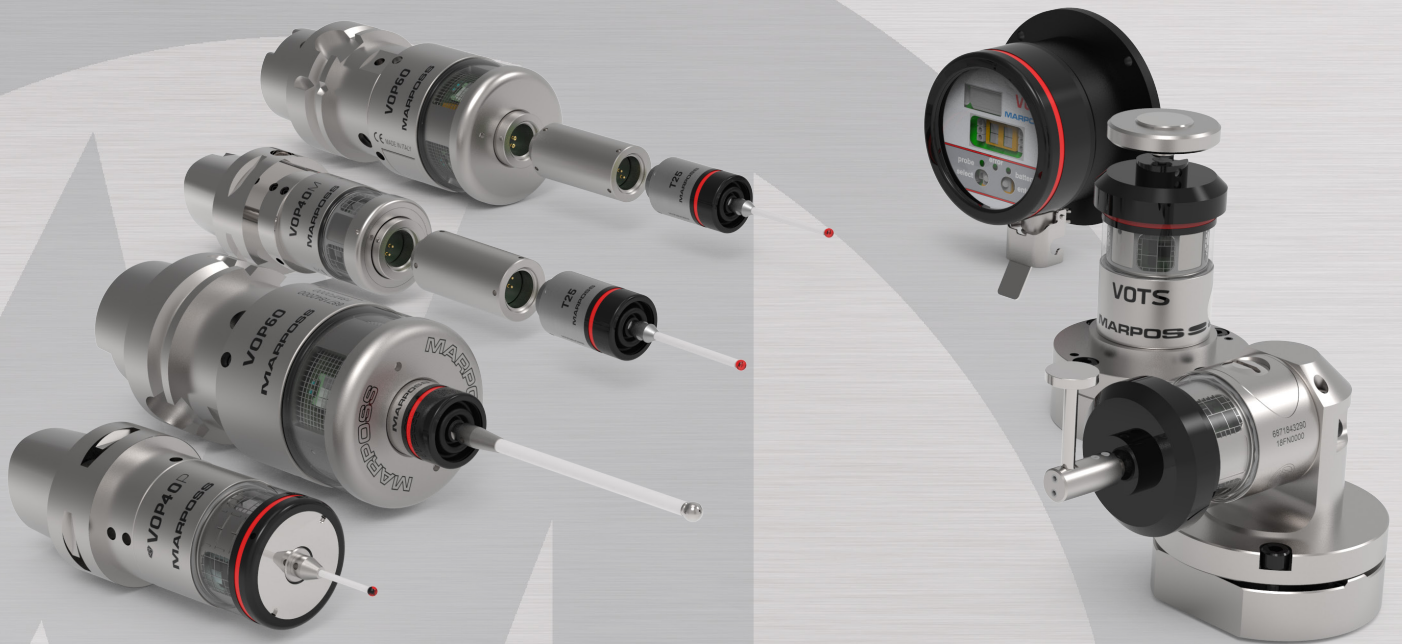


VOS

TOUCH PROBE SYSTEM WITH MULTI-CHANNEL OPTICAL TRANSMISSION



MARRPOSS

Description of the system

The Mida VOS touch probe system with modulated optical transmission is ideal for use on 3 and 5 axes milling machines and machining centres. Thanks to its innovative modulated transmission system, VOS guarantees high immunity to interference, a large operating range and a wide transmission angle. The system consists of various types of touch probes that can be used to check both the workpiece and the tool, guaranteeing incredible operating flexibility:

