AIT SMART GRID CONVERTER

INDUSTRY'S FIRST FOUR PHASE FOUR WIRE CONVERTER

AIT Smart Grid Converter is designed for today's Smart Grid and emerging Low Inertia Micro Grid applications. With seamless transition between Grid Forming, Off-Grid and Grid Supporting modes, its highly reliable cooling concept designed to ensure long life time, broad range of connectivity options: IEC61850, ModBus TCP, SunSpec, and modular and stackable concept of increased power handling capability, the AIT Smart Grid Converter presents a perfect Smart Grid fit.

FEATURES AND CAPABILITIES

- Superb handling of arbitrarily unbalanced grid current, voltage and load conditions
- Grid forming modes: Droop, Virtual Synchronous Machine with Virtual Inertia
- Grid Support modes: PV, BESS, Battery simulator, Grid Currents balancer, Active Front End, Back-2-Back
- Off-grid
- Full four quadrant operation
- Active/Reactive power: full circular capability
- Immediate control: P, Q, PF
- Grid functions: Frequency-Watt/P(f), Volt-Var/Q(U), Volt-Watt/P(U)
- Anti-islanding
- Low/High Voltage ride through with Fast Reactive Current Response
- Grid code and safety standards compliance

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	ASGC 34.5TL-PV-3P4W	ASGC 34.5TL-EES-4P4W
DC side		
DC max. input voltage	1000 V	900 V
DC full power MPPT/BATT voltage range (PF=1)	570 - 850 V	570 - 850 V
DC operating voltage range at nominal AC voltage	570 - 950 V	570 - 850 V
DC start voltage at nominal AC voltage	600 V	570 V
DC max. array short circuit current	75 A	75 A
DC max. PV/BATT operating current	60 A	60 A
Number of MPPT / max. number of inputs	1 / 2	1 / 2
DC terminal	Screw clamp terminal, AL or CU type cable	Screw clamp terminal, AL or CU type cable
AC side		
AC max. output power	34.5 kW	34.5 kW
AC max. continuous apparent power (at nominal AC voltage)	34.5 kVA	34.5 kVA
AC nominal output voltage / AC operating voltage range	3~NPE 380 V / 220 V or 3~NPE 400V / 230V +/-20%	3~NPE 380V / 220V or 3~NPE 400V / 230V +/-20%
AC nominal frequency / Frequency range	50 Hz and 60 Hz / 45-55 Hz and 55-65 Hz	50 Hz and 60 Hz / 45-55 Hz and 55-65 Hz
AC max. continuous output current	50 A	50 A
AC output current surge capability	N/A	105 A / 60 sec
Power factor range	0 to 1.0 over/under excited	0 to 1.0 over/under excited
THD at max. power	< 3%	< 3%
AC terminal	3 Phase 4 Wire 4-pos. + PE, Socket mating Plug included	3 Phase & Neutral 4 Wire 4-pos. + PE, Socket mating Plug included
AC disconnect	Not included	Not Included
AC connection	3 wire grounded WYE and ungrounded DELTA	4 wire grounded WYE
General data		
Peak efficiency / Weighted efficiency EU/CEC	98. 7% / 98. 2%	98. 7% / 98. 2%
Enclosure type protection class (electronics/mags)	IP 65 / IP 20	IP65 / IP 20
Weight	40 kg./ 88 lbs	45 kg./ 99 lbs.
Dimension (H x W x D)	800 x 600 x 250 cm/ 31.5 x 23.6 x 9.8 in	800 x 600 x 250 cm/ 31.5 x 23.6 x 9.8 in
Ambient air temperature for operation	-25°C to 60°C / -13°F to 140°F	-25°C to 60°C / -13°F to 140°F
Max. operating altitude	2000 m / 13123 ft	2000 m / 13123 ft
Relative humidity %	0...100% non-condensing	0...100% non-condensing
Audible noise	35 dBA +/- 3 dBA	35 dBA +/- 3 dBA
User interface and communications		
User interface	CLI / Widgets based custom UI	CLI / Widgets based custom UI
Communications	ModBus TCP, IEC61850, SunSpec	ModBus TCP, IEC61850, SunSpec
Regulatory approvals		
Safety & EMC	IEC 62477-1, IEC 62109 IEC 61000-6-2, IEC 61000-6-3	IEC 62477-1, IEC 62109 IEC 61000-6-2, IEC 61000-6-3
Grid code compliance	VDE-AR-N4110, VDE-AR-N 4105, IEEE1547a, UL1741-SA	VDE-AR-N4110, VDE-AR-N 4105, UL1741-SA

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