Load Measuring Pin LASTMB

Characteristics

-For installation in existings plants without mechanical redesign	
-Ranges	0…100 kg up to 0…2000 t
-Output	Strain gauge full bridge
+ Option	2 x redundant strain gauge full bridges
	0…10 V / 0(4)…20 mA
-Material	Stainless steel Armco 17-4 PH
-Accuracy	±0,1% of terminal value
-Working temp.	max. -20...+70 °C
-Protection class	IP65 (standard) / IP66...IP68 (options)
-Connection	Cable, plugs
-Output signal	2 mV/V (standard version)

Technical Data

Input		
Measurement ranges	0...100 kg up to 0...2000 t	
Input resistance	approx. 375 Ω (standard version)	
Output		
Output signal	2 mV/V (standard version)	
Output resistance	approx. 350 Ω (standard version)	
Acuracy		
Gross error	±0,1 % of terminal value	
Supply		
Supply voltage	max. 28 VDC	
Insulation resistance	> 3000 MΩ at 10 VDC	
Mechanics		
Demensions	customized,	see page 3
Material	stainless steel	Armco 17-4 PH
Protection class	IP65 (standard version)	IP66, IP67, IP68 (options)
Save Overload	150% of nominal load	
Breaking Load	300% of nominal load	
cable outlet	radial / axial	
electrical connection	cable, plugs	customized, see page 3

Applications

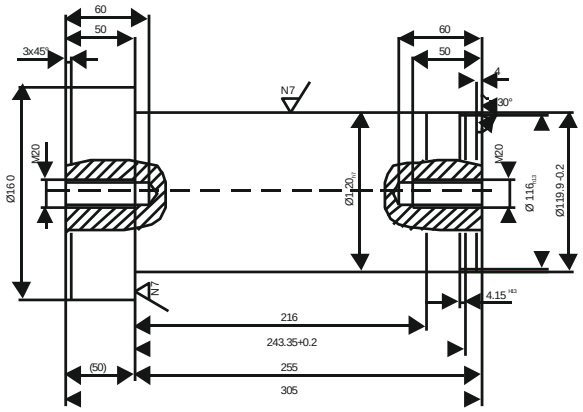
Suitable for use in all areas of industrial application which require force measurement, e.g. theater engineering, crane systems, port loading terminals, airport engineering or vehicle and plant construction.

Technical Data (Continued)

Safety Parameters Ex		
Ex-Approval	II 1G Ex ia IIC T6	(-20 °C ≤ T ≤ +60 °C)
Ex-Values	Ui = 28 V	Pi = 1.3 W
	i = 300 mA	Ci = 0.04 µF
	Li = 284 µH	
Directiv	ATEX	2014/34/EU
Standards	EN 60079-0:2012	EN 60079-26:2007
	EN 60079-11:2012	EN 60079-31:2014

Enviromental Conditions		
Working temperature	normal operations	-10…+40 °C
	maximal	-20…+70 °C

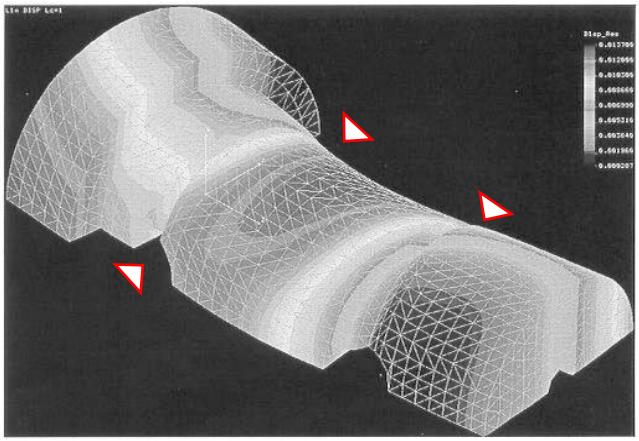
Technical Notes



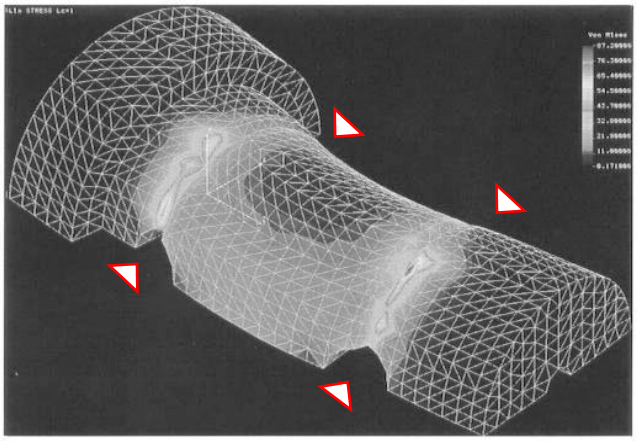
Example for customized production

Based on the technical drawing of a load measuring pin previously present in a system, the nominal load of 20 t is simulated using a computer calculation.

