IO-LINK SHEAR BEAM AND BENDING LOAD CELLS

TENSION & COMPRESSION



- COMBINED ERROR ≤ ±0.02%
- IO-LINK OR 4...20 mA OUTPUT
- IP67 PROTECTION RATING
- 17-4PH STAINLESS STEEL

CE RoHS COMPLIANT REACH COMPLIANCE IP67 Stainless Steel 17-4 PH · 1.4542 ISO 17025 ACCREDITED LABORATORY IO-Link 4...20 mA 0...10 V

NOMINAL LOAD (FS)

kg	N (optional)	Net weight (kg)	accuracy	ISO 17025
50	500	0.9	≤±0.02%	(optional)
75	750	0.9	≤±0.02%	(optional)
150	1 500	0.9	≤±0.02%	(optional)
300	3 000	0.9	≤±0.02%	(optional)
500	5 000	0.9	≤±0.02%	(optional)
750	7 500	0.9	≤±0.02%	(optional)
1 000	10 000	0.9	≤±0.02%	(optional)
1 500	15 000	0.9	≤±0.02%	(optional)
2 000	20 000	1.6	≤±0.02%	(optional)
5 000	50 000	1.6	≤±0.02%	(optional)
7 500	75 000	1.6	≤±0.02%	(optional)
10 000	100 000	3.8	≤±0.02%	(optional)

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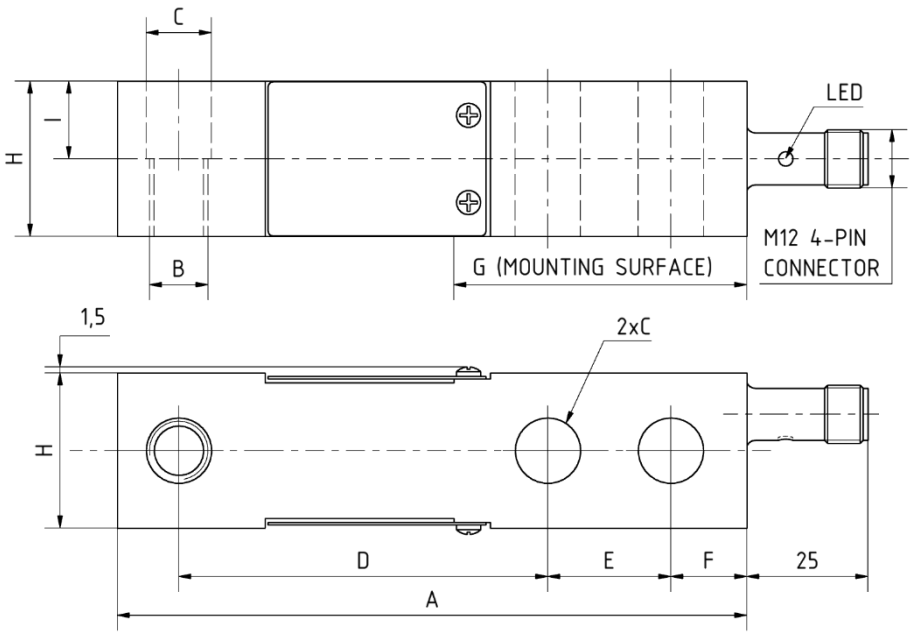
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DIMENSIONS (mm)

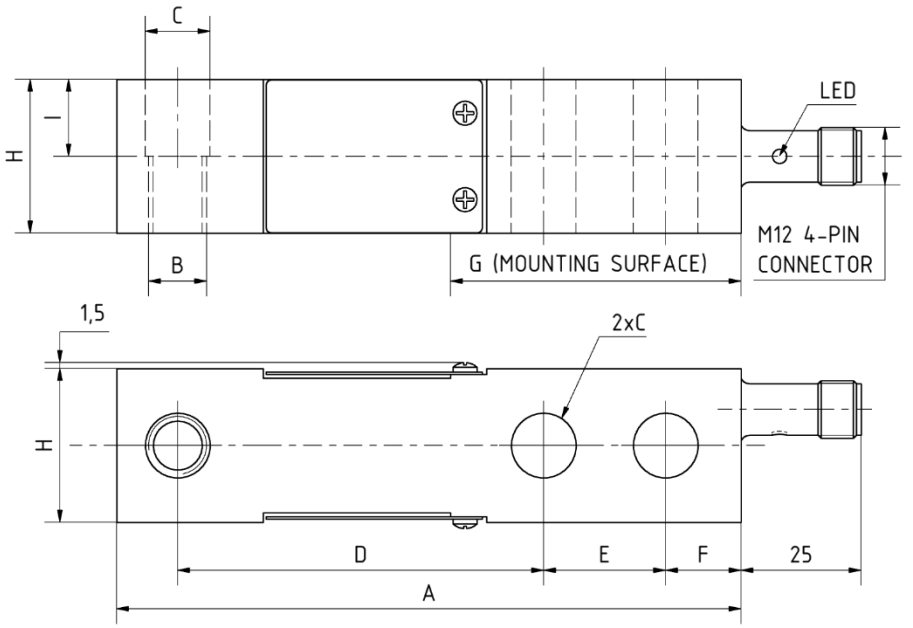
	50 kg...2t 0.5...20kN	3t...7.5t 30...75kN	10t 100kN
A	130	171.5	222.5
B	M12×1.75	M20×2.5	M24×2
C	Ø13.5	Ø21	Ø26.2
D	76.2	95.3	123.8
E	25.4	38.1	50.8
F	15.7	19.1	25.4
G	53	76	102
H	32	38	51
I	16	19	25.5

