



HEXAGON



TESA
TECHNOLOGY

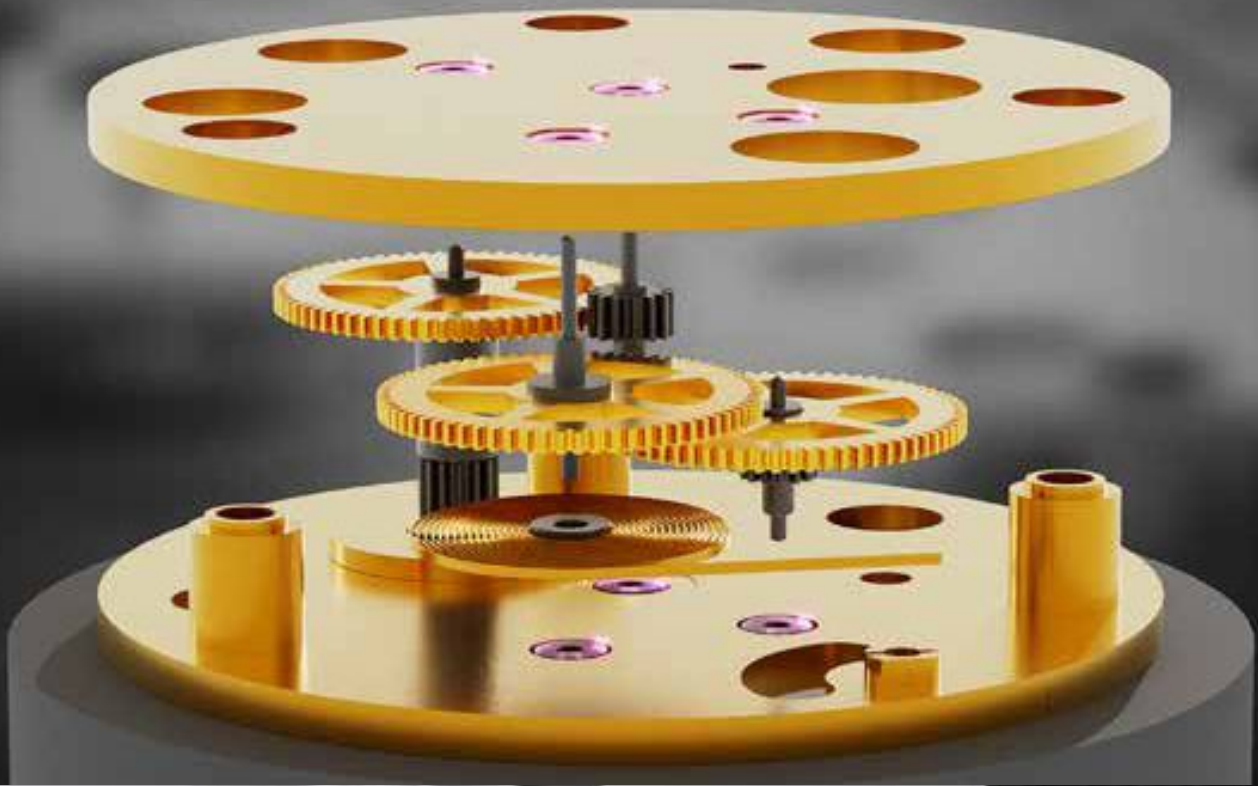
Product information

P-LINE

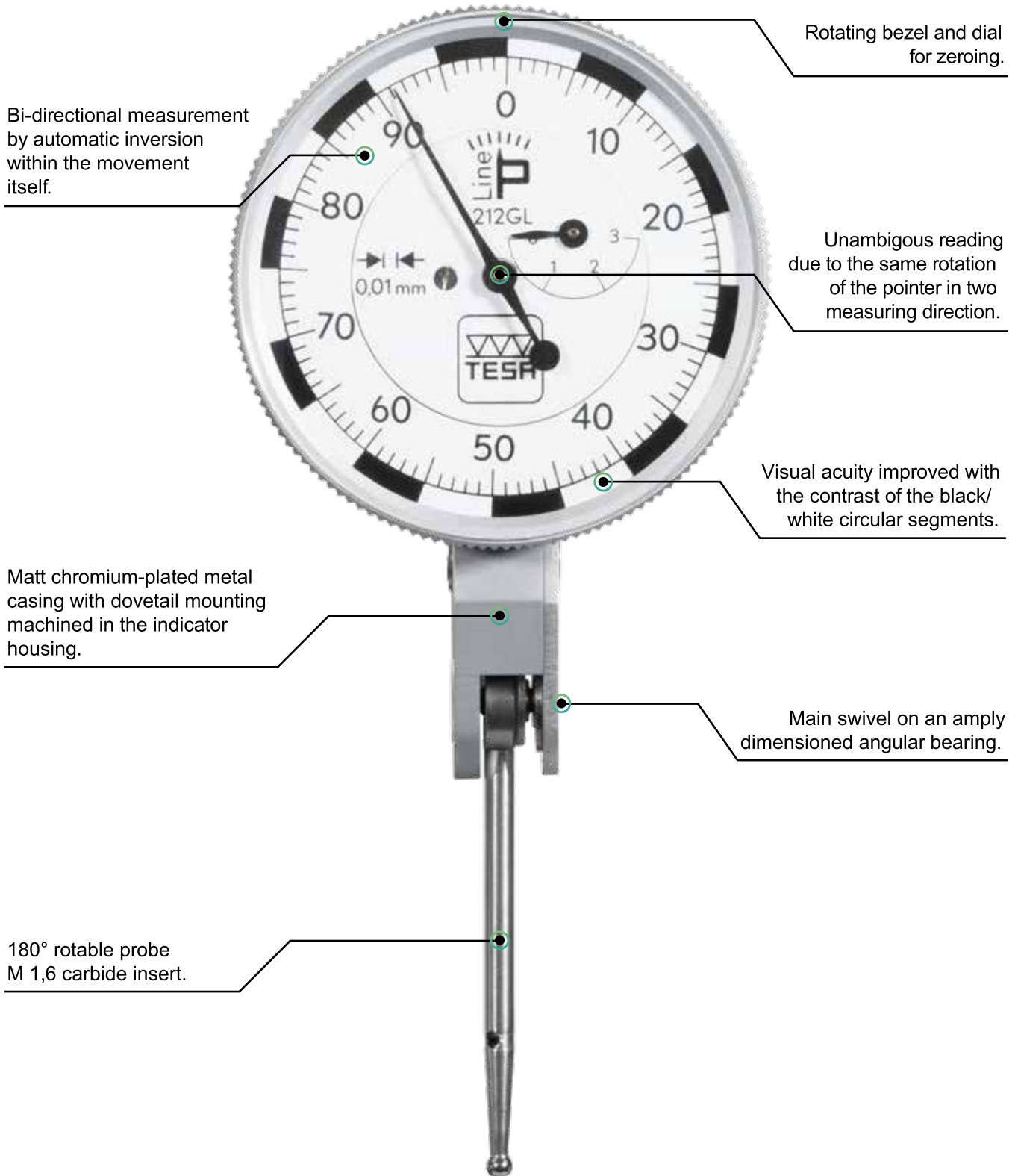
LEVER-TYPE DIAL TEST INDICATORS



The new P-LINE range reflects all the quality and high precision of the well-known COMPAC brand.



Product description





P-LINE

Lever-type dial test indicators

The new P-LINE range reflects all the quality and high precision of the well-known COMPAC brand. The benchmark in the field of lever-type dial test indicators, the success of these instruments is due to the long measurement range of up to 3 mm.

The key lengths and available measurement distances are the longest on the market, while guaranteeing exceptional metrological performance (ISO 9493).

The lever-type dial test indicator is invaluable for the recording of errors of form and position. Ideal for measuring axial and radial runout.

Combined with decades of metrological expertise, the high-quality materials used make this new range an undisputed reference.

The dial has been modernized with better readability thanks to larger numbers, a pure white dial for greater contrast and a new design of the circular segments.

