

PHASCOPE® PMP10

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



fischer®

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

Indispensable 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

- PHASCOPE® PMP10 with accessories
- Software FISCHER DataCenter

Order no.

603-322
604-575

Helmut Fischer GmbH
Institut für Elektronik und Messtechnik
 71069 Sindelfingen, **Germany**



Helmut Fischer AG and
Helmut Fischer Technologie AG
 CH-6331 Hünenberg, **Switzerland**



IfG-Institute for Scientific Instruments GmbH
 12489 Berlin, **Germany**

Fischer Instrumentation (GB) Ltd
 Lymington, Hampshire SO41 8JD, **England**



Fischer Technology, Inc.
 Windsor, CT 06095, **USA**



Helmut Fischer S. de R.L. de C.V.
 76230 Querétaro, QRO, **Mexico**

Fischer Instrumentation Electronique
 78180 Montigny le Bretonneux, **France**

Helmut Fischer S.R.L.
 20099 Sesto San Giovanni (Milano), **Italy**

Fischer Instruments, S.A.
 08018 Barcelona, **Spain**

Helmut Fischer Meettechniek B.V.
 5627 GB Eindhoven, **The Netherlands**

Fischer do Brasil
 04561-001 São Paulo, **Brazil**

Fischer Instruments K.K.
 Saitama-ken 340-0012, **Japan**

Nantong Fischer Instrumentation Ltd
 Shanghai 200333, **P.R. China**



Fischer Instrumentation (Far East) Ltd
 Kwai Chung, N.T., **Hong Kong**

Fischer Measurement Technologies (India) Pvt. Ltd
 Pune 411036, **India**

Fischer Instrumentation (S) Pte Ltd
 Singapore 658065, **Singapore**

Helmut Fischer Korea Co., Ltd
 Seoul City, **Republic of Korea**

Fischer Technology (M) SDN Bhd
 47301 Petaling Jaya, **Malaysia**

Helmut Fischer Thailand Co., Ltd
 Bangkok 10250, **Thailand**



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