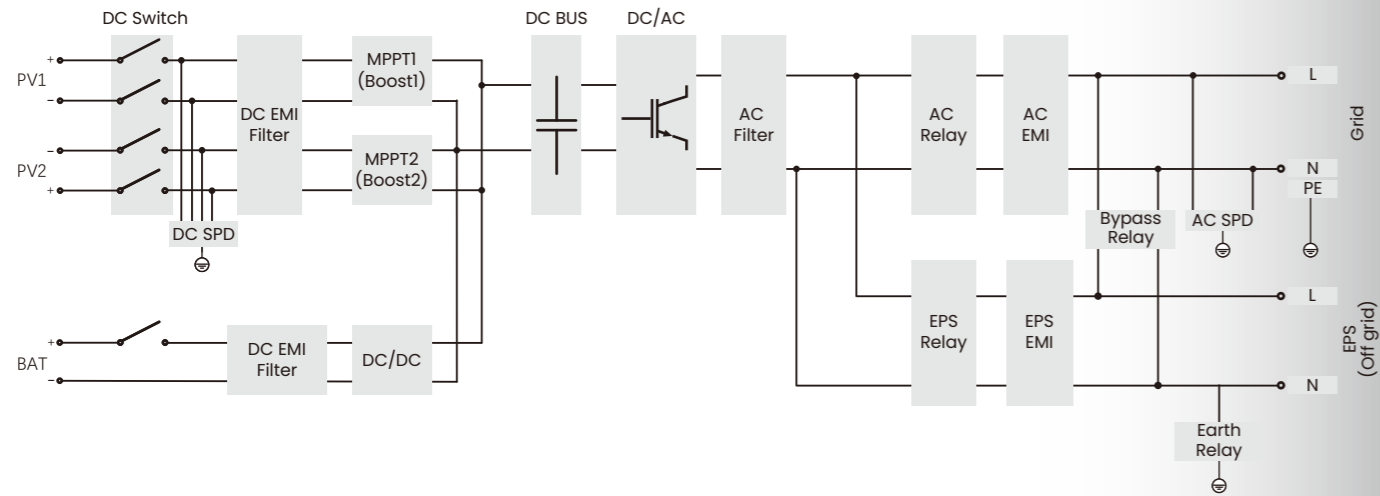


## CIRCUIT DIAGRAM



# X1-Hybrid G4

3.0kW/3.7kW/5.0kW/6.0kW/7.5kW



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V2.7 Information may be subject to modify without notice.  
650.00009.00

## Features

Single-phase Hybrid inverter



### Intelligent

- Up to 150% EPS output for 10s
- Switchover time <10ms
- Lithium-ion & Lead-acid battery compatible
- CT compatible, loads respond within 0.3s
- Intelligent loads management (e.g., Heat pump)
- On & Off-grid parallel function, up to 15kW
- 5 work modes, 2 charging periods available
- VPP ready, ancillary service in power market



### Safe

- IP65 protection level
- Integrated SPD



### High-efficient

- 200% PV oversized and up to 110% AC overload output
- Higher efficiency on charging and discharging, up to 97.0%
- Built-in shadow tracking function



### Economic

- 16A DC input current, support high power solar panel
- Up to 150% PV input
- Store the surplus energy from PV to battery
- Low start output voltage makes inverter longer working time
- Less energy loss on battery to inverter



# X1-HYBRID G4 (SINGLE-PHASE)

X1-HYBRID-3.0-D   X1-HYBRID-3.7-D   X1-HYBRID-5.0-D   X1-HYBRID-6.0-D   X1-HYBRID-7.5-D

DC INPUT	X1-HYBRID-3.0-D	X1-HYBRID-3.7-D	X1-HYBRID-5.0-D	X1-HYBRID-6.0-D	X1-HYBRID-7.5-D
Max. PV array power [Wp]	6000	7400	10000	12000	15000
Max. PV input power <sup>①</sup> (PV1+PV2) [Wp]	4500	5500	7500	9000	10000
Max. PV input voltage [V]	600	600	600	600	600
Start output voltage [V]	90	90	90	90	90
Nominal input voltage [V]	360	360	360	360	360
MPPT voltage range [V]	70~550	70~550	70~550	70~550	70~550
No. of MPPT trackers / Strings per MPP tracker	2 (1/1)	2 (1/1)	2 (1/1)	2 (1/1)	2 (1/1)
Max. input current (input PV1 / input PV2) [A]	16 / 16	16 / 16	16 / 16	16 / 16	16 / 16
Max. short circuit current (input PV1 / input PV2) [A]	20 / 20	20 / 20	20 / 20	20 / 20	20 / 20

