



MAIN CHARACTERISTICS

- Strokes from 100 to 1000 mm
- Multivariable sensor with advanced diagnostic and FW upgrade via bootloader.
- Working temperature: -40...+85 °C
- IP69K protection

Contactless linear position transducer with TWIIST patented technology for longer lifetime. The absence of contact on the sensing element allows to obtain a fully-sealed, robust and compact sensor.

The high performance in terms of robustness, thermal stability and EMC immunity make the LM-L series suitable for use both in industrial and mobile hydraulic environments.

TECHNICAL DATA

Stroke (FS)	From 100 to 1000 mm*
Measurement	Multivariable (displacement, velocity, tilt and acceleration)**
Position reading sampling time	typ. 1 ms
Displacement speed	< 5 m/s
Resolution	typ. 14 bit
Linearity (BFSL method)	typ. < ±0.15% FS
Repeatability	typ. < 0.05% FS
Hysteresis	typ. < 0.05% FS
Tilt measurement (pitch/roll), Linearity (static meas.)	typ. < +/-0.5% FS
Temperature coefficient at 0 deg inclination	typ. < +/-0.01 deg/°C
IP Protection Level	IP69K
Housing Material	AISI444 stainless steel, brass, aluminium, PBT, PPS
Shock	Impulsive on 3 axes; 40g 11 ms IEC 60068-2-27
Vibrations	12g - 10 Hz ... 2000 Hz IEC 60068-2-6
Industrial EMC	EN 61326 - 1

ELECTRICAL DATA

Output signal	IO-Link
Circuit type	Half-redundat
Supply voltage	18...30V DC
Typical current consumption (operational state)	14 mA @ 24 VDC
Supply voltage reverse polarity protection	Up to -33 V DC
Overvoltage protection	33 V DC (continuous)
Electric strength	250 V (DC ground to machine ground)
Short circuit protection	Yes
Working temperature	-40...+85 °C
Temperature coefficient	typ. < ±50 ppm/°C

*For sensor strokes greater than 500mm, refer to installation manual for suggestion.

To ensure sensor self-alignment, shield option can be adopted.

** Please refer to the installation manual for further details.

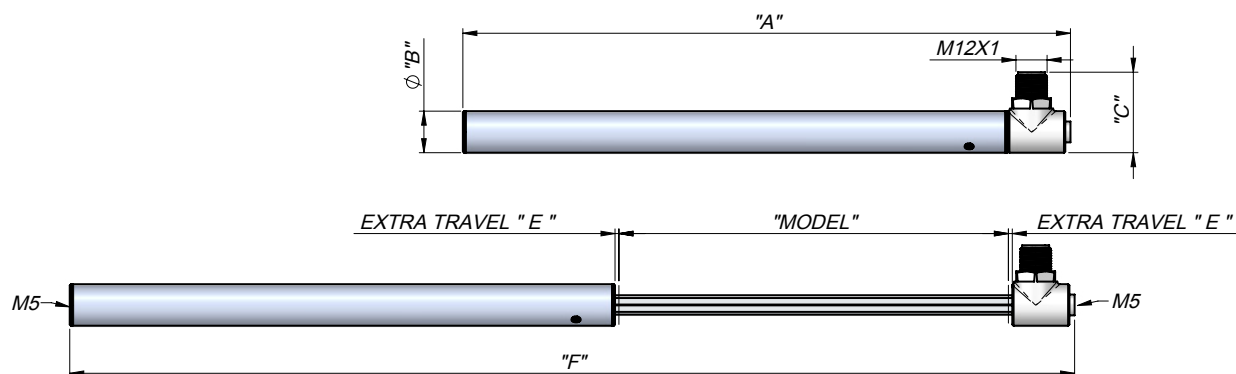
Note that the standard version of LM-L provides only the position measurement reading. For different versions with other measurements, please contact Gefran.

ELECTRICAL CONNECTIONS

PIN	M12 5 pole connector
1	L+
2	N. C. <i>(not internally connected)</i>
3	L-
4	IO-Link
5	N. C. <i>(not internally connected)</i>

