INTELLI-GRID IG2-BM High Powered Management With Bluetooth Monitor User Guide

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Contents

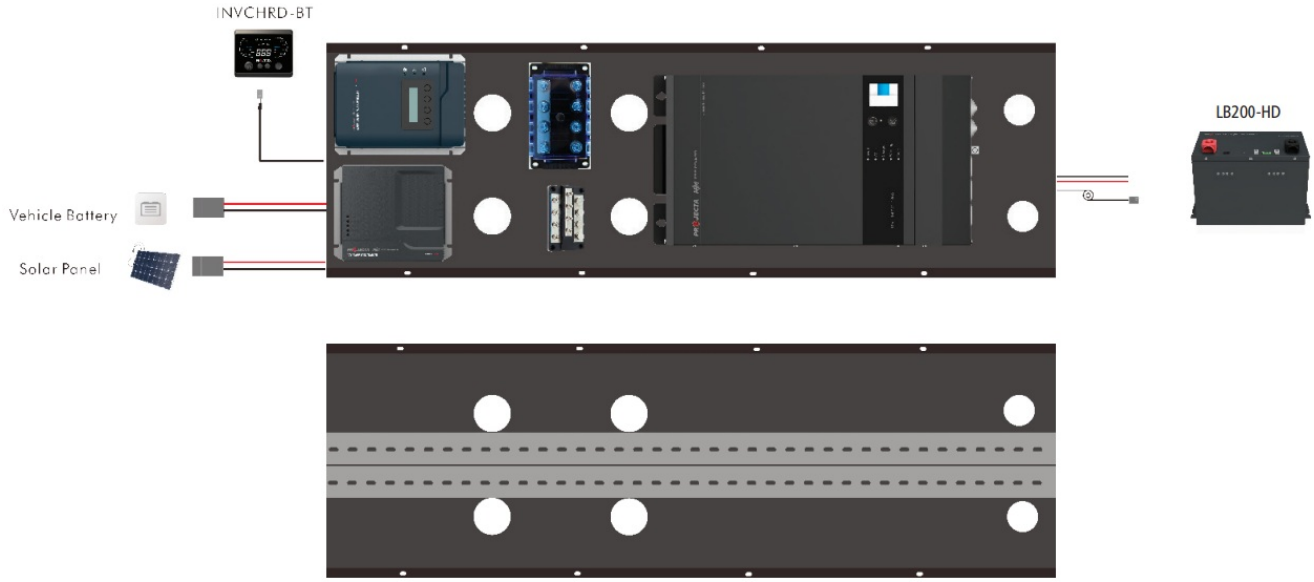
SYSTEM INTRODUCTION

IG2-BM is a high powered solution for mobile power featuring 2000W inverter/charger, MPPT solor controller, DCDC charger with an easy to read Bluetooth display

SYSTEM COMPONENTS

- An easy to read monitor with APP
- 2KW Inverter/Charger with AC change over switch
- 40Amp MPPT Solar controller
- 30Amp DC-DC Charger
- 200Ah Lithium Battery
- Fuses Box

PAB – FRONT: 1150 x 370 x 214mm
PAB – BACK



FEATURES

INVERTER
2000W inverter with 120Amp charging. Grid Power Booster and AC transfer. AS/NZS 3001 ready.

GRID POWER BOOSTER
Grid Power Boost supports mains power with an inverter to compensate for weak shore power i.e. a generator.

BATTERY MONITOR
An intelligent and compact battery meter ideal for monitoring SOC% and general status.

MULTIPLE CHARGING OPTIONS
30A DC to DC charging and 40A MPPT Solar charging for charging from Vehicle or when sun is shining.

LITHIUM BATTERY
An advanced and powerful 200Ah lithium battery perfectly matched to the Intelli-Grid system provides ample power for off-grid requirement.