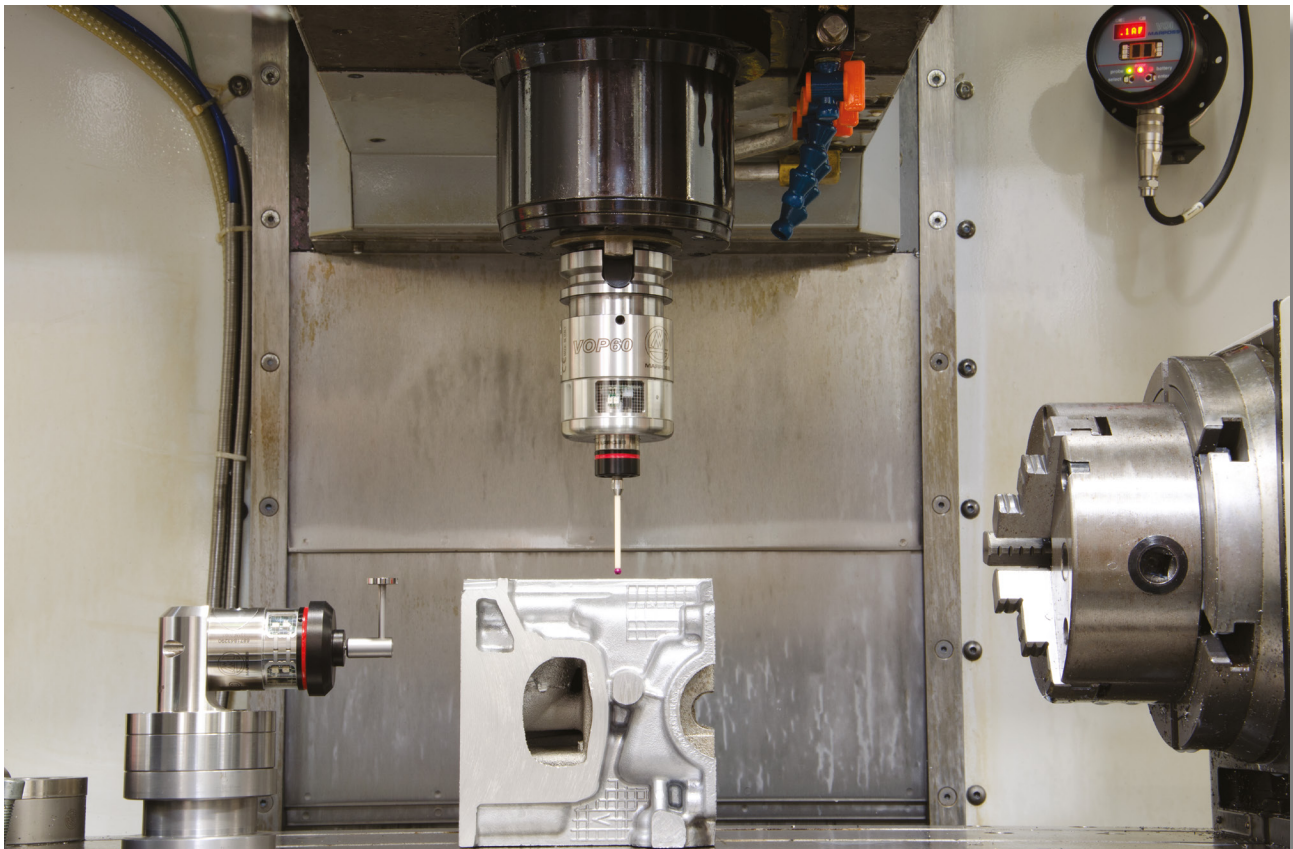
- VOP40, VOP60, VOP60M probes for part probing.
- VOTS and VOTS 90° probes for tool setting.

The main features are:

- 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.
- An incredibly robust instrument capable of withstanding the most demanding machining environments.
- Fully controlled by the machine tool via a simple PLC command.

Advantages

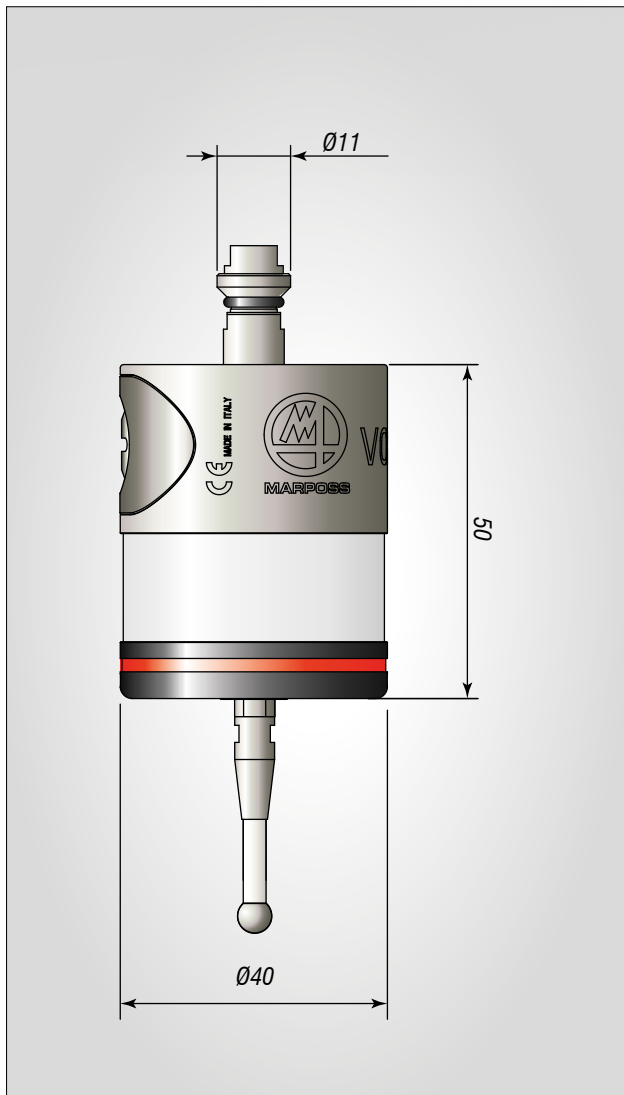
- Incredible battery life
- Can handle up to 4 probes with a single receiver
- Capable of handling multiple applications simultaneously: Two VOS systems performing measurements simultaneously on the same machine.
- Immunity to interference
- Exceptional versatility, suitable for use with every type of application
- Compatible with MARPOSS E83 systems