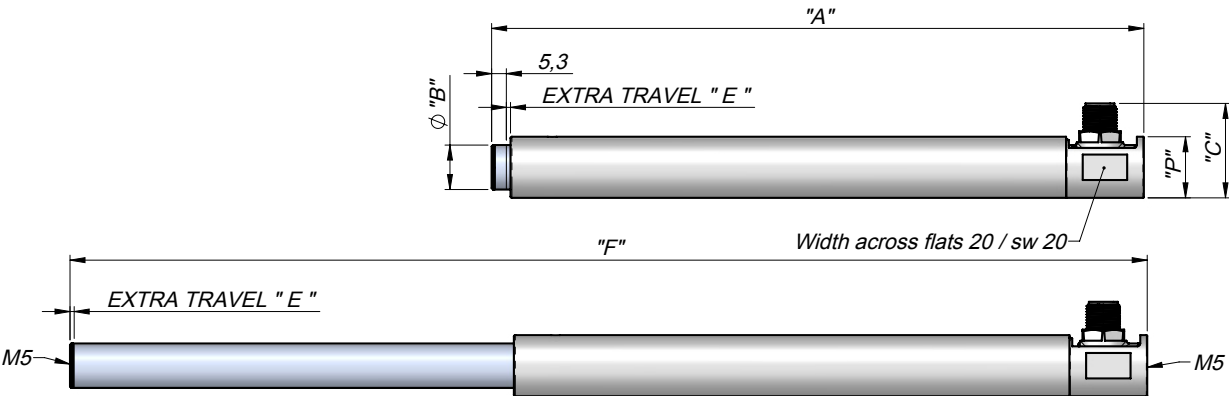
5 PIN

MECHANICAL DIMENSIONS WITHOUT SHIELD



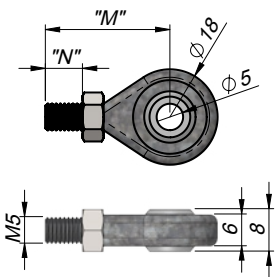
Model	"A" mm	"B" mm	"C" mm	"E" mm	"F" mm	"G" mm	"H" mm	"L" mm	"M" mm	"N" mm	"R" mm
100	184	16	34	1,5	287	10,5	32	13	23,5	7	25
150	234				387						
200	284				487						
250	334				587						
300	384				687						
350	434				787						
400	484				887						
450	534				987						
500	584				1087						
550	634				1187						
600	684				1287						
650	734				1387						
700	784				1487						
750	834				1587						
800	884				1687						
850	934				1787						
900	984	1887									
950	1034	1987									
1000	1084	2087									

MECHANICAL DIMENSIONS WITH SHIELD

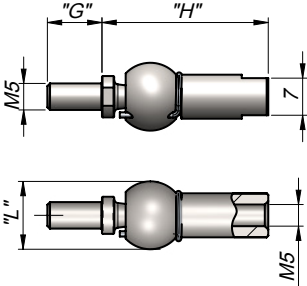


Model	"A" mm	"B" mm	"C" mm	"E" mm	"F" mm	"G" mm	"H" mm	"L" mm	"M" mm	"N" mm	"P" mm	"R" mm
100	185	16	34	1,5	288	10,5	32	13	23,5	7	22	25
150	235				388							
200	285				488							
250	335				588							
300	385				688							
350	535				888							
400	585				888							
450	535				988							
500	585				1088							
550	635				1188							
600	685	16	34	1,5	1288	10,5	32	13	23,5	7	22	25
650	735				1388							
700	785				1488							
750	835				1588							
800	885				1688							
850	935				1888							
900	985				1888							
950	1035				1988							
1000	1085				2088							

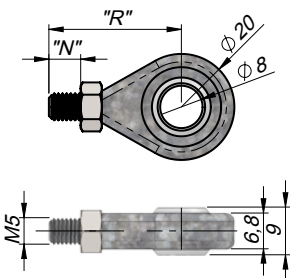
ACCESSORIES



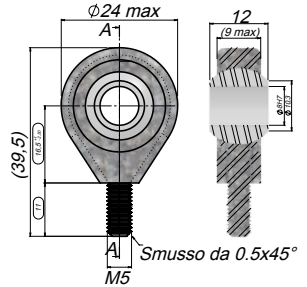
PKIT 1567
PKIT 1568



PKIT 1565
PKIT 1566



PKIT 1574



PKIT 1571
PKIT 1573

ORDERING CODE

Product

LM - L - - -

IO-Link Output

Connector

5 pole M12 output conn. A

Model (stroke)
– steps of 50mm

100 mm 0100
1000 mm 1000

Accessories

0 - 000X - 0 - 0 - 0X

Shield Option

0 Without shield
S With shield

Connectors

0 None
1 CON031 – 5-pin M12 female mating conn., IP67
3 CON041 – Angled 5-pin M12 female mating conn., IP67

Mechanical Connection Joints (PKIT)

0 None
A PKIT 1567 Ball joints
B PKIT 1565 Axial joints
C PKIT 1566 SS Axial joints (AISI316)
D PKIT 1568 SS Ball joints (AISI316)
E PKIT 1571 Ball joints Twiist 316 M5/F8 sp.12mm
F PKIT 1573 Ball joints Twiist M5/F8 sp.12mm
G PKIT 1574 Ball joints Twiist M5/Hole 8/ Sp. 9

Linearity certificate

0 No certificate
L Certificate

Example: LM-L-A-0300 0-00X-A-0-0X
Contactless linear position transducer with TWIIST technology, IO-Link output, half-redundant circuit, M12 5 pole connector, stroke 300 mm, IO-Link output, ball joints

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