



# India's 1st Solar PV Inverter with Latest Standards & Modern Technology



Redefining the **Solar World** with Sustainable & Reliable **Solar Inverter.** 









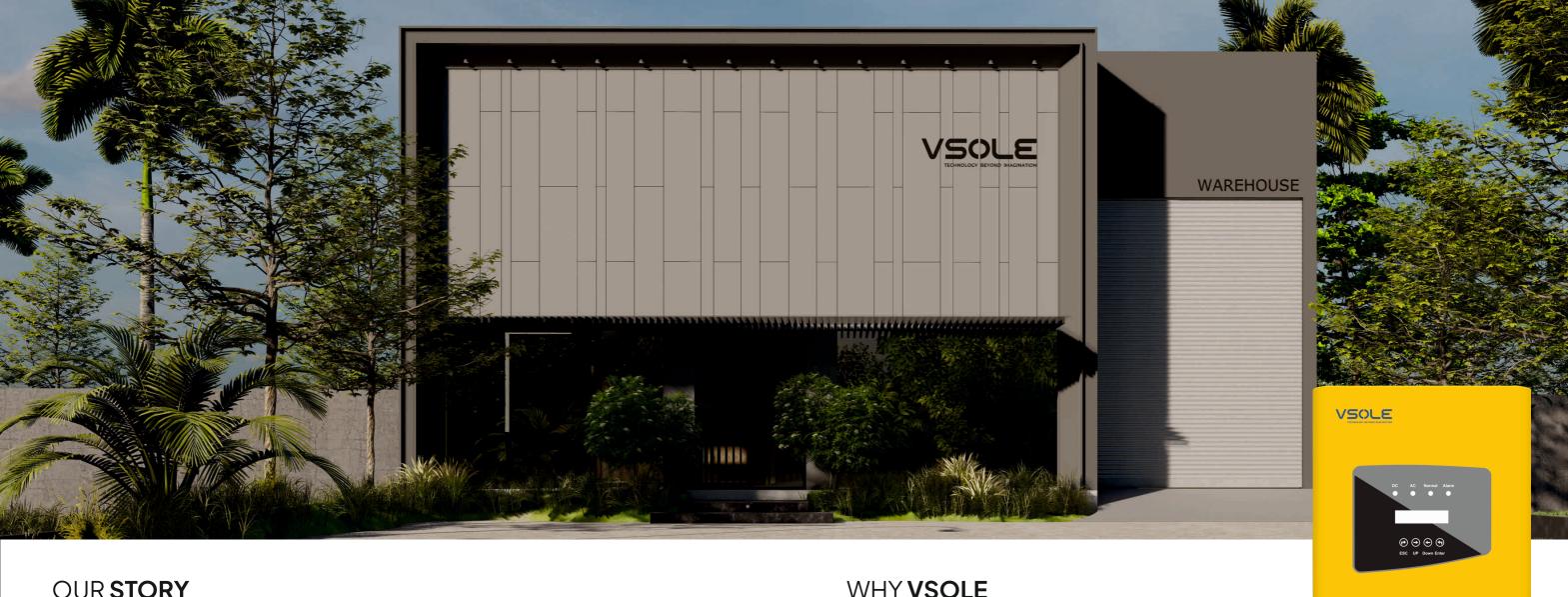












#### **OUR STORY**

Vsole is a start-up company formed by an experienced bunch of skilled professionals. Our Team has come together to build top notch Solar based products to meet the needs of current industry. We have successfully developed Solar grid-tie inverter & Hybrid Inverters for Solar industry those are totally reliable, easy to care, user friendly with unbreakable sustainability. We have established the corporate office in Surat, Gujarat popularly known as Solar-city of INDIA and established State of Art facility in the state of GUJARAT which is the hub of Solar business in INDIA. Our Team has a total experience of more than 12 years in the field of Solar Energy that put us in unique position to provide end to end customised solution to our user's satisfaction.

With a strong belief in "Make in India", Vsole's mission is to bring India made solar inverters to promote pollution free climate all around the world.



#### **OUR VISION**

Our vision is to cement a place for ourselves by being the part of this solar energy drive to take India to anext level.



### **OUR MISSION**

Our mission is to fill the gaps in Indian solar industry by providing the most reliable & carefree product at an affordable price with long product life.

#### WHY **VSOLE**

Below mentioned unique features makes our Inverter suitable for "EVERYONE"

#### **Affordable**

So more and more people could use them and get clean energy.

#### Reliable

Our products are made from high grade components to work tirelessly, also they are supported by longer & unique warranty terms.

