



#### 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.

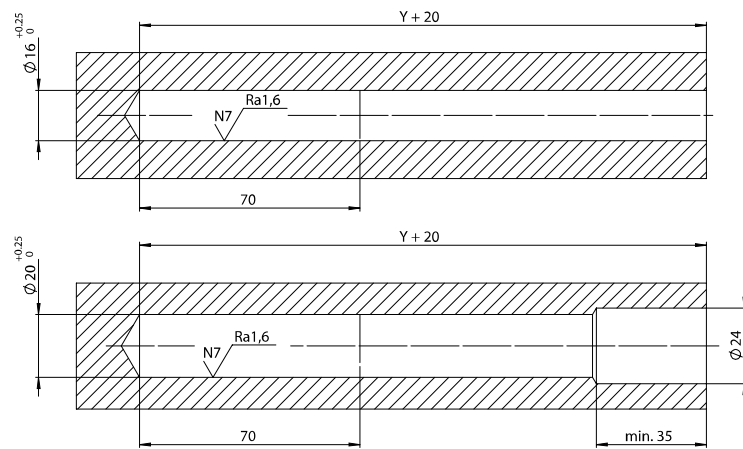
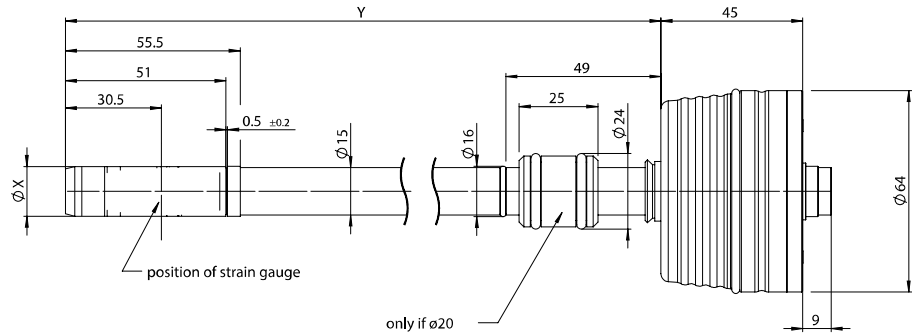
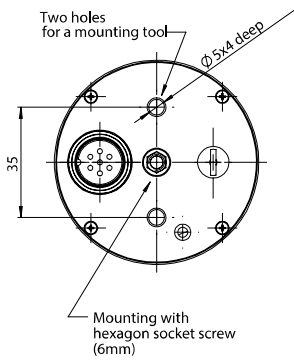
The strain gauge is protected. The sensor can not be overloaded. There is no easier and faster way to fix strain gauges in deep holes.

