

Ordering information VOTANO 100

Packages

	Ordering No.	Description
VOTANO 100 Package incl. all cables and accessories	VE000804	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 mm ² / 19.7 ft, 0.01 sq in) with connection clamp 1 × Standard measurement cable, black, (6 m / 19.7 ft) 1 × Set consisting of two screened VBO2 high-voltage cables (6 m / 19.7 ft) or (15 m / 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	VESM0803	Software package for common load and no-load ratio and phase measurements on VTs
VOTANO 100 CVT Standard Software Package	VESM0804	Software package for common load and no-load ratio and phase measurements on CVTs
VOTANO 100 VT Advanced Software Package	VESM0805	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	VESM0806	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	VESM0807	Software package for complete measurements and simulation of VTs and CVTs up to accuracy class 0.1 with automatic IEC/IEEE class assessment

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Software upgrade options

	Ordering No.	Description
VOTANO 100 VT Standard to Advanced Upgrade Option	VESM0808	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	VESM0809	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)	VESM0811	Software license for usage of the VOTANO 100 Application Programming Interface (API)
VOTANO 100 Calibration Suite (requires VT or CVT Advanced Software Package)	VESM0810	Software tool to perform calibrations of VOTANO 100 and VBO2 with reference VT
VOTANO 100 16.7 Hz Measurement License	VESM0812	Software license for measurement of 16.7 Hz VTs (Central and Northern European railway grids)

Additional accessories and cables

	Ordering No.	Description
Calibration VT 	VEHZ0801	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 	VEHK0804	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	VEDK9057	It is recommended to send us the calibration VT for recalibration every 1-2 years (return shipment included).
Calibration of new VOTANO 100 devices	VEDK0017	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	VEDK9058	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
	VEHZ0812 Safety box SAB1 with cable (6 m / 19.7 ft)
	VEHK0800 Connection cable (6 poles) VOTANO – VBO2 (6 m / 19.7 ft)
	VEHK0615 Grounding cable (6 m, 6 mm ² / 19.7 ft, 0.01 sq in) with connection clamp
	VEHK0901 Standard measurement cable, black, (6 m / 19.7 ft)
	VEHK0807 Screened VBO2 high-voltage cable (6 m / 19.7 ft)
	VEHK0808 Screened VBO2 high-voltage cable (15 m / 49.2 ft)
	VEHK0803 Multipole connection cable VBO2 to voltage transformer
	VEHK0809 Connection cable 0.5 m / 1.6 ft with 4 mm / 0.2 in banana sockets
	VEHZ0651 Set consisting of two crocodile clamps with 4 mm / 0.2 in banana sockets (one black and one red)
	VEHS0006 Set consisting of 12 solid terminal adapters

Detailed ordering information VOTANO 100

VOTANO 100 package, single items

Order no.	Description
VEHZ0628	Set consisting of 8 Kelvin clamp adapter with cable 0.25m / 0.82 ft (4 red, 4 black) plus bag
	
VEHK0810	Serial cable (6m / 19.7 ft) for connection to VBO2
	
VEHZ0773	Kelvin clamp black with 4 mm / 0.2 in banana sockets
	
VEHZ0679	Kelvin clamp red with 4 mm / 0.2 in banana sockets
	
VEHZ0655	USB 3.0 Compact Flash card reader
	
	Power cable, black, 10 A, 2.5 m / 8 ft (country specific)
	
	Power cable extension
	
VEHP0080	Transport case VOTANO 100 + VBO2
	
VEHP0081	Carry bag for VOTANO 100 and VBO2
	

Software packages details

Features of VOTANO 100 software packages

	VT	VT	CVT	CVT	VT/CVT
	Standard	Advanced	Standard	Advanced	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 (0VA, 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	■	■	■	■	■

■ included – not included

OMICRON is an international company serving the electrical power industry with innovative testing and diagnostic solutions. The application of OMICRON products allows users to assess the condition of the primary and secondary equipment on their systems with complete confidence. Services offered in the area of consulting, commissioning, testing, diagnosis and training make the product range complete.

Customers in more than 160 countries rely on the company's ability to supply leading edge technology of excellent quality. Service centers on all continents provide a broad base of knowledge and extraordinary customer support. All of this together with our strong network of sales partners is what has made our company a market leader in the electrical power industry.

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