VOP40 compact touch probe

VOP40 is ideal for use on small and medium machining centres. It combines compact design with incredible metrological performance and excellent operating autonomy.

It can be used with the VOI integrated interface receivers, and is also backward compatible with the E83 RX receivers in legacy mode.



UNIDIRECTIONAL REPEATABILITY (2 σ) using standard 35 mm finger at 600 mm/min	1 μ m	
MEASUREMENT FORCE using standard 35 mm finger	XY plane 0,5 ÷ 0,9 N	Direction Z 5,8 N
OVERTRAVEL using standard 35 mm finger	XY plane 11,6 mm	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	230 d (HP) 380 d (LP)
	5% usage	190 d (HP) 320 d (LP)
	Continuous usage	1060 h (HP) 2100 h (LP)
PROTECTION DEGREE (Standard IEC 60529)	IP68	
OPERATING TEMPERATURE	0 ÷ 60 °C	

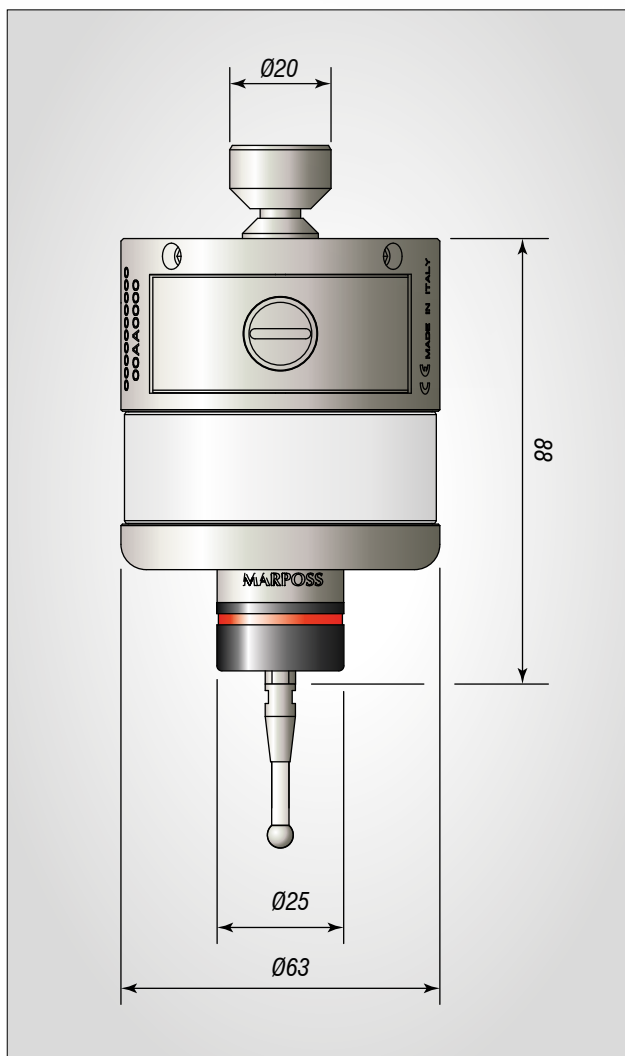
(HP) = High Power mode

(LP) = Low Power mode

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

VOP60 compact touch probe

The compact version of VOP60 is ideal for use on medium and large machining centres. The probe features a sturdy body meaning it can be used in harsh working conditions. It is compatible with both Marposs T25 and TT25 probe ranges. It can be used with the VOI integrated interface receivers, and is also backward compatible with the E83 RX receivers in legacy mode.



