



Main

Range	VarPlus
Product name	VarPlus Logic
Device short name	VPL12
Product or component type	Power factor controller

Complementary

Number of step output contacts	12
[Us] rated supply voltage	<= 999 kV AC with external VT 90...550 V AC
Measurement current	0...5 A
Measurement voltage	90...550 V AC 50/60 Hz
Operating mode	Manual or automatic
Number of quadrant operation for generator application	4
Device connection	Communication protocol: Modbus interface: RS485
Input function	1 dry contact (switch for cos phi 2.
Colour code	Front : dark grey (RAL 7016)
Display type	Backlit LCD
Display size	56 x 25 mm
Function available	Automatic initialisation Automatic detection Manual programming Advanced programming (expert) Any step sequence
Metering type	Voltage U21, U32, U13, V1, V2, V3 on load Apparent power S, S1, S2, S3 on load Reactive power Q, Q1, Q2, Q3 on load Active power P, P1, P2, P3 on load Phase current I1, I2, I3 RMS on load Temperature maximum Power factor average over lifetime Total current harmonic distortion THD (I) Power factor and displacement PF (signed, four quadrant)
Type of measurement	Ambient temperature inside the cubicle Capacitor current overload Irms/I1 Cos φ Operating time Power factor Individual voltage harmonic Tan φ
Information displayed	Individual step size in kVAr Number of switching cycles per step Remaining step capacity in %

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Type of alarms	Total harmonic distortion (> 7 %) / Action: message and alarm contact + step switched off Overvoltage (+/- 10 %) / Action: message and alarm contact + control stopped Overtemperature (30 °C) / Action: fan switch Overtemperature (50 °C) / Action: message and alarm contact + step switched off Capacitor current overload (I _{rms} /I ₁) (> 130 % I ₁) / Action: message and alarm contact + step switched off Overcompensation / Action: message and alarm contact Low current (< 15 mA CT) / Action: message and alarm contact Hunting (unstable regulation) / Action: message and alarm contact + step blocked High current (> 6 A CT) / Action: message and alarm contact Step faulty / Action: message and alarm contact + step blocked Step power loss (< 75 %) / Action: message and alarm contact + step blocked
Data recording	5 alarms
Operational Hours alarm	100000 h without maintenance
Operational counter alarm	65000 cycles without maintenance
Input type	Current input CT...X/5 A and X/1 A Insensitive to CT polarity Insensitive to phase rotation polarity Phase to neutral Phase to phase
Output type	Alarm relay : 1 A 48 V DC Alarm relay : 5 A 250 V AC 50/60 Hz Fan : 1 A 48 V DC Fan : 5 A 250 V AC 50/60 Hz Control relay : 5 A 120 V AC 50/60 Hz Control relay : 5 A 250 V AC 50/60 Hz Control relay : 1 A 24 V DC Control relay : 2 A 400 V AC 50/60 Hz Control relay : 1 A 48 V DC Control relay : 0.2 A 110 V DC
Maximum at the common terminal	10 A
Settings operating mode	Automatic Manual
Type of setting	Target cos phi : dual cos φ Target cos phi : 0.7 inductive...0.7 capacitive Step configuration programming : fixed Step configuration programming : off Step configuration programming : auto Delay between 2 successive switch on the same step : 5...1200 s Choice of stepping programs : linear Choice of stepping programs : LIFO Choice of stepping programs : auto
Measurement accuracy	Temperature +/- 3 °C Individual voltage harmonic +/- 3 % Total voltage harmonic distortion THD (U) +/- 2 % Cos φ +/- 2 % Energy (P,Q,S) +/- 2 % Frequency +/- 1 % Current +/- 1 % Voltage +/- 1 %
Time delay range	1...6500 s on response 1...6500 s on reconnection
Provided equipment	User manual
Mounting mode	Flush-mounted
Mounting support	1...3 mm panel
Mounting location	In cabinet
Cut-out dimensions	138 x 138 mm
Height	144 mm
Width	144 mm
Depth	58 mm
Product weight	0.6 kg

Environment

Standards	EN 61010-1 IEC 61000-6-2 IEC 61000-6-4 UL 61010-1 IEC 61326-1
Product certifications	CE EAC NRTL CNRTL
IP degree of protection	Rear face : IP20 Front face : IP41
Operating altitude	<= 2000 m
Ambient air temperature for operation	-20...60 °C
Ambient air temperature for storage	-40...85 °C