Ordering information VOTANO 100

Packages

	Ordering No.	Description
VOTANO 100 Package incl. all cables and accessories	P0000747	**Hardware** 1 × VOTANO 100 1 × VBO2 **Cables and accessories** 1 × Connection cable (6 poles) VOTANO – VBO2 (6 m / 19.7 ft) 1 × Safety box SAB1 with cable (6 m / 19.7 ft) 2 × Grounding cable (6 m, 6 mm² / 19.7 ft, 0.01 sq in) with connection clamp 1 × Standard measurement cable, black, (6m / 19.7 ft) 1 × Set consisting of two screened VBO2 high-voltage cables (6 m / 19.7 ft) or (15m / 49.2 ft) 2 × Multipole connection cable VBO2 to voltage transformer 3 × Connection cable 0.5 m / 1.6 ft with 4 mm / 0.2 in banana sockets 2 × Set consisting of four Kelvin clamp adapters (two black and two red) 4 × Set consisting of two crocodile clamps with 4 mm / 0.2 in banana sockets 2 × Set consisting of 12 solid terminal adapters 1 × Set consisting of two Kelvin clamps with 4 mm / 0.2 in banana sockets 1 × USB 3.0 Compact Flash card reader 1 × Compact Flash card (512 MB) 2 × Power cable 1 × Power cable extension 1 × User manual 1 × Calibration confirmation 1 × VOTANO 100 PC Toolset CD 1 × Transport case VOTANO 100 + VBO2

Available software packages

VOTANO 100 VT Standard Software Package	P0006578	Software package for common load and no-load ratio and phase measurements on VTs
VOTANO 100 CVT Standard Software Package	P0006579	Software package for common load and no-load ratio and phase measurements on CVTs
VOTANO 100 VT Advanced Software Package	P0006580	Software package for complete measurements and simulation of VTs up to accuracy class 0.1 with automatic IEC/IEEE class assessment
VOTANO 100 CVT Advanced Software Package	P0006581	Software package for complete measurements and simulation of CVTs up to accuracy class 0.1 with automatic IEC/IEEE class assessment
VOTANO 100 VT/CVT Universal Software Package	P0006582	Software package for complete measurements and simulation of VTs and CVTs up to accuracy class 0.1 with automatic IEC/IEEE class assessment

Ordering information VOTANO 100

Software upgrade options

	Ordering No.	Description
VOTANO 100 VT Standard to Advanced Upgrade Option	P0006583	Upgrade option for complete measurements and simulation of VTs up to accuracy class 0.1 with automatic IEC/IEEE class assessment
VOTANO 100 CVT Standard to Advanced Upgrade Option	P0006584	Upgrade option for complete measurements and simulation of CVTs up to accuracy class 0.1 with automatic IEC/IEEE class assessment
Manufacturer Application Programming Interface License (API; only VT testing functions supported)	P0006802	Software license for usage of the VOTANO 100 Application Programming Interface (API)
VOTANO 100 Calibration Suite (requires VT or CVT Advanced Software Package)	P0006801	Software tool to perform calibrations of VOTANO 100 and VBO2 with reference VT
VOTANO 100 16.7 Hz Measurement License	P0006803	Software license for measurement of 16.7 Hz VTs (Central and Northern European railway grids)
C-divider test module	P0007483	Test module for a detailed test of your CVTs' capacitor stack

Additional accessories and cables

	Ordering No.	Description
Calibration VT	P0005500	With this high-precision calibration IVT (0.05% accuracy) you can calibrate your VOTANO 100 and VBO2 (calibration certificate ISO / IEC 17025 included).
VOTANO 100 Cable Package	P0006208	Additionally available cables / adapters for the connection of several secondary windings and burdens 1 × Multipole connection cable VBO2 to voltage transformer 1 × Set consisting of two Kelvin clamp adapters (two black and two red) 1 × Set consisting of two crocodile clamps with 4 mm / 0.2 in banana sockets 1 × Set consisting of 12 solid terminal adapters

Services

	Ordering No.	Description
Recalibration for Calibration VT	P0006037	It is recommended to send us the calibration VT for recalibration every 1-2 years (return shipment included).
Calibration of new VOTANO 100 devices	P0005953	New VOTANO 100 devices can be calibrated according to IEC17025 in order to certify their accuracy for VT accuracy class determination and verify the accuracy of their low- and high-voltage in- and outputs.
Recalibration of VOTANO 100 devices in service	P0006038	A recalibration of VOTANO 100 devices in service according to IEC17025 is recommended every year in order to certify their accuracy for VT accuracy class determination and verify the accuracy of their low- and high-voltage in- and outputs (return shipment included).