UNIDIRECTIONAL REPEATABILITY (2 σ) using standard 35 mm finger at 600 mm/min	0,5 μm^* 1 μm^{**}	
MEASUREMENT FORCE using standard 35 mm finger	XY plane 2 N* 0,5 ÷ 0,9 N**	Direction Z 12 N* 5,8 N**
OVERTRAVEL using standard 35 mm finger	XY plane 11,2 mm* 11,6 mm**	Direction Z 4 mm* 4 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 DEACTIVATION	Automatic Machine M code	
TRANSMISSION DEACTIVATION	Programmable timer Machine M code	
BATTERY TYPE	2 x lithium manganese CR123	
BATTERY LIFE***	Stand-by	330 d (HP) 600 d (LP)
	5% usage	260 d (HP) 500 d (LP)
	Continuous usage	1300 h (LP) 3000 h (LP)
PROTECTION DEGREE (Standard IEC 60529)	IP68	
OPERATING TEMPERATURE	0 ÷ 60 °C	

(*) = With T25 probe

(HP) = High Power mode

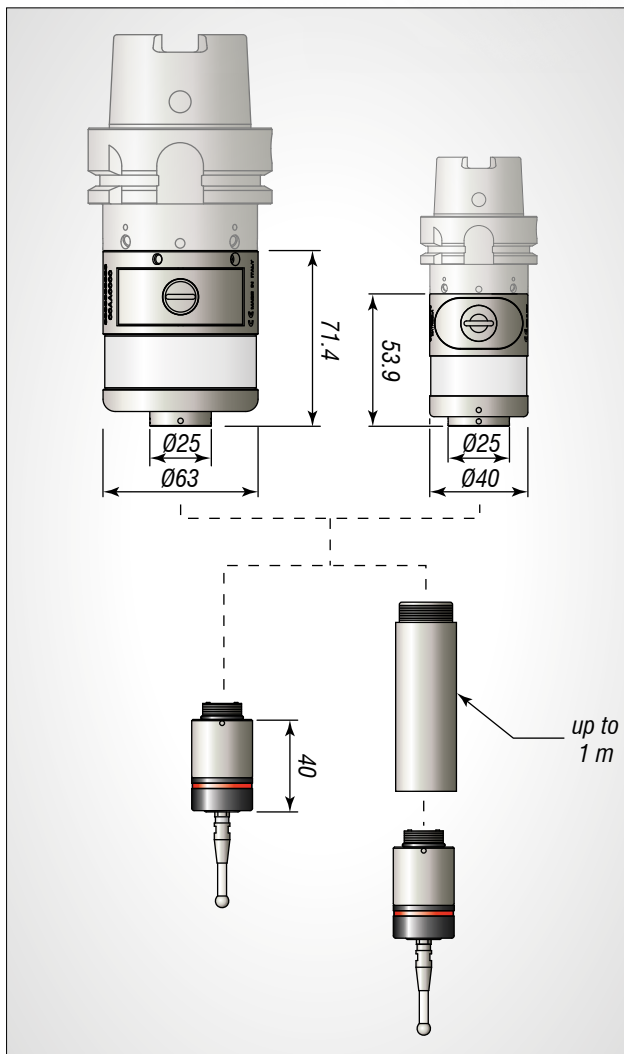
(**) = With TT25 probe

(LP) = Low Power mode

(***) = Typical specifications - these values may vary depending on the programming mode

VOP40M and VOP60M modular touch probes

VOP40M and VOP60M are the modular versions that guarantee maximum operating flexibility. They can be configured with Marposs T25 and TT25 probes and with extension up to one metre length. They can be used with the VOI integrated interface receivers, and are also backward compatible with the E83 RX receivers in legacy mode.