#### Sustainable

We understand Inverters upto chip & component level, which stand us apart from the rest in the solar industry.

**OUR USP** 

24 hours remote service support.

Cost effective & compact design.



Easy approach & reachability for  ${\tt EPC companies \& endusers in India}.$ 

#### Dependable

We are driven by a simple idea: "SOLAR IS FOR EVERYONE". The future of energy is in Solar energy industry, we plan to fulfill the demands of industry by providing best experience through our product & Services to our distributors, dealers, EPCs players and end users. Our complete local presence across India makes us more dependable & trustable.

#### **OUR PRODUCTS**



Grid Tie Inverter Single Phase



Grid Tie Inverter Three Phase



Bi Directional Hybrid Inverter

### **KEY BENEFITS**

- Compact & light design for easy installation
- Wide input range
- Natural cooling
- Mobi**l**e app

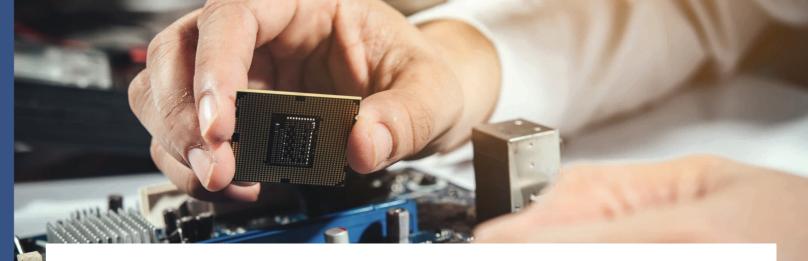


### GRID TIE INVERTER - SINGLE PHASE

VS (101S -602S) 1.0 KW-6.0 KW

- H bridge & T-type three-level topology & enhanced SPWM (Space Pulse Width Modulation).
- Max. DC input current per string; compatible upto 550WP solar panel.
- DC overloading upto 10%.
- High DC/AC ratio for more yields
- Special external colour with Epoxy Novolac coating for better Heat Management.
- Compact and light weight design for an easy Installation
- Wide Input Range; Low Voltage start-up of 80V.
- Multiple MPPT Design with IDA Technology (Intelligent Disturbance Algorithm).
- Inbuilt surge protections at both AC and DC side.
- Fan-less natural cooling models.
- RS485, remote monitoring (Wi-Fi/GPRS)
- User friendly Web and Mobile App Monitoring
- Zero export enabled models (External CT required).





### GRID TIE INVERTER - SINGLE PHASE

CAPACITY (KW)	1 1	2	3	3,4	3.6	4.0	4.2	4.7	5	5,4	6		
MODEL NUMBER	VS-101S	VS-201S	VS-301S	VS-341S	VS-361S	VS-422S	VS-422S	VS-471S	VS-502S	VS-542S	VS-602S		
INPUT (DC)													
Max.DC input power (KW)	1.1	2.2	3.3	3.7	3.9	4.4	4,6	5.1	5.5	5.9	6.6		
Max. DC I/P (Vdc)					0.7	550Vdc				0.,	0.0		
Max. MPPT I/P Current (A)						13A							
MPPT Short Circuit Current (A)		20A											
MPPT Tracking Voltage (Vdc)			70-5	500V		2071			80-500V	/			
Min. Start Voltage (V)						80Vdc							
Number of MPPT Tracker		1 2											
Strings per MPPT Tracker						1	1						
OUTPUT (AC)													
Rated output power (KW)	1	2	3	3.4	3.6	4.0	4.2	4.7	5	5,4	6		
Rated Grid Voltage (V) / Range			1	10-285V)		1			V (170 - 2				
Rated Grid freq. (Hz) / Range				,	5	50Hz ( ± 5	%)						
Rated output current AC (A)	4.7	9.4	14.1	15.5	18,8	18.8	19.8	20.5	23.5	23.5	28.2		
AC Connection		7		1010		P + N + PE							
THDI (%)						<3%	-						
Output Power factor					0.8 lead	ding to 0.8	3 lagging						
EFFICIENCY						3	1999						
Max. conversion Efficiency (%)		97.3						97.5					
Max, Euro Efficiency (%)		97,1						97,3					
MPPT Efficiency (%)		7711				>99		77,10					
PROTECTION						- / /							
Anti-Islanding Protection						YES							
DC Reverse Polarity Protection						YES							
Insulation Resistance Protection						YES							
Ground Fault Protection						YES							
Output Over Current Protection						YES							
Output Short circuit Protection						YES							
Output Over Voltage Protection						YES							
DC Isolator Switch						YES							
Surge Protection					DC: Ty	pe III / AC:	TypeIII						
GENERAL DATA							<u>,                                     </u>						
Dimensions (W*H*D) mm		28	0*272,5*	184				330*3	23*190				
Weight (Kg)			4.8					7	'.5				
Topology					Tra	nsformer	ess						
Noise Emission (dB)						<25dB							
Display					LED w	vith LCD D	isplay						
Cooling Method						tural Coo							
Operating ambient Temperature					(-2	5°C~+65	5°C)						
Operating Humidity						0% <b>-</b> 1009							
Max. Operating Altitude (m)					2000 (	(>2000 D	erating)						
Ingress Protection						IP65							
Night Consumption (w)						<]							
Standard Warranty		8 Years (extendable upto 10 Year)											
CONNECTION TYPE													
DC connectors						MC-4							
Ingress AC plug					IPo	65 rated p	lug						
Monitoring System			WiF	/GPRS/		ETHERNET		cal Monite	oring				
. ioi.itoring of otorin			V V / I	, 01 110/	100/1		2, 1.1, 20		0.1119				

