HORN Tachometers

I...
70200000

Eddy current tachometers are used if the speed, or a measured quantity which can be derived from the speed, is to be indicated in the vicinity of the measuring point. The maintenance-free Horn tachometers meet all the requirements indispensable to reading accuracy and reliability. They are made with dial diameters from 45 to 250 mm, and with a needle deflection of 270 degrees. The models with angled connection (Form B) are available either depending on, or independent of, the direction of shaft rotation (except Type I 8..). The mechanical connection of the tachometer can be adapted to the operating conditions. The best solution is to connect the tachometer shaft to the drive shaft via a flexible coupling. Rigid couplings require too precise an alignment of the two shafts. When driving by means of a gear, chain or toothed belt, the drive elements can be provided. Flat belt drives need initial tensioning to ensure non-slip operation. (For attachments and driving elements, see section on accessories for tacho-generators and tachometers). Please ask for additional mechanical connection details and special executions.

Technical Data

Measuring System
The permanent magnet rotating with the tachometer shaft generates eddy currents in a metal drum causing a torque to be applied to the jewel-supported metal drum using the drag-cup principle. This torque, which is proportional to the shaft speed is counter-balanced by the restraining torque of a spiral spring in a state of inertia. The needle action is strongly damped to avoid oscillation arising from the two counter-counter forces.

Mechanical Features
Light alloy casing (I 45 e, I 96x96 s e black plastic casing), dust and drip-proof (class of protection IP 54 DIN 40050) with clamping spigot or mounting flange conforming to dimensional drawings, pages 12 and 13 nickel-plated front ring.
The shafts run in covered grooved ball bearings. Gears and reversing gears of the units with angular connection are almost noiseless.

Needle/Dial
Black needle, white dial; graduations, inscription and numbering conform to DIN 43802, page 2.

Calibration
Measuring range and measured quantity can be selected i.e. any indicating range (measuring range) can be assigned to any one speed range of the generator shaft.

Reading accuracy: ± 2% at 20 °C relative to full scale, influence of temperature: < 1.5 % per 10 °C.

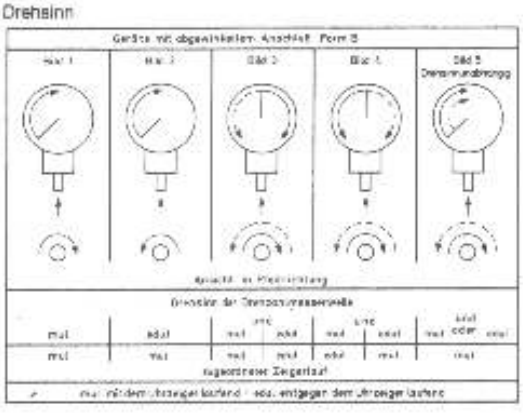
Temperature Range
0 .. 45 °C (higher temperature on request).

Speed Range
The minimum speed of the tachometer shaft for full-scale deflection is 70 rpm (1,000 rpm for type I 8...) Maximum speed of tachometer shafts with straight connection Form A is 10,000 rpm. Maximum speed of tachometer shafts with angled connection Form B is 5,000 rpm.

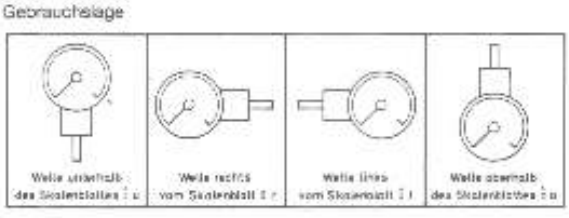
Special Constructions
Front Glass : Plexiglass or laminated safety glass.
Scale : Black dial with white graduations, pointer, main graduations, numbering and inscription phosphorescent. After glowing dial, graduations, numbering, pointer and inscription.
Double and multiple scale through special calibration and additional graduations.
Coloured mark at any point of scale. Coloured sectors or curves, additional scale inscription.

Suppressed zero : up to 25 % full scale deflection.

