



Force Measurement

Sensors, Accessories, Electronics



A force sensors range from 10 N to 5 000 kN

Our know-how and expertise in the field of force measurements enable us to propose a wide range of sensors. Force sensors are used to measure tension or compression forces with a precision up to 0.05 % and a protection level up to IP67.

For all your applications...

SCAIME puts at your disposal all the experience we have previously acquired in the field of force measurement :

- force control on presses
- peak to peak force measurement
- press fit measurement
- force control for safety applications
- regulation of applied forces

To cover all these different applications, we offer you a wide variety of force sensors working in compression and/or tension as well as load pins.



At your service...

We have many calibration means and masses connected to international standards. We perform measurement systems adjustments and calibrations, carried out by specialized technicians in full respect of applicable standards.



Specific products...



If you cannot find any optimized solution within our standard range, regardless of whether your requirement concerns a special sensor or electronics, our engineers can manage the definition, development and manufacturing of your specific solution.

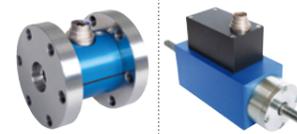
Focus on our ATEX and SIL sensors...



Our force sensors are available in ATEX versions for safe use in explosive atmospheres and SIL-certified versions to ensure a high level of functional safety in critical applications.

2 AXIAL SENSORS

Torque & Force



Model	M2396	M2371	K1563	K25	K12	M12 - ML12	MS02	M15 - M16	K1107	K1368	K100
Nominal Load (C.N.)	5 ... 50 Nm 0.5 ... 2 kN	2 ... 5 Nm 100 ... 500 N	0 ... 0.1 kN to 0 ... 2 kN	0 ... 0.02 kN to 0 ... 50 kN	0 ... 0.5 kN to 0 ... 1 000 kN	0 ... 1 kN to 0 ... 2 000 kN	0 ... 0.5 kN to 0 ... 5 000 kN	0 ... 0.2 kN to 0 ... 1 000 kN	0 ... 10 N to 0 ... 200 N	0 ... 10 N to 0 ... 200 N	0 ... 1 kN to 0 ... 100 kN
Error (% C.N.)	0.2	0.2	0.15	0.1	0.1	M12 $\leq \pm 0.15$ ML12 $\leq \pm 0.3$	0.05	$< \pm 0.5$	0.2	0.2	0.3
Output signal (mV/V)	1 mV/V	± 5 V	2.00 0.1 kN : 1.00	0.02 kN : 1.00 ≥ 0.05 kN : 2.00	2.00	2.00	2.00	1.00	0.4 ... 0.6	1 ± 20 %	1 ± 20 %
Material	Stainless steel	Stainless steel	Stainless steel	≤ 1 kN : Aluminum Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	≤ 20 N : Aluminum Stainless steel	≤ 50 N : Aluminum Stainless steel	Stainless steel
Protection	IP65	IP50	IP67	IP65 ≥ 2 kN : IP67	IP67	IP65 - IP67	IP65 - IP67	IP65 - IP67	IP60	IP60	IP65
Measurement direction C: Compression - T: Tension	T + C non rotating	T + C rotating	T + C	T + C	T + C	T + C	T + C	T + C	T	T	T

Consult our complete product range on: www.scaime.com

SENSORS



Model	MTRD - MTRS	K2148	K2528-K2529	K181	K1250	K18	K22	K1613	K13 - K13B	K450	K1882
Nominal Load (C.N.)	0 ... 50 kN to 0 ... 500 kN	0 ... 0.5 kN to 0 ... 6.5 kN	0 ... 0.2 kN to 0 ... 20 kN	0 ... 15 kN to 0 ... 1 500 kN	0 ... 2 kN to 0 ... 100 kN	0 ... 5 kN to 0 ... 5 000 kN	0 ... 0.05 kN to 0 ... 2 kN	0 ... 0.1 kN to 0 ... 50 kN	0 ... 0.1 kN to 0 ... 100 kN	0 ... 1 kN to 0 ... 1 000 kN	0 ... 1 kN to 0 ... 150 kN
Error (% C.N.)	$< \pm 0.15$	0.5	1	± 1	0.5	0.5	0.5	0.5	0.5	0.3	0.2
Output signal (mV/V)	2 ± 2 % 1 ± 2 %	0.5 kN : 0.25 6.5 kN : 1	1 ± 20 %	1 ± 20 %	1 ± 20 %	1.00	1 ± 20 %	1 ± 20 %	1 ± 20 %	2.00	1.00
Material	Stainless steel	Stainless steel	Aluminum	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Protection	IP65 - IP68	IP63	IP60	IP65	IP60	IP66	IP65	IP65	IP65	IP67	IP60
Measurement direction C: Compression - T: Tension	T	T	C	C	C	C	C	C	C	C	C

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ACCESSORIES



Model	EF & EM	LCV	LOAD ADAPTER
Specifications	Rod end for load < 700 kN	High level output transmitters	For use in compression

Solutions from sensors... to software

Well-aware of the significance of information technologies development for our business, we have developed softwares associated with some of our products.

These softwares have been designed to bring some new connectivity solutions and meet our customers needs to:

- interface our products with automated systems
- carry out data analysis
- save the measurement results

Signal processing

We can offer various solutions for conditioning, display and transmission of the measurement. Our electronics include functions covering a wide range of applications:

- Process control
- Press fit measurement
- Force control

For a use in industrial environments, we can also offer:

- Standard interfaces with the main automated systems (Profibus-DP, Modbus-RTU, CANopen®)

ELECTRONICS

●: Standard - ○: Optional



Model	CPJ	eNod4	F381A	GM80	IM-S	SI-USB 3
Type	Transmitters		Indicators			Acquisition
Input	mV/V, potentiometer	mV/V, 4-20 mA, 0-10 V	mV/V, pulse, ± 5 V	mV/V, 4-20 mA, ± 10 V	mV/V	mV/V, 4-20 mA, ± 10 V, PT100, pulses
Accuracy class	0.05 %	0.01 %	0.02 %	0.1 %	0.02 %	0,05%
Max. measuring speed (meas./s.)	-	1 200	4 000	1 000	100	5 000
Display	-	-	Color display touch panel	LCD 9 mm	6 digits	PC
Logic Input (I) / Output (O)	○ 2 ○	● / ○ 2 I - 2 O / 4 O	● / ● 16 I / 16 O	● 2 I / -	● / ○ 3 E / 4 S	-
Analog output	●	○	●	-	○	-
Serial link RS485 / RS232 / USB	-	● / - / ●	- / ● / -	- / - / ●	○ / - / -	- / - / ●
Modbus RTU / Profibus DP	-	● / ○ / ●	-	-	○ / ○ / -	-
Modbus-TCP / PROFINET® EtherNet/IP / EtherCAT®	-	○ / ○ ○ / ○	-	-	-	-

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Advice and technical assistance...

Customer support is one of the missions of our engineers.

We are here to help you define your needs, choose the best solution and assist you during the implementation phases.



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