MONITOR INTRODUCTION

NO	DEFINITION	DESCRIPTION
1	Solar	To indicate solar charger is charging
2	Invert	To indicate inverters is working
3	Bypass	To indicate Grid or generator is presenting
4	Charge	To indicate battery is charging
5	Overload alarm	To indicate when inverter is overloaded
6	Battery low voltage alarm	To indicate when inverter reach under-voltage
7	Over temperature alarm	To indicate when inverter is over-temperature
8	Load percentage	To indicate the percentage of actual load power against rated power of inverter installed
9	Inverter ON/OFF switch	To turn Inverter ON or OFF
10	Value information arear	LCD displaying value
11	LCD screen	
12	Scroll down or confirm button	To scroll down to next item.Or.as function of confirmation of your sel ection and configuration. With long press for 3 secs.
13	Mute button	To mute or unmute the alarm
14	Battery SOC	To indicate battery state of charge

DISPLAY INFORMATION IN VALUE AREA

DISPLAY INFORMATION		ITEMBattery voltage
Battery	V	
	A	Battery current
AC Output	kW	AC output power
	Hz	AC output frequency
	V	AC output voltage
	A	AC output current
AC Input	kW	AC Input power
	Hz	AC Input frequency
	V	AC Input voltage
	A	AC Input current
Solar	kW	PV power
	V	PV voltage

INVERTER WARNING CODES

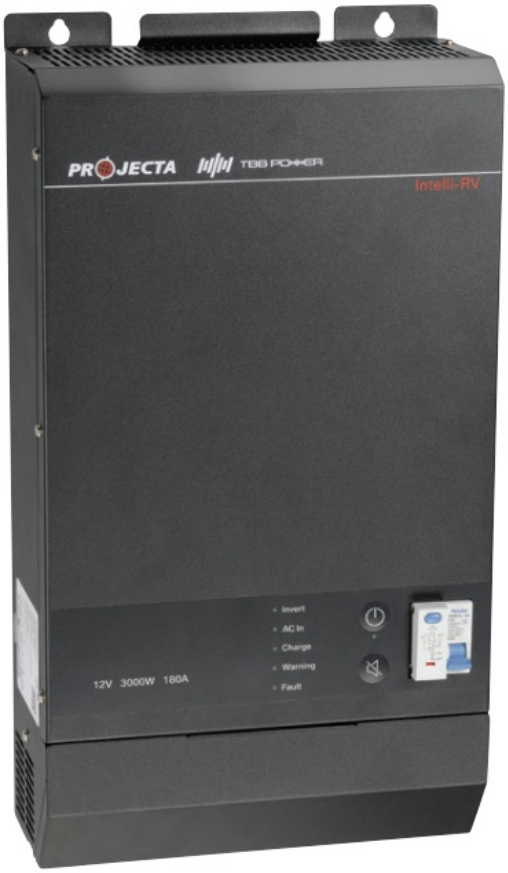
CODE001	**DISPLAY**U_BAT_OV	**DESCRIPTION**Battery over-voltage warning
002	U_BAT_LV	Battery under-voltage warning
003	U_BAT_LV_Fault	Battery under-voltage protection
004	OverLoad	Over-load
005	NTC_HS_Fault	Heat sink NTC failed
006	NTC_TX_Fault	Transformer NTC failed
007	T_BAT_OT	Battery over-temperature
008	Fan_Fault	Fan error
009	ParConnect_Err	Parallel connection error
010	ParComm_Err	Parallel CAN communication error
011	Par_ID_Conflict	Parallel ID conflict
012	Par_ParaSet_Conflict	Parallel parameter setting conflict
013	Par_SyncTimeOut_Err	Parallel synchronization timeout
014	ModeSet_Mismatch	Working mode setting mismatched
015	Par_OutputCircuit_Err	Parallel output circuit error
020	Acin_OV	AC input over-voltage
022	ACin_OF	AC input over-frequency
023	Acin_LF	AC input under-frequency
024	Acin_PhaseErr	AC input phase error
025	U_Neu_2_GND_Err	AC input voltage between Neutral and Ground error

INVERTER ERROR CODES

CODE 101	**DISPLAY**U_**Bus_OV**	**DESCRIPTION**DC **bus over-voltage**
102	U_Bus_LV	DC bus under-voltage
103	U_Bus_HW_Pro	DC bus hardware under-voltage
104	PSU_Fault	Auxiliary power error
105	T_HS_OT	Heat sink over-temperature
106	T_TX_OT	Transformer over-temperature
107	Sam_HD_Fault	Sampling fault
108	EEPROM_Fail	EEPROM fault
109	Output_ShortCut	Output short circuit
110	Output_OverLoad	Output over-load
111	CoolSys_Err	Cool system failed
112	U_BAT_Low_Deep	Battery deep discharge
113	U_INV_LV	Inverter output under-voltage
114	Instant_OC_Soft	Inverter output instant over-current
115	EPO	Emergency stop
116	Rly_Err	Relay error

