2.5 Symbol on the Inverter

Symbol	Description
	Be careful of high voltages.
	Risk of danger. Failure to observe safety information in manual may result in serious injury or death.
	Residual voltage Hazard. Please wait for 5 minutes before opening to ensure the capacitors are completely discharged.
	Risk of burns due to hot surfaces.
	Read the manual before installing GTI-SERIES Inverters.
	Do not dispose this inverter with household waste.
	CE mark. The inverter complies with the requirements of applicable EC guidelines.
	Protective earth terminal.
IP65	GTI-SERIES inverter complies with IP65 norms.

Table 1

Indications on front side of inverter :

Indication	Description
Red LED	Alarm status.
Green LED	Status of grid connection.

Table 2

2.6 Transportation

Our inverters are dispatched in proper electrical and mechanical condition after thorough testing and inspection. To ensure safe and careful transportation special packaging is used. If any damage is visible, please immediately contact your dealer or Selec Controls Pvt Ltd. Transport of the equipment, especially by road, must be carried out with suitable means for protecting the components, in particular the electronic components from violent shocks, humidity, vibration, etc.

2.7 Storage

While not in load condition, Inverter should be stored in clean, dry and covered space in original package.

3. Safety instructions

This chapter contains safety instructions and guidelines that must be followed at all times while working on or with the product. To prevent personal injury, property damage and to ensure long-term operation of the product, read this section carefully and observe all safety information at all times.

3.1 Safety during assembly

WARNING

• The GTI should be operated with permanent connection with utility grid and not recommended for mobile use.

• Unintended use of this inverter is sole risk of the operator and manufacturer is not responsible for any damage caused by such use.

• For safety reasons only a qualified person can install, operate, troubleshoot and repair this device. Qualified person should also be familiar with local requirements, rules and regulations.

4. Unpacking and accessories

4.1 Unpacking

During transportation unpredictable damages may occur with the inverter unit and the accessories. On receiving the unit please do thorough inspection for any visible external damages on package. If any external visible damage is found, do not unpack inverter unit and contact the dealer as soon as possible.

4.2 Accessories

Once you unpack the unit, please ensure that all accessories are present in the box and undamaged. Please contact your dealer if anything is missing or damaged. All the accessories present in the box are listed as follow in Fig 4 & Table 3.

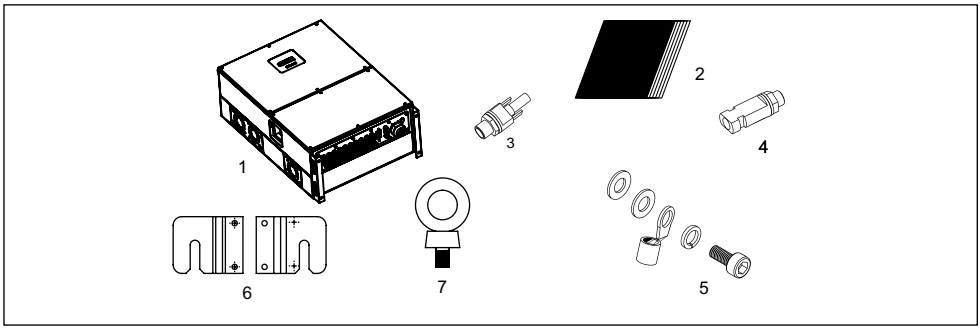


Fig 4

Item	Quantity	Description
1	1	Inverter
2	1	User Manual
3	10	PV male connector
4	10	PV female connector
5	1	Earth allen screw with 2 plane & 1 spring washer with lug
6	4	Wall mount bracket (L/R)
7	2	Eye-bolt

Table 3

5. Installation

5.1 Safety note before installation:

Caution

- Weight of GTI is 86 kg. Hold inverter tightly before mounting & moving.
- Mounting surface should be rigid & able to handle weight of inverter.

Warning

- Avoid installing inverter near or on flammable materials.

- Hot surface of Inverter may create a burn hazard to a person who is touching the inverter, to avoid this mount the inverter at an appropriate height.
- Input to this inverter is DC (Direct current) which is a PV array generator. Do not connect any other source to it.
- Output of inverter is AC (Alternating current) which is connected to a utility grid. Power generated from inverter is delivered to a utility grid hence it should not be connected any other AC source or generator.
- Make sure DC switch is at OFF position. If it is on ON position switch it to OFF position.

5.2 Installation of inverter

GTI is developed for use in an outdoor location with IP 65 protection but avoid direct contact of inverter with sunlight, rainfall and snowfall. Fig 5 shows ideal locations for installation of inverter.

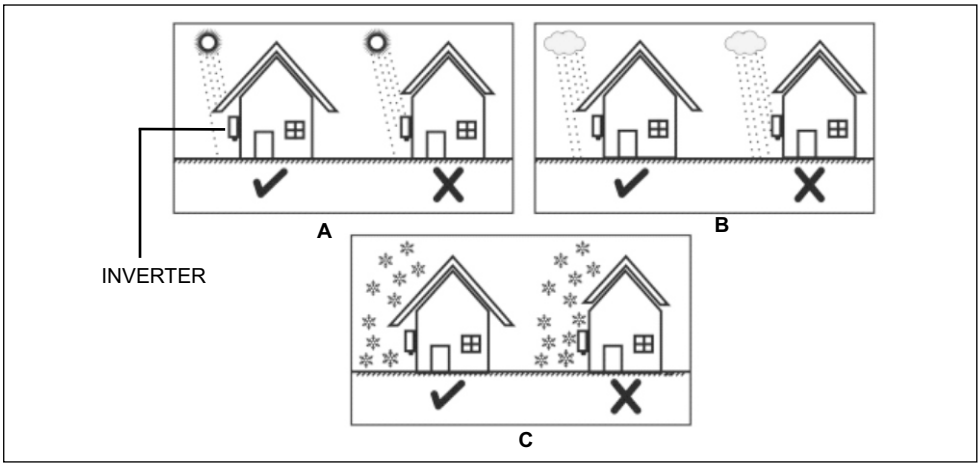


Fig 5

Ideal installing position shown in fig 6. -

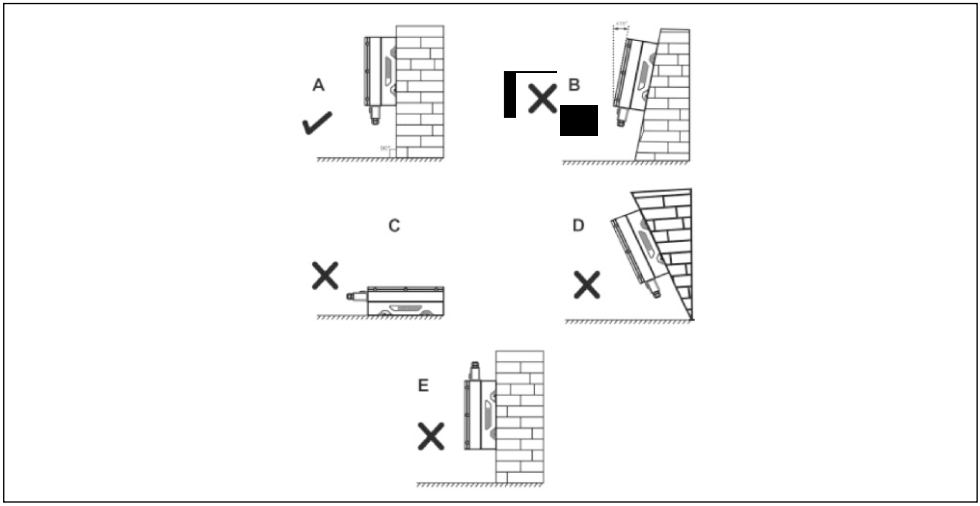


Fig 6

NOTICE

- Mount the inverter on rigid, strong surface in such way that it can handle weight of the inverter.
- Mount the inverter on such a height that commissioning, decomissioning, turning ON and turning OFF is easily possible.

