

Declaration of conformity for Tunisian grid codes

To whom it may concern,

- Product description: **Three phases photovoltaic grid-interactive inverters**
- Type description:

Model	Description
iMars BG40KTR	40KW/400V/3ph/1MPPT-8Strings
iMars BG50KTR	50KW/400V/3ph/1MPPT-10Strings
iMars BG60KTR	60KW/400V/3ph/1MPPT-14Strings
iMars BG70KTR	66KW/400V/3ph/1MPPT-14Strings

We, SHENZHEN INVT ELECTRIC CO., LTD (hereunder INVT), hereby confirm that the units stated above are compliant with the requirements and standards set forth by the Tunisian Grid Operator (Societe Tunisienne de l'Electricite et du Gaz: STEG).

The units are compliant with the following standards:

- LVD **2014/35/EU**: "Directive relating to electrical equipment designed for use within certain voltage limits"
- EMC **2014/30/EU**: "Directive relating to electromagnetic compatibility".

The products mentioned above are therefore labelled with the **CE marking**.

- DIN **VDE 0126-1-1:2013**: "Automatic disconnection device between a generator and the public low-voltage grid".

Besides, Products that are pre-configured **for Tunisian market** comply with the grid operator requirements:

- Output voltage of the inverters: Adjustable **from 310 V to 480 V**,
- Output frequency of the inverters: Adjustable **from 47 Hz to 52 Hz**,
- Power factor of the inverters: Adjustable **from 0.8 leading (-0.8) to 0.8 lagging (0.8)**.

Keeping all the inverters parameters within specifications of standards: VDE-AR-N4105, G83/2, G59/3, AS/NZS 4777.2:2015 and CQC.

Any unauthorized modifications to the supplied units and/or any use of the units that is contrary to their proper use shall render this Declaration of Conformity null and void.

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10 Appendix

Table 9-1 Technical parameters of three-phase PV grid-connected inverter

Model		Three-phase						
		40kW	50kW	60kW	70kW	70kW-HV	50kW-HV	
DC	Max DC voltage (V)	1100	1100	1100	1100	1100	1100	
	Starting voltage (V)	200	200	200	200	200	200	
	MPPT voltage range (V)	570~1000					620~1000	
	DC input voltage range during rated power (V)	600~850					700~850	
	MPPT number/number of connectable strings per group	1/8	1/10	1/14			2/5	
	Max DC power (W)	55000	66000	72000		78000	6600	
	Max input current (A)× MPPT number	74×1	90×1	120×1			42×2	
	Isc PV	81	99	132			50.4*2	
	Max inverter backfeed current to the array	0A						
	DC switch	Optional						
AC	Max output power (W)	40000	50000	60000	66000	70000	50000	
	Grid voltage, frequency range (V)	310-480Vac,50Hz(47~52Hz)				384~552Vac,50Hz(47~52Hz)	484~594Vac,50Hz(47~52Hz)	
	Max AC output current (A)	63.5	72.5	96	96	96	53	
	Maximum output fault current	1050A @ 4.76ms						
	Maximum backfeed current to array	Less than 200 A						
	Maximum output overcurrent protection(A)	125.7	143.5	190	190	190	104.9	
	Power factor	-0.8~+0.8 (adjustable)						
	Harmonic wave distortion	< 3% (at rated power)						
System	Cooling mode	Air cooling						
	Max efficiency	98.60%						
	Euro efficiency	98.20%						
	MPPT efficiency	99.90%						
	Protection level	IP65						
	Power consumption at nighttime	< 1W						
	Protective class	I						
	Overvoltage category	AC:III,PV:II						
	inverter topology	Non-isolated						
	Pollution degree	3						
	Ambient temperature	(-25℃~+60℃) , auto derating is required if the ambient temperature exceeds 45℃						
	RH	4~100%.condensation						
	Max altitude (m)	≤2000, derating is required if the altitude exceeds 2000m						
	Display	3.5' LCD display, support backlight display						
	System language	English, Chinese, Germany, Dutch						
Communication mode	RS485 (standard); Ethernet, WiFi (optional)							
DC terminal	BC03A/ BC03B							
Noise dB(A)	≤55							
Installation mode	Wall installation							
Others	Grid standard	DIN VDE 0126-1-1: 2013, VDE-AR-N 4105: 2011, DIN VDE V 0124-100: 2012, IEC 61727 (IEC62116), AS/NZS 4777.2: 2015, NB/T32004-2013, IEC 60068-2-1: 2007, IEC 60068-2-2: 2007, IEC 60068-2-14: 2009, IEC 60068-2-30: 2005, IEC 61683: 1999, C10/11: 2012						
	Safe certificate / EMC category	IEC 62109-1 : 2010, IEC 62109-2 : 2011, EN 61000-6-2: 2005 / EN 61000-6-3:2007/A1:2011						
Protection function	Input overvoltage protection, input overcurrent protection, DC insulation monitoring, DC monitoring, grounding fault current monitoring, grid monitoring, islanding protection, short-circuit protection and overheat protection, etc.							