges)										
Thermal Zero Shift within CTR	< 0.5% FSO / 50 °C										
Thermal Sensitivity Shift within CTR	<1% FSO / 50 °C										
PHYSICAL											
Mechanical Connection	None										
Electrical Connection	Silicon isolated cable (2m standard) Ø3mm - 4 conductors – reinforced spring										
Index of Protection	IP50										

Note: Signal goes negative in compression with standard wiring configuration.

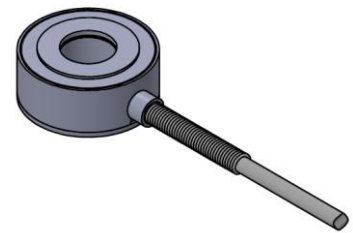
SIZE AND WIRING



Safe practice:

Due to the FC FMT's small size and stiffness, a certain number of mounting precautions should be observed during installation:

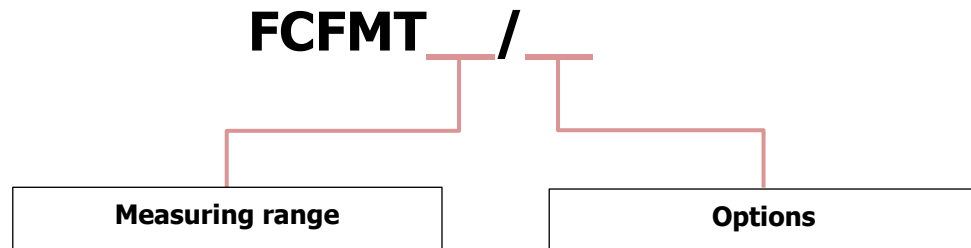
- The force should be uniformly distributed over the surface of the sensor.
- Surfaces in contact with the sensor should be uniform and parallel.
- We recommend that washers option be mounted between the surfaces and the sensor so that the washers are crushed during tightening. This helps to distribute the force more evenly. Linearity response is function of this caution.



Dimensions in mm

Range (N)	20k	35k	55k	80k	110k	140k	180k	220k	270k	320k
A	6.1	8.1	10.1	12.1	14.1	16.1	18.1	20.1	22.1	24.1
B	11	14.5	18	22	25.5	29	32.5	36	40	43.5
C	18	21	25	29	32	36	39	43	48	50
D	12.7	19	22	25	28	32	34	38	44	48
E	6.5	10	11	11.5	12.5	13.5	15	16	17	19
F	1.5	1.5	2	2	2	3.2	3.2	3.2	3.2	3.2

ORDERING INFORMATION



Options	Reference	Description
Compensated temperature range	None C1 C2	0°C to +60°C (standard) 0°C to +120°C -40°C to +120°C
Cable length	None LxxM LxxF	2m (standard length) xx : custom length in meter xx : custom length in foot
Support washers	W	2x washers. This helps to distribute the force more evenly Linearity response is function of this caution.

Examples:

FCFMT35KN/W

- Measuring range: 35KN
- Cable length: 2m (standard)
- Support washers included
- Compensated temperature: 0°C to +60°C

FCFMT140KN/L3M-C2

- Measuring range: 140KN
- Cable length: 3 m
- Compensated temperature: -40°C to +120°C

REVISIONS HISTORY

REVISION	DATE	DESCRIPTION
A	06/11/2025	Creation of the document

CONTACT

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