VOP40P
HIGH PRECISION TOUCH PROBE SYSTEM WITH MULTI-CHANNEL OPTICAL TRANSMISSION
MARPOSS
Description of the system

VOP40P is the new Marposs touch probe for high accuracy 5 axes machining centers and milling machines which addresses industries where precision requirements are daily pushed to the limits like die and mold, aerospace, aeronautics and biomedical.

Through automatic detection of machine axes position, VOP40P achieves part positioning, work piece orientation and origins identification as well as accurate part measurement. Based on piezo-electric technology integrated in a compact design VOP40P reaches excellent measurement performances on 3D surfaces.

The modulated optical transmission system guarantees an incredible immunity to light interference and a wide operating field.

Several applications are feasible:
- Multi-channel system: each application can support up to 4 probes
- Multi-spindle application: it allows you to install two applications on the same machine by enabling 2 probes that can be used simultaneously
- Twin applications allow you to check the part and the tool using the same receiver

Advantages

- Excellent accuracy and repeatability within 0.25 µm
- Compact dimensions, 40 mm diameter and 50 mm length
- Incredible battery life
- Compatible with Marposs VOS and E83 system
- Robust and reliable
High precision touch probe VOP40P

VOP40P is designed for use on small and medium size 5 axes machining centers and milling machines. It combines a compact design together with outstanding performances. VOP40P operates with the VOI receiver, but it is also compatible with Marposs E83 system in order to allow easily and simple upgrade.

**Specifications**

- **Unidirectional Repeatability (2σ)**: 0.25 μm
- **2D Lobing in XY***: ±0.25 μm
- **3D Lobing in XY***: ±1 μm
- **Measurement Force***: 
  - XY plane: 0.07 N
  - Z direct.: 0.07 N
- **Overtravel***: 
  - XY plane: 12°
  - Z direct.: 6 mm
- **Transmission Type**: Multi-channel optical transmission
- **Transmission Activation/Deactivation Distance**: 
  - High Power mode (HP): 6 m
  - Low Power mode (LP): 3.5 m
- **Transmission Angle**: 
  - 360° on the probe axis
  - 110° on a perpendicular axis
- **Number of Transmission Channels**: 6 max.
- **Transmission Activation**: Automatic Machine M code
- **Transmission Deactivation**: Programmable timer Machine M code
- **Battery Type**: 2 x ½ AA lithium thionyl
- **Battery Life****: 
  - Stand-by: 160 d (HP) / 330 d (LP)
  - 5% usage: 200 d (HP) / 270 d (LP)
  - Continuous usage: 800 h (HP) / 1300 h (LP)
- **Protection Degree** (Standard IEC 60529): IP68
- **Operating Temperature**: 0°C – 60°C
**VOI receiver with integrated interface**

The VOI integrated interface receiver is supplied with a magnetic base for ease of installation and greater control over positioning within the machine. VOI must be installed inside the machine tool working area and within the field of vision of the VOP during the measurement process. There are also four holes so that it can be secured permanently in position using M4 screws. VOI is available in two versions with axial or radial connector, and is used to set-up the system operation. You can set the system up by using the optical buttons, or by remote control. The set-up and troubleshooting procedures are very simple due to the practical 4 digit display and remote control unit.

**POWER SUPPLY**
- 13.5 - 30 Vdc
- max current 100 mA
- Power consumption 2 W

**INPUT SIGNALS**
(SINK or SOURCE)
- Opto-isolated
- 13.5 - 30 Vdc
- 1 mA at 15 V

**OUTPUT SIGNALS**
(may be set to N.C. or N.O. with the exception of the error, which is always set to N.C.)
- Solid state relay (SSR)
- 4 - 30 V
- 40 mA

**PROTECTION DEGREE**
(IEC 60529)
- IP68

**System part numbers**

**Probe kit**
- 6871943250 VOP40P probe

All VOP kits are supplied complete with batteries and the necessary tools. For fingers, shear pins and other accessories, consult the catalogue D6C006010.

**Receiver with integrated interface (VOI) kit**
- P1SIV70000 VOI kit with lateral connector
- P1SIV70001 VOI kit with rear connector

The kits are supplied complete with batteries and operator and instruction manual.

Only VOI kits with lateral connector include the 1.5 m cable protective sheath.

<table>
<thead>
<tr>
<th>Cable Length</th>
<th>Connector Type</th>
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<tbody>
<tr>
<td>5 - 15 - 30 m</td>
<td>Lateral connector</td>
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<tr>
<td>1.5 m cable metallic protective sheath</td>
<td>Rear connector</td>
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**VOP40P shanks**

Same shanks which are used for VOP40 line, please refer to D6C04700G0 brochure.

For a full list of address locations, please consult the Marposs official website

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Marposs has an integrated system for Company quality, environmental and safety management, with ISO 9001, ISO 14001 and OHSAS 18001 certification. Marposs has further been qualified EAFI 94 and has obtained the Q1-Award.