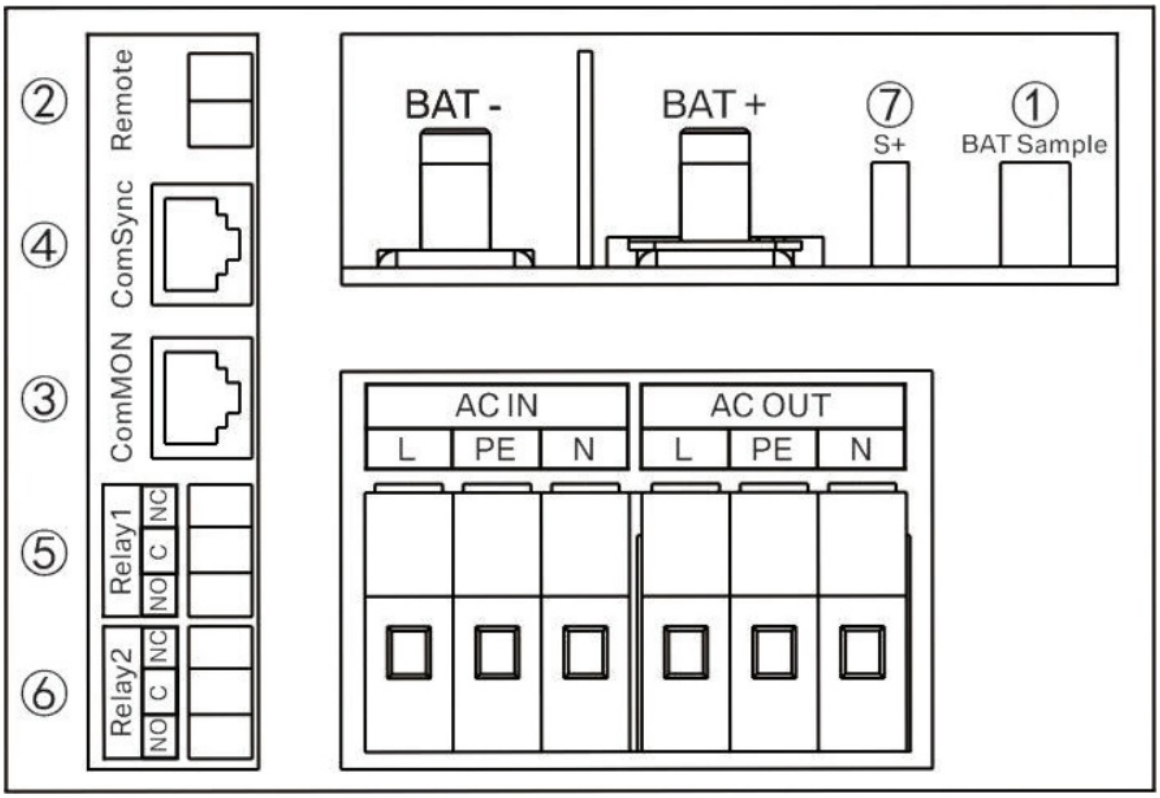
COMPONENT SPECIFICATIONS

INVCHR2
2000W 12V INVERTER/CHARGER
Perfect for powering the most demanding 240V appliances on the go this inverter/charger is ideal for operating on or off the grid. An RCD is included to ensure maximum safety for the unit and operator. The inverter / charger is fitted with Grid /Power boost which is great if the shore power or generator is weak.



SPECIFICATIONSPART NO	INVCHR2
240V CHARGING	
CHARGE TYPE	5 Stage Automatic
INPUT	240VAC, 50/60Hz 32A(MAX)
OUTPUT	12V,120A
BATTERIES SUPPORTED	GEL, AGM, WET, Lithium
TEMPERATURE COMPENSATION	YES
INVERTER	
INPUT	12V (10.5V~17V)
OUTPUT	220/230/240 VAC
FREQUENCY	50/60 Hz
OUTPUT POWER	2000W (4000W peak)
GRID BOOST OUPUT	24Amps, Mains Supply + 8.3Amps Inverter
AC TRANSFER	<2msec
OPERATING TEMPERATURE	-20°C ~ 65°C
WEIGHT	17KG
IP RATING	IP20

