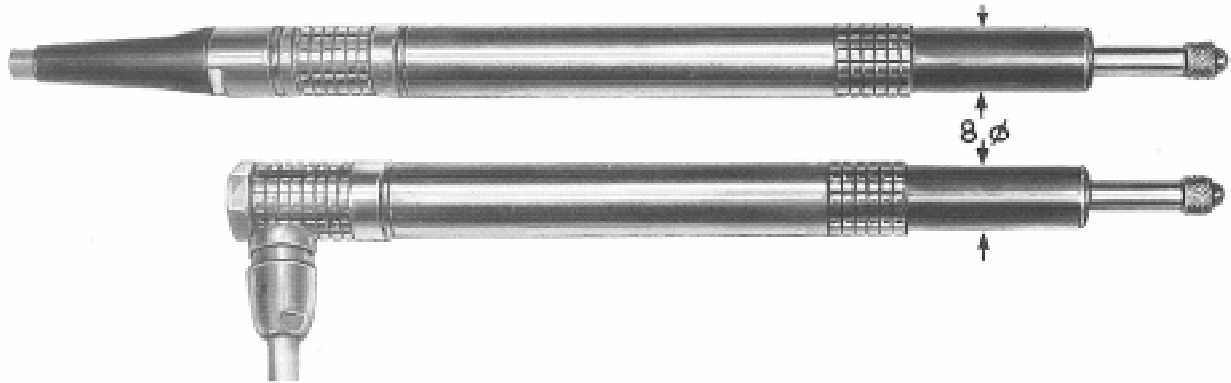


- **Contactless sensor system**
- **Infinite resolution, no hysteresis**
- **Excitation and signal processing by external electronic modules**
- **Linearity tolerances 0.5% or 0.25%**
- **Definite repeatability**
- **Clamping shank 8 mm diameter to dial gauge standard**



Construction and operating principle

Two symmetrical measuring coils are located in a cylindrical mu-metal case and form an inductive half bridge with the axially moveable plunger core. The bridge is excited by an external 10 kHz carrier frequency oscillator. It is unbalanced by the displacement of the plunger, producing a measuring signal proportional to the change in displacement.

The core is joined to the probe rod which slides in maintenance-free guides of a PTFE based material, and to the probe tip with a steel ball to DIN 878. The probe rod is spring-loaded by an integral spring. The connection is provided by a 3-way miniature plug with strain relief. The mating plug can be supplied straight or angular in shape and with or without a soldered lead. (Refer overleaf for further details and ordering data).

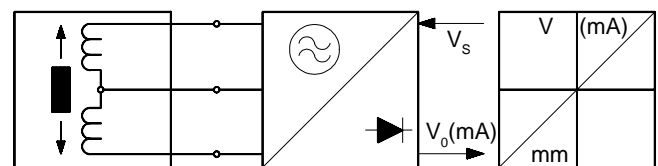
Technical Data

Type	→	IT 108/4	IT 108/8
■ Measuring stroke	mm	± 2	± 4
■ Sensitivity (nominal)*	mV/mm	1000	1000
■ Linearity	%	0.5 or 0.25	0.5 or 0.25
■ Operating temperature ranges			
□ gauge without lead	°C	-20	to +120
□ gauge with lead	°C	-20	to +80
■ Mass with mating plug	g	50	50
■ Total mechanical travel	mm	12	12
■ Pre-travel, max.	mm	3.5	1.5
■ Over-travel, min.	mm	4.5	2.5
■ Spring compression force (in central position)	N	~ 1.7	~ 1.7
■ Spring constant	N/mm	~ 0.04	~ 0.04

* Sensitivity and linearity when using the OD 15 module (gauge excitation with 10 V_{rms} and 10 kHz without additional amplification).

Basic block diagram

Gauge with external electronic module and types of output signals.



Excitation and signal processing

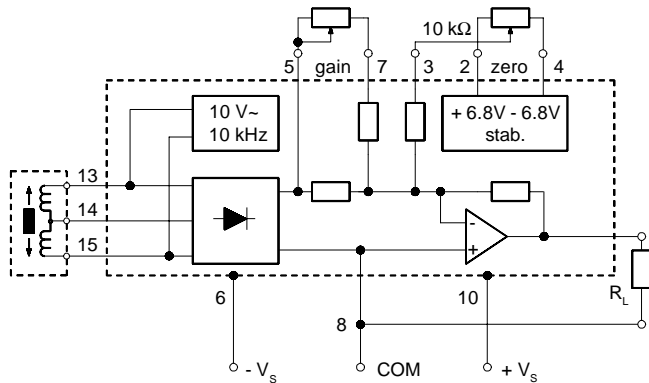
The following modules can be supplied for the excitation of the IT 108 Inductive Precision Gauge and for the processing of the measuring signal (DC in/DC out) :

