

DIMENSIONS™

DC to AC POWER INVERTERS

Pure Sine Wave Output

OWNER'S INSTRUCTIONS



EV1200

12UE12NR

With Available Options
Battery Charger / Transfer Switch



Sensata Technologies

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SAFETY INSTRUCTIONS

IMPORTANT: Read this manual before installation, it contains important safety, installation, and operating instructions. Save this manual and keep it in a safe place.



NOTE: This product is Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc., File E100666.

Sensata Technologies is an ISO 9001:2000 Registered Company.

Sensata uses the following special notices to provide warning of possible safety related problems which could cause serious injury and to provide information to help prevent damage to equipment.

▲ DANGER indicates an imminently hazardous situation which, if not avoided will result in death or serious injury.

▲ WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

▲ CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE is used to notify of installation, operation, or maintenance information that is important but not hazard related.

Inverter Safety Instructions

▲ WARNING: Power Inverters produce hazardous voltages. To avoid risk of harm or fire, the unit must be properly installed.

▲ WARNING: There are no user serviceable parts inside, do not remove the cover.

▲ WARNING: Power Inverters should not be mounted in a location that may be exposed to rain or spray.

▲ WARNING: Power Inverters should not be installed in a zero clearance enclosure.

▲ WARNING Damage to the Power Inverter will occur if correct polarity is not observed when installing the inverter's DC input cables.

▲ WARNING: Damage to the Power Inverter will occur if an external AC power source is applied to the inverter's AC hard wire output.

▲ WARNING: Power Inverters contain a circuit breaker and capacitor that may produce a spark. Do not mount in a confined battery or gas compartment.

▲ WARNING: Be sure the Power Inverter is turned OFF during installation.

Battery Safety Information:

⚠ WARNING: Working in the vicinity of lead-acid batteries is dangerous. There is a risk of acid exposure.

⚠ WARNING: Batteries generate explosive gases during operation.

⚠ WARNING: There is risk of high current discharge from shorting a battery that can cause fire and explosion. Use insulated tools during installation.

⚠ WARNING: Remove all rings, watches, jewelry or other conductive items before working near the batteries.

⚠ WARNING: Inspect the batteries once a year for cracks, leaks or swelling.

⚠ WARNING: Dispose of the batteries according to local regulations. Do not incinerate batteries; risk of explosion exists.

TECHNICAL SPECIFICATIONS

INVERTER BASE MODEL		12UE12NR	
Dimensions - LxWxH (Inches):	12 x 11.5 x 6.9		
Efficiency:	Up to 88%		
Input Current (Amps DC):	Up to 120		
Input Voltage (Volts DC):	11 to 14		
Operating Temperature:	-20°C to 40°C (0°F to 104°F)		
Output Current (Amps DC):	Up to 10		
Output Frequency (Hz):	60 ± 5%		
Output Power (Watts):	1200		
Output Voltage (Volts AC):	120 ± 5%		
Output Waveform:	Pure sine < 5% THD		
Peak Output (Amps AC):	30		
Weight (Lbs):	32		
BATTERY CHARGER: "B3"		Optional	
Input Current (Amps AC):	Up to 13		
Output Current (Amps DC):	Up to 25*	Up to 56	
TRANSFER RELAY "T"		Optional	
Current Rating (Amps AC):	13		
Transfer Time (milliseconds):	Less than 16 typical		
REMOTE PANEL READY: "R"		Built-in Connections	
171412-1 Charger status panel	Optional LED panel		
171413-1 Inverter status panel	Optional LED panel		
* Charge output is limited when Temp. Comp. Cable is not connected.			

Other Design Features:

Patented construction, and cooling methods with thermally controlled cooling fan, hospital grade GFCI outlet protections, and Remote "ON/OFF" switch hookup.

Unit Protection:

Automatic electronic short circuit/overload protection, Automatic over temperature shutdown, and output circuit breakers.