#### GRID TIE INVERTER - THREE PHASE

#### VS (052T-1106T) 5.0KW-110KW

- Max. efficiency up to 98.9%.
- Heavy duty inbuilt DC Isolation switch.
- Special external colour with Epoxy Novolac coating for better heat management.
- Max. DC input current per string; compatible upto 600WP solar panel.
- Type II DC / AC SPD, frequency drop control technology.
- Intelligent Fan based cooling on higher capacity models. DC overloading upto 20%.

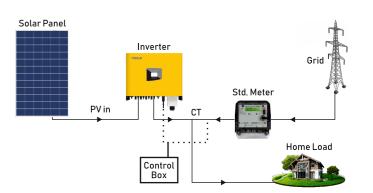


- Compact & light weight design for an easy Installation.
- RS485, remote monitoring (Wi-Fi/GPRS).
- Multiple protection functions.

AC Connection         3P + N           THDI (%)         <39           Output Power factor         0.8 leading to           EFFICIENCY         88.           Max. conversion Efficiency (%)         98.           Max. Euro Efficiency (%)         97.		12	15	18	20	┖
Max.DC input power (KW)         6.0         7.2         8.4         9.6         10.8         12.0           Max. DC i /P (Vdc)         13A         100         Max. MPPT /P Current (A)         13A         13A         100         MPPT Short Circuit Current (A)         20A         MPPT Tracking Voltage (Vdc)         120-850V         MINISTART Voltage (V)         140V         Number of MPPT Tracking Voltage (Vdc)         150 Voltage Vdc)         150 Voltage Vdc) <td< td=""><td>5-102T VS-</td><td>VS-122T</td><td>VS-152T</td><td>T VS-1821</td><td>VS-2021</td><td>VS</td></td<>	5-102T VS-	VS-122T	VS-152T	T VS-1821	VS-2021	VS
Max, DEC //P (Vdc)         13A           Max, MPPT I/P Current (A)         20A           MPPT Short Circuit Current (A)         20A           MPPT Tracking Voltage (Vdc)         120-850V           Min. Start Voltage(V)         140V           Number of MPPT Tracker         2           Strings per MPPT Tracker         1           OUTPUT (AC)         1           Rated Oright Quity Dower (KW)         5         6         7         8         9         10           Rated Grid Voltage (V) / Range         415V(280-86)         415V(280-86						
Max. MPPT I/P Current (A)         13A           MPPT Tacking Voltage (Vdc)         120-850V           Min. Start Voltage(V)         140V           Number of MPPT Tracker         2           Strings per MPPT Tracker         1           OUTPUT (AC)           Rated output power (KW)         5         6         7         8         9         10           Rated Grid Voltage (V) / Range         415V(280-864)         50+12 (180-864)         14.0V         14.0V           Rated Grid Voltage (V) / Range         415V(280-864)         50+12 (180-864)         14.0V         14.0V </td <td>2.0 14</td> <td>14.4</td> <td>18.0</td> <td>21.6</td> <td>24.0</td> <td>3</td>	2.0 14	14.4	18.0	21.6	24.0	3
MPPT Short Circuit Current (A)         20A           MPPT Tracking Voltage (Vdc)         120-850V           MIN. Start Voltage (Vdc)         140V           Number of MPPT Tracker         2           Strings per MPPT Tracker         1           OUTPUT (AC)         1           Rated output power (KW)         5         6         7         8         9         10           Rated Grid Voltage (V) / Range         415V(280-86)         50Hz (188-86)         60Hz (188-86)	V00V					
MPPTTracking Voltage (Vdc)         120-850V           Min. Start Voltage(V)         140V           Number of MPPT Tracker         2           Strings per MPPT Tracker         1           OUTPUT (AC)         1           Rated Output power (KW)         5         6         7         8         9         10           Rated Odif Voltage (V) / Range         415 (V280-Rated Grid freq. (H2) / Range         50 H2 (1         50 H2 (1         36 H2 (2)         36 H2 (2)         37 H2 (2)         3			13A	A+26A	3	ОА