CONNECTION COMPARTMENT



SIGNAL TERMINAL

NO.	LABEL	DEFINITION
1	Bat Sample	Battery temperature and voltage sample.
2	Remote	A dry contact input for remote on/off, ignition could be connected.
3	Com MON	RS485 port for external monitor such as INVCHRD-BT.
4	Com Sync	Communication with PROJECTA's LB-HD series lithium battery, which is able to sy nchronize lithium battery's charging and discharging strategy
5	Relay1 (NO,C,NC)	Dry contact output control 1(NO,C,NC)
6	Relay2 (NO,C,NC)	Dry contact output control 2(NO,C,NC)
7	S+	Slave charger for starter battery

SC540

5 STAGE MPPT SOLAR CHARGER CONTROLLER WITH 100V INPUT

Get the most out of your solar array using these Maximum Power Point Tracking (MPPT) solar controllers increasing the charging output by up to 30% (compared to PWM Solar controllers).

SPECIFICATIONSPART NO	SC540
BATTERY VOLTAGE	12/24/48V
MAXIMUM SOLAR VOLTAGE	100V
STANDBY CURRENT	1mA 12V
CHARGER TYPE	5 Stage
INPUT	100V
CONTROL TYPE	MPPT
BATTERIES SUPPORTED	GEL, AGM, WET, Lithium
TEMPERATURE COMPENSATION	Yes
COMMUNICATION	RS485
STORAGE TEMPERATURE	-40°C ~ 70°C
HUMIDITY	5 – 95%
IP RATING	IP31
WEIGHT	1.4KG
COOLING	Convection

LABEL		DEFINITION
PV	+	Connection terminal for PV array Positive
	–	Connection terminal for PV array Negative
BAT	+	Connection terminal for Battery Positive
	–	Connection terminal for Battery Negative
EPO		EPO contacts, defined for remote on/off.
NC		Output dry contacts.
C		
NO		
RS485		Connection terminal for RS485 communication.
Temp. Sensor		Connection terminal for battery temperature sensor.

PIN DEFINITION OF TEMP SENSOR

PIN	DEFINITION
Pin 1	Battery Positive
Pin 2	Battery Negative
Pin 3	Temperature sensor
Pin 4	Battery Negative

PIN DEFINITION OF RS485 COMMUNICATION PORT

PIN	DEFINITION
Pin 1	
Pin 2	
Pin 3	RS485_A
Pin 4	
Pin 5	
Pin 6	RS485_B
Pin 7	
Pin 8	

PMDCS30
DC-DC 12V CHARGER
Smart DC to DC chargers specifically designed for Intelli-RV and Intelli-Grid.

SPECIFICATIONSPART NO	PMDCS30
CHARGER TYPE	5 Stage
ALTERNATOR INPUT VOLTAGE	12-16V
OUTPUT	12V, <30A
BATTERIES SUPPORTED	GEL, AGM, WET, Lithium
STORAGE TEMPERATURE	-40°C ~ 70°C
OPERATING TEMPERATURE	-40°C ~ 70°C
IP RATING	IP20
WEIGHT	1.0KG
COOLING	Convection
SMART ALTERNATOR	Turn on: 11.6V Turn off: 11.5V
CONVENTIONAL	Turn on: 13.2V Turn off: 12.8V

CONNECTORS AND TERMINALS

Connectors and terminals guide

No.	Print	PMDCS30	Remarks	Circuit colours and labelling
1	Alternator	Connects to positive of Alternator	Connects to positive batter y post	Red + Label “Aux+”
	BAT-	Connects to negative of Alternator	Connects to positive of mo tor battery post	Black – Label “Aux-”
2	AUX BAT	Connects to positive of auxiliary batte ry		Red + Label “Vehicle Batt+”
	BAT-	Connects to negative and negative of auxiliary battery		Black – Label “Vehic le Batt-”
3	COM	For communication of RS485	Not Connected	
4	1	Not used	Details of setting can be f ound as Chapter 4.6	
	2	Set on for 30Amp, off for 15Amps		
	3	Used to set battery chemistry		
	4			
5	BAT-	Connects to BTS’ black cable	For battery temperature se nsing	RED Ring Terminal c onnect to Battery +v e
	Temp	Connects to BTS’ white cable		
	V-Sen	Connects to BTS’ red cable	For voltage sensing	

Fuse specification

No.	Print	Specification	Colour	Quantity	Protection for
6	Alternator	30A/32VDC for PMDCS30	Amber	2	Input from alternator
7	AUX BAT	20A/32VDC	Yellow	2	Output to charge auxiliary battery