AC INPUT & OUTPUT	X1-HYBRID-3.0-D	X1-HYBRID-3.7-D	X1-HYBRID-5.0-D	X1-HYBRID-6.0-D	X1-HYBRID-7.5-D
Nominal AC output power [W]	3000	3680	5000 <small>(Germany 4600, AU 4999)</small>	6000	7500
Max. AC output apparent power [VA]	3300	3680	5500 (4600 for VDE4105, 4999 for AS4777)	6600	7500
Max. AC output current [A]	14.4	16	25.9 <small>(Germany 20, AU 21.7)</small>	28.6	32.6
Max. AC input apparent power [VA]	6300	7360	9200	9200	9200
Max. AC input current [A]	27.4	32	40	40	40
Nominal AC voltage [V]	220 / 230 / 240				
Nominal grid frequency [Hz]	50 / 60				
Displacement power factor	0.8 leading ~ 0.8 lagging				
THDi (rated power) [%]	< 2				

BATTERY DATA	X1-HYBRID-3.0-D	X1-HYBRID-3.7-D	X1-HYBRID-5.0-D	X1-HYBRID-6.0-D	X1-HYBRID-7.5-D
Battery type	Lithium-ion battery / Lead-acid Battery				
Battery voltage range [V]	80 ~ 480				
Max. continuous charge / discharge current [A]	30				

EPS (OFF-GRID OR BACK-UP) OUTPUT (WITH BATTERY)	X1-HYBRID-3.0-D	X1-HYBRID-3.7-D	X1-HYBRID-5.0-D	X1-HYBRID-6.0-D	X1-HYBRID-7.5-D
Nominal output power [W]	3000	3680	5000	6000	7500
Peak apparent power [VA]	6000, 10s	6000, 10s	7500, 10s	9000, 10s	11250, 10s
Max. continuous current [A]	13	16	21.7	26.1	32.6
Nominal voltage [V]; Frequency [Hz]	230; 50 / 60				
Switch time [ms]	< 10				
Parallel operation	YES				

SYSTEM DATA	X1-HYBRID-3.0-D	X1-HYBRID-3.7-D	X1-HYBRID-5.0-D	X1-HYBRID-6.0-D	X1-HYBRID-7.5-D
Max. efficiency [%]	97.6				
Euro. efficiency [%]	97.0				
Battery charge / discharge efficiency [%] <sup>②</sup>	97.0 / 97.0				
Degree of protection	IP65				
Operating temperature range [°C]	-35 ~ +60 (Derating above +45)				
Max. operation altitude [m]	< 3000				
Relative humidity [%]	4 ~ 100 (Condensing)				
Typical noise emission [dB]	< 30				< 45
Storage temperature [°C]	-40 ~ +65				
Dimensions (WxHxD) [mm]	482 x 417 x 181				
Net weight [kg]	24				25
Cooling concept	Nature cooling				Smart cooling
Communication interfaces	CT / Meter (optional), External control RS485, Pocket WiFi (Optional: Pocket Lan / 4G), DRM, USB Upgrade, NTC (optional)				

POWER CONSUMPTION	X1-HYBRID-3.0-D	X1-HYBRID-3.7-D	X1-HYBRID-5.0-D	X1-HYBRID-6.0-D	X1-HYBRID-7.5-D
Internal consumption (night) [W]	< 17W for standby, < 2.7W for idle				