Min. Start Voltage(V) Number of MPPT Tracker Strings per MPPT Tracker OUTPUT (AC) Rated output power (KW) Rated Grid Voltage (V) / Range Rated Grid Voltage (V) / Range Rated Grid Freq. (Hz) / Range Rated output current AC(A) AC Connection PIFICIENCY  Max. conversion Efficiency (%) Max. conversion Efficiency (%) Max. conversion Efficiency (%) Max. conversion Efficiency (%) Max. Euro Efficiency (%) Max. Euro Efficiency (%) MPPT Efficiency (%) MPPT Efficiency (%) PROTECTION Anti-Islanding Protection CP Reverse Polarity Protection Insulation Resistance Protection Output Over Current Protection Output Over Current Protection Output Over Voltage Protection DC Isolator Switch Surge Protection DC Isolator Switch D			20/	A+40A	4	6A
Number of MPPT Tracker   2   2   2   2   3   3   3   3   3   3				180-850	VC	
Strings per MPPT Tracker				200V		
OUTPUT (AC)         Rated Output power (KW)         5         6         7         8         9         10           Rated Grid Voltage (V) / Range         STORT (2)         315V(280-6)         315	2					
Rated output power (KW)   5   6   7   8   9   10     Rated Grid Voltage (V) / Range			1-	+2		3
Rated Grid Voltage (V) / Range						
Rated Orid freq. (Hz) / Range   SOHz ( 1   Rated output current AC (A)   7.2   8.6   10.1   11.56   13.0   14.5   AC Connection   SP+N   S-39	10 1	12	15	18	20	
Rated output current AC(A)	30-455V)	5V)	•	•	•	
AC Connection 3P+N THDI (%) 3P+N THDI (M) 3P	(±5%)	6)				
THDI (%)	4.55 17.	17.34	21.7	26.01	28.90	3
THDI (%)         <39					•	
Output Power factor  FFICIENCY  Max. conversion Efficiency (%)  Max. Euro Efficiency (%)  PROTECTION  Anti-Islanding Protection  The Reverse Polarity Protection  Max. Euro Efficiency (%)  PROTECTION  Anti-Islanding Protection  Tyes  Or Reverse Polarity Protection  Tyes  Ground Fault Protection  Tyes  Output Over Current Protection  Tyes  Output Over Current Protection  Tyes  Output Over Voltage Protection  Tyes  Output						
### PROTECTION    Max. conversion Efficiency (%)   98.:   Max. Euro Efficiency (%)   97.:   MPPT Efficiency (%)   97.:   Max. converse Polarity Protection   97.:   MC-4   97.:   MC-4	to 0.8 lag	lagging	g			
Max. conversion Efficiency (%)         98.           Max. Euro Efficiency (%)         97.           MPPT Efficiency (%)         >95.           PROTECTION         XAnti-Islanding Protection           Anti-Islanding Protection         YES.           DC Reverse Polarity Protection         YES.           Ground Fault Protection         YES.           Output Over Current Protection         YES.           Output Over Voltage Protection         YES.           Output Over Voltage Protection         YES.           Surge Protection         DC: Type III / IS.           GENERAL DATA         Dimensions (W*H*D) mm         330*457*185         IN.           Weight (Kg)         10.0         Transform           Noise Emission (dB)         <45c						
Max. Euro Efficiency (%)         97.3           MPPT Efficiency (%)         >95           PROTECTION         YES           DC Reverse Polarity Protection         YES           DC Reverse Polarity Protection         YES           Insulation Resistance Protection         YES           Ground Fault Protection         YES           Output Over Current Protection         YES           Output Short circuit Protection         YES           Output Over Voltage Protection         YES           DC Isolator Switch         YES           Surge Protection         DC: Type III / YES           GENERAL DATA         Dimensions (W*H*D) mm         330*457*185         Incompany           Weight (Kg)         10.0         Incompany         Incompany <td>98.3</td> <td></td> <td></td> <td></td> <td></td> <td></td>	98.3					