Apply the torque values listed below when fastening load cell screws.			
Screw	**M12**	**M20**	**M24**
Screw class	8.8	8.8	8.8
Tightening torque (Nm)	79	400	690

50...300 kg
500...3 000 N



500...10 000 kg
5 000...100 000 N



TECHNICAL DATA

PRECISION

Combined error	≤ ±0.02 %FS
Non-linearity	≤ ±0.018 %FS
Hysteresis	≤ ±0.01 %FS
Repeatability	≤ ±0.03 %FS
Creep	≤ ±0.03 %FS (at 30 min FS)
Temperature coefficient of zero	0.005 %FS/°C
Temperature coefficient of sensitivity	0.005 %FS/°C
Compensated temperature range	-10...+40 °C
Operating temperature range	-20...+80 °C
Reference Temperature	23 °C

MECHANICAL PROPERTIES

Material	17–4PH | 1.4542
Deflection at nominal load (FN)	0.4 mm

IO-LINK INTERFACE

IO-Link version	1.1
Port type	Class A
Baud rate	230.4 kbit/s, COM3
Process data length	32 bit
Cycle time	≥ 600 µs
SIO mode	Yes
Profile	Smart Sensor Profile (SSP) 4.1.1, Profile ID 0x0010
Process data	Measurement Value; Scale Exponent; SSC1 Switching Signal; SSC2 Switching Signal
Cable length	Less than 20 m permitted

ANALOG OUTPUT

Output range	4–20 mA
Supply voltage range	18–30 V
DAC resolution	16 bit
Output rate	10 kHz

IO-LINK MEASURING AMPLIFIER

Power supply	18–30 V DC
Current consumption	max. 50 mA (at 24 V supply voltage)
Voltage resistance	All pins of the M12 connector reverse-polarity and overvoltage protected from -30 V to +30 V
Connector	M12, 4-pin male, A-coded
Output Bandwidth -3db	1 kHz
Sampling rate	2 kS/s
DAC resolution	16 bit
Output signals	• Analog signal (4...20 mA) Type: NPN sink to L- • Digital switching channel • IO-Link
LEDs	• Power supply (green) • Locator (red)

DEVICE MODES

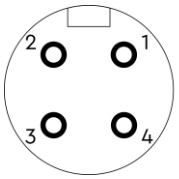
SIO Mode	• Default startup mode • AO: 4...20 mA output signal • C/Q: digital output with configurable alarm thresholds
IO-Link COM Mode	• Activated via IO-Link wake-up request • AO: no output signal • C/Q: COM channel for IO-Link

CONFIGURABLE PARAMETERS

Factory settings	• Unit (kg, N) • Zero adjustment • Sensitivity • Analog output range • Low-pass filter • Resolution • Sampling rate
Customer settings	• SSC1 setpoints, hysteresis, teaching • SSC2 setpoints, hysteresis, teaching

ELECTRICAL CONNECTION

PIN	1	L+	Positive supply (+)
	2	AO	4...20 mA analog output NPN sink to L–
	3	L–	Negative supply (–)
	4	C/Q	Data channel



View:
Plug Side

MECHANICAL LIMITS

Service load	120 %FS	Load without any permanent deformation or change in calibration.
Safe overload	150 %FS	The highest static load that may be applied once or briefly without mechanical damage.
Breaking load	> 300 %FS	Load at which permanent deformation or mechanical failure (fracture) occurs.
Max. transverse load (side)	50 %FS	Maximum lateral or shear load that can be applied (e.g. due to misalignment or friction).
Max. permissible dynamic load	70 %FS	For cyclic or oscillating loads, the amplitude should not exceed this load to prevent fatigue failure. The dynamic load must be applied to the transducer central thread.

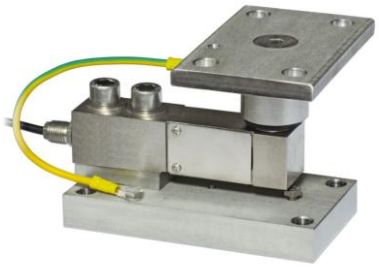
COMPLIANCE AND CERTIFICATION

Compliance	CE, RoHS, REACH	
HS-CODE	9031.80.80	
Protection Rating	IP67	IP67 (IEC 60529)
Calibration	ISO 17025	Factory calibrated, ISO 17025 calibration available on request
Supports IO-Link	IO-Link	Compliant with IEC 61131-9 standard

ACCESSORIES

LMLAS

- Upper plate with a compression joint in AISI 304 stainless steel and rubber.
- Lower plate and block in AISI 304 stainless steel (LMLAS, LMLAS_2000) or in galvanized steel (LMLAS_2000Z).
- Compensation for any misalignments of the support plates of the structure.
- Locking screw to avoid damage during transport and installation.
- It can be used for systems with at least 3 supports.



