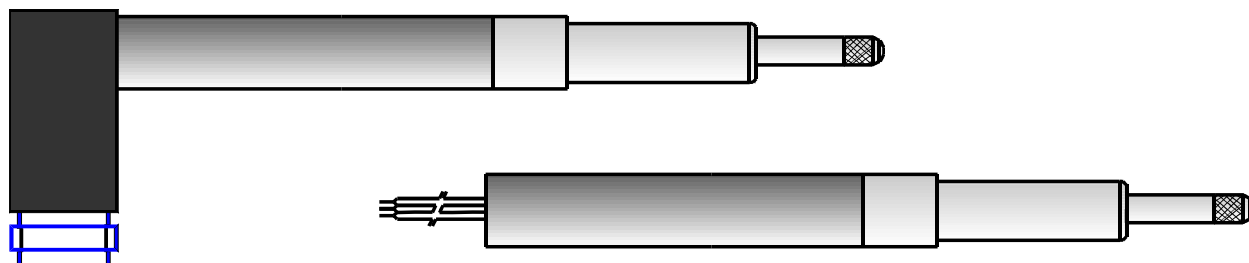


- **Contactless sensor system**
- **Infinite resolution, no hysteresis**
- **Excitation and signal processing by external electronic modules**
- **Linearity tolerances 0.5% or 0.25%**
- **Definite repeatability**
- **Clamping shank 8 mm diameter to dial gauge standard**



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 or by a flat cable. (Refer overleaf for further details and ordering data).

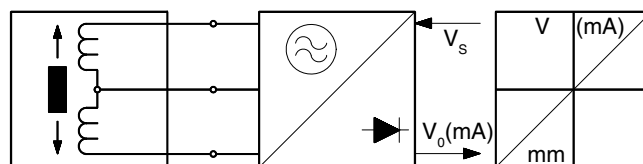
Technical Data

Type	→	IT 118/4	IT 118/8
■ Measuring stroke	mm	± 2	± 4
■ Sensitivity (nominal)*	mV/mm	900	900
■ Linearity	%	0.5 or 0.25	0.5 or 0.25
■ Operating temperature ranges	°C	- 20 to + 80	
■ Mass with mating plug	g	~ 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	
■ Spring constant	N/mm	~ 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

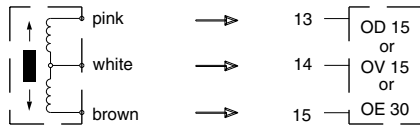
The following modules can be supplied for the excitation of the IT 118 Inductive Precision Gauge and for the processing of the measuring signal (DC in/DC out) :

- 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 10 : 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 220 V 50 / 60 Hz or 110 V 50 / 60 Hz input and ± 15 VDC output. *

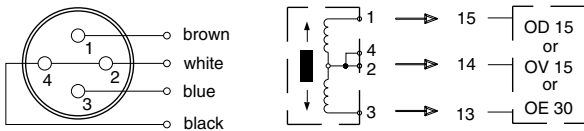
* For details please refer to separate data sheets OD 10220 and OA 10219.

Connections and connector arrangement

Version IT 118 ... K (flat cable)

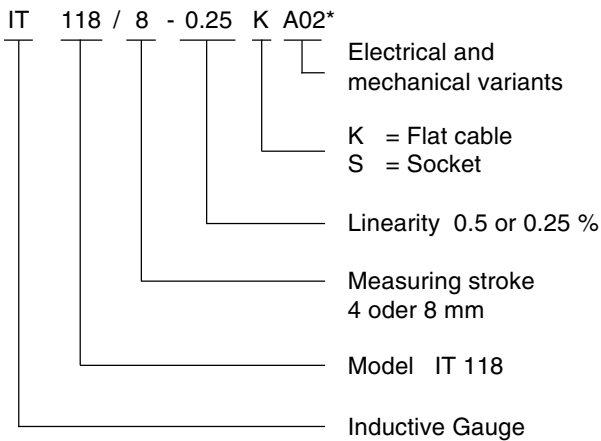


Version IT 118 ... S (socket)



When connected as shown the signal increases when probe rod is moved in the direction of the electrical contacts.

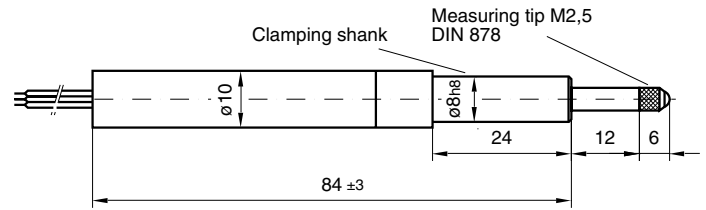
Order code format IT 118



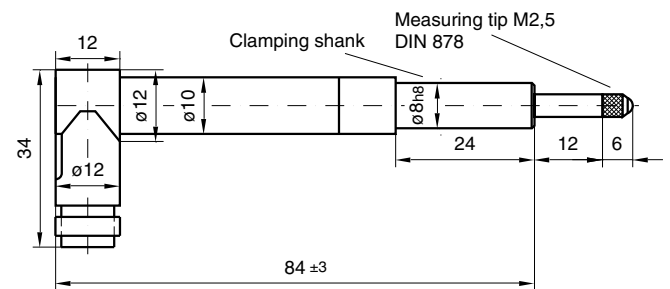
* The applicable A-No. is allocated after the definition of the deviation when ordering. No A-No. is given for standard versions as specified in the data sheet.

Dimensions in mm

IT 118 - K (with flat cable 300 mm long)

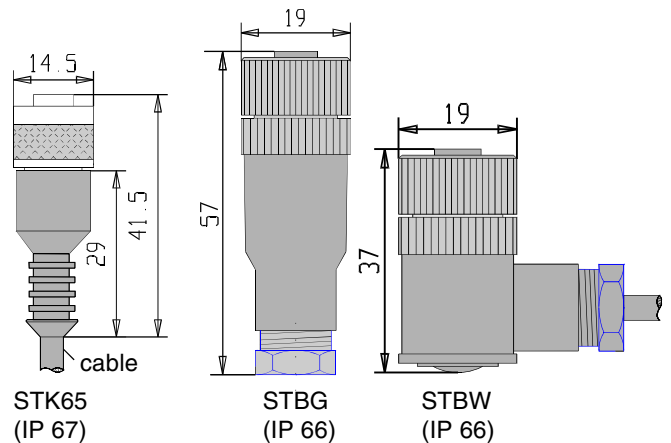


IT 118 - S (with socket)



Plugs for IT 118 / ... S

(to be ordered separately)



The plug STK65 is always supplied with cable :

- length 10 m
- 4 wires 0.5 mm²
- With common screen
- PVC sheathing
- Outside dia 6.3 mm