



Main features

- Measure strain in deep holes
- With calibrated digital amplifier
- Quick and easy mounting with torque-wrench
- High linearity on tension and compression
- For dynamic applications
- Used in injection moulding and die-casting machines or any cylinder
- Very high accuracy (like bonded strain gauges)
- Protected against overload

The measuring-lance ML1018 is inserted into a borehole in a tie bar and then preloaded to measure the strain at the sensortip. The 2 strain gauges in the sensor tip are then pressed so hard onto wall of the hole that friction replaces the bonding normally used to fix strain gauges.

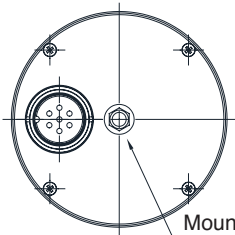
The mounting is very fast, and the strain gauge is protected. The sensor can not be overloaded. There is no other way to fix strain gauges in deep holes.

TECHNICAL DATA

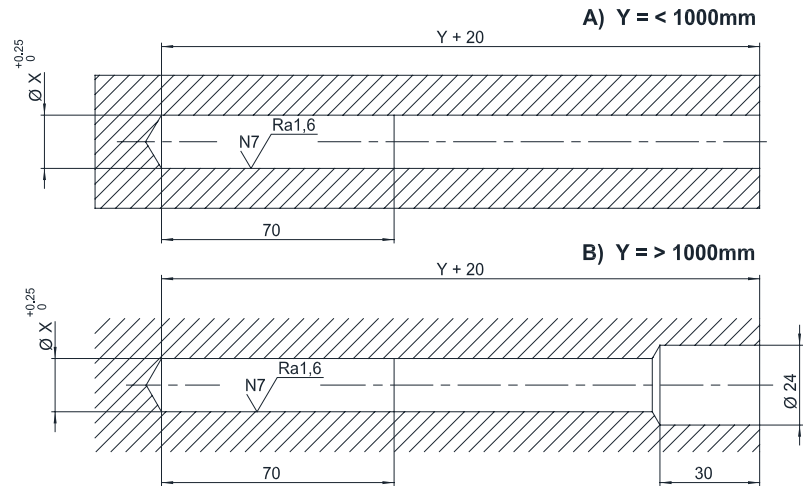
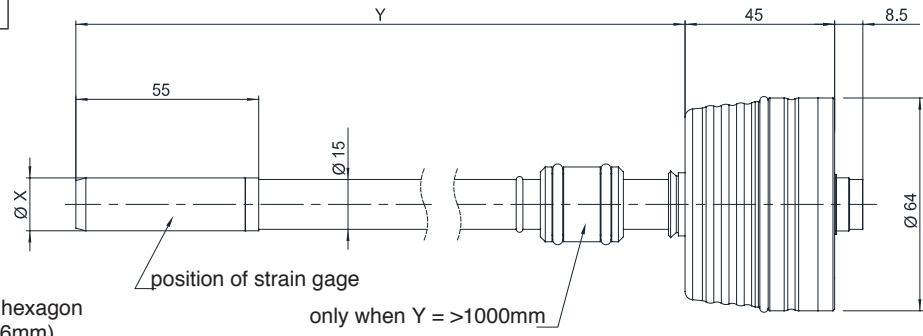
Strain gauge type	Foil (GF = 2.0)
Bridge resistance	350Ω
Measuring range	±1000με
Span adjustment	±200% FS
Zero adjustment	±500% FS
Sampling rate	8kHz
Output rate	8kHz
Low-pass filter	1kHz
Output signal	0...±10VDC
Noise	< 10mV
Sensitivity tolerance	± 1%
Accuracy	< ± 0.5% FS
Accuracy of zero point	< ± 0.1% FS
Linearity	< ± 0.5% FS
Hysteresis	< ± 0.3% FS
Repeatability	< 1% (max 2%)
Output resistance	0Ω
Reset time	> 25ms
Reset voltage	15...28VDC
Supply voltage	20...28VDC
Supply current	< 60mA
Inverse polarity protection	Yes
Accidental short-circuit protection	Yes
Operating temperatur range	-10...65°C
Storage temperatur range	-10...65°C
Temperature coefficient at 10°C	< 0.1 (0.05 typical)
Overload capability	indefinite (offset occurs)
Protection class	IP52
EMC	2014/30/EU
Case material	Aluminium / Steel
Cover material	Aluminium / Steel

MECHANICAL DIMENSIONS

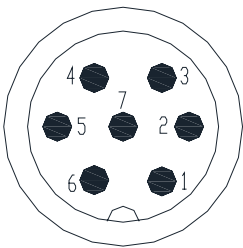
	ø16	ø20	ø24
x	16	20	24



Mounting with hexagon socket screw (6mm)