5.2.1 Clearance for installation

Install inverter on wall with minimum clearence as shown in fig 7.

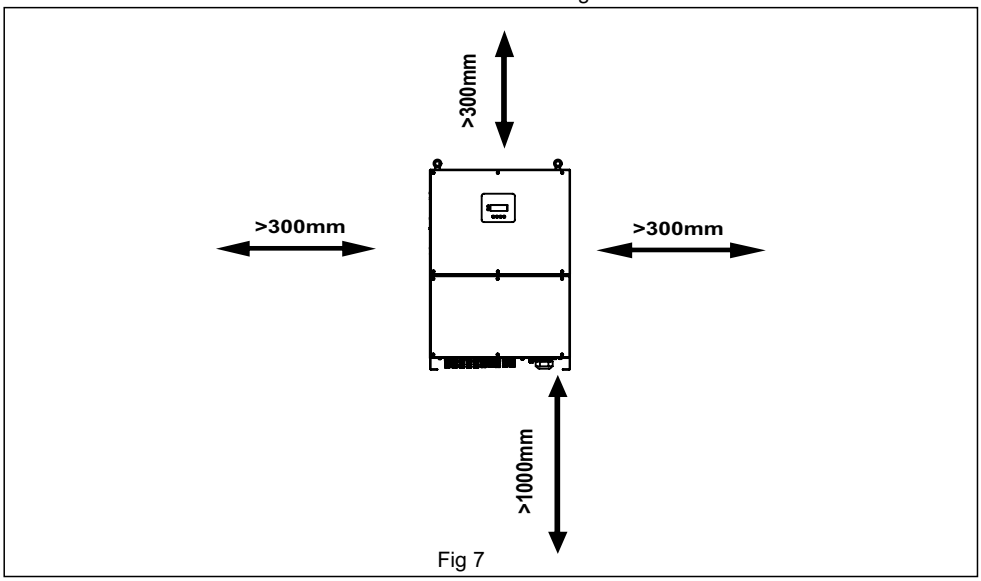


Fig 7

To install more than one inverter in series follow fig 8. for minimum clearance. This clearance should be provided for easy installation, removal & heat dissipation of GTI-SERIES inverter.

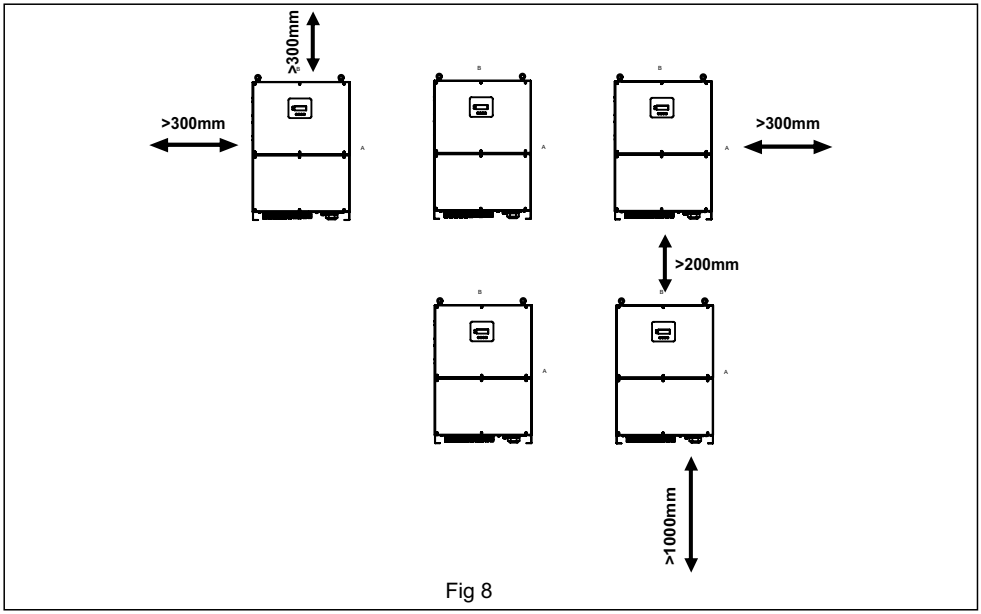


Fig 8

5.2.2 Mounting inverter on wall:

Steps to mount inverter

Step1 : Drill four holes on mounting surface at distance of inverter mounting position as shown in fig.9 & insert anchor bolt in holes.

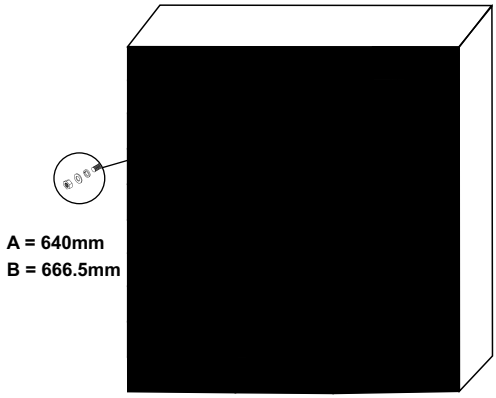


Fig 9

Step2 : Mount inverter on anchor bolt with help of at least four people. Tighten the nut and ensure inverter is properly fitted on anchor bolt as per fig 10.

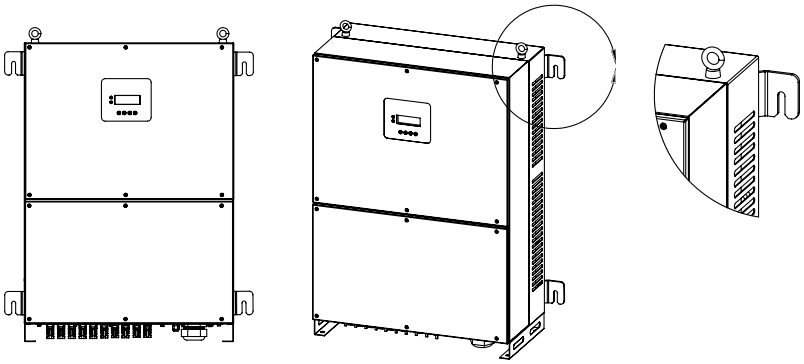


Fig 10

6. Electrical connections

This section helps installer, how to do electrical connection to the inverter. Electrical connection has to be performed by qualified and authorised person only.

Caution

Check if DC Disconnect switch is in OFF position as shown in following Fig 11.

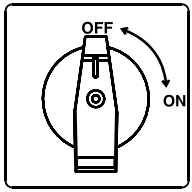


Fig 11

Warning

- Whenever a PV array is exposed to sunlight it supplies DC Voltage. Shock hazard may occurs if terminals are open. Cover PV array with opaque material before commencing any wiring.
- Ensure string's open circuit voltage should be less than inverter's maximum input voltage. Applying more voltage can damage inverter.
- **Do not disconnect AC & DC cables under load condition.**

6.1. DC Connection to inverter :

Model	Current Rating	Wire Size
GTI050WLM3PW	12.5A*10	4 sq.mm
GTI049WLM3PW	12.5A*8	4 sq.mm
GTI033WLM3PW	12.5A*6	4 sq.mm
GTI030WLM3PW	12.5A*6	4 sq.mm

1) Do not connect PV array positive terminal or negative terminal to the grounding of system.
2) Make sure PV connector's (Male & female) polarity is proper.
3) Connect PV connectors as shown in fig.13
4) Make sure connectors to Inverter DC terminal are connected properly.