50...2 000kg
0.5...20kN

LMLAO

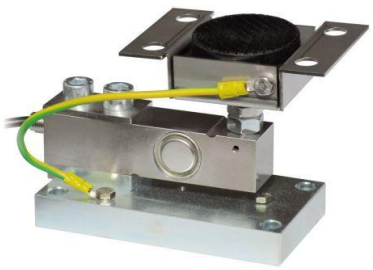
- Adjustable upper plate in AISI 304 stainless steel (LALAF) or galvanized steel (LALAG).
- Lower plate and block in AISI 304 stainless steel (LMLAO) or galvanized steel (LMLAO_Z).
- Constraint against lateral forces and anti-tilt by AISI 304 stainless steel (LMLAO) or galvanized steel (LMLAO_Z) self-centering joint foot.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.



50...2 000kg
0.5...20kN

LMLBA

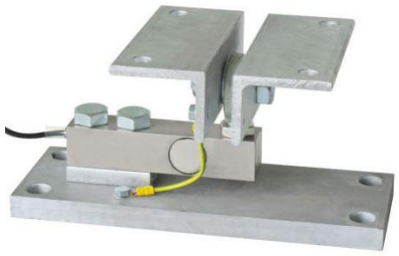
- Adjustable upper plate in AISI 304 stainless steel (LALAD) or galvanized steel (LALAE).
- Lower plate and block in AISI 304 stainless steel (LMLBA) or galvanized steel (LMLBA_Z).
- Constraint against lateral forces and anti-tilt by AISI 304 stainless steel (LMLAF, LMLAF_1500) or galvanized steel (LMLAF_Z) self-centering joint foot.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.
- Locking screw to avoid damage during transport and installation.



50...2 000kg
0.5...20kN

LMLAB

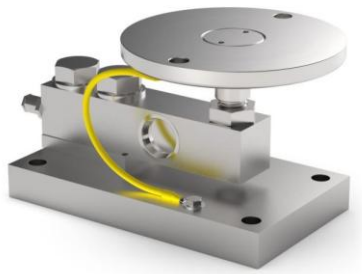
- Upper plate, lower plate and block in galvanized steel.
- Constraint against lateral forces and anti-tilt by ball-and-socket joint.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height



50...10 000 kg
0.5...100 kN

LMLAM

- Constraint against lateral forces and anti-tilt by AISI 304 stainless steel self-centering joint foot.
- Lower plate and block in AISI 304 stainless steel.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.
- Locking screw to avoid damage during transport and installation.



50...5 000 kg
0.5...50 kN

Certification: EN1090

LMLAR

- Constraint against lateral forces and anti-tilt by AISI 304 stainless steel self-centering joint foot.
- Lower plate and block in AISI 304 stainless steel.
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.
- Locking screw to avoid damage during transport and installation.

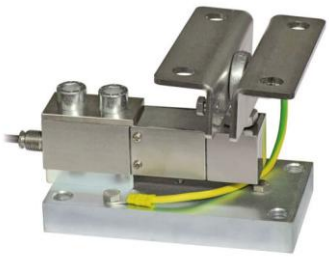


50...2 000 kg
0.5...20 kN

Certification: EN1090

LMLAT

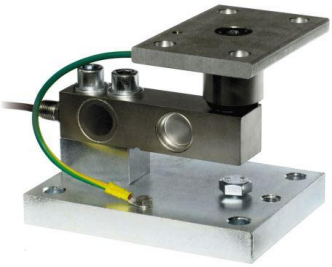
- AISI 304 stainless steel upper plate.
- Lower plate and block in galvanized steel (LMLAT) or in stainless steel (LMLAT_INOX).
- Constraint against lateral forces and anti-tilt by means of ball-and socket joint with nut in galvanized C45 steel (LMLAT) or in stainless steel (LMLAT_INOX).
- Compensation for any misalignments of the support plates of the structure.
- Adjustable height.
- Locking screw to avoid damage during transport and installation.



50...2 000 kg
0.5...20 kN

LMLAJ

- Upper plate with a compression joint in AISI 304 stainless steel and rubber.
- Lower plate and block in galvanized steel.
- Compensation for any misalignments of the support plates of the structure.
- Locking screw to avoid damage during transport and installation.
- It can be used for systems with at least 3 supports.



50...2 000 kg
0.5...20 kN

ELCAA

- M12 Pre-Molded Cable
- 5 Pins
- A Code
- Male-Straight | Female-Straight
- Cable Assembly



L=1;3;5;20 m

ELCAB

- M12 Pre-Molded Cable
- 5 Pins
- A Code
- Female-Straight | Free end
- Cable Assembly



L=1;3;5;20 m

ELCAC

- M12 Pre-Molded Cable
- 5 Pins
- A Code
- Female-90° | Free end
- Cable Assembly



L=1;3;5;20 m

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