ELECTRICAL CONNECTIONS



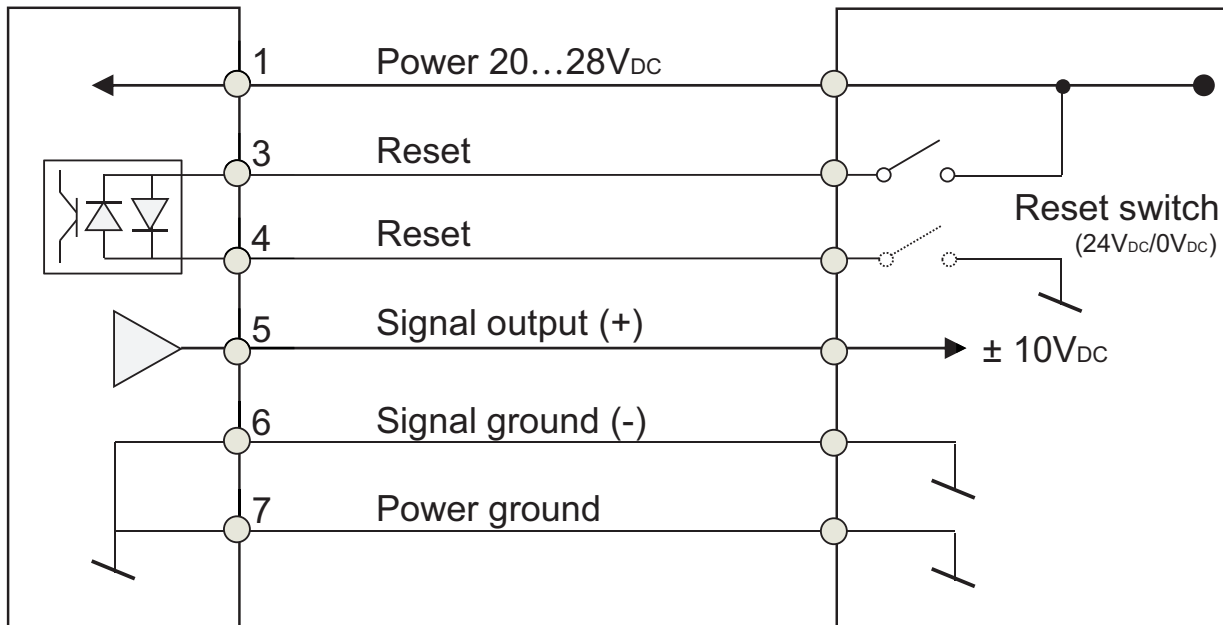
CONNECTOR OUTPUT	FUNCTION
1	Power 20...28 Vdc
2	n.c.
3	Reset
4	Reset
5	Signal output
6	Signal ground
7	Power ground

RESET FUNCTION

ML1018

Non isolated reset

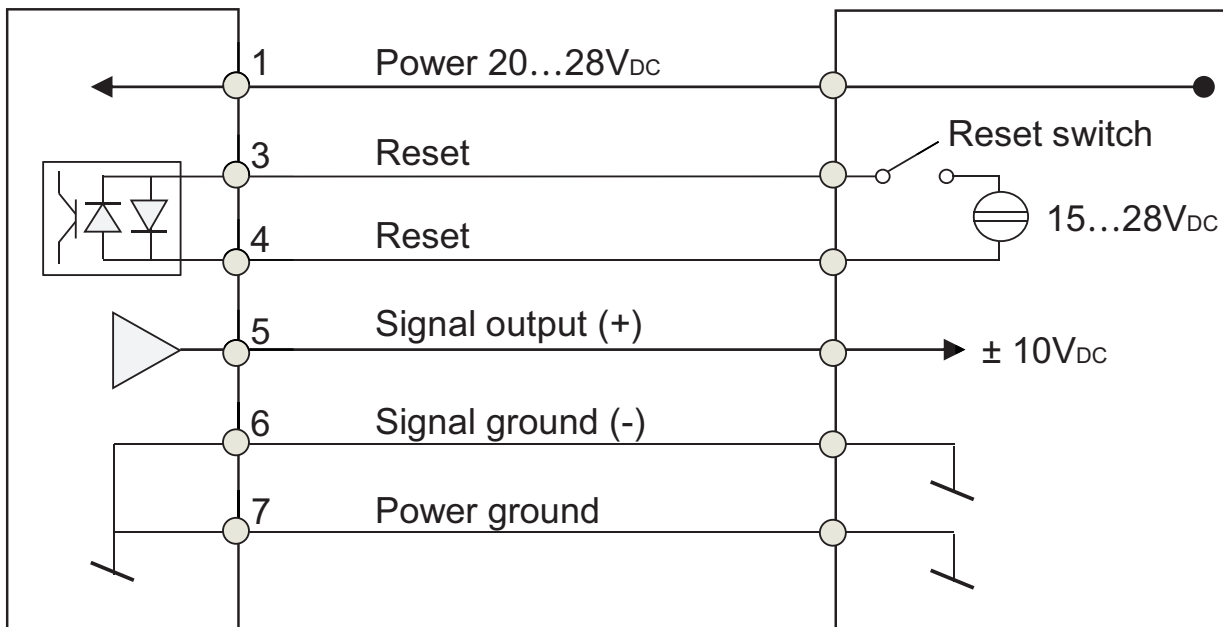
Controller



ML1018

Galvanic isolated reset

Controller



Switch closed = reset active

Switch open = measurement active

ORDER CODE

Measure lance

ML1018 - - - -

Diameter of hole (sensor-tip)	
Sensortip d: 16 mm	16
Sensortip d: 20 mm	20
Sensortip d: 24 mm	24

Length	
185 mm	0185
240 mm	0240
320 mm	0320
400 mm	0400
600 mm	0600
900 mm	0900
1100 mm	1100
1300 mm	1300
1500 mm	1500
1700 mm	1700
1900 mm	1900
2100 mm	2100
2250 mm	2250
Define your own length (100..3000mm)	XXXX

Measurement range	
500 $\mu\epsilon$	0500
1000 $\mu\epsilon$	1000
Define your own length (100..3000mm)	XXXX

Features	
No features	O
Peak-hold positive	P
Peak-hold negative	N

Example: **ML1018 - 20 - 1100 - 1000 - O**

Measuring-lance type ML1018, diameter of hole 20 mm, bore-hole depth 1100 mm

GEFRAN spa reserves the right to make any kind of design or functional modification at any moment without prior notice.



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