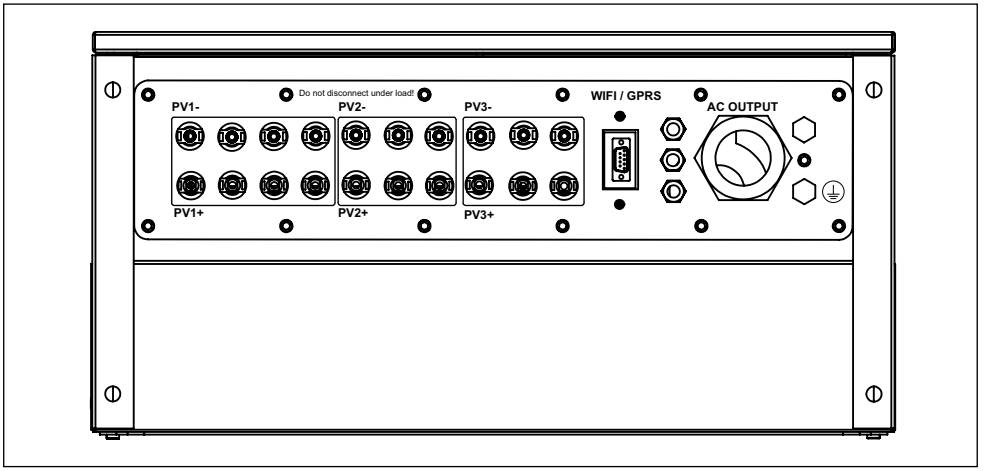


Fig 12

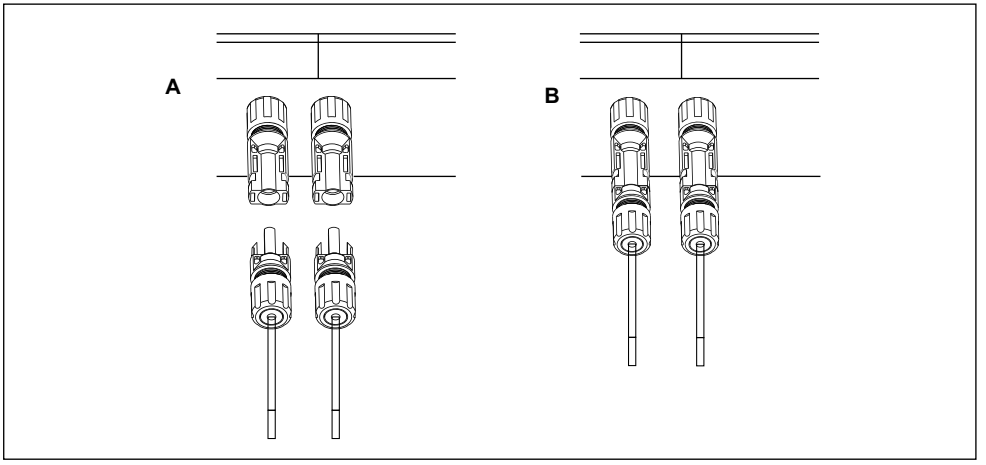


Fig 13

6.2 AC Connections

Caution

- For the purpose of over current protection use circuit breaker between inverter & utility grid. Use 100A rated AC breaker.
- Do not connect any load between inverter & Grid side circuit breaker.
- Before starting connection make sure that circuit breaker is OFF.

6.2.1 Steps for AC wiring

Note - This inverter has in-build residual current monitoring device. If system installer wants to use other residual current monitoring device then must use device which triggers in the event of residual current of 500mA or more.

Model	Current Rating	Aluminum Wire Size
GTI050WLM3PW	84A	50 sq.mm
GTI049WLM3PW	84A	50 sq.mm
GTI033WLM3PW	55A	35 sq.mm
GTI030WLM3PW	55A	35 sq.mm

1) Use 3.5 CORE, Aluminium Conductor, PVC Insulated, Armoured Power Cables .
2) Strip AC wires and put lugs using crimping tool, it will ensure no wire strands are open & avoid accidental shorting of two wire.
3) Put these wires in AC Connector Board & screw it tightly.
4) Fig 14 shows labels for AC connections.
5) Insert 4 core wire through gland and cover as shown in fig 14 (b).
6) Make connections as shown in Fig 14 (c).
7) Tighten the cover and gland properly as shown in fig 14 (d).

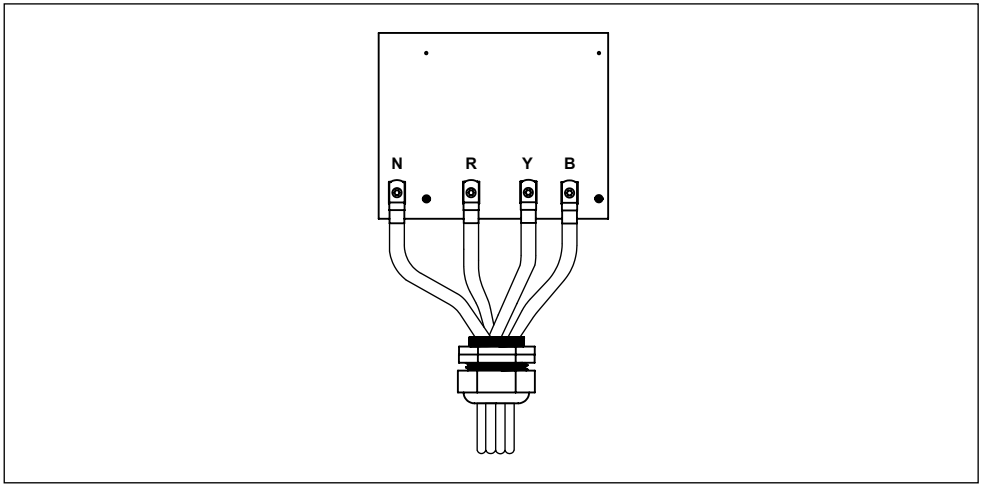


Fig 14

6.2.2 Grid type

Based on local grid standard there are different types of Grid connections available.

Compatibility of the inverter for various types of Grid connections is shown in fig 15.

- GTI Series inverters support 3 phase 4 wire PE (3 -phase, N, PE) & 3 phase 3 wire (3 -phase PE).

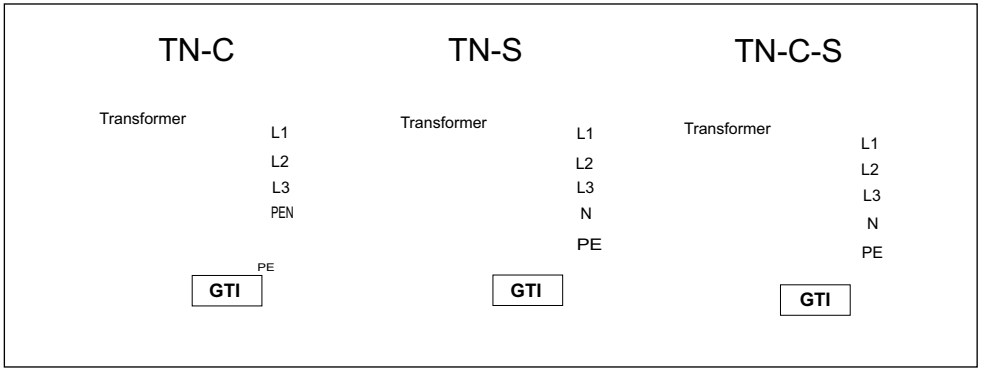


Fig 15

6.2.3 AC Grounding

Grid's earth terminal must be connected to inverter's protective earth (PE) terminal as shown in Fig 16.

