

KDB

Force transducer

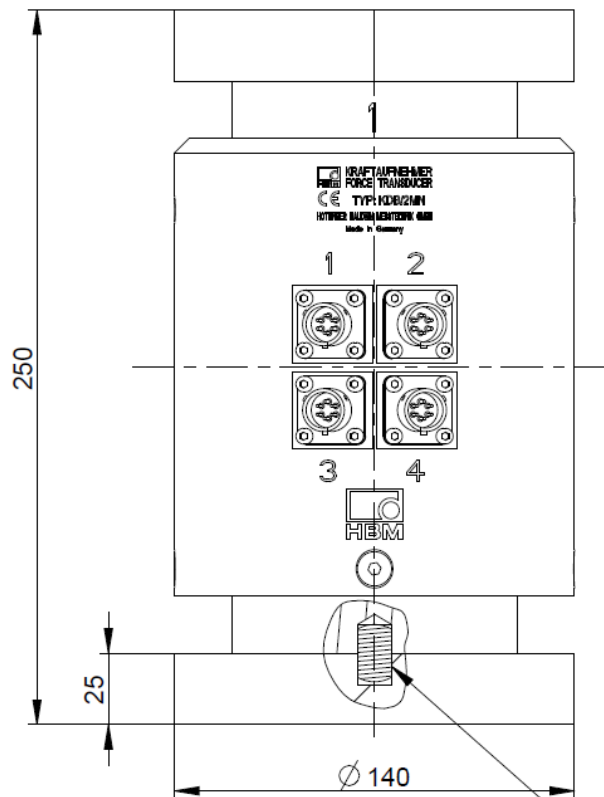
Special features

- Force-proving instrument for checking compression testing machines for building materials
- Meets the requirement of DIN 51302-2 and EN 12390
- Four independent SG bridges, for arrangement at 90 degrees on the circumference of the loaded member
- With centered load application the sensor can be used up to 3 MN (load application units are available)
- Class 0.5 to ISO 376

Data sheet



Dimensions



Force-proving instrument with hardened plates mounted (for use in checking material testing machines for building materials)

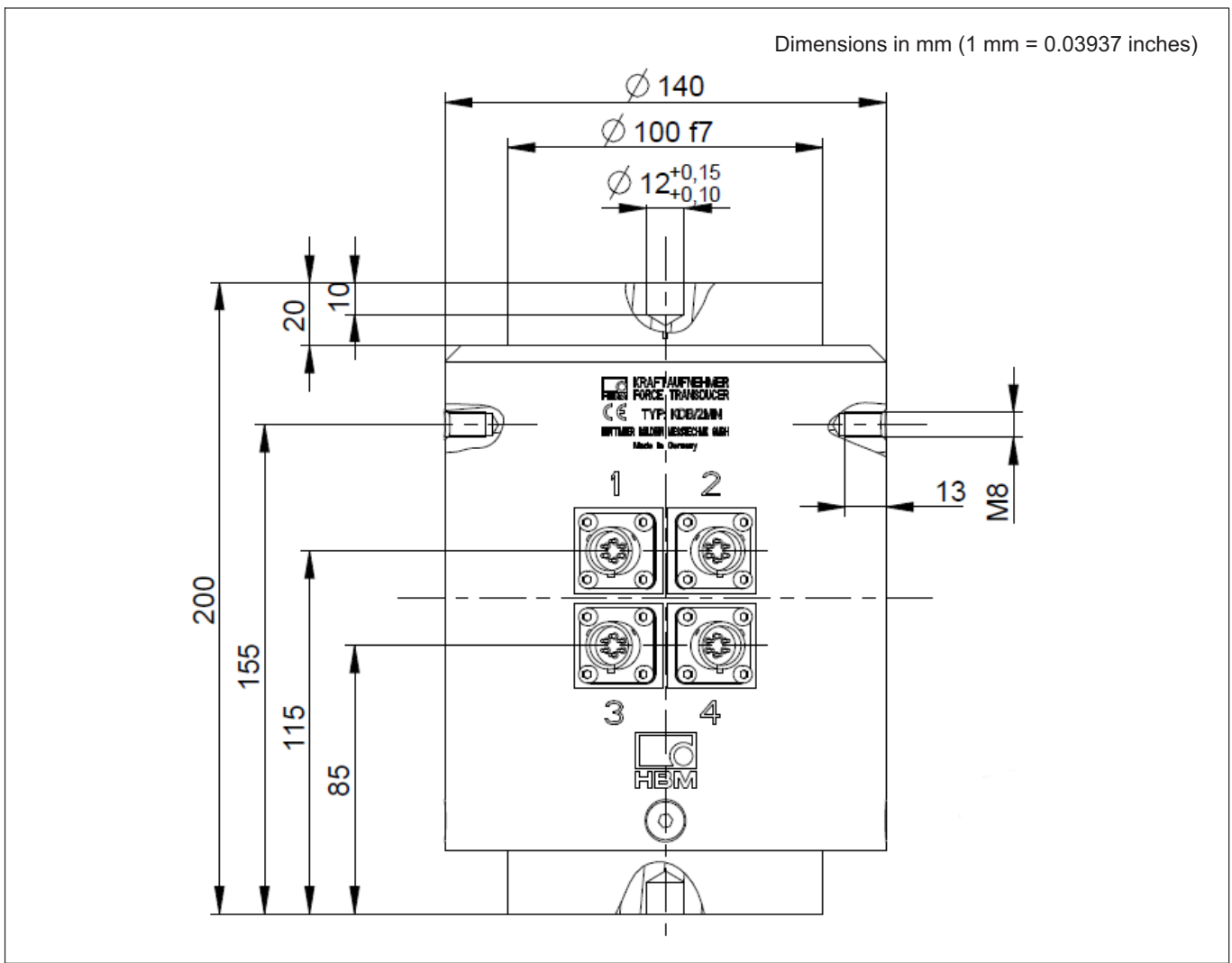
Measuring body and compression plate centered via alignment pin
ISO 2338 Ø12 m6x20