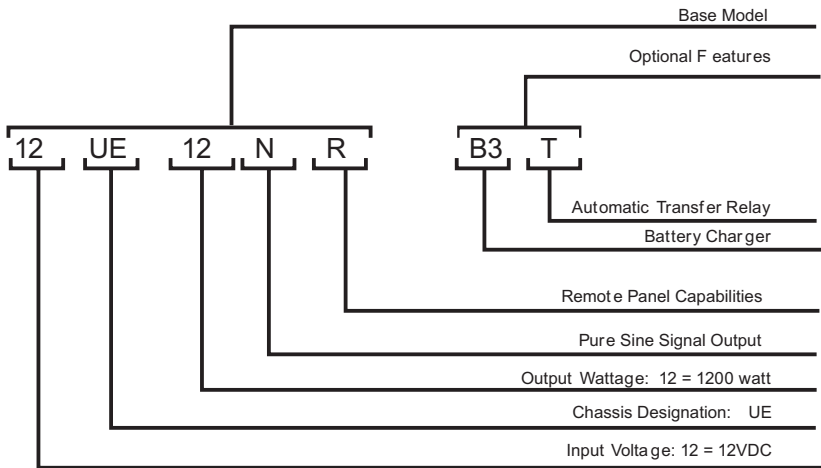
Battery Protection:

Automatic low battery shutdown at 10.5VDC with in-rush delay.

Usage:

Any 120 VAC, 60 Hz single phase product within the inverter's power rating.

NOMENCLATURE



FEATURES

The base model is a straight DC to AC inverter. The following optional features may be added as needed.

Battery Charger - "B3" Optional:

3-step battery charger. The battery charger and the transfer relay share the same AC input circuitry.

Remote Panel Ready - "R" Built-In connections:

Integrated terminal board for remote LED status panel connections.

Transfer Relay - "T" Optional:

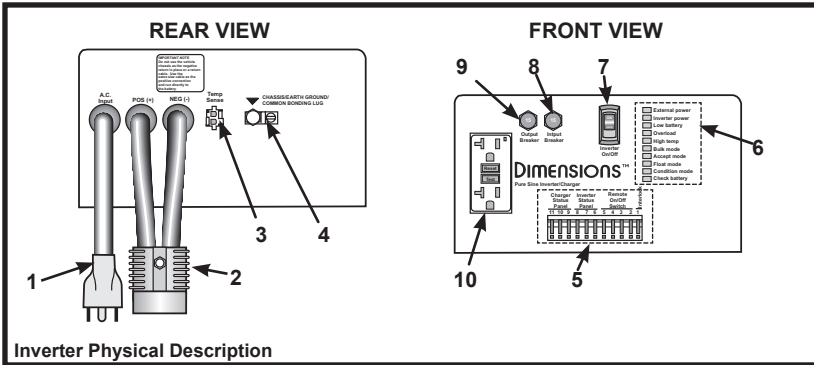
Allows external AC power to pass through when available to power up the loads connected to the Inverter's output.

SYSTEM COMPONENTS

The inverter system includes any of the following models: 12UE12NR, 12UE12NRT, AND 12UE12B3NRT

- 210080: Anderson Quick Connector (included)
- 611600-20: 20' Temp. Comp Cable (included with "B3" option only)

PHYSICAL DESCRIPTION



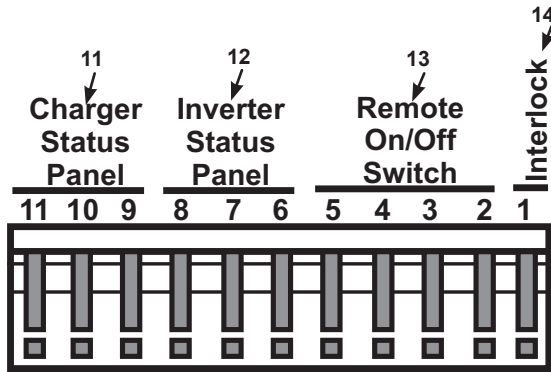
1. **Plug-In AC Cord:** Connects to a 120VAC outlet (not available with "H" option)
2. **Quick DC Input Disconnect:** Connects to the battery pack.
3. **Temp. Comp. Connector Port:** Connects to the Temp. Comp. Cable.
4. **Bonding Lug:** Connects to the ground system.
5. **Remote Panel Terminal Board Connections:** Used to connect the remote panels (Charger and Inverter) and the Remote On/Off Switch.
6. **LED Status Control Panel:** Provides Inverter status.
7. **Local ON/OFF Switch:** Switches the Inverter ON or OFF.
8. **Input Breaker:** Trips to protect the Inverter from spikes.
9. **Output Breaker:** Trips to protect the Inverter's internal circuitry from shorted AC loads or overload situations.
10. **GFCI Outlets:** Hospital grade style provides 120VAC Output.
11. **Battery Type Selector Switch:** