

# 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.

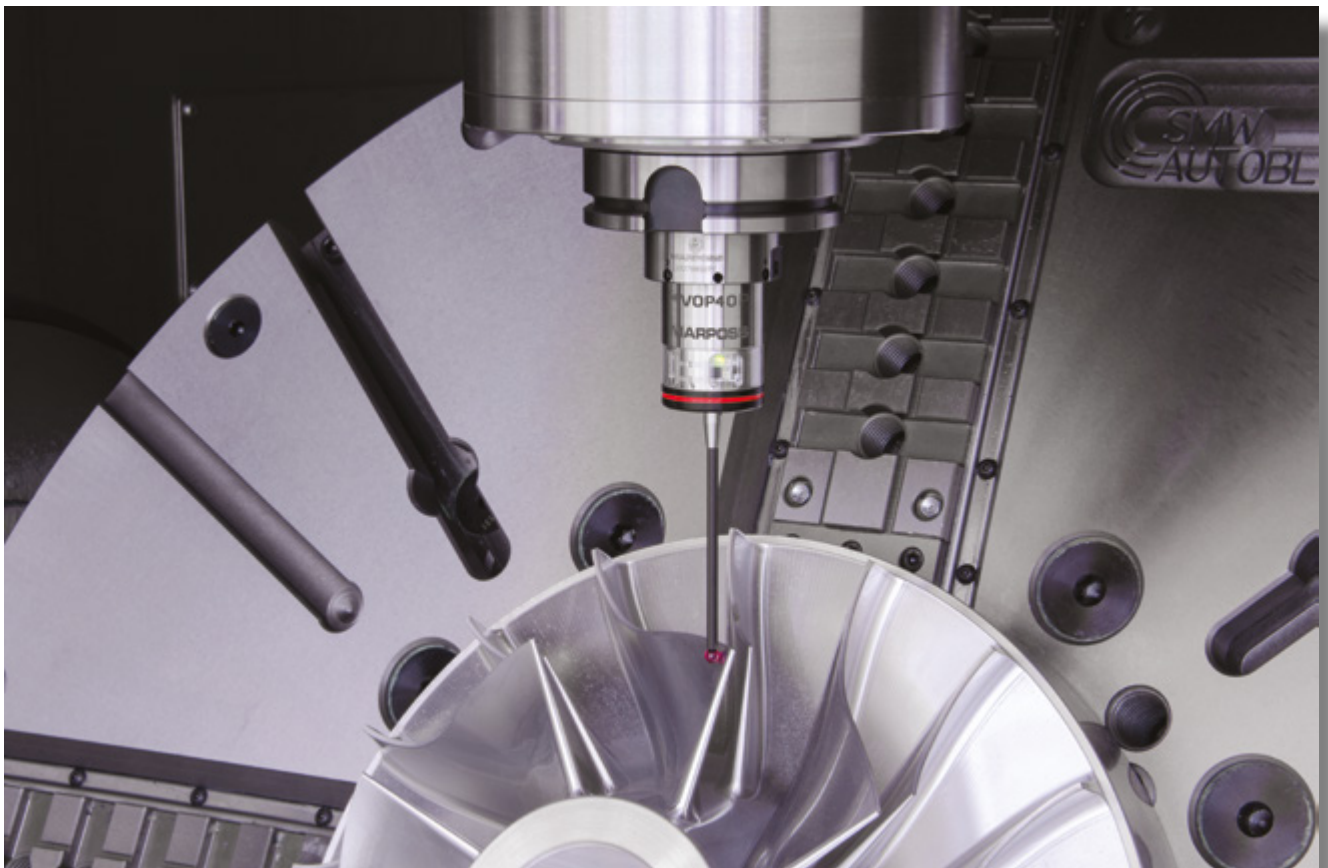
The modulated optical transmission system guarantees an incredible immunity to light interference and a wide operating field.

Several application 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

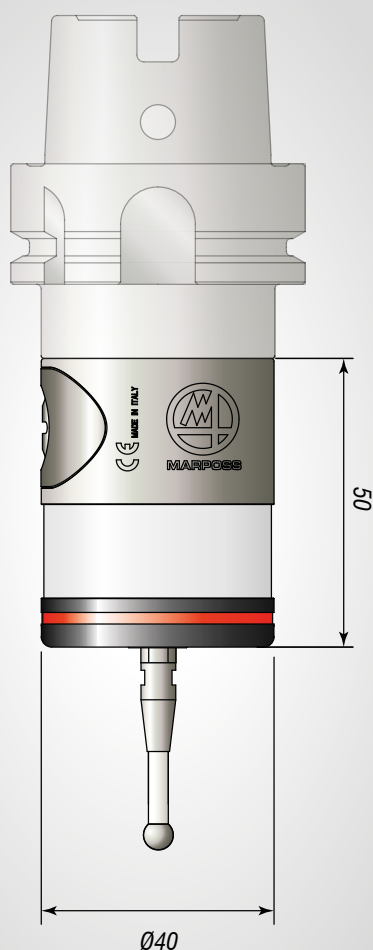
- Excellent accuracy and repeatability within 0,25  $\mu\text{m}$
- Compact dimensions, 40 mm diameter and 50 mm length
- Incredible battery life
- Compatible with Marposs VOS and E83 system
- Robust and reliable



## 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.



	Standard	High force
UNIDIRECTIONAL REPEATABILITY (2σ) using standard 35 mm finger at 600 mm/min	0,25 μm	
2D LOBING in X/Y*	±0,25 μm	
3D LOBING in X/Y*	±1 μm	
MEASUREMENT FORCE*	Plane XY	0.07 N
	Direction Z	0.07 N
OVERTRAVEL FORCE*	Plane XY	0.7 N
	Direction Z	5 N
OVERTRAVEL *	Plane XY	12°
	Direction Z	6 mm
TRANSMISSION TYPE	Multi-channel optical transmission	
TRANSMISSION ACTIVATION/ DEACTIVATION DISTANCE	6 m (HP)	
	3,5 m (LP)	
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 ÷ 60 °C	

(HP) = High Power mode

(LP) = Low Power mode

(\*) = Using standard 35 mm stylus

(\*\*) = Typical performances which may vary on programming modes basis

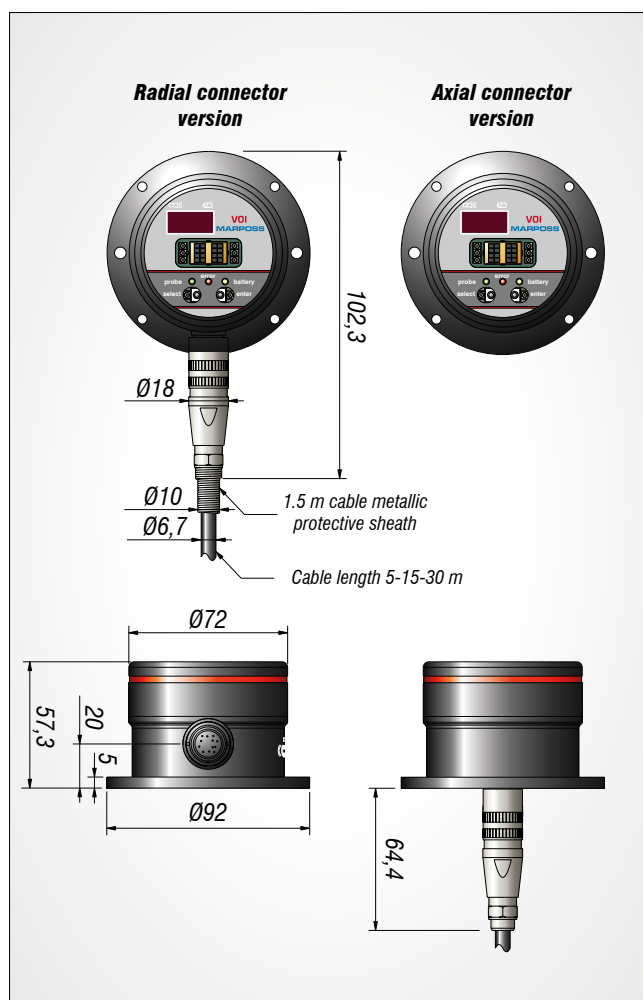
## VOI receiver with integrated interface

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	Start/Stop SEL 0 and SEL 1
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	Probe 1 State/Pulse Probe 2 State/Pulse Battery discharged Error
PROTECTION DEGREE (IEC 60529)	IP68	

## System part numbers

### Probe kit

P1SIVP0000	VOP40P probe
P1SIVP0001	VOP40P high force probe

All VOP kits are supplied complete with batteries and the necessary tools  
For fingers, shear pins and other accessories, consult the catalogue D6C0060110

### 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.

6180890104	5 m CN connector cable
6180890103	15 m CN connector cable
6180890105	30 m CN connector cable
6134232000	Receiver support

### VOP40P shanks

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



www.marposs.com

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

D6C08700G0 - Edition 11/2020 - Specifications are subject to modifications  
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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 EAQF 94 and has obtained the Q1-Award.



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