KDB specifications

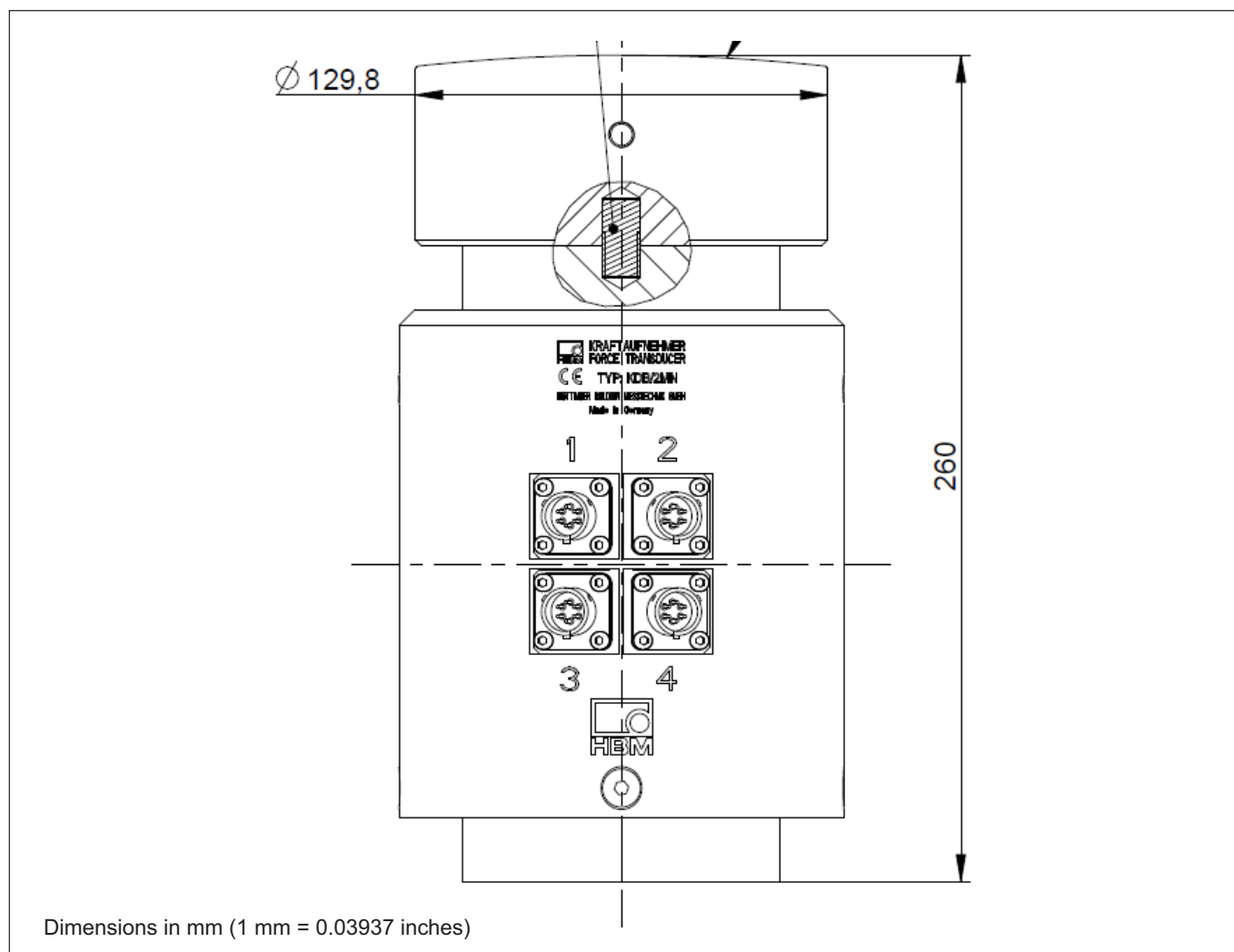
Nominal (rated) force	F_{nom}	MN	2
Accuracy data per ISO 376, with measuring bridges connected in parallel or with mean value calculation of all four individual measuring bridges			
Class accuracy to ISO376			0.5
Measuring range in which the requirements of ISO376 are met		%	20 ... 100
Reproducibility (relative reproducibility error with rotation)	b	%	0.025
Repeatability (relative repeatability error without rotation)	b'	%	0.01
Deviation from the fitting curve	f_c	%	0.04
Zero error	f_0	%	0.01
Hysteresis error (20 % - 100 %)	v	%	0.15
Creep	c	%	0.01
Accuracy (to VDI/VDE2638)			
HBM accuracy class			0.1
Relative reproducibility and repeatability errors with unchanging mounting position	b_{rg}	%	0.01
Relative reversibility error (hysteresis) at 0.4 F_{nom}	$v_{0.4}$	%	0.05
Non-linearity	d_{lin}	%	0.2
Relative zero point return	$d_{s,0}$	%	0.01
Relative creep	d_{crF+E}	%	0.02
Temperature coefficient of sensitivity	TC_S	%/10 K	0.1
Temperature coefficient of zero signal	TC_0	%/10 K	0.1
Rated electrical output			
Nominal (rated) sensitivity	C_{nom}	mV/V	1.3 ... 1.7
Relative zero signal error	$d_{s,0}$	%	2
Input resistance of the measuring bridges	R_i	Ω	$755 \pm 1 \%$
Output resistance of the measuring bridges	R_o	Ω	$695 \pm 1 \%$