#### 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

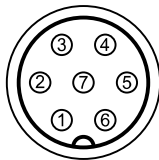
## DIMENSION

	ø 16	ø 20
x	16	20



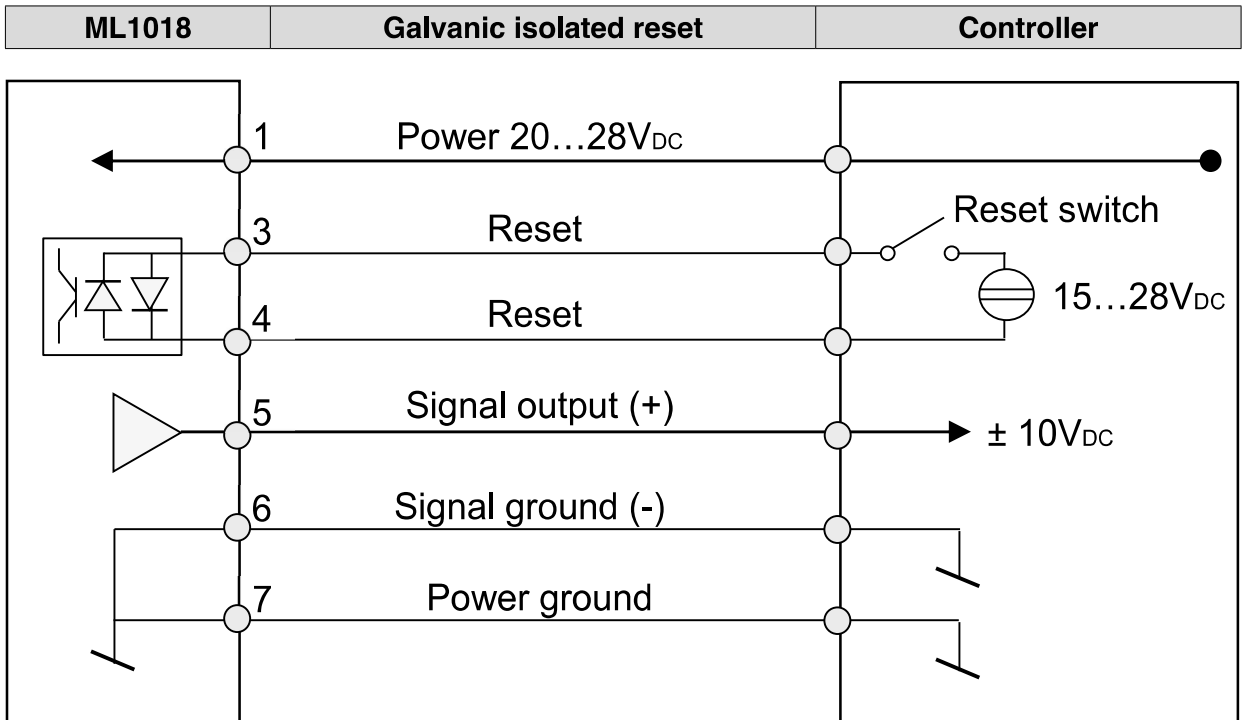
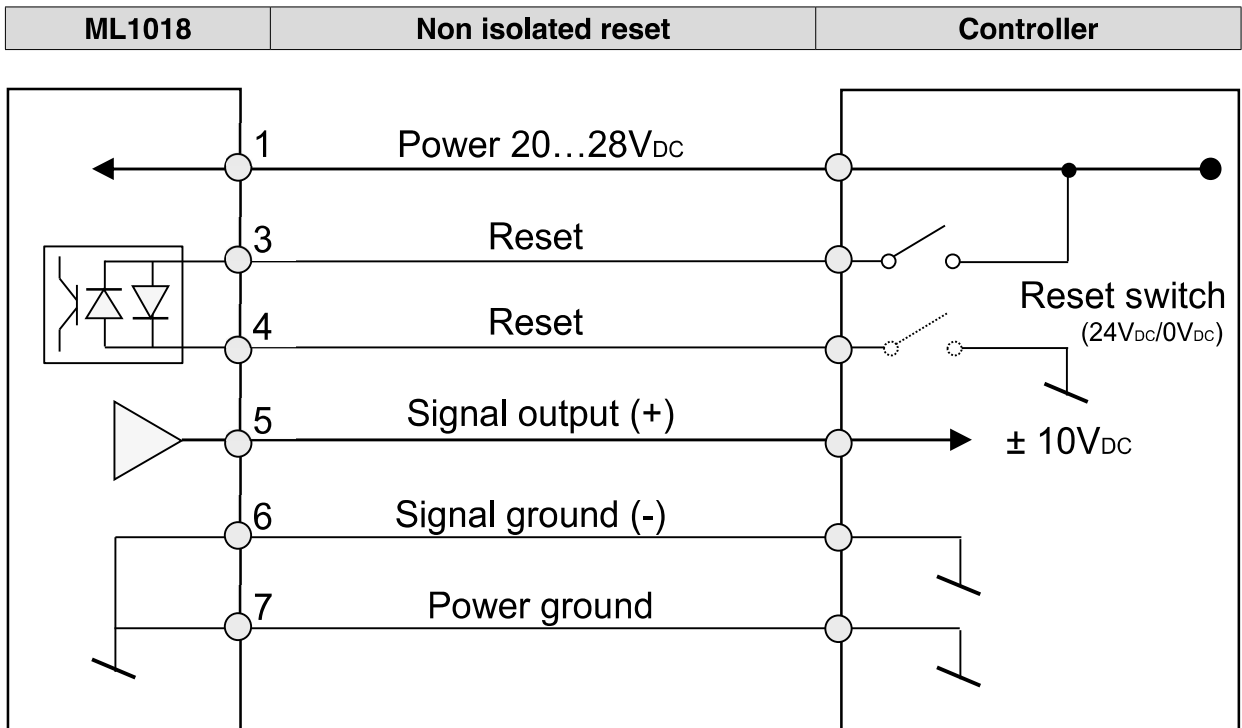
Dimensions in mm

## ELECTRICAL CONNECTIONS



Connector PIN	Function	Color
1	Power supply 20...28 VDC	White
2	n.c.	-
3	Reset	Green
4	Reset	Yellow
5	Signal output	Grey
6	Signal ground	Blue
7	Power ground	Pink

# RESET FUNCTION



Switch closed = reset active

Switch open = measurement active

## ACCESSORIES

EXTENSION CABLE	CODE	ORDER CODE
10m cable lenght for ML1018	F078751	C-680-100-O-ML
15m cable lenght for ML1018	F080833	C-680-150-O-ML

## ORDER CODE

Measuring lance **ML1018** -   -     -     -

Borehole diameter X (Sensor-tip)	
Sensor-tip Ø 16 mm	16
Sensor-tip Ø 20 mm	20

Lance lenght Y	
270 mm	0270
315 mm	0315
320 mm	0320
350 mm	0350
430 mm	0430
530 mm	0530
650 mm	0650
760 mm	0760
880 mm	0880
900 mm	0900
950 mm	0950
1000 mm	1000
1050 mm	1050
1090 mm	1090
1100 mm	1100
1200 mm	1200
1300 mm	1300
1400 mm	1400
1500 mm	1500
1580 mm	1580
1800 mm	1800
1850 mm	1850
1900 mm	1900
2100 mm	2100
2270 mm	2270
2450 mm	2450
2700 mm	2700

Measuring range	
500 µε	0500
1000 µε	1000

Features	
No	O

Example: ML1018 - 20 - 0650 - 0500 - O

Measuring lance type ML1018, Borehole diameter X = 20 mm, Lance lenght Y = 650 mm, Measuring range = 500µε.

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



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