STATUS INDICATORS

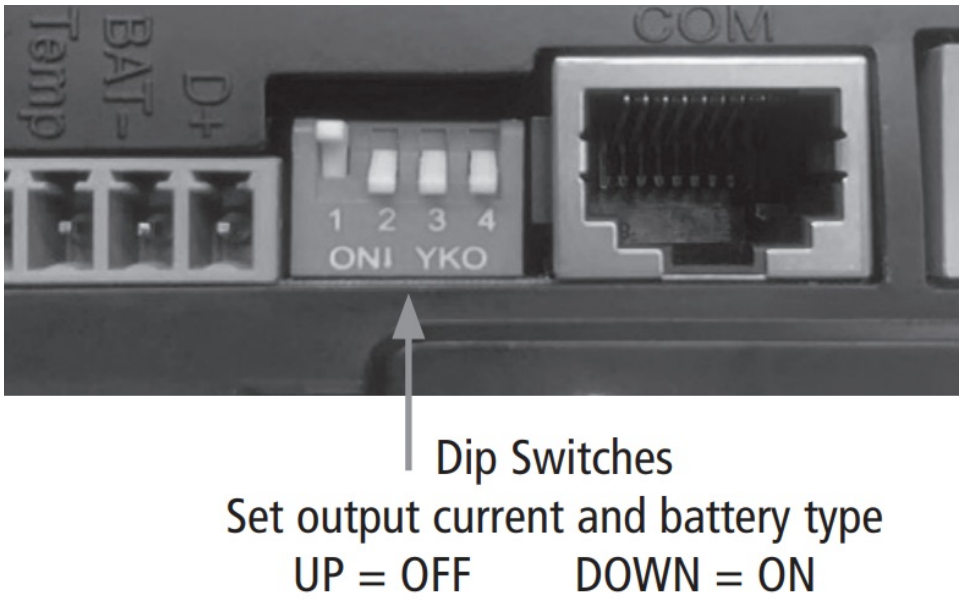
LED codes

No.	Print	Power	Fridge/Load	Alternator	Charge	Fault
4-2	Alternator Present	Green Light On	Green Light Off	Green Light Off	Green Light Off	
4-3	Charger faulty	Green Light	Green Light	Green Light	Green Light	Red Light
		On	Off	Off	Off	On
4-5	Alternator over voltage	Green Light	Green Light	**Green**	Green Light	**Red Light**
		On	Off	**Light Flash**	Off	**Flash**
4-6	Fridge/Load Short Circuit*	Green Light On	**Green Light Flash**	Green Light On	Green Light Off	Red Light On
4-7	Fridge/Load Output	Green Light	**Green Light**	Green Light	Green Light	Red Light
	Overload*	On	**Flash**	On	Off	On
4-9	Bulk Time out	Green Light	Green Light	Green Light	**Green Light**	**Red Light**
		On	Off	On	**Flash**	**Flash**
4-12	Output Overvoltage	Green Light On	Green Light Off	Green Light Off	**Green Light Flash**	**Red Light Flash**
4-13	Fridge/Load output	Green Light On	Green Light On	Green Light On	Green Light On	Red Light Off
4-14	Softstart Charging	Green Light On	Green Light On	**Green Light Flash**	**Green Light Flash**	Red Light Off
4-15	Bulk charging	Green Light On	Green Light Off	Green Light On	**Green Light Flash**	Red Light Off
4-16	Absorption charging	Green Light On	Green Light Off	**Green Light Flash**	Green Light On	Red Light Off
4-17	Float charging (charged)	Green Light On	Green Light Off	Green Light On	Green Light On	Red Light Off
4-18	Recycle Mode	Green Light On	Green Light Off	**Green Light Flash**	**Green Light Flash**	Red Light Off

DIP SWITCH SETTING

Dip switch setting for output current

Output Current settings		
Pin 1	**Pin 2**	**Charge current (Max Amps)**
Not used	OFF	15
Not used	ON	30 (Default)



Dip switch setting for battery type

Dip switch for battery type setting		Battery type	Absorption charging voltage	Float charging voltage
Pin 3	**Pin 4**			
OFF	OFF	AGM(Default setting)	14.4V	13.5V
OFF	ON	GEL	14.1V	13.5V
ON	OFF	LFP	14.2V	13.5V
ON	ON	WET	14.7V	13.5V

⚠ Do not connect PMDCS30 to AC Mains

⚠ Please ensure the connections are tight and are of the correct polarity. Damaged caused by improper installation may void warranty.

