



Solar inverter

TRIO-27.6-TL-OUTD

SX2-400/JP

This three-phase commercial inverter offers great flexibility and control to installers dealing with commercial and industrial plants with varying orientations.

27.6 kW

A dual input section featuring two independent Maximum Power Point Trackers (MPPT), allows for the best energy harvesting from two sub-arrays oriented in different directions.

High efficiency at all output levels

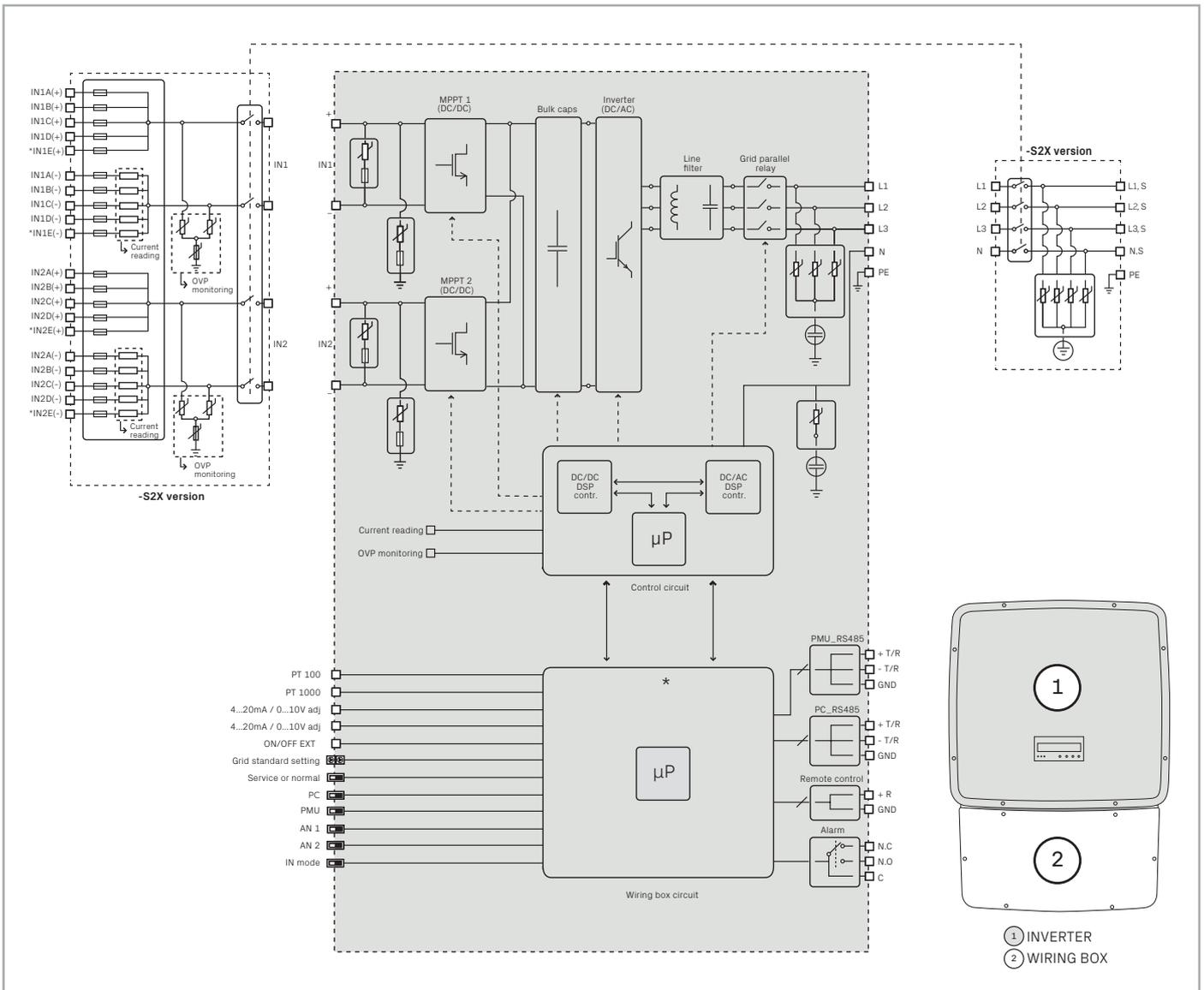
Flat efficiency curves ensure high efficiency at all output levels ensuring consistent and stable performance across the entire input voltage and output power range.

The very wide input voltage range makes the inverter suitable for installations with reduced string size.

