



## HORN Tachometer with Straight Connection Form A

Eddy current tachometers are used if the speed, or another measured quantity, which can be derived from the speed, is to be indicated in the vicinity of the measuring point without an electrical auxiliary voltage. 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°. The mechanical drive of the tachometer can be adapted to the operating conditions. The most proven solution is to connect the tachometer shaft to the drive shaft by a flexible coupling. Rigid couplings require a precise alignment of the shafts. When driving by means of a gear or toothed belt there is the possibility of a gear ratio. Flat belt drives need initial tensioning to ensure non-slip operation. (For attachments and driving elements, see leaflet "Accessories").

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. This causes a torque, which is proportional to the speed, to the jewel-supported metal drum. This torque is counter-balanced by the controlling torque of a spiral spring. The oscillation of the pointer takes place under strongly damped conditions.

#### Mechanical Features

Light alloy casing (I 45 e, I 60 e, I 80 e, I 96x96 s e black plastic housing), dust and drip-proof (safety class IP 54 DIN 40050) with clamping spigot or mounting flange. Front bezel anodised aluminium. The shafts run in covered grooved ball bearings.

#### Pointer/Dial

Pointer black, dial white: graduation, inscription and numbering according 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 speed range of the generator shaft. Reading accuracy:  $\pm 2\%$  at 20 °C, in relation to the scale, influence of temperature:  $< 1.5\%$  / 10 °C.

#### Temperature Range

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

#### Speed Range

The minimum speed of the tachometer shaft for a full-scale deflection is 70 rpm. The maximum speed of the tachometer shaft is 10,000 rpm.

#### Special Constructions

##### Front glass

Plexiglass or laminated safety glass.

##### Scale

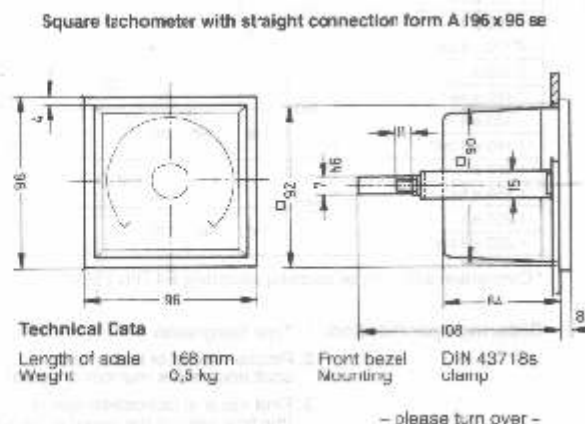
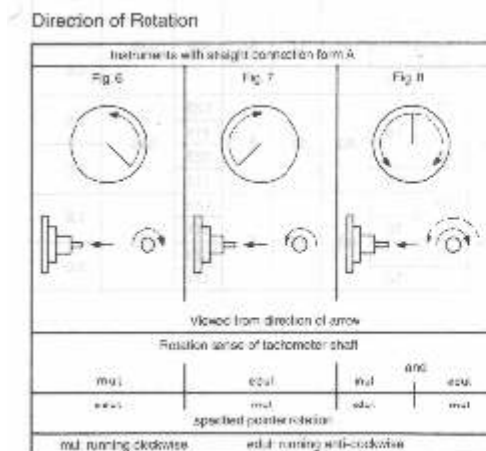
Black dial, graduation white, needle tip, main graduations, numbering and measured quantity coated with luminous colour. Phosphorescent dial ground, graduation, numbering, needle and measured quantity black.

Doble and multiple scale through special calibration and additional graduations.

