

Technical data and types

Type code	TRIO-50.0-TL-OUTD
Input side	
Absolute maximum DC input voltage ($V_{max,abs}$)	1000 V
Start-up DC input voltage (V_{start})	360...500 V (Default 420 V)
Operating DC input voltage range ($V_{dcmin}...V_{dcmax}$)	0,7xV _{start} ...950 V (min 300 V)
Rated DC input voltage (V_{dcr})	610 Vdc
Rated DC input power (P_{dcr})	51200 W
Number of independent MPPT	1
MPPT input DC voltage range ($V_{MPPTmin}...V_{MPPTmax}$) at P_{dcr}	480-800 Vdc
Maximum DC input current (I_{dcmax})	110 A
Maximum input short circuit current	160 A
Number of DC inputs pairs	12 or 16 (-SX version) / 12 (-SY version)
DC connection type	PV quick fit connector ³⁾ on -SX and -SY version / Screw terminal block on Standard and -S version
Input protection	
Reverse polarity protection	Yes, from limited current source
Input over voltage protection for each MPPT - varistor	Yes, 2
Input over voltage protection for each MPPT - plug In modular surge arrester	-SX: Type 2; -SY: Type 1+2
Photovoltaic array isolation control	According to local standard
DC switch rating for each MPPT (version with DC switch)	200 A / 1000 V
Fuse rating (version with fuses)	15 A / 1000 V
Output side	
AC grid connection type	Three-phase (3W+PE or 4W+PE)
Rated AC power ($P_{acr} @ \cos \varphi=1$)	50000 W
Maximum AC output power ($P_{acmax} @ \cos \varphi=1$)	50000 W
Maximum apparent power (S_{max})	50000 VA
Rated AC grid voltage (V_{acr})	400 V
AC voltage range	320...480 V ¹⁾
Maximum AC output current ($I_{ac,max}$)	77 A
Contributory fault current	92 A
Rated output frequency (f_o)	50 Hz / 60 Hz
Output frequency range ($f_{min}...f_{max}$)	47...53 Hz / 57...63 Hz ²⁾
Nominal power factor and adjustable range	> 0.995; 0...1 inductive/capacitive with maximum S_{max}
Total current harmonic distortion	<3%
AC connection type	Screw terminal block, cable gland PG42
Output protection	
Anti-islanding protection	According to local standard
Maximum external AC overcurrent protection	100 A
Output overvoltage protection - varistor	Yes, 4
Output overvoltage protection - plug in modular surge arrester (-SX version)	4, Type 2
Operating performance	
Maximum efficiency (η_{max})	98.30%
Weighted efficiency (EURO/CEC)	98.0% / -
Communication	
Remote monitoring	VSN300 Wifi Logger Card (opt.), VSN700 Data Logger (opt.)
Wireless local monitoring	VSN300 Wifi Logger Card (opt.)
User interface	LEDs
Communication interface	2 (RS485)

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Environmental	
Ambient temperature range	-25...+60°C / -13...140 °F with derating above 50 °C / 122 °F
Relative humidity	4%... 100% condensing
Sound pressure level, typical	75 dB(A) @ 1 m
Maximum operating altitude without derating	2000 m / 6560 ft
Physical	
Environmental protection rating	IP65 (IP54 for cooling section)
Cooling	Forced air
Dimension (H x W x D)	725 mm x 1491 mm x 315 mm / 28.5" x 58.7" x 12.4"
Weight	95 kg / 209 lbs overall, 66 kg / 145 lbs electronic compartment, 15 kg / 33 lbs AC wiring box (full optional), 14kg / 31 lbs DC wiring box (full optional)
Mounting system	Wall bracket, horizontal support
Safety	
Isolation level	Transformerless
Marking	CE
Safety and EMC standard	IEC/EN 62109-1, IEC/EN 62109-2, EN 61000-6-2, EN 61000-6-3, EN 61000-3-11, EN 61000-3-12
Grid standard (check your sales channel for availability)	CEI 0-21, CEI 0-16, DIN V VDE V 0126-1-1, VDE-AR-N 4105, G59/3, EN 50438 (not for all national appendices), RD 1699, RD 413, RD 661, P.O. 12.3, AS 4777, BDEW, NRS-097-2-1, MEA, PEA, IEC 61727, IEC 60068, IEC 61683, VFR-2014, IEC 62116
Available product variants	
Inverter power module	TRIO-50.0-TL-OUTD-POWER MODULE
DC wiring box options	
Input connections with terminal blocks	DCWB-TRIO-50.0-TL-OUTD
Input connections with terminal blocks + DC switch	DCWB-S-TRIO-50.0-TL-OUTD
12 quick Input connections + fuses + DC switch + surge arresters Type 2	DCWB-SX-TRIO-50.0-TL-OUTD/12 INPUTS
16 quick Input connections + fuses + DC switch + surge arresters Type 2	DCWB-SX-TRIO-50.0-TL-OUTD/16 INPUTS
12 quick Input connections + fuses + DC switch + surge arresters Type 1 + 2	DCWB-SY-TRIO-50.0-TL-OUTD