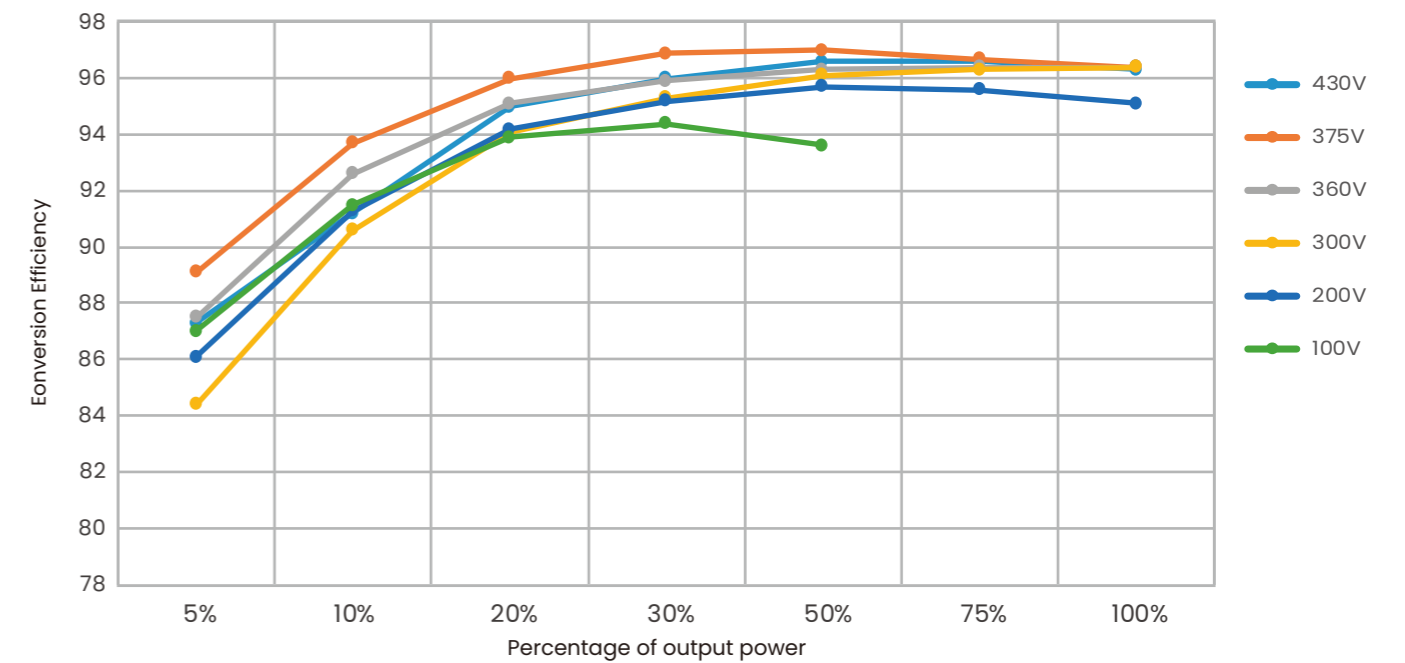
STANDARD	X1-HYBRID-3.0-D	X1-HYBRID-3.7-D	X1-HYBRID-5.0-D	X1-HYBRID-6.0-D	X1-HYBRID-7.5-D
Safety	EN/IEC62109-1 / -2				
EMC	EN61000-6-1/2/3/4; EN61000-3-2/3/11/12; EN 55011; EN 62920				
Certification	VDE-AR-N 4105, G99, G98, AS/NZS4777, EN50549, CEI 0-21, C10/11 IEC61727, RD1699, NRS 097-2-1, PEA/MEA, VFR2019; PPDS				

X1-HYBRID-3.0-D   X1-HYBRID-3.7-D   X1-HYBRID-5.0-D   X1-HYBRID-6.0-D   X1-HYBRID-7.5-D

PROTECTION	X1-HYBRID-3.0-D	X1-HYBRID-3.7-D	X1-HYBRID-5.0-D	X1-HYBRID-6.0-D	X1-HYBRID-7.5-D
Anti-Islanding protection					Yes
DC reverse polarity protection					Yes
Insulation monitoring					Yes
Residual current monitoring					Yes
AC overcurrent protection					Yes
AC short-circuit protection					Yes
AC overvoltage protection					Yes
AFCI					OPT
Surge protection	Type II, DC and AC				

①: Indicates that all model single PV1 & PV2 input power upper limit is 5000 W. ["Max. PV input power<sup>①</sup> (PV1+PV2)" restriction takes precedence].  
②: PV to BAT Max. efficiency 97.0%, BAT to AC Max. efficiency 97.0%.

## EFFICIENCY CURVE



## DERATING CURVE