Insulation resistance	R_{is}	Giga Ω	>2
Operating range of the excitation voltage	$B_{U,G}$	V	0.5...12
Reference excitation voltage	U_{ref}	V	5
Connection			Bayonet connector
Temperature			
Reference temperature	T_{ref}	$^{\circ}C$	23
Nominal temperature range	$B_{T,nom}$	$^{\circ}C$	-10...+45
Operating temperature range	$B_{T,g}$	$^{\circ}C$	-30...+85
Storage temperature range	$B_{T,s}$	$^{\circ}C$	-30...+85
Characteristic mechanical quantities			
Maximum operating force	F_G	% of F_{nom}	150
Limit force	F_L	% of F_{nom}	200
Breaking force	F_B	% of F_{nom}	400
Static lateral limit force	F_q	% of F_{nom}	20
Nominal (rated) displacement without fittings	s_{nom}	mm	0.26
Relative permissible oscillatory stress	f_{rb}	% of F_{nom}	100
Stiffness without fittings	F/S	10^5 N/mm	0.625
General information			
Degree of protection per EN 60529, with bayonet connector, socket connected to sensor			IP64

Spring element material			Stainless steel
Measuring point protection			Aluminum housing, bolted connection
Mechanical shock resistance per IEC 60068-2-6			
Number	n		1000
Duration	ms		3
Acceleration	m/s ²		1000
Vibrational stress per IEC 60068-2-27			
Frequency range	Hz		5 ... 65
Duration	min		30
Acceleration	m/s ²		150
Weight (with adapter)	m	kg	15