MPPT Efficiency (%)         >95           PROTECTION         YES           DC Reverse Polarity Protection         YES           Insulation Resistance Protection         YES           Insulation Resistance Protection         YES           Ground Fault Protection         YES           Output Over Current Protection         YES           Output Short circuit Protection         YES           Output Over Voltage Protection         YES           DC Isolator Switch         YES           Surge Protection         DC: Type III//           GENERAL DATA         Dimensions (W*H*D) mm         330*457*185         Insulation of the protection of t						
PROTECTION Anti-Islanding Protection PC Reverse Polarity Protection PC Polarity Protection PC Protection PC Protection PROTECTION Protection PC Protect	>99					
Anti-Islanding Protection  CReverse Polarity Protection  CReverse Polarity Protection  Standard Mariantal Sance Protection  CReverse Polarity Protection  CReverse Polarity Protection  CReverse Polarity Protection  CReverse Potention  Connection CReverse CR						
DC Reverse Polarity Protection  Insulation Resistance Protection  Ground Fault Protection  Output Over Current Protection  Output Short circuit Protection  Output Over Voltage Protection  DC Isolator Switch  Surge Protection  DC: Type II / /  GENERAL DATA  Dimensions (W*H*D) mm  330*457*185  Weight (Kg)  Topology  Transform  Noise Emission (dB)  Cooling Method  Operating ambient Temperature  Operating Humidity  Max. Operating Altitude (m)  Ingress Protection  Standard Warranty  Standard Warranty  8 Years (extendable CONNECTION TYPE  MC-4  MC-4	YES					
Insulation Resistance Protection Ground Fault Protection Output Over Current Protection Output Short circuit Protection Output Over Voltage Protection  PES  Output Over Voltage Protection  DC: Type III/  GENERAL DATA  Dimensions (W*H*D) mm  Dimensions (W*H*D) mm  Stage Frotection  Noise Emission (dB)  Cooling Method  Operating ambient Temperature  Operating Humidity  Max. Operating Altitude (m)  Ingress Protection  Noise Tonson (w)  Standard Warranty  Standard Warranty  MC-4  MC-4  MC-4  MC-4  MC-4  MC-4						
Ground Fault Protection         YES           Output Over Current Protection         YES           Output Short circuit Protection         YES           Output Over Voltage Protection         YES           DC Isolator Switch         YES           Surge Protection         DC: Type III / V           GENERAL DATA         Dimensions (W*H*D) mm         330*457*185           Weight (Kg)         10.0         Transform           Noise Emission (dB)         <45c						
Output Over Current Protection Output Short circuit Protection Output Short circuit Protection Output Over Voltage Protection Output Over Voltage Protection  DC Isolator Switch Surge Protection  DC: Type II / A  GENERAL DATA  Dimensions (W*H*D) mm  330*457*185  Weight (Kg) 10.0  Topology Transform Noise Emission (dB) Cooling Method Natural Cooling Operating ambient Temperature Operating Humidity Max. Operating Altitude (m) Natural Cooling Night Consumption (w) Standard Warranty  8 Years (extendable CONNECTION TYPE  MC-4  MC-4						
Output Short circuit ProtectionYESOutput Over Voltage ProtectionYESDC Isolator SwitchYESSurge ProtectionDC: Type II / AGENERAL DATADimensions (W*H*D) mm330*457*185Weight (Kg)10.0TopologyTransformNoise Emission (dB)<45c						
Output Over Voltage Protection  DC Isolator Switch  Surge Protection  GENERAL DATA  Dimensions (W*H*D) mm  330*457*185  Weight (Kg)  Topology  Transform Noise Emission (dB)  Cooling Method  Operating ambient Temperature  Operating Humidity  Max. Operating Altitude (m)  Ingress Protection  Standard Warranty  Standard Warranty  EED  WES  YES  YES  YES  YES  YES  YES  YES						