SPECIFICATIONS

.	**PMDCS30**
Electrical	
Alternator input voltage range (Intelligent type)	12~16VDC
Automatic activation D+	Yes
Absorption charge voltage	Default Setting: 14.4VDC
Float charge voltage	Default Setting: 13.5VDC
Charge current	<30A
Total current of load and charging	<30A
Maximum charging efficiency	96%
Temperature compensation	Default Setting: -3mV/°C/cell
Voltage compensation	Yes
Charge algorithm	Premium II multi stage
Protection	• Battery charger over temperature• Over load• Short circuit
Communication	RS485, RJ45 connector
Storage temperature	-40°C ~70°C
Operating temperature	-40°C ~70°C
Enclosure	
Battery Connection	Cable with connector
Protection category	IP20
Weight	1.0kg
Dimensions (h*w*d)	181*148*52mm
Standards	
Emission	ECE 10R-06, EN61000-6-1, EN61000-6-3

INVCHRD-BT
INVERTER / CHARGER AND BATTERY MONITOR.
Monitors the batteries State of Charge, current and voltage via phone using Bluetooth. Monitoring communication directly with the Inverter Charger and the battery so no additional shunts are required making it easy for installation and use. With a remote battery switch integrated in the monitor, turning the Inverter Charger on and off remotely allowing for the inverter / charger or battery to be stored elsewhere.

SPECIFICATIONS	
PART NO	INVCHRD-BT
WORKING VOLTAGE	12V
WORING CURRENT	Screen ON 50MaScreen OFF 20mA
COMMUNICATION	RS485, Bluetooth
WORKING TEMPERATURE	-20°C ~ 65°C
WEIGHT	50g
IP RATING	IP 20

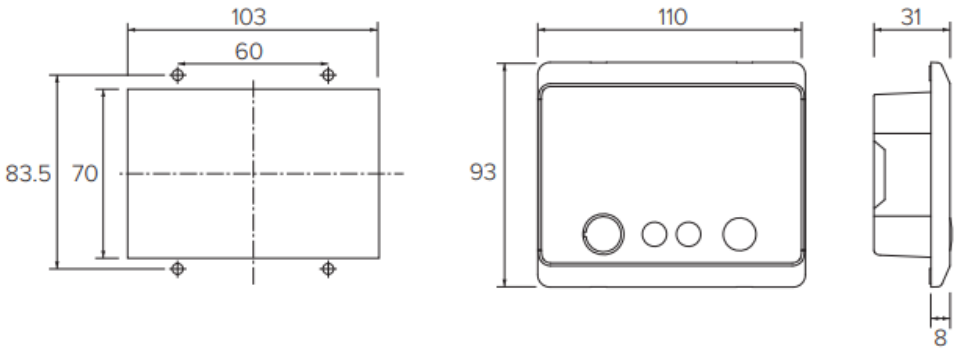
ACCESS THE APP VIA GOOGLE PLAY AND THE APP STORE
To connect your phone or smart device with the remote monitor, you will first need to download the app from the Google Play or Apple store. Scan the QR codes below to download directly or search your relevant app store for “APPNAMEHERE”.

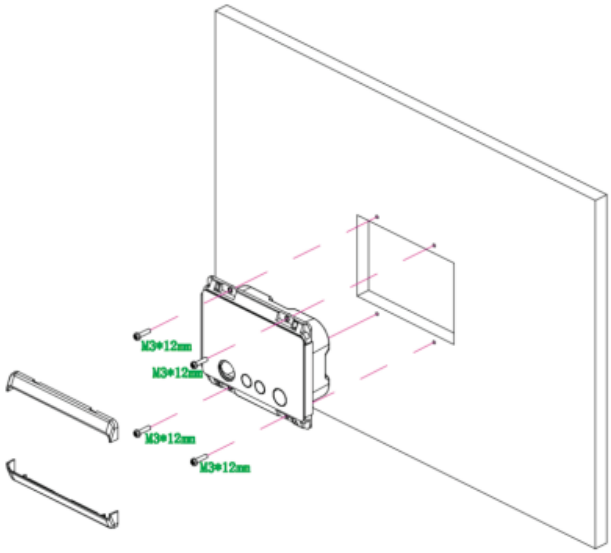
BATTERY
LB200-HD
12V HIGH DISCHARGE 200AH LITHIUM BATTERY
LB200-HD boast impressive capabilities and are ideal for 4WDs and caravans with high power demands.