UNIDIRECTIONAL REPEATABILITY (2 σ) using standard 35 mm finger at 600 mm/min	0,5 μm^* 1 μm^{**}	
MEASUREMENT FORCE using standard 35 mm finger	XY plane 2 N* 0,5 ÷ 0,9 N**	Z direction 12 N* 5,8 N**
OVERTRAVEL using standard 35 mm finger	XY plane 11,2 mm* 11,6 mm**	Z direction 4 mm* 4 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 DEACTIVATION	Automatic Machine M code	
TRANSMISSION DEACTIVATION	Programmable timer Machine M code	
PROTECTION DEGREE (Standard IEC 60529)	IP68	
OPERATING TEMPERATURE	0 ÷ 60 °C	

	VOP40M	VOP60M
BATTERY TYPE	2 x lithium thionyl 1/2 AA	2 x lithium manganese CR123
BATTERY LIFE***	Stand-by	230 d (HP) 380 d (LP)
	5% usage	190 d (HP) 320 d (LP)
	Continuous usage	1060 h (HP) 2100 h (LP)
		330 d (HP) 600 d (LP)
		260 d (HP) 500 d (LP)
		1300 h (LP) 3000 h (LP)

(*) = With T25 probe

(HP) = High Power mode

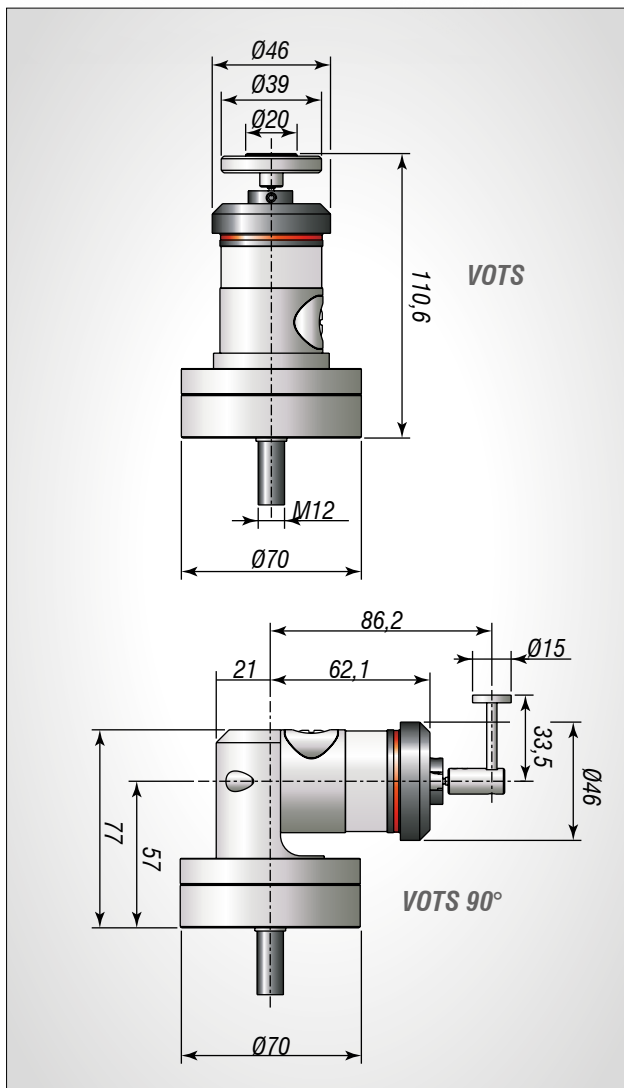
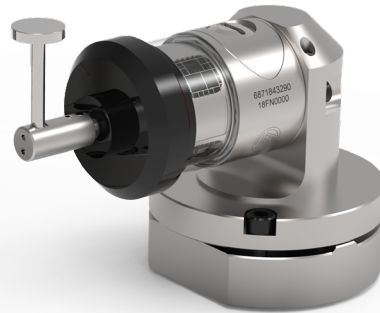
(**) = With TT25 probe

(LP) = Low Power mode

(***) = Typical specifications - these values may vary depending on the programming mode

VOTS tool control touch probe

VOTS is used to carry out breakage, wear and integrity checks and length and diameter measurements on tools in machining centres. Thanks to the dual vertical/90° version, it is ideal for every type of application. It is completely wireless, meaning a simple installation. It can be used for TWIN applications: part and tool checks are managed by a single optical receiver. VOTS probes can be used with VOI receivers.