DC Isolator Switch Surge Protection DC: Type II / A  GENERAL DATA Dimensions (W*H*D) mm 330*457*185 Weight (Kg) Topology Transform Noise Emission (dB) Cooling Method Natural Cooling Operating ambient Temperature Operating Humidity Max. Operating Altitude (m) Night Consumption (w) Standard Warranty CONNECTION TYPE MC-4  MC-4  MC-4  MC-4  MC-4  DC: Type II / A  Standard Saltitude  Natural Cooling Natural Coo						
Surge Protection DC: Type II / A  GENERAL DATA  Dimensions (W*H*D) mm 330*457*185  Weight (Kg) 10.0  Topology Transform Noise Emission (dB) <45c Display LED with LC  Cooling Method Natural Cooling  Operating ambient Temperature (-25°C ~-  Operating Humidity 0% -10  Max. Operating Altitude (m) 2000 (>2000 ()  Ingress Protection IP66  Night Consumption (w) <1  Standard Warranty 8 Years (extendable CONNECTION TYPE)  MC-4  MC-4						
GENERAL DATA           Dimensions (W*H*D) mm         330*457*185           Weight (Kg)         10.0           Topology         Transform           Noise Emission (dB)         <45c		TypeII				
Dimensions (W*H*D) mm         330*457*185           Weight (Kg)         10.0           Topology         Transform           Noise Emission (dB)         <45c	17710.136	турсп				
Weight (Kg)  Topology  Transform Noise Emission (dB)  Cooling Method  Operating ambient Temperature  Operating Humidity  Max. Operating Altitude (m)  Ingress Protection  Night Consumption (w)  Standard Warranty  MC-4  MC-4  Transform  Autral Cooling  Natural Cooling  Natural Cooling  Operating Humidity  O%-10  2000 (>2000  Ingress Protection  IP69  8 Years ( extendable Connection Type			330	)*508*20	26	
Transform Noise Emission (dB)  Cooling Method  Operating ambient Temperature  Operating Humidity  Max. Operating Altitude (m)  Ingress Protection  Night Consumption (w)  Standard Warranty  CONNECTION TYPE  MC-4  Transform  Natural Cooling  Natu			330	20.8		
Noise Emission (dB)  Display  LED with LC  Cooling Method  Natural Cooling  Operating ambient Temperature  Operating Humidity  Max. Operating Altitude (m)  Ingress Protection  Night Consumption (w)  Standard Warranty  CONNECTION TYPE  MC-4	rmerless	200		20.0		
Display         LED with LC           Cooling Method         Natural Cooling           Operating ambient Temperature         (-25°C ~ Operating Humidity           Max. Operating Altitude (m)         2000 (>2000 (>2000 (Section		-33				
Cooling Method         Natural Cooling           Operating ambient Temperature         (-25°C ~ · ·           Operating Humidity         0% - 10           Max. Operating Altitude (m)         2000 (>2000 ()           Ingress Protection         IP68           Night Consumption (w)         <1		snlav				
Operating ambient Temperature Operating Humidity O% - 10 Max. Operating Altitude (m) Ingress Protection Night Consumption (w) Standard Warranty CONNECTION TYPE MC-4  MC-25°C ~- O% - 10 O% -	Loubispi	opiay		Smart F	an Coolir	a
Operating Humidity 0%-10  Max. Operating Altitude (m) 2000 (>2000 Ingress Protection IP68 Night Consumption (w) <1 Standard Warranty 8 Years (extendable CONNECTION TYPE  MC-4 MC-	`~ +65°C\	°C)		Sinaiti	un Coolii	9
Max, Operating Altitude (m)         2000 (>2000           Ingress Protection         IP65           Night Consumption (w)         <1						
Ingress Protection IP69 Night Consumption (w) <1 Standard Warranty 8 Years (extendable CONNECTION TYPE MC-4 MC-			)			
Night Consumption (w) <1 Standard Warranty 8 Years (extendable CONNECTION TYPE  MC-4 MC-		rating)	,			
Standard Warranty 8 Years (extendable CONNECTION TYPE MC-4 MC-4						
CONNECTION TYPE MC-4 MC-		nto 10 \	Voor)			
MC-4 MC-	iable upto	μιο ΙΟ	rear)			
	10. 4					
IP65 fate						
n control plag	atea plug	ug				