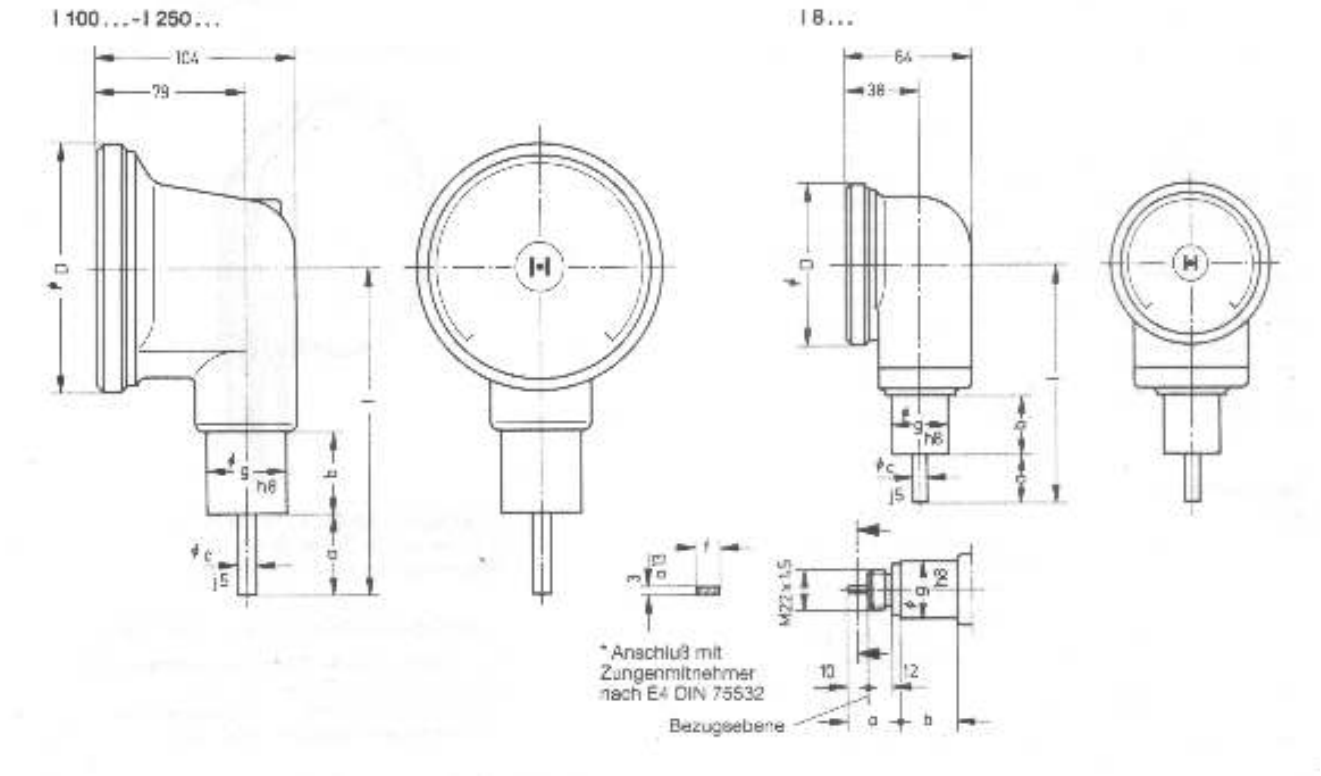
Drehsinn



Gebrauchslage



– bitte wenden –



Type-Designation	ØD	a	b	Øc j5	f	Øg h8	l	Scale-Length	Wt kg
I 8	80	25	30	7		30	119	157	0,5
I 8 bw*					7				
I100	100	25	30	7		30	119	199	0,9
I100 bw*					7				
I160	160	40	40	10		40	170	345	1,3
I160 bw*		28			10		158		
I250	200	40	40	10		40	210	560	1,9
I250 bw*		28			10		198		

* Connection with tang coupling conforming to E4 DIN 75532

Ordering information

1. Type designation
2. Direction of rotation of tachometer shaft and pointer.
   (give appropriate diagram number)
3. Maximum speed of tachometer shaft
   (The maximum speed is that speed at wihch the needle goes off scale).
4. Measuring range and unit of measured quantity
5. Installation position
   (only for instruments with angled connection Form B).

Technical specifications subjected to changes