SPECIFICATIONS	
PART NO	LB200-HD
NOMINAL VOLTAGE	12.8V
NOMINAL CAPACITY	200Ah
NOMINAL ENERGY	2560Wh
CHARGE VOLTAGE	14.2V
DISCHARGE CUT-OFF VOLTAGE	11.2V
STANDARD CHARGE CURRENT	100 Amps
MAXIMUM CHARGER CURRENT	200 Amps
MAXIMUM DISCHARGE CURRENT	200 Amps
PEAK DISCHARGE CURRENT	300 Amps (10Mins)
OPERATING TEMPERATURE	-20°C ~ 60°C
MAXIMUM NUMBER OF BATTERIES IN PARALLEL	4
NUMBER OF DISCHARGE CYCLES	3000
WEIGHT	22KG
IP RATING	IP20

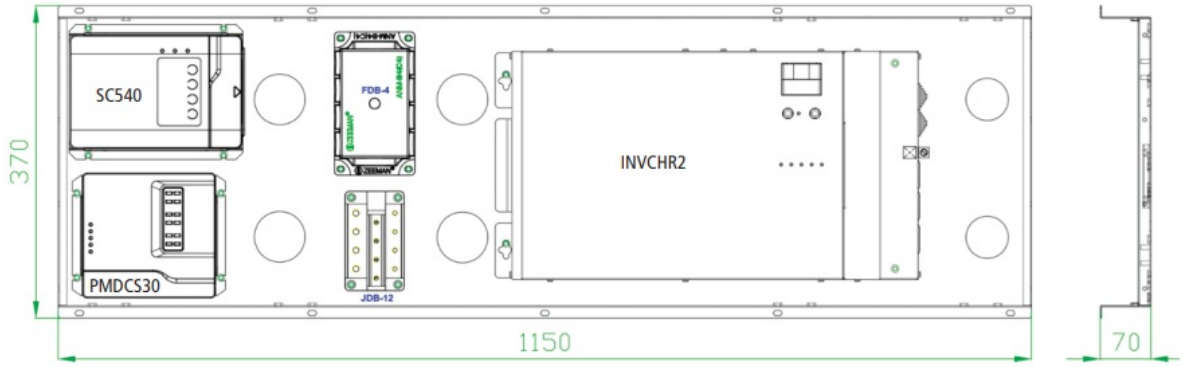
STRUCTURE AND INSTALLATION

MONITOR





INTELLI-GRID IG2-BM



WARRANTY STATEMENT

Applicable only to product sold in Australia

Brown & Watson International Pty Ltd of 1500 Ferntree Gully Road, Knoxfield, Vic., telephone (03) 9730 6000, fax (03) 9730 6050, warrants that all products described in its current catalogue (save and except for all bulbs and lenses whether made of glass or some other substance) will under normal use and service be free of failures in material and workmanship for a period of two (2) year (unless this period has been extended as indicated elsewhere) from the date of the original purchase by the consumer as marked on the invoice.This warranty does not cover ordinary wear and tear, abuse, alteration of products or damage caused by the consumer. Projecta solar panels are covered by a 1 year warranty for materials and workmanship and a 20 year warranty for at least 80% power output.

To make a warranty claim the consumer must deliver the product at their cost to the original place of purchase or to any other place which may be nominated by either BWI or the retailer from where the product was bought in

order that a warranty assessment may be performed. The consumer must also deliver the original invoice evidencing the date and place of purchase together with an explanation in writing as to the nature of the claim. In the event that the claim is determined to be for a minor failure of the product then BWI reserves the right to repair or replace it at its discretion. In the event that a major failure is determined the consumer will be entitled to a replacement or a refund as well as compensation for any other reasonably foreseeable loss or damage. This warranty is in addition to any other rights or remedies that the consumer may have under State or Federal legislation

IMPORTANT NOTE
Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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Documents / Resources

	INTELLI-GRID IG2-BM High Powered Management With Bluetooth Monitor [pdf] User Guide IG2-BM, IG2-BM High Powered Management with Bluetooth Monitor, High Powered Management with Bluetooth Monitor, Bluetooth Monitor, Monitor