#### OPTIONAL FEATURES FOR GRID TIE INVERTERS

- Weather monitoring system (optional).
- DC Isolation Switch for Three phase inverters.
- Offline Data Storage facility upto 6 months on demand.
- String Level monitoring
- Anti-PID Function (optional).
- ZED Zero Export Device (optional).



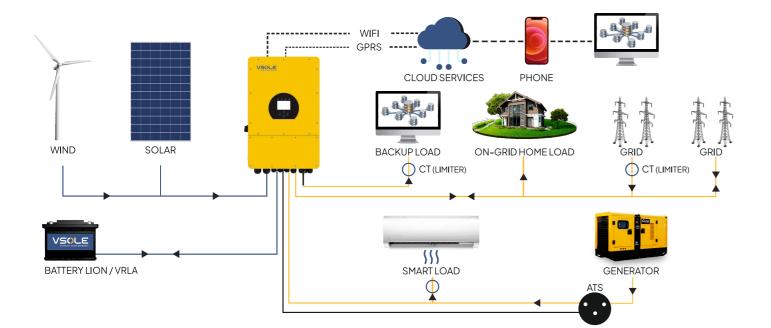
#### **ZERO EXPORT FEATURE**

CAPACITY (KW)	30	33	35	40	45	50	60	70	75	80	90	100	110
MODEL NUMBER	VS-302T	VS-332T	VS-352T	VS-403T	VS-453T	VS-503T	VS-604T	VS-704T	VS-754T	VS-804T	VS-904T	VS-1004T	VS-1106
INPUT (DC)													
Max.DC input power (KW)	36.0	39.3	42.0	48.0	54.0	60.0	72.0	84.0	90.0	96.0	108.0	120.0	132.0
Max. DC I/P (Vdc)							1000V	•			•	•	
Max. MPPT I/P Current (A)							40A						
MPPT Short Circuit Current (A)							60A						
MPPT Tracking Voltage (Vdc)						2	200-850	V					
Min. Start Voltage (V)							200V						
Number of MPPT Tracker												4/6	6
Strings per MPPT Tracker				,	3						4		
OUTPUT (AC)													
Rated output power (KW)	30	33	35	40	45	50	60	70	75	80	90	100	110
Rated Grid Voltage (V) / Range						415\	V(280-45	55V)					
Rated Grid freq. (Hz) / Range						50	OHz ( ± 59	%)					
Rated output current AC (A)	43.35	47.68	50.57	57.80	65.02	72.25	86.70	101.15	108.38	115.60	130.05	144.57	158.9
AC Connection							3P + N + P						
THDI(%)		<3%											
Output Power factor		0.8 leading to 0.8 lagging											
EFFICIENCY													
Max. conversion Efficiency (%)		98.6						98.	.7				
Max, Euro Efficiency (%)		97.8 98 98,3											
MPPT Efficiency (%)							>99						
PROTECTION													
Anti-Islanding Protection							YES						
DC Reverse Polarity Protection							YES						
Insulation Resistance Protection							YES						
Ground Fault Protection							YES						
Output Over Current Protection							YES						
Output Short circuit Protection							YES						
Output Over Voltage Protection							YES						
DC Isolator Switch							YES						
Surge Protection						DC: Ty	peII/AC	: Type II					
GENERAL DATA													
Dimensions (W*H*D) mm	3	362*577*	215		647.5*53	7*303.5		700*	575*297		838	3*568*32	23
Weight (Kg)		25.5			44.	5		6	0.0			73.7	
Topology						Tra	nsformer	less					
Noise Emission (dB)							<45dB						
Display						LED w	ith LCD D	Display					
Cooling Method						Sma	rt Fan Co	oling					
Operating ambient Temperature						(-2	5°C ~ +65	5°C)					
Operating Humidity		0%-100%											
Max. Operating Altitude (m)		2000 (>2000 Derating)											
Ingress Protection							IP65						
Night Consumption (w)	<1												
Standard Warranty	8 Years (extendable upto 10 Year)												
CONNECTION TYPE													
MC-4/DC - Connector							MC-4						
Ip65 rated plug/Ingress AC plug						IP6	55 rated p	lug					
Monitoring System				WiFi	/GPRS/	RS 485 / E	ETHERNE	TLAN/Lo	cal Monit	oring			

#### BI-DIRECTIONAL **HYBRID INVERTER**

#### VS (03H-012H) 3.0KW-12.0KW

- All in 1- Off Grid / On Grid & Hybrid Bi-Directional solution
- Automatic Superfast switching time (Changeover Time) 4ms. It can be used as UPS
- Battery Management System (BMS) to protect & enhance the battery life
   (Li-ion/Lead Acid/LiFPO4)
- 100% unbalanced output, each phase; Max. output up to 50% rated power (Three Phase)
- Colourful touch LCD display with ease of operation & maintenance.
- Ideal solution for BLACK-OUT & BROWN-OUTS with GRID Exports with & without Battery.
- Programmable supply priority for PV, Battery & Grid.
- Inbuilt Zero Export / Reverse Power Limit to grid.
- Grid Peak Compensation Mode It can reduce / Limit Maximum Demand (save your penalties)
- Intelligent SMART LOAD function for AC, water heater, Micro & Grid tie inverter.
- DC couple and AC couple to retrofit existing solar system
- Max. 16pcs parallel for on-grid and off-grid operation; Support multiple batteries parallel
- Max. charging/discharging current upto 240A
- 48V low voltage battery, transformer isolation design
- 6 times period for battery charging / discharging
- V/f drop control.
- Supports using diesel generator to charge the battery directly. ensuring system energy supply 24\*7Hrs
- Max. Conversion efficiency of 97.6%; Max. battery charge efficiency of 95.5%
- Support storing energy from diesel generator.