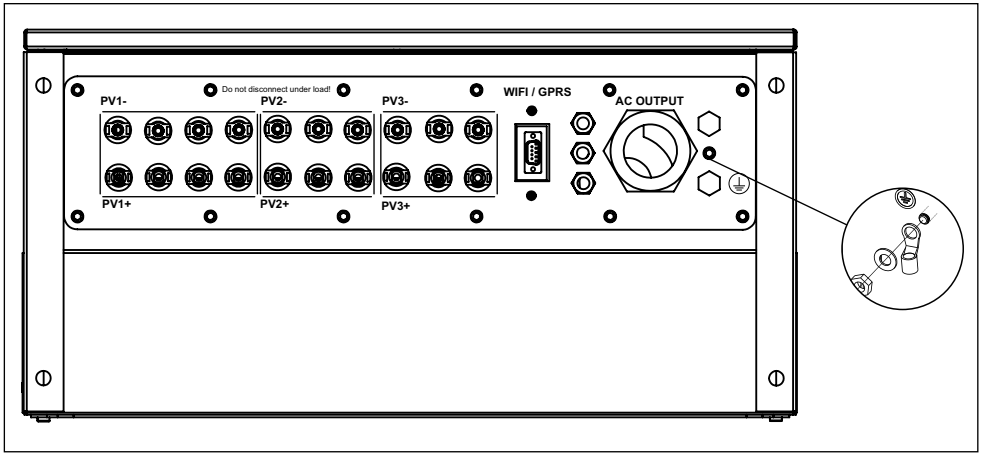


Fig 16

6.3 Communication module

The inverter's Communication boards have RS-485, Dry contact & I/O connection (Digital input) terminals as shown in fig 17.

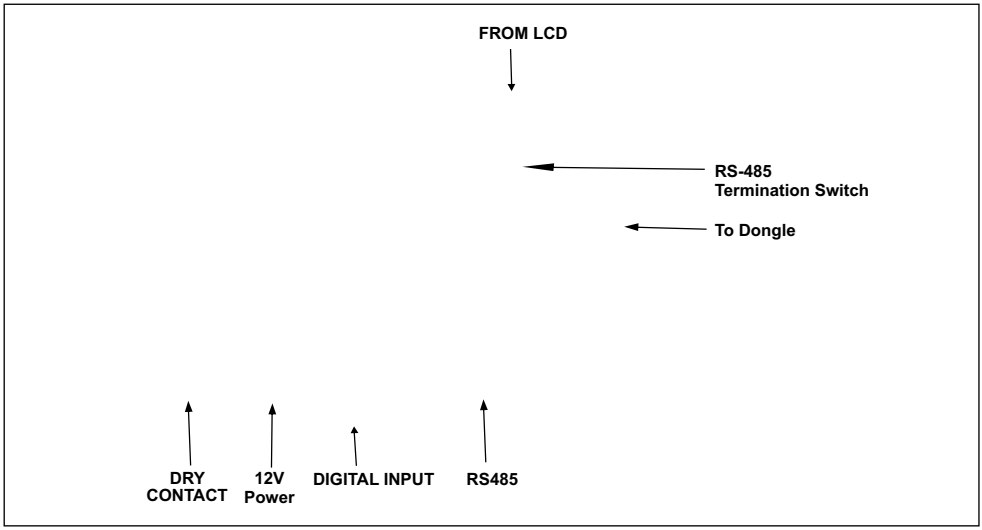


Fig 17

6.3.1 LCD KEY ANNOTATIONS

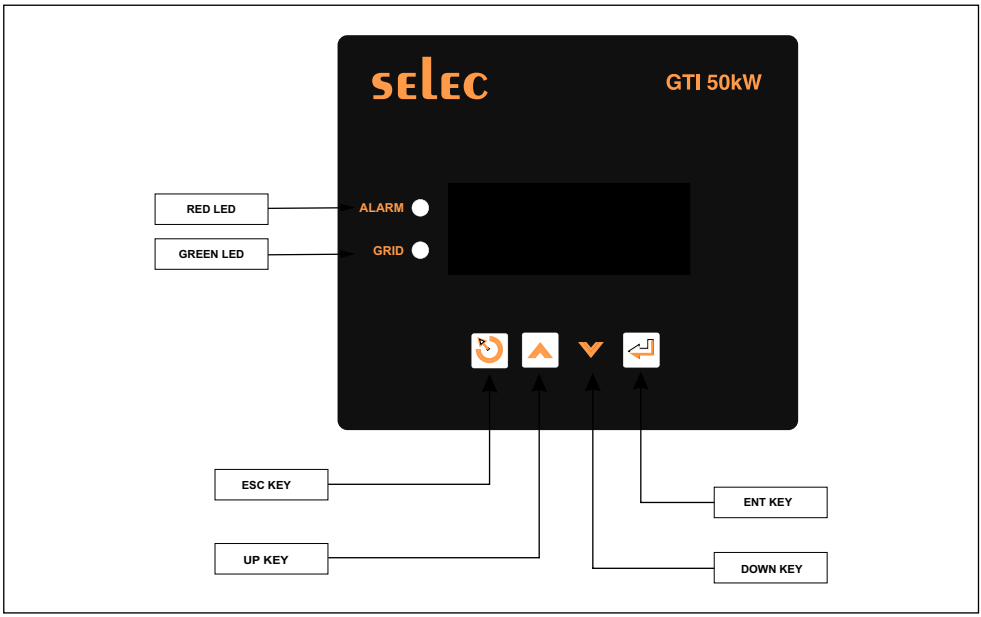
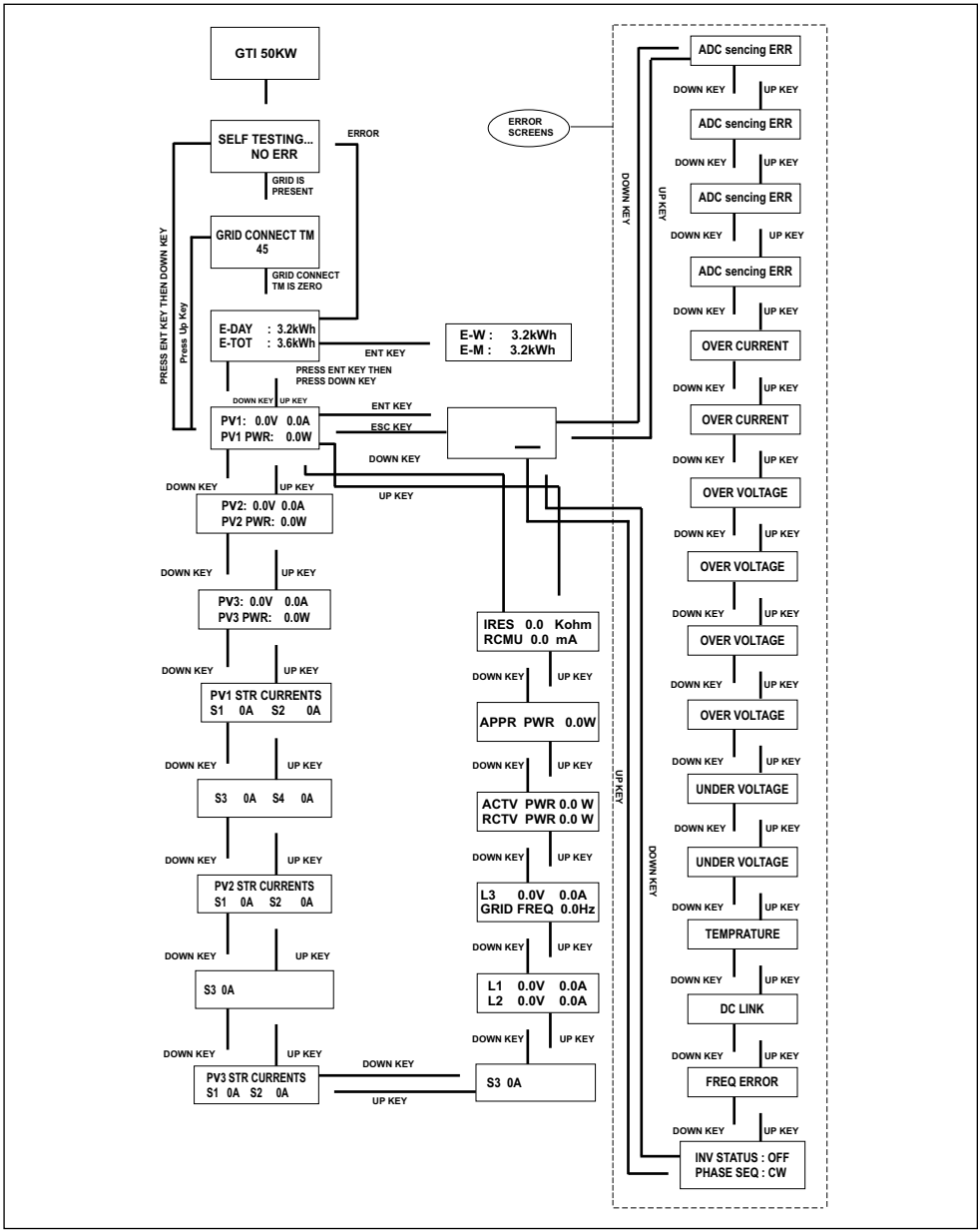