UNIDIRECTIONAL REPEATABILITY (2σ) at 600 mm/min	1 μm	
MEASUREMENT FORCE	XY plane 0,5 ÷ 0,9 N*	Direction Z 5,8 N*
	0,5 ÷ 0,9 N**	0,3 N**
OVERTRAVEL	XY plane 7 mm*	Direction Z 6°*
	12°**	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 DEACTIVATION	Automatic Machine M code	
TRANSMISSION DEACTIVATION	Programmable timer Machine M code	
BATTERY TYPE	2 x ½ AA lithium thionyl	
BATTERY LIFE***	Stand-by	230 d (HP) 380 d (LP)
	5% usage	190 d (HP) 320 d (LP)
	Continuous usage	1060 h (HP) 2100 h (LP)
PROTECTION DEGREE (Standard IEC 60529)	IP68	
OPERATING TEMPERATURE	0 ÷ 60 °C	

(*) = VOTS

(**) = VOTS 90°

(***) = Typical specifications - these values may vary depending on the programming mode

(HP) = High Power mode

(LP) = Low Power mode

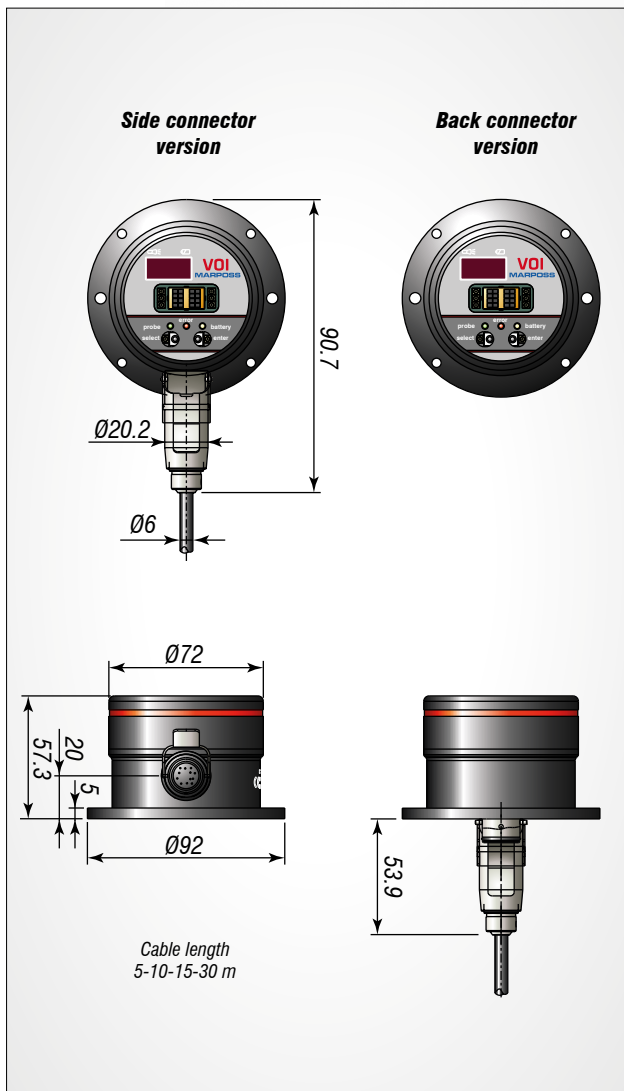
VOI receiver with integrated interface

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)	Start/Stop SEL 0 / SEL 1	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.)	Probe1 State/Pulse Probe 2 State/Pulse Battery discharged Error	Solid state relay (SSR) 4 - 30 V 40 mA
PROTECTION DEGREE (IEC 60529)	IP68	

System part numbers

Probe kit

P1SIV00003	VOP40 probe
P1AIV00006	VOP40M upgrade kit without probe
6871842000	VOP60 with T25 probe
6871842001	VOP60 with TL25 probe
6871842002	VOP60 with TT25 probe
6871842003	VOP60 with T25S probe
6871844241	VOP40M modular without probe
6871842100	VOP60M modular without probe
P1SIV00001	VOP60M with T25 probe
P1SIV00002	VOP60M with TT25 probe
P1SIVT0000	VOTS with central fixing screw
P1SIVT0006	VOTS 90° with central fixing screw

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

P1SIV70007	VOI kit with side connector
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Kit supply is complete with remote control, batteries, operator and instruction manual and 1.5 m stainless steel protective cable sheet

6180840115	5 m connector cable
6180840117	10 m connector cable
6180840119	15 m connector cable
6180840121	30 m connector cable
6134232000	Receiver support