### BI-DIRECTIONAL HYBRID INVERTER

											ı				
	Single Phase								Three Phase						
CAPACITY (KW)	3KW 24V 3KW 48V 3.6KW 48V 5KW 48V 6KW 48V 8KW 48V						5KW 48V	6KW 48V	8KW 48V	10KW 48V	12KW 48V				
MODEL NUMBER	VS-324S	VS-348S	VS-3648S	VS-54	8S '	VS-648S	VS-848S	VS-548T	VS-648T	VS-848T	VS-1048T	VS-1248T			
BATTERY INPUT DATA															
Battery Type	Lead-acid or Li-lon								Lead-acid or Li-lon						
Battery Voltage Range (V)	20~30 40~60								40~60						
Max. Charging Current (A)	140	70	90	120	)	135	190	120	150	190	210	240			
Max. Discharging Current (A)	140	70	90	120	)	135	190	120	150	190	210	240			
Charging Curve	3 Stages / Equalization								3 Stages / Equalization						
Charging Strategy for Li-IonBattery			Self-adap	tion to E	3MS				Self-a	adaption 1	to BMS				
PV STRING INPUT DATA															
Max. DC Input Power (W)	3900	3900	4680	650	0	7800	10400	6500	7800	10400	13000	15600			
Rated PV Input Voltage (V)	370 (125~500)								55	0 (160~8)	00)				
Start-up Voltage M			1	25						160					
MPPT Voltage Range (V)			150	-425						200-650	)				
Full Load DC Voltage Range (V)			300	)-425						350-650	)				
PV Input Current (A)	13			13-13	5		26		13+13	26+13					
Max. PV ISC (A)	17			17-17	,		34		17+17	34+17					
Number of MPPT/Strings per MPPT	1/1 2/1+1 2/2+2								2/1+1	2/	2+1				
AC OUTPUT DATA															
Rated AC Output and UPS Power (W)	300	00	3600	4000	5000	6000	8000	5000	6000	8000	10000	12000			
Max. AC Output Power (W)	330	00	3690	4400	5500	6600	8800	5500	6600	8800	11000	13200			
AC Output Rated Current (A)	13.6	5	16.4	18.2	22.7	27.3	36	7.6	9.1	12.1	15.2	18.2			
Max. AC Current (A)	15		18	20	25	30	40	11.4	13.6	18.2	22.7	27.3			
Max. Continuous AC Passthrough (A)			35			40	50			45					
Peak Power (off grid)			time of rate					2 time of rated power, 10 S							
Power Factor			).8 leading					0.8 leading to 0.8 lagging							
Output Frequency and Voltage		50/60Hz	; L/N/PE 22	0/230V	ac (sin	gle phase	e)	50/60Hz; 3L/N/PE 220/380, 230/400Vac							
Grid Type				e Phase				Three Phase							
DC injection current (mA)		TH	HD<3% (Lin	ear load	<1.5%)	1			THD<3%	ID<3% (Linear load<1.5%)					
EFFICIENCY															
Max. Efficiency							.60%								
Euro Efficiency							7%								
MPPT Efficiency						99.	.90%								
PROTECTION															
Integrated	PV Inp	out Lightning P Residua <b>l</b> C	rotection, Anurrent Monito		-		- '					tion,			
Output Over Voltage Protection						DC Type I	I/AC Type	III							
GENERAL DATA															
Operating Temperature Range (°C)		-45~60°C, >45°C derating -45~60°C, >45°C derating													
Cooling	Natural Cooling Natural Cooling								Smart Cooling						
Noise (dB)	<30db									<45db					
Communication with BMS	RS485; CAN							RS485; CAN							
Weight (kg)	11.4 14							33.6							
Size (mm)	330Wx433Hx238D								422W x 699.3H x 279D						
Protection Degree	IP65									IP65					
Installation Style	Wall-mounted								Wall-mounted						

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### 4 LEVEL **SERVICE SUPPORT**

Complaint Registration at Hotline Number +91 95120 22766 or raise the ticket from our website www.vsolesolar.com





Remote support if the problem can get resolved over an online monitoring access (Each inverter should have internet connectivity through the provided RMS Dongle)

Field/Site Visit for problem found in hardware or for those which cannot resolved via remote monitoring





**Replacement** will be provided against the faulty inverter within working 72Hours from the date of Complaint Log.



### OUR **PRESENCE**



We have sales cum service centers in every 200 kms in selected regions, the replacement can be provided through the nearest center on the basis of nature of fault in the inverter.

## www.vsolesolar.com

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