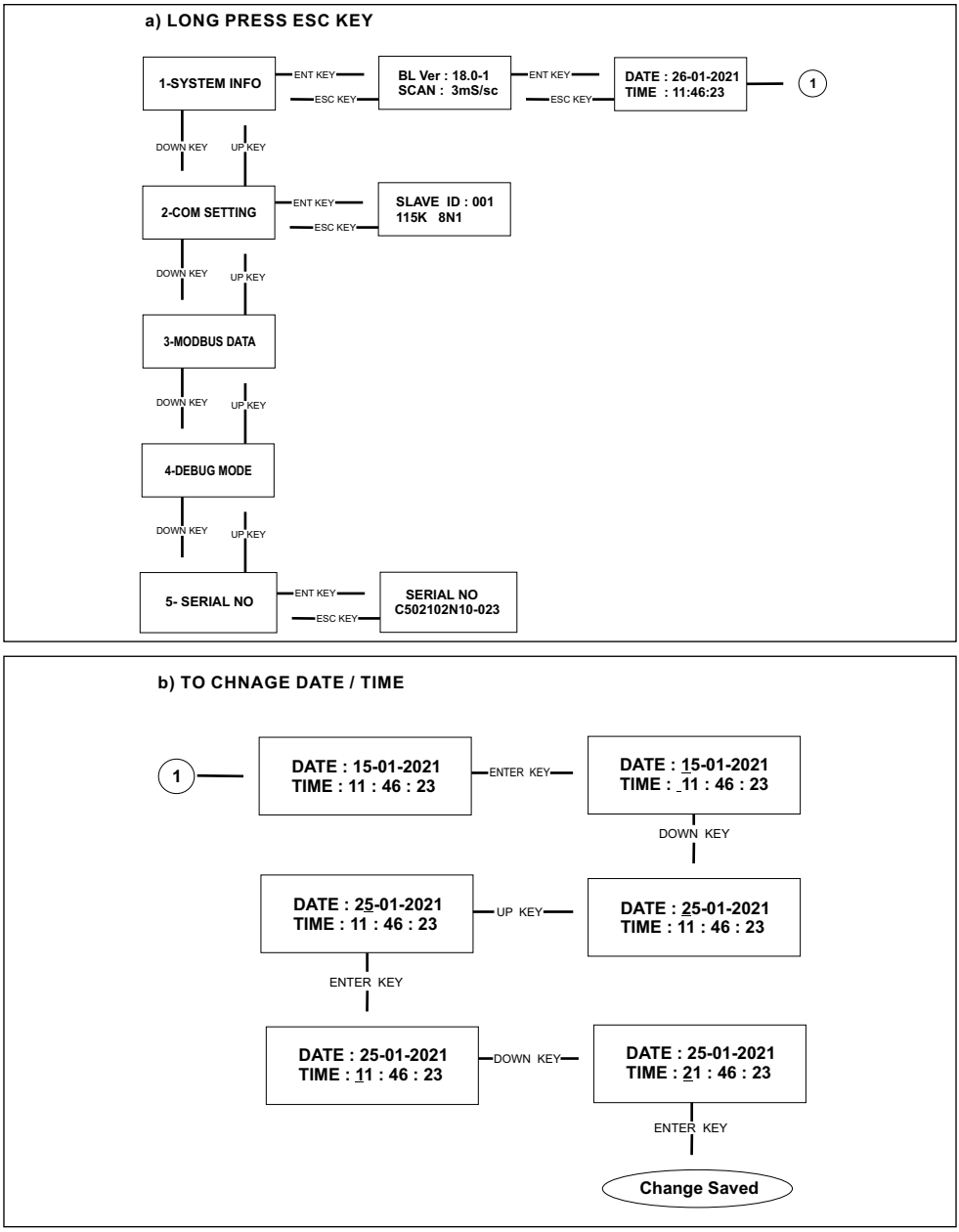
Fig 18

6.3.2 LCD Flow Chart



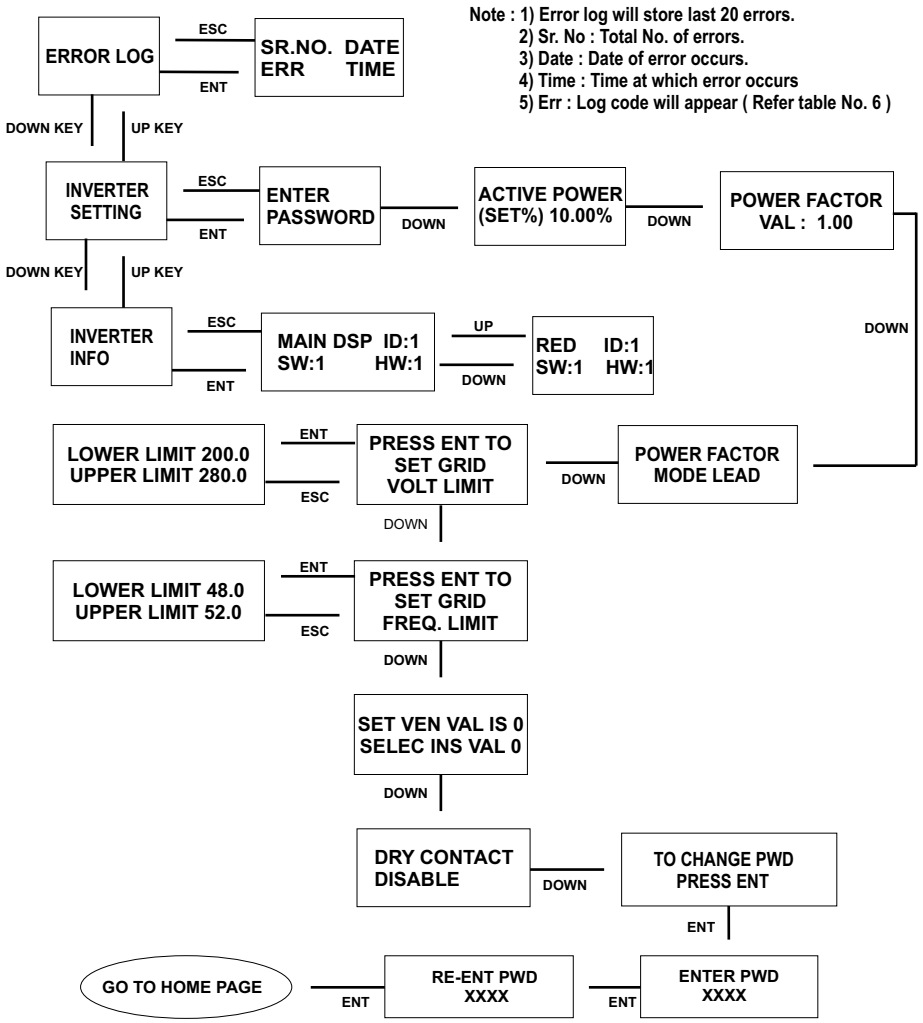
NOTE:- **1) Error will be visible on screen when they occur. (Refer table no. 7 for Error Definition).**
2) When system is on & any self test error occurs screen will jump to self testing page.
3) Use Esc key to go on Home page.

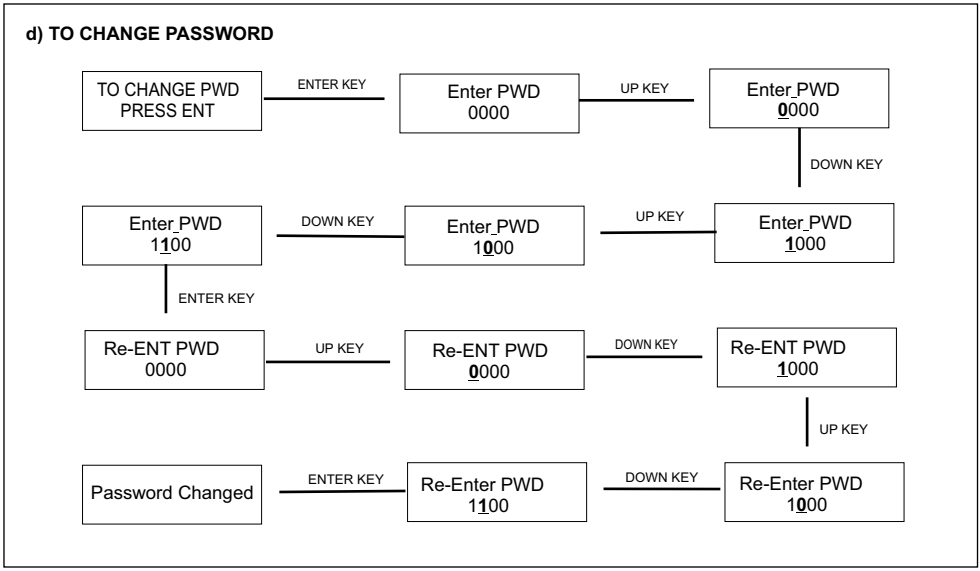
6.3.2.1 LCD KEY FUNCTIONALITY



NOTE : 1) Press UP key to scroll around digit.
2) Press DOWN key to change digit.

c) LONG PRESS UP KEY





NOTE : 1) Press UP key to scroll around digits.
2) Press DOWN key to change digits.

6.3.3 Communication module connections

6.3.3.1 RS-485 Configuration

Pin description of RS-485 Communication terminal is given below in Table 5

Pin Notation	Function
A+	Data +
A-	Data -

Table 5

Connecting single inverter for RS-485 communication :

- Connect A+ & A- pin of RS-485 port to the Data +, Data -.

Following data format is used for Communication

Data Format:

Baud rate : 9600

Data bits : 8

Stop bit : 1

Parity : N

6.3.3.2 Monitor inverter status.

a) Monitor single inverter's status with RS485

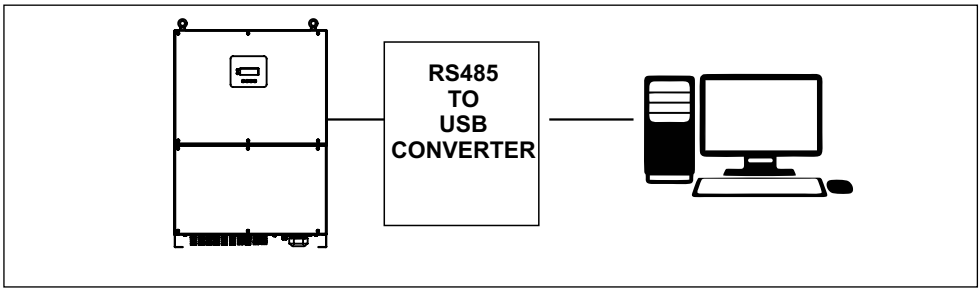


Fig.19

b) Monitor multiple inverters with RS485

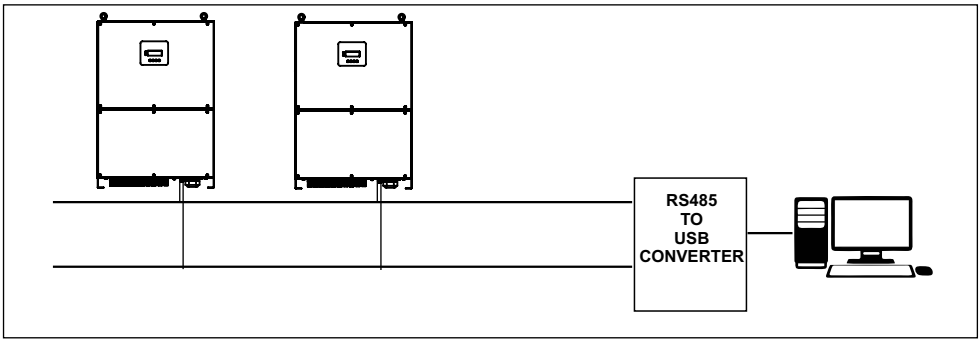


Fig.20

c) Monitor Inverter with External wireless device

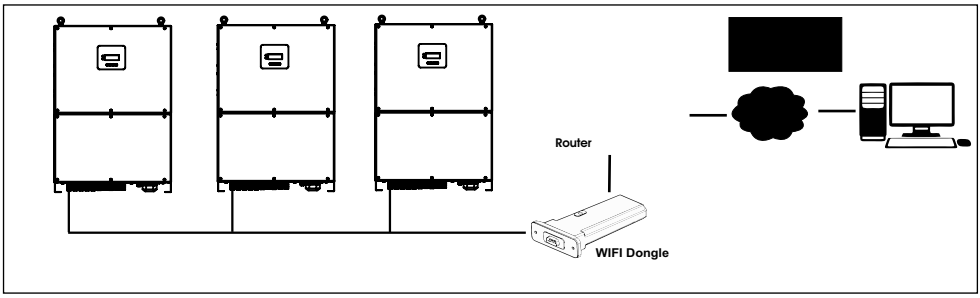


Fig. 21

6.4 Troubleshooting

6.4.a) Log Variable Data

1	OV L1	L1-Phase Over Voltage	1.Turn OFF DC Switch. 2.Check AC Voltage on the inverter Output terminal. 3.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
2	OV L2	L2-Phase Over Voltage	
3	OV L3	L3-Phase Over Voltage	
4	UV L1	L1-Phase Under Voltage	1.Turn OFF DC Switch. 2.Check AC Voltage on the inverter terminal. 3.Check AC wiring, whether any Line wire is swapped with Neutral or ground. 4.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
5	UV L2	L2-Phase Under Voltage	
6	UV L3	L3-Phase Under Voltage	
7	OC L1	L1-Phase Over Current	1.Disturbance in AC Voltage. 2.Surge Occurs during operation. 3.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
8	OC L2	L2-Phase Over Current	
9	OC L3	L3-Phase Over Currnet	
10	VEN HIGH	Earth Voltage Out of Range	1.Turn OFF DC Switch & Turn off AC supply. 2.Check Solar PV enclosure earthing. 3.Check earthing wire connection of inverter. 4.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
11	FREQ H	Grid Frequency High	1.Turn OFF DC Switch. 2.Check AC frequency on the inverter terminal. 3.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
12	FREQ L	Grid Frequency Low	1.Turn OFF DC Switch. 2.Check AC frequency on the inverter terminal. 3.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
13	INS RES	PV Insulation Resistance Out of Range	1.Turn OFF DC Switch & Turn off AC supply. 2.Check Solar PV enclosure earthing. 3.Check earthing wire connection of inverter. 4.Restart Inverter,if error persists contact Selec Controls Pvt Ltd.
14	RCMU	Inverter Residual Current Out of Range	1.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
15	DUTY	Inverter Duty Out of Range	1.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
16	MC NTC	Main Controller Temperature Out of Range	1.Check ambient temperature. 2.Check installation environment. 3.If error persists contact Selec Controls Pvt Ltd.
17	INV NTC	Inverter Module Temperature Out of Range	
18	BST NTC	Boost module Temperature Out of Range	
19	RC NTC	Redundant Controller Temperature Out of Range	
20	PV1 OV	PV1 High Voltage	1.Turn OFF DC Switch. 2.Check PV voltage with Multimeter 3.If voltage is lower than 1000V,contact Selec Controls Pvt Ltd.
21	PV2 OV	PV2 High Voltage	
21	PV3 OV	PV3 High Voltage	
23	PV1 UV	PV1 Low Voltage	1.Turn OFF DC Switch. 2.Check PV voltage with Multi meter 3.If voltage is more than 180V,contact Selec Controls Pvt Ltd.
24	PV2 UV	PV2 Low Voltage	
25	PV3 UV	PV3 Low Voltage	
26	PV1 OC	PV1 Over Current	1.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
27	PV2 OC	PV2 Over Current	
28	PV3 OC	PV3 Over Current	
29	BUS OV	DC Bus Over Voltage	
30	BUS UB	DC Bus Unbalance	
31	BUS UV	DC Bus Low Voltage	

Table 6

6.4.b) Error Definations

1	INS RES	PV Insulation Resistance Out of Range	1.Turn OFF DC Switch & Turn off AC supply. 2.Check Solar PV enclosure earthing. 3.Check earthing of inverter. 4. Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
2	RCMU	Inverter Residual Current Out of Range	Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
3	COMM	Internal Communication Error	Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
4	EARTH	Earth Absent/ Inverter Earth to Neutral Voltage High	1.Turn OFF DC Switch & Turn off AC supply. 2.Check Solar PV enclosure earthing. 3.Check earthing of inverter. 4. Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
5	CNTR NTC	Controller Temperature Out of Range	1.Check ambient temperature. 2.Check installation enviorment. 3.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
6	TEMPERATURE CNTR	Main/Redundant Controller Temperature Out of Range	
7	TEMPERATURE BOOST	Boost Temperature Out of Range	
8	TEMPERATURE INV	Inverter Temperature Out of Range	
9	OVER CURRENT PV1	Boost1/PV1 Over Current	1.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
10	OVER CURRENT PV2	Boost2/PV2 Over Current	
11	OVER CURRENT PV3	Boost3/PV3 Over Current	
12	OVER CURRENT L1	Inverter L1-Phase Over Current	
13	OVER CURRENT L2	Inverter L2-Phase Over Current	
14	OVER CURRENT L3	Inverter L3-Phase Over Current	
15	OVER VOLTAGE PV1	Boost1/PV1 High Voltage	1.Turn OFF DC Switch. 2.Check PV voltage with Multimeter 3.If voltage is lower than 1000V,contact Selec Control Pvt Ltd.
16	OVER VOLTAGE PV2	Boost2/PV2 High Voltage	
17	OVER VOLTAGE PV3	Boost3/PV3 High Voltage	
18	OVER VOLTAGE L1	Inverter L1-Phase Over Voltage	1.Turn OFF DC Switch. 2.Check AC Voltage on the inverter terminal. 3.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
19	OVER VOLTAGE L2	Inverter L2-Phase Over Voltage	
20	OVER VOLTAGE L3	Inverter L3-Phase Over Voltage	
21	UNDER VOLTAGE PV1	Boost1/PV1 Low Voltage	1.Turn OFF DC Switch. 2.Check PV voltage with Multimeter. 3.If voltage is more than 200V,contact Selec Controls Pvt Ltd.
22	UNDER VOLTAGE PV2	Boost2/PV2 Low Voltage	
23	UNDER VOLTAGE PV3	Boost3/PV3 Low Voltage	
24	UNDER VOLTAGE L1	Inverter L1-Phase Under Voltage	1.Turn OFF DC Switch. 2.Check AC Voltage on the inverter terminal. 3.Check AC wiring, whether any Line wire is swapped with Neutral or ground. 4.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
25	UNDER VOLTAGE L2	Inverter L2-Phase Under Voltage	
26	UNDER VOLTAGE L3	Inverter L3-Phase Under Voltage	
27	DC BUS UV	DC Bus Low Voltage	1.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
28	DC BUS OV	DC Bus Over Voltage	
29	DC BUS UB	DC Bus Unbalance	
30	GRID FREQ OF	Grid Frequency High	1.Turn OFF DC Switch. 2.Check AC frequency on the inverter terminal. 3. Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
31	GRID FREQ UF	Grid Frequency Low	

Table 7

6.4.c) Self Test Error Definitions

1	COMM ERR	Internal Communication Error	1.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
2	FRC1 ERR	PWM FRC connection Error	
3	FRC2 ERR	ADC FRC connection Error	
4	PV LOW ERR	PV low voltage	1.Turn OFF DC Switch. 2.Check PV voltage with Multimeter. 3.If voltage is more than 250V,"if error persists contact Selec Controls Pvt Ltd."
5	GRID ERR	GRID Absent/Out of Range	1.Turn OFF DC Switch. 2.Check AC Voltage on the inverter terminal. 3.Check AC wiring, whether any Line wire is swapped with Neutral or ground. 4.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
6	GRID FREQ ERR	GRID Frequency Error	1.Turn OFF DC Switch. 2. Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
7	ADC SENSING ERR	Current/NTC Sensing Error	1.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
8	EARTH ABS ERR	Earth Absent/ Inverter Earth to Neutral Voltage Error	1.Turn OFF DC Switch. 2.Check AC Voltage on the inverter terminal. 3.Check AC wiring, whether any Line wire is swapped with Neutral or ground. 4.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
9	AC CONN ERR	Line Neutral Swapped	1.Turn OFF DC Switch. 2.Check AC wiring, whether any Line wire is swapped with Neutral or ground. 3.Check Earthing connection. 4. Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
10	WRONG GRID ERR	GRID Voltage Out of Range	1.Turn OFF DC Switch & Turn off AC supply. 2.Check AC wiring, whether any Line wire is swapped with Neutral or ground. 3.Check Earthing connection. 4. Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
11	INS RES ERR	Insulation Resistance Out of Range	1.Turn OFF DC Switch & Turn off AC supply. 2.Check Solar PV enclosure earthing. 3.Check earthing of inverter. 4. Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
12	OUTPUT RLY2 ERR	Output Relay2 Error	1.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
13	OUTPUT RLY1 ERR	Output Relay1 Error	
14	ENABLE PINS ERR	Control Enable Pin Error	
15	RCMU CT ERR	RCMU CT Detection Error	
16	MEMORY ERR	EEPROM memory log error	
17	PV1 UNSTABLE ERROR	PV1 UNSTABLE ERROR	1.Check PV connection & voltage 2.If PV voltage variation greater than 15V then check grounding of system
18	PV2 UNSTABLE ERROR	PV2 UNSTABLE ERROR	
19	PV3 UNSTABLE ERROR	PV3 UNSTABLE ERROR	