System components

10T0439078	1.5 m cable metallic protective sheath
2915335023	23.5 mm steel extension for T25/TT25 probes
2915335100	50 mm steel extension for T25/TT25 probes
2915335105	75 mm steel extension for T25/TT25 probes
2915335110	100 mm steel extension for T25/TT25 probes
2915335120	150 mm steel extension for T25/TT25 probes
2915335128	150 mm carbon extension for T25/TT25 probes
2915335129	300 mm carbon extension for T25/TT25 probes
2915335131	500 mm carbon extension for T25/TT25 probes
3015335010	90° adaptor for T25/TT25 probes
5E62100303	CR123A lithium battery (VOP60)
5E62100307	½ AA lithium battery (VOP40)
3415335200	T25* probe
3424306040	TL25* probe
3415335201	T25S* probe
3424310000	TT25* probe
6871015717	Infrared remote control unit
P1SIV70006	VOI with radial connector
8304840061	VOI with axial connector
6180840111	Adapter cable 0.15 m
6180840113	Adapter cable 3 m

Some models of the product line, or parts of them, may be subject to export restrictions if exported outside the European Union or may be subject to restrictive measures adopted by the competent national, supranational or international authorities.



www.marposs.com

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

D6C07400G0 - Edition 05/2024 - Specifications are subject to modifications
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Marposs has an integrated system to manage the Company quality, the environment and safety, attested by ISO 9001, ISO 14001 and OHSAS 18001 certifications. Marposs has further been qualified EAQF 94 and has obtained the Q1-Award.



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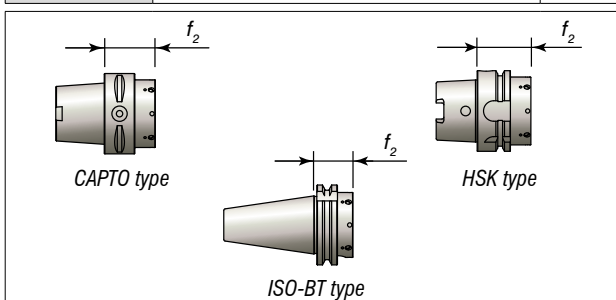
VOP40 shanks

f_2 [mm]

2027885154	P40 ISO25	13.8
2027885150	P40 BT30 MAS 403	22
2027885153	P40 BT40 MAS 403	27
2027885155	P40 HSK25 E DIN 69893	33
2027885156	P40 HSK32 AC DIN 69893	41
2027885157	P40 HSK32 E DIN 69893	41
2027885158	P40 HSK40 AC DIN 69893	38
2027885159	P40 HSK40 E DIN 69893	38
2027885160	P40 HSK50 AC DIN 69893	42
2027885161	P40 HSK63 AC DIN 69893	44
2027885162	P40 ISO30 DIN 69871/A	35
2027885163	P40 ISO40 DIN 69871/A	35
2027885164	P40 CAPTO C3	37
2027885165	P40 CAPTO C4	40
2027885166	P40 CAPTO C5	36
2027885152	P40 adaptor flange for E83/E86 shanks	
2027885169	P40 adaptor flange for WRP45 shanks	
2027885167	VDI flange VOP40 with XY reg. Ø25 mm	
2027885168	VDI flange VOP40 with XY reg. Ø10 mm	

VOP60 shanks

2027885212	P60 HSK63 A+C DIN69893 AIR	53
2027885201	P60 HSK63 E DIN69893	53
2027885202	P60 HSK63 F DIN69893	53
2027885203	P60 HSK80 A+C DIN69893 AIR	53
2027885204	P60 HSK100 A+C DIN69893 AIR	56
2027885205	P60 BT40 MAS403	38
2027885206	P60 BT50 MAS403	49
2027885207	P60 ISO40 DIN69871/A	46,1
2027885208	P60 ISO50 DIN69871/A	38,2
2027885209	P60 CAPTO C5	38
2027885210	P60 CAPTO C6 AIR	42
2027885211	P60 CAPTO C8 AIR	50
2027885080	P60 adaptor flange for E83/E86 shanks	
2027885214	VDI flange VOP60 with XY reg. Ø25 mm	



ISO - BT shafts, not supplied by Marposs
Other types of shank are available upon request

(*) = compatible with all 25 and 30 mm diameter probes. Refer to the probes catalogue