- OD 15 : Oscillator/demodulator. *
- OV 15 : Oscillator/demodulator/amplifier with zero-point and sensitivity adjustment up to ± 10 VDC. *
- OE 30 : Oscillator/demodulator with current output 0..20 mA or 4...20 mA and for sensitivity adjustment.*
- OA: Oscillator/demodulator: Adjustable to various inductive transducers and for different output signals.*
- DE 52 : Module with two demodulators. A number of DE 52 modules can be combined with one OA10 into a multi-channel measuring system. *
- OUK: Multi-channel measuring system with OA10 and DE-52 on one Eurocard for a maximum of 7 transducers, for voltage output 0-5 VDC, 0-10 VDC, or ± 10 VDC. *
- OIK: Multi-channel measuring system similar to OUK, but with current output signals 0...20 mA or 4...20 mA. *
- UN 15 : Power supply for 230 V 50 / 60 Hz or 110 V 50 / 60 Hz input and ± 15 VDC output. *

* For details please refer to separate data sheets.

Block diagram with module OV 15

Sensitivity (gain) and zero-point can be adjusted by external trimming potentiometers.



Mating plugs, leads and order codes

The IT 108 Gauges are supplied as standard with straight mating plugs without leads. If required, an angular mating plug and leads in various lengths (soldered) can be provided. Straight mating plugs with leads of 1.50 m and 10 m are kept in stock. Please note the following order codes:

Mating plug	Lead *			
	without	1.5 m length	10 m length	... m length
Straight	GGO	GG1.5	GG10	GG ... **
Angular	GWO	GW1.5	GW10	GW ... **

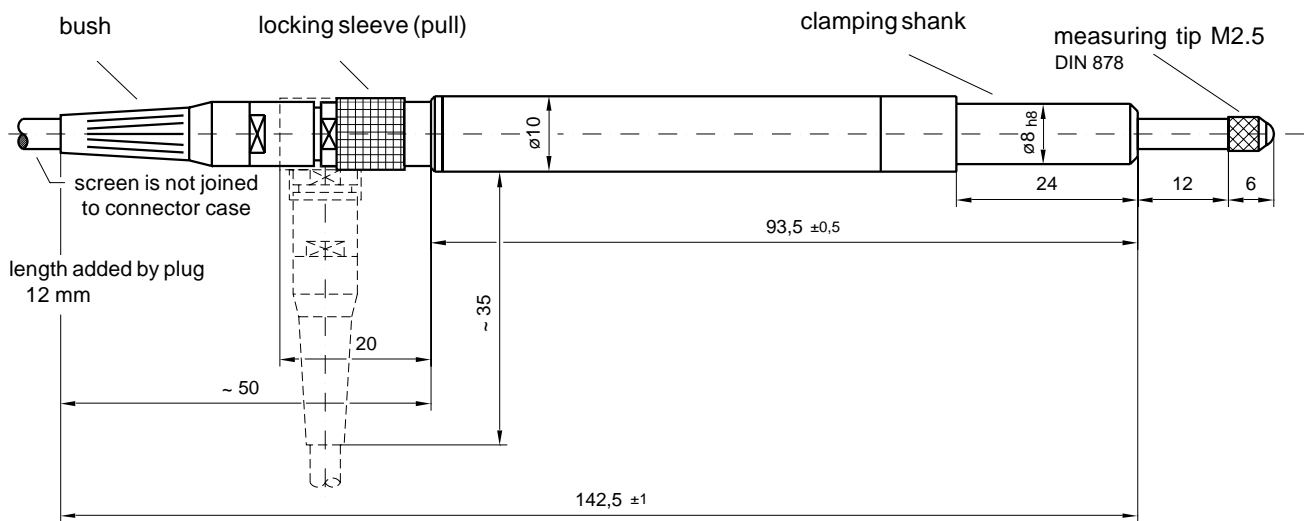
* Lead, type 030110, 3 x 0.11 mm² with common screen, insulation and cover in PVC, external diameter 3.8 mm, operating temperature range -20°C to +80°C.

** Please insert required lead length in meters.

Examples of complete order codes :

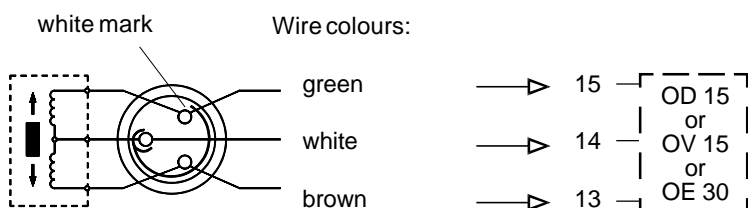
- IT 108/4-GG0 ■ IT 108/8-GW1.5 ■ IT 108/4-GG25

Dimensions in mm



Connections and connector arrangement

(Solder pins in the plug)



Using these connections a positively increasing signal is obtained when moving the plunger towards the electric exit.