Table 8

6.4.d) ADC Sensing Error Definitions

1	ADC Sensing Err-PV1	PV1 Current Sensing Error	1.Restart Inverter, if error persists contact Selec Controls Pvt Ltd.
2	ADC Sensing Err-PV2	PV2 Current Sensing Error	
3	ADC Sensing Err-PV3	PV3 Current Sensing Error	
4	ADC Sensing Err-L1	Inverter L1-Phase Current Sensing Error	
5	ADC Sensing Err-L2	Inverter L2-Phase Current Sensing Error	
6	ADC Sensing Err-L3	Inverter L3-Phase Current Sensing Error	
7	ADC Sensing Err-BNTC	Boost Module NTC Sensing Error	
8	ADC Sensing Err-INTC	Inverter Module NTC Sensing Error	
9	ADC Sensing Err-CNTC	Main Controller NTC Sensing Error	

Table 9

7. Commissioning of inverter

Caution

- Check AC & DC Voltages are within range of GTI specification.
- Check protective earth is connected.
- Check DC connectors are connected.
- Check AC connectors are connected.

7.1 Initial turn on of inverter

- Turn ON DC switch . As soon as DC switch is ON , LCD will glow. There are two LED indications on front sticker. Red LED is for alarm and Green LED is for Grid Feed Status.
- Inverter starts self test, for checking whether internal circuitry is proper or not, before proceeding to Grid feed.
- If any fault occurs, then alarm LED will glow and this will alert the user regarding a particular fault.
- If every thing is normal then, inverter starts feeding power into the grid . Grid status LED will glow.

8. Maintenance and cleaning

8.1 Maintenance

WARNING

- Before any maintenance, please switch AC and DC power OFF atleast 5 minutes before proceeding to avoid risk of electrical shock.
- Normally, the inverter needs no maintenance. Check for any external visible damage and discoloration of the cables and DC switch at regular intervals. Check that all terminals, screws and cables are connected and appear as they did upon installation. If there is any visible damage or visible discoloration of cables or DC switch or if there is any impaired and loose part, please contact the installer.

NOTICE

• Once a year, turn the rotary switch of the DC - disconnect switch from the “ON” position to the “OFF” position 5 times in succession. This cleans the contacts of the rotary switch and prolongs the electrical endurance of the DC switch.

8.2 Cleaning

WARNING

• Before cleaning the inverter, please ensure that DC switch is turned OFF and the AC breaker present between the inverter and the grid is also turned OFF. After switching OFF the DC switch and AC breaker wait for atleast 5 minutes to avoid risk of electric shock.

CAUTION

• Risk of burns due to hot heatsink.
• The heatsink may exceed 70^{0}C during operation. Do not touch the heat sink during operation. Wait atleast 30 minutes before cleaning until the heat sink has cooled down.
• Do not use water, corrosive chemicals or detergent to clean inverter and heatsink.
• Please clean the inverter with an air blower, a dry & soft cloth or a soft brush.

9. Decommissioning of inverter

- Turn OFF AC breaker.
- Turn OFF DC switch.
- Wait till i) Alarm LED turn OFF ii) LCD light turn OFF.
- Wait for approx. 30 minutes before touching Inverter. Surface may be hot.
- Remove DC cables
- Remove AC cables.
- Remove Rs-485, Dry contact DI terminal connection if you have done any.
- Unscrew mounting screws to remove inverter.
- Pack inverter in carton which is provided during purchase.If that carton is not available then use equal size carton.
- Adopt E-waste Regulation guideline while disposing faulty inverter. Do not dispose inverter with household waste.

10. Technical specifications

Model	GTI050WLM3PW	GTI049WLM3PW	GTI030WLM3PW	GTI033WLM3PW
Input Data				
Max. DC Power	75000W		49500W	
Max.DC Voltage	1000V DC			
Start Up Voltage	200V DC	200V DC	200V DC	200V DC
PV Voltage Range	200-1000V DC	590-1000	200-1000V DC	200-1000V DC
MPPT Voltage Range / DC Nominal Voltage	200-1000V DC	610-1000	200-1000V DC	200-1000V DC
Max. PV Isc	55A	125A	55A	32A
Max. Input Current	40/30/30	91A	30A/30A	26A/26A/26A
Backfeed Current	0A			
Number of independent MPP trackers	3	1	2	3
Strings per MPP tracker	4_3_3	1	3_3	2_2_2
Output (AC)				
Rated AC Output Power	50kVA	49kVA	30 kVA	33 kVA
Max. AC apparent Power	55.5kVA		36.33kVA	36.3 kVA
Max.Output Current	84A*3		55A	55A
Inrush Current	200A / 100µs	200A / 100µs	150A / 100µs	150A / 100µs
Maximum Output Fault Current (rms)	106A / 1.25ms	106A / 1.25ms	89A / 1.25ms	89A / 1.25ms
Nominal AC Current	69.44A*3	68.05A*3	41.66*3	45.83A*3
Nominal AC Voltage	3P/4W/PE, 240/415V/50Hz			
Nominal AC Voltage range	277V-460V			
AC grid frequency	50Hz			
AC grid frequency range	45-55Hz			
Power Factor at rated power	>0.99			
Adjustable displacement power factor	0.8 leading-0.8 lagging			
Total harmonic distortion [THDI]	<3%			
AC grid connection type	3 phase+N+E			
Efficiency				
Max.Efficiency	98.80%		98.80%	
MPPT Efficiency	>99.9%			
Protection Devices				
DC reverse polarity protection	Yes			
DC switch	Yes			
Output AC overcurrent protection	Yes			
Output AC overvoltage protection	Yes			
AC/DC Surge Protection	Type II / Type II			
Intergrated all-pole senstive leakage current monitoring unit	Yes			

General Data	
Dimensions (W/H/D) in mm	580 x 830 x 285
Weight	86 kg
Operating temperature range	-25°C to +60°C
Noise emission (typical)	< 60 dBA
Altitude	4000 m
Self consumption at night	< 1W
Topology	Transformer less
Cooling concept	Forced Cooling
Environment Protection Rating	IP65
Relative humidity	0~100%
Pollution degree	Internal II, External III
Over voltage category	AC output III, DC input II
Safety class	Metal enclosure with Safety class protective earth
Environmental category	Outdoor, wet location
Features	
DC connection	MC4
AC connection	Screw Terminal
Display	LCD (16 *2)
Interfaces: RS485	Yes
Warranty	10 years
Certificate and approvals	IS 16221-1 /2, IS 16169

Table 10

10.1 Tightening Torque Required

AC Terminal	4.90 Nm
Enclosure top cover screw	0.7 Nm
RS-485 screw	0.7 Nm
AC Terminal & RS-485 cover screw	0.7 Nm
Earthing screw	2 Nm
Ethernet / Wifi cover screw	0.7 Nm

Table 11

10.2 Spare parts and accessories

In the following table you will find the optional accessories for your product. If required you can order these from Selec Controls Pvt. Ltd.

Name	Description	Selec Order no.
WiFi	Communication interface	GTI050WLM3PW
		GTI049WLM3PW
		GTI033WLM3PW
		GTI030WLM3PW
GPRS	Communication interface	GTI050WLM3PG
		GTI049WLM3PG
		GTI033WLM3PG
		GTI030WLM3PG

Table 12