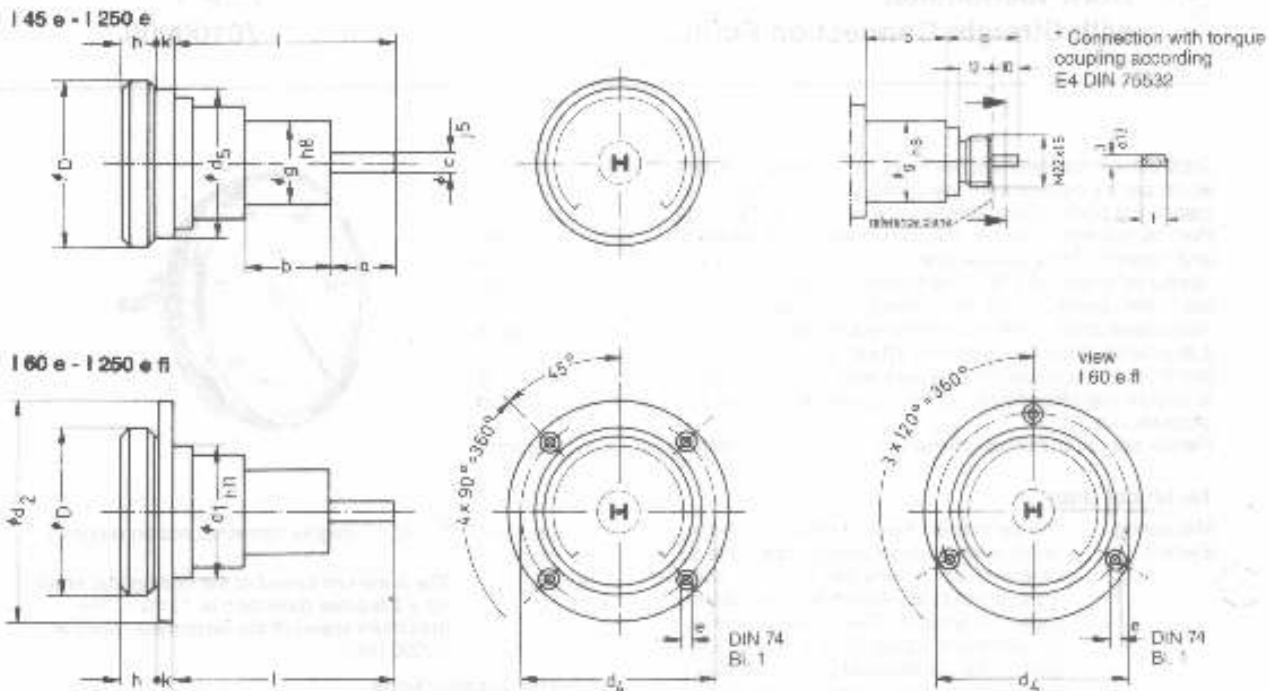
Coloured mark at any point of scale, coloured sectors or bows, additional scale inscription.

##### Suppressed zero

up to 25% of full scale.



## Tachometers with Angled Connection Form B



Type-Designation	ØD	Ød1 H11	Ød2	Ød4	Ød5	Øe DIN 74	a	b	Øc j5	f	Øg h8	h	k	l	Scale length	Wt kg
I 45 e	47				45		20		6			6,5	13,5	55	81	0,12
I 60 e	60	60	80	70	55	4,3	25	30	7	7	30	13	3	81	115	0,2
I 60 e bw*					7				0,25							
I 60 e fl					7											
I 60 e fl bw*					7											
I 80 e	80	85	110	94	75	4,3	25	30	7	7	30	13	4	80	157	0,3
I 80 e bw*					7				0,35							
I 80 e fl					7											
I 80 e fl bw*					7											
I 100 e	100	85	120	110	96	4,3	25	30	7	7	30	17	5	108	199	0,5
I 100 e bw					7				0,6							
I 100 e fl					7											
I 100 e fl bw*					7											
I 160 e	160	148	196	180	156	6,4	40	40	10	10	40	17	5	123	345	0,9
I 160 e bw*					28				111							
I 160 e fl					40				123							
I 160 e fl bw*					28				111							
I 250 e	250	210	290	270	246	6,4	40	40	10	10	40	17	5	123	560	1,9
I 250 e bw*					28				111							
I 250 e fl					40				123							
I 250 e fl bw*					28				111							

\* Connection with tongue coupling according E4 DIN 75532

### Ordering specifications

1. Type designation
2. Rotation sense of tachometer shaft and needle (number of figure)
3. Final value of tachometer speed (the final value is the speed at full-scale deflection).
4. Measuring range and unit of the measured quantity.