Main points

- Measuring range up to 3 mm
- Measuring insert up to 36 mm
- Precision movement mounted on rubies
- Secondary pointer with revolution counter
- Movement with a very robust construction

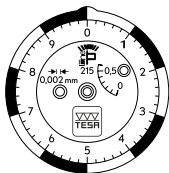


P-LINE STANDARD

Resolution 0.002 / 0.001 mm	01810404 (215)	01810405 (215G)	01810406 (215GL)	01810407 (216G)
Measuring range (mm)	0.6	0.6	1.2	0.6
Resolution (mm)	0.002	0.002	0.002	0.001
Dial, Ø (mm)	27	40	40	40
Stroke/revolution (mm)	0.1	0.1	0.2	0.1
Circular scale	0 ÷ 5 ÷ 10	0 ÷ 5 ÷ 10	0 ÷ 10 ÷ 20	0 ÷ 5 ÷ 10
Measuring insert length (mm)	18	18	36	18
Indication error over the measurement range (plunger retractable and extendable) MPE _{tot} (µm)	13	13	26	13
Indication error over the measurement range (retractable plunger) MPEE (µm)	10	10	20	10
Partial indication error (over 1 revolution) MPEP (µm)	5	5	10	5
Partial indication error (over 1/2 revolution) MPEP (µm)	3	3	6	3
Partial indication error (over 1/10 revolution) MPEP (µm)	1	1	2	1
Hysteresis of the indication error MPEH (µm)	4.5	4.5	8	4.5
Repeatability of the indication error MPER (µm)	1.5	1.5	1.5	1.5
Measurement force (N)	0.3	0.3	0.2	0.3

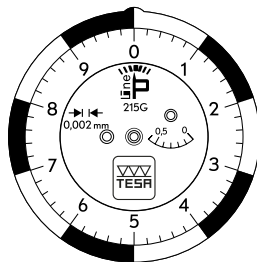
Dial reading 0.002 / 0.001 mm

215



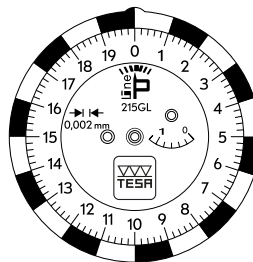
01810404

215G



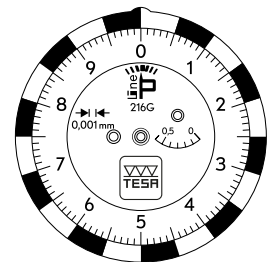
01810405

215GL

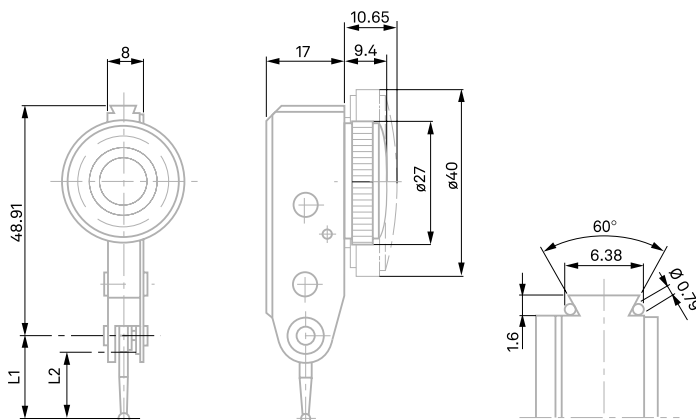


01810406

216G



01810407

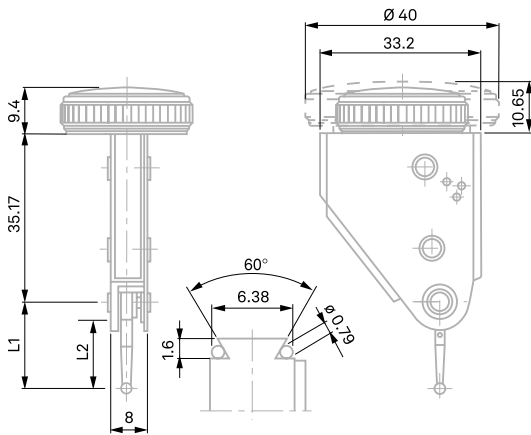


L1 and L2, see table of measuring insert, p. 12

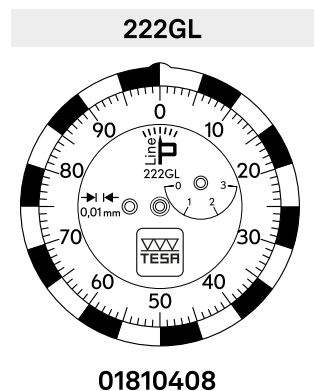


P-LINE PERPENDICULAR

Resolution 0.01 mm	01810408 (222GL)
Measuring range (mm)	3
Resolution (mm)	0.01
Dial, Ø (mm)	40
Stroke/revolution (mm)	1
Circular scale	0 ÷ 50 ÷ 100
Measuring insert length (mm)	36
Indication error over the measurement range (plunger retractable and extendable) MPE _{tot} (µm)	26
Indication error over the measurement range (retractable plunger) MPEE (µm)	20
Partial indication error (over 1 revolution) MPEP (µm)	12
Partial indication error (over 1/2 revolution) MPEP (µm)	10
Partial indication error (over 1/10 revolution) MPEP (µm)	3
Hysteresis of the indication error MPEH (µm)	7
Repeatability of the indication error MPER (µm)	3
Measurement force (N)	0.2



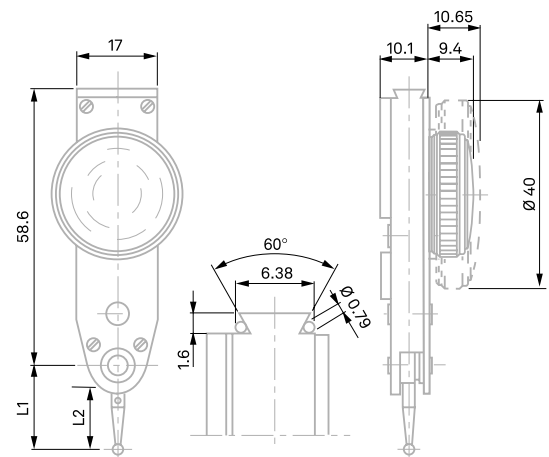
L1 and L2, see table of measuring insert, p. 12



01810408

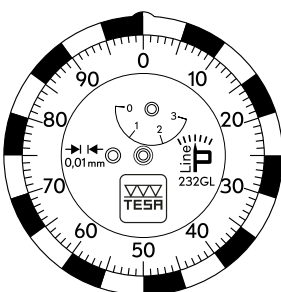
P-LINE PARALLEL

Resolution 0.01 mm	01810409 (232GL)
Measuring range (mm)	3
Resolution (mm)	0.01
Dial, Ø (mm)	40
Stroke/revolution (mm)	1
Circular scale	0 ÷ 50 ÷ 100
Measuring insert length (mm)	36
Indication error over the measurement range (plunger retractable and extendable) MPE _{tot} (µm)	26
Indication error over the measurement range (retractable plunger) MPEE (µm)	20
Partial indication error (over 1 revolution) MPEP (µm)	12
Partial indication error (over 1/2 revolution) MPEP (µm)	10
Partial indication error (over 1/10 revolution) MPEP (µm)	3
Hysteresis of the indication error MPEH (µm)	7
Repeatability of the indication error MPER (µm)	3
Measurement force (N)	0.2



L1 and L2, see table of measuring insert, p. 12

232GL



01810409

Delivery

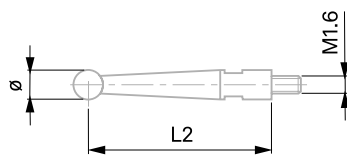


The lever-type dial test indicator is supplied with:

- Key diameter 2 mm
- Rigid fixing rod \varnothing 8 mm, L=15 mm - 01840107
- Rigid fixing rod \varnothing 4 mm, L=15 mm - 01840109
- Measurement report
- Declaration of conformity
- User manual

Measurement inserts

Part numbers	Ball, \varnothing mm	Ball material	L1, mm	L2, mm
01866014	0.8	Hard metal	18	14.26
01866003	2	Hard metal	18	14.26
01866021	3	Hard metal	18	14.26
01866016	0.8	Hard metal	36	32.26
01866004	2	Hard metal	36	32.26
01866023	3	Hard metal	36	32.26
01866026	2	Ruby	18	14.26
01866027	2	Ruby	36	32.26

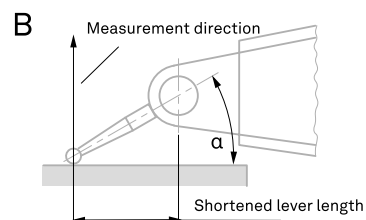
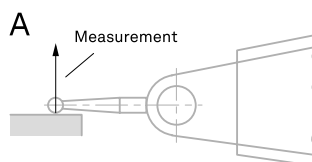


L1= length from ball axis
to pivot axis



01866014

The mounting thread is M1.6; the original keys fitted to all lever-type dial test indicators can be replaced by keys of the same length but different diameter.



Note on the use of P-LINE lever-type dial test indicators;

If the position of the key is parallel to the surface of the workpiece (Fig. A), the ratio of 1:1 is correct. The read value does not require any correction. Otherwise (angle α , Fig. B), the effective length of the lever changes. The read values must then be corrected. Please refer to the user manual.

Accessories



Part numbers	Designation
01840109	Knurled rigid stem Ø 4 mm x 15 mm
01840107	Knurled rigid fixing rod Ø 8 mm x 15 mm
01840408	Swiveling fixing rod Ø 4 mm x 64 mm
01840409	Swiveling fixing rod Ø 8 mm x 64 mm
01840404	Swivel holder Ø 8 mm x 25 mm
01840405	Swivel holder Ø 8 mm x 90 mm
01840406	Angular swivel holder Ø 8 mm x 25 mm
01840407	Swivel holder Ø 8 mm x 125 mm with fine adjustment
01860401	Dovetail clamp with dovetail clamp Ø 5,6 mm and Ø 9,5 mm
01840501	Centering holder Ø 4 mm x 25 mm

Kontaktujte našeho specialistu:
Martin Rychtařík
 ☎ +420 605 219 597
 ✉ rychtarik@primab.cz

Přístroje pro měření a metrologii
PRIMA
BILAVČÍK s.r.o.
www.metrologie.cz

PRIMA BILAVČÍK, s.r.o.
 9. května 1182
 688 01 Uherský Brod
 Česká republika

• Přístroje pro měření a metrologii • Centrum počítačové tomografie (CT) • Školicí středisko PRIMA AKADEMIE
 • Akreditovaná kalibrační laboratoř • Autorizované metrologické středisko • Akreditovaná zkušební laboratoř