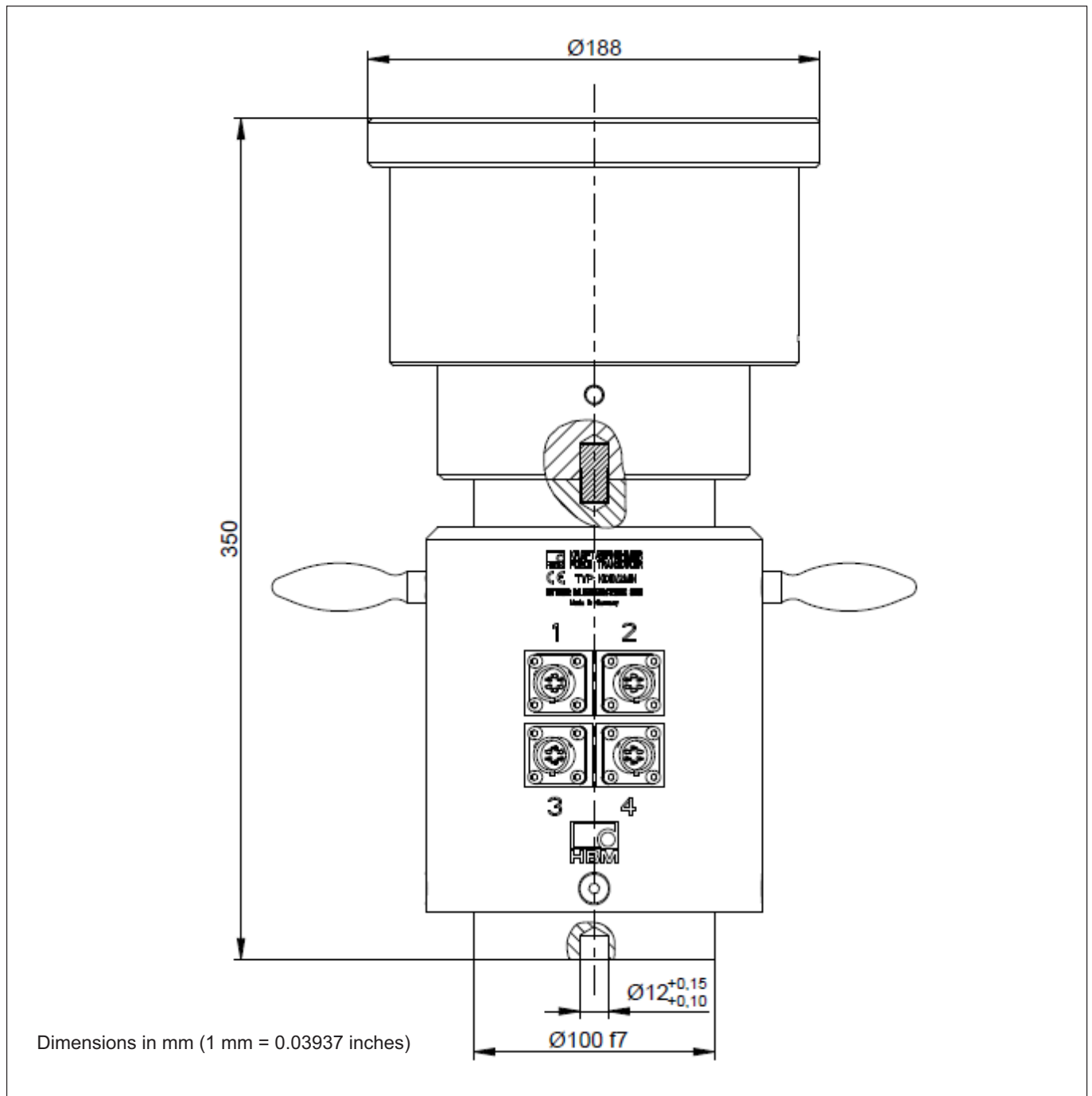
Dimensions (force transducer only)



Dimensions for use with domed load application button



Dimensions for use with domed load application button and thrust piece



Scope of supply

Ordering number	Description
1-KDB/2MN	KDB force transducer with hardened plates for load application, for checking testing machines for building materials, carrying handles, test records and centering pins for assembly

Accessories

Ordering number	Description
1-KAB157-3	Connection cable, KAB157-3, IP67 (with bayonet locking), 3 m long, outer sheath TPE, 6 x 0.25 mm ² , free ends, shielded, external diameter 6.5 mm
K-CAB-F	Cable, configurable with different plugs and lengths
3-3312.0382	Cable socket with bayonet connection
1-C6/500T/ZL	Domed load application button
1-EPO3/500T	Thrust piece (for use in combination with the domed load application C6/500T/ZL)

Shipping case and totalizers available on request.

Other nominal (rated) forces on request.

Subject to modifications.
All product descriptions are for general information only. They are not to be understood as a guarantee of quality or durability.

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