Highlights

- True three-phase bridge topology for DC/AC output converter
- Transformerless topology
- Each inverter is set on specific grid codes which can be selected on the field
- Detachable wiring box for an easy installation
- Wide input range
- Natural convection cooling for maximum reliability
- Outdoor enclosure for operation under any environmental conditions
- Capability to connect external sensors for monitoring environmental conditions
- Availability of auxiliary DC output voltage (24 V, 300 mA)

TRIO-27.6-TL-OUTD-S2X-400/JP String inverter block diagram



Technical data and types

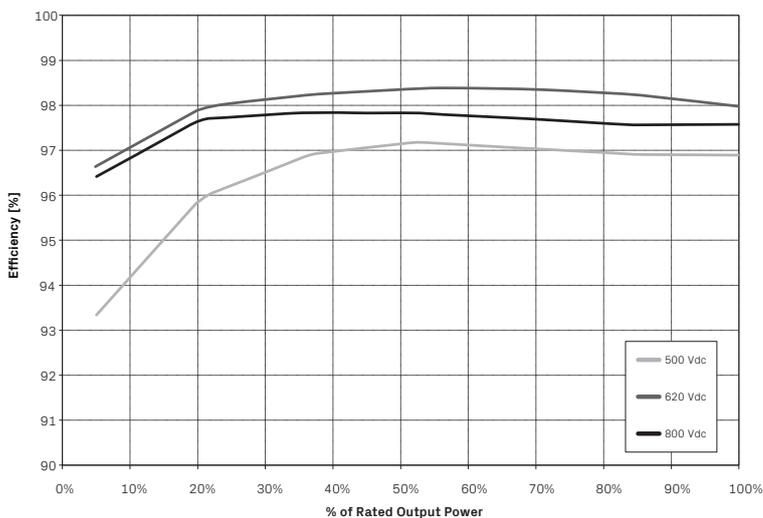
Type code	TRIO-27.6-TL-OUTD-S2X-400/JP
Input side	
Absolute maximum DC input voltage ($V_{max,abs}$)	1000 V
Start-up DC input voltage (V_{start})	430 V (adj. 250...500 V)
Operating DC input voltage range ($V_{dcmin}...V_{dcmax}$)	$0.7 \times V_{start}...950$ V
Rated DC input voltage (V_{dcr})	620 V
Rated DC input power (P_{dcr})	28600 W
Number of independent MPPT	2
Maximum DC input power for each MPPT ($P_{MPPTmax}$)	16000 W
DC input voltage range with parallel configuration of MPPT at P_{acr}	500...800 V
DC power limitation with parallel configuration of MPPT	Linear derating from max to null [$800 \text{ V} \leq V_{MPPT} \leq 950 \text{ V}$]
DC power limitation for each MPPT with independent configuration of MPPT at P_{dcr} , max unbalance example	16000 W [$500 \text{ V} \leq V_{MPPT} \leq 800 \text{ V}$] the other channel: $P_{dcr} - 16000$ W [$400 \text{ V} \leq V_{MPPT} \leq 800 \text{ V}$]
Maximum DC input current ($I_{dc,max}$) / for each MPPT ($I_{MPPTmax}$)	64.0 A / 32.0 A
Maximum input short circuit current for each MPPT	40.0 A
Number of DC input pairs for each MPPT	5
DC connection type	Tool Free PV connector WM / MC4
Input protection	
Reverse polarity protection	Protection for inverter only, from current limited source, with max 2 string connected 2
Input over voltage protection for each MPPT - varistor	2
Input over voltage protection for each MPPT - plug in modular surge arrester (-S2X version)	3 (Class II)
DC switch rating for each MPPT (version with DC switch)	40 A / 1000 V
Fuse rating	15 A / 1000 V
Output side	
AC grid connection type	Three Phase 3Ph+PE or 3Ph+N+PE
Rated AC power ($P_{acr} @ \cos\phi=1$)	27600 W
Maximum AC output power ($P_{ac,max} @ \cos\phi=1$)	27600 W
Maximum apparent power (S_{max})	30000 VA
Rated AC grid voltage (V_{acr})	400 V
AC voltage range	320...480 V
Maximum AC output current ($I_{ac,max}$)	45.0 A
Contributory fault current	46.0 A
Rated output frequency (f_r)	50 Hz / 60 Hz
Output frequency range ($f_{min}...f_{max}$)	47...53 Hz / 57...63 Hz
Nominal power factor and adjustable range	>0.995 Adj \pm 0.8 with max 30kVA
Harmonic Distortion of Current	each <3%, total<5%
AC connection type	Screw terminal block, cable gland PG36
Output protection	
Anti-islanding protection	Passive, Active
Maximum AC overcurrent protection	46.0 A
Output overvoltage protection - varistor	4
Output overvoltage protection - plug in modular surge arrester (-S2X version)	4 (Class II)
Operating performance	
Maximum efficiency (η_{max})	98.2%
Weighted efficiency (EURO/CEC)	98.0% / 98.0%
Feed in power threshold	40 W
Stand-by consumption	< 8 W
Communication	
Wired local monitoring	PVI-USB-RS232_485 (opt.)
Remote monitoring	VSN700 Data Logger (opt.)
User interface	Graphic display

Technical data and types

Type code	TRIO-27.6-TL-OUTD-S2X-400/JP
Environmental	
Ambient temperature range	-25...+60°C / -13...140°F with derating above 45°C/113°F
Relative humidity	0...100% condensing
Sound Power Level in accordance with ISO3741	<53 dB(A)
Maximum operating altitude without derating	2000 m / 6560 ft
Physical	
Environmental protection rating	IP65
Cooling	Natural
Dimension (H x W x D)	1061 mm x 702 mm x 292 mm
Weight	65 kg inverter + 15 Kg wiring box
Mounting system	Wall bracket
Safety	
Isolation level	Transformerless

Remark. Features not specifically listed in the present data sheet are not included in the product

Efficiency curves of TRIO-27.6-TL-OUTD-S2X-400/JP



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