Detailed ordering information VOTANO 100

VOTANO 100 package, single items

	Order no.	Description
		VOTANO 100
		VBO2
	P0005530	Safety box SAB1 with cable (6 m / 19.7 ft)
	B1382300	Connection cable (6 poles) VOTANO – VBO2 (6 m / 19.7 ft)
	B0349701	Grounding cable (6 m, 6 mm2 / 19.7 ft, 0.01 sq in) with connection clamp
	B1462700	Standard measurement cable, black, (6m / 19.7 ft)
	B0343202	Screened VBO2 high-voltage cable (6 m / 19.7 ft)
	B1077702	Screened VBO2 high-voltage cable (15m / 49.2 ft)
	B1351001	Multipole connection cable VBO2 to voltage transformer
	E0362800	Connection cable 0.5 m / 1.6 ft with 4 mm / 0.2 in banana sockets
	P0006304	Set consisting of two crocodile clamps with 4 mm / 0.2 in banana sockets (one black and one red)
	E0202200	Set consisting of 12 solid terminal adapters

Detailed ordering information VOTANO 100

VOTANO 100 package, single items

	Order no.	Description
	P0006297	Set consisting of 8 Kelvin clamp adapter with cable 0.25m / 0.82 ft (4 red, 4 black) plus bag
	B1060101	Serial cable (6m / 19.7 ft) for connection to VBO2
	B0508900	Kelvin clamp black with 4 mm / 0.2 in banana sockets
	B0508901	Kelvin clamp red with 4 mm / 0.2 in banana sockets
	E0576602	USB 3.0 Compact Flash card reader
		Power cable, black, 10 A, 2.5 m / 8 ft (country specific)
		Power cable extension
	B1091301	Transport case VOTANO 100 + VBO2
	E1091201	Carry bag for VOTANO 100 and VBO2

Software packages details

Features of VOTANO 100 software packages	VT Standard	VT Advanced	CVT Standard	CVT Advanced	VT/CVT Universal
PC software remote interface	■	■	■	■	■
Simple VT/CVT ratio check	■	■	■	■	■
VT/CVT polarity check	■	■	■	■	■
Measurements for inductive VTs with up to 5 secondary windings	■	■	–	–	■
Measurements for capacitive VTs with up to 5 secondary windings	–	–	■	■	■
Measurements for VTs as part of combined VT/CT units with up to 5 secondary windings	■	■	–	–	■
VT/CVT ratio and phase measurements under load and no-load condition	■	■	■	■	■
VT/CVT ratio error and phase displacement measurement in accordance with the standard	–	■	–	■	■
> Primary voltage levels between 5 % and 190 % of the nominal primary voltage					
> Nominal burden and burden values below (0 VA, 25 % and 100 % burden)					
> Other windings under load and no-load condition					
> Customized burden and Total Simultaneous Burden (TSB)					
Automatic assessment as per applicable standards up to accuracy class ≥ 0.1					
> IEC 60044-2 for inductive VTs	–	■	–	–	■
> IEC 60044-5 for capacitive VTs	–	–	–	■	■
> IEC 61869-3 for inductive VTs	–	■	–	–	■
> IEC 61869-5 for capacitive VTs	–	–	–	■	■
> IEEE C57.13 for instrument transformers	–	■	–	–	■
> ANSI C93.1 for capacitive VTs	–	–	–	■	■
Automatic test and assessment of ground fault winding (open delta)	–	■	–	■	■
Equivalent circuit parameter determination	–	■	–	■	■
> VT/CVT excitation curve measurements					
> Winding resistances					
> Leakage reactances					
Subsequent simulation and re-assessment of the VTs/CVTS after modification of	–	■	–	■	■
> Burden, nominal/rated voltage factor, accuracy class of VT/CVT, primary voltage					
Reloading of saved measuring data into VOTANO 100 for simulation at any time	–	■	–	■	■
Short-circuit impedance measurements	■	■	■	■	■
Burden measurement	■	■	■	■	■
C-divider test module for a detailed test of your CVTs' capacitor stack	–	–	–	■	■

■ included – not included

OMICRON is an international company that works passionately on ideas for making electric power systems safe and reliable. Our pioneering solutions are designed to meet our industry's current and future challenges. We always go the extra mile to empower our customers: we react to their needs, provide extraordinary local support, and share our expertise.

Within the OMICRON group, we research and develop innovative technologies for all fields in electric power systems. When it comes to electrical testing for medium- and high-voltage equipment, protection testing, digital substation testing solutions, and cybersecurity solutions, customers all over the world trust in the accuracy, speed, and quality of our user-friendly solutions.

Founded in 1984, OMICRON draws on their decades of profound expertise in the field of electric power engineering. A dedicated team of more than 900 employees provides solutions with 24/7 support at 25 locations worldwide and serves customers in more than 160 countries.

For more information, additional literature, and detailed contact information of our worldwide offices please visit our website.

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