Graphical representation of the computer calculation



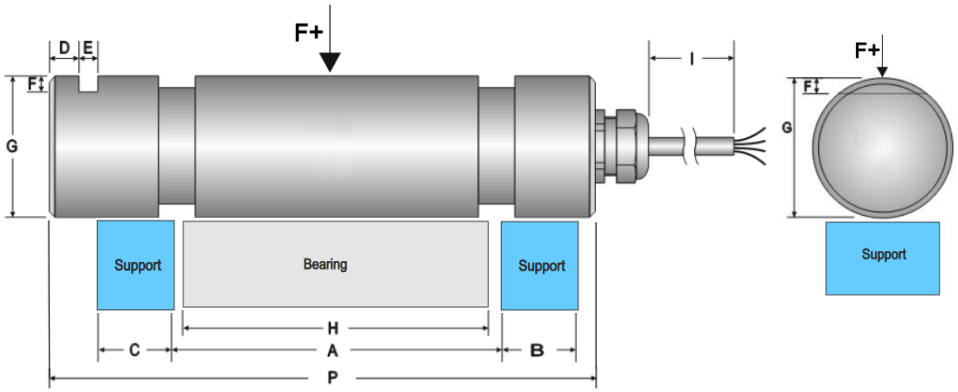
Linear displacement with a load of 20 t



Stress load with a load of 20 t

The two graphics show mechanical changes and the positions of highest stress inside the load measuring pin planned for manufacture. The sensor transducers ▽ will be placed at those points.

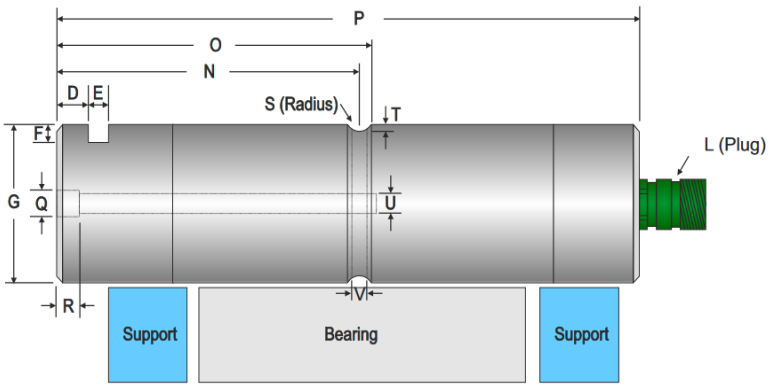
Dimensions (in mm)



Customer-specific construction

Almost any dimension is possible.
The electrical connection can be implemented with a plug or connected cable

Load Measuring Pin with Lubrication Duct



Additional information for lubrication duct (s. drawing above):

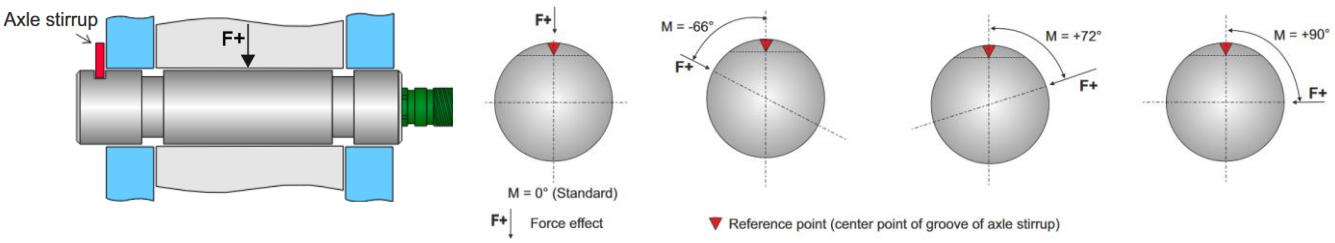
N	=	mm
O	=	mm
P	=	mm
Q	=	mm
R	=	mm
S	=	mm
T	=	mm
U	=	mm
V	=	mm

Order specifications:

Dimension designation see drawing above		Your dimensions	Unit of measurement
F+	=		N
M[1]	=		°
[1] see below M = angel of force effect			
P	=		mm
A	=		mm
B	=		mm
C	=		mm
D	=		mm
E	=		mm
F	=		mm
G[2]	=		mm
[2] and/or Ø - tolerance (if known, please use DIN 7157 or DIN ISO 286-2)			
H	=		mm
Connection type[3]	=		
l[3] (Cable length)	=		m
L[3] (Plug typ)	=		

[3)] Plug, plug with cable or cable gland (plug type)

M = Angle of force effect (standard = 0°)



Standard version = force perpendicular to the axle stirrup groove. If local conditions make this impossible, please specify an angle of deviation (see drawing F+ force vector)

Order code

L	L	X	X	X	X	X	X	X	-	X	X	X

Measurement range:	customized (please specify)	0

Outputs:	Strain gauge full bridge	0
	2 x strain gauge full bridges	1
	0…10 V	2
	0(4)…20 mA	3

Lubrication duct:	No	0
	Yes (please specify dimensions, see page 3	1

Ex-protection[1]:	No	0
	Yes (II 1G Ex ia IIC T6)	1

Electr. connection:	Cabel (please specify length)	0
	Plug (please specify type)	1
	Plug with cable (please specify type and cable length)	2

Cable outlet:	Axial	0
	Radial	1

Casing dimensions:	Please specify the dimensions, see page 3	0

Application of force:	F+ (please specify, see page 3)	0

Force vector:	M	0

Protection class:	IP65	0
	IP66	1
	IP67	2
	IP68	3

Note:	Missing order details lead to delays
ATEX area	Cable length max. = 30 m; with six-core cable: length max. = 15 m