PHASCOPE® PMP10

Hand-held instrument for measuring coating thickness on PC Boards and electroplated surfaces

PHASCOPE® PMP10 coating thickness measuring instrument for general use

The hand-held PHASCOPE® PMP10 is ideally suited for quality control in the electroplating and printed circuit board (PCB) industries. Because the instrument employs the phase-sensitive eddy current method (ISO 21 968), it allows the measurement of metal coatings on any substrate. A specially designed probe even enables measurements in PCB through-holes.

Applications

The phase-sensitive eddy current method offers great advantages in measuring small objects such as screws, nuts and bolts, since the geometry of the part being measured exerts very little influence on the measurement itself: Even rough surfaces can be measured precisely with the PHASCOPE® PMP10. This method also enables non-contact measuring; for example, the thickness of copper plating on a circuit board can be measured irrespective of protective lacquer coatings.

Using specialised probes optimised for specific measurement tasks, the PHASCOPE® PMP10 is particularly suitable for the following:

- Measuring coating thickness of nickel on steel
- Measuring zinc or copper on steel – despite rough surfaces and complex surface geometries
- Measuring the thickness of non-ferrous metals on non-ferrous metals, given sufficient difference in conductivity, e.g. copper on brass or bronze
- Measuring the thickness of non-ferrous metals on insulating substrates, such as copper layers on circuit boards.

Measuring copper thickness in through-holes using the ESL080B probe

Measuring on rough surfaces, Zn/Fe with the ESD20Zn probe

The ESD2.4 probe is particularly well-suited for small parts, because re-calibration for the specific measuring spot geometry is typically not required

Software FISCHER DataCenter

Indispensible for the quick and easy transfer of data from the PHASCOPE® PMP10 to a computer, FISCHER DataCenter software is a powerful tool that also offers extensive graphic display and statistical analysis functions for quality control: statistical process control charts, cumulative frequency diagrams and FISCHER's own FDD® (factory diagnosis diagram). The built-in report editor enables measurement data to be conveniently processed, archived and printed out as individual inspection reports.

Instrument features

- Extensive evaluation and statistics functions
- Outlier control and tolerance monitoring options
- Various languages to choose from
- Battery and/or continuous operation via plug-in charger (included)
- Storage of up to 20,000 readings
- Data transfer via RS232 interface

Probe style	Model number	Measurement range	Applications
	ESL080B	5-100 µm	Measuring copper thickness in PCB through-holes with diameter range 0.8 – 2mm.
	ESL080V	5-100 µm	Measuring copper thickness in PCB through-holes, especially on thick PC Boards.
	ESD20Cu	1 -270 µm	Measuring copper thickness on PC Boards.
	ESD20Zn	1-200 µm (Cu/Fe) 2-200 µm (Zn/Fe)	Measuring NF coatings on magnetic substrates, e.g. zinc/iron or copper/iron. Irrespective of rough surfaces or protective lacquers. NF coatings with high electrical conductivity on NF substrates with low conductivity, e.g. copper/brass.
	ESD20Ni	2-100 µm Ni/Fe (60 kHz) or 1-50 µm Ni/Fe (240 kHz)	Measuring nickel layers on iron or ferromagnetic steel. Irrespective of rough surfaces or protective lacquers.
	ESD2.4	1-150 µm	Measuring NF coatings on magnetic substrates, zinc/iron or copper/iron. Irrespective of rough surfaces or protective lacquers. Particularly well suited for small parts due to small sensor.

Standard Content of shipment Order no.

- PHASCOPE® PMP10 with accessories 603-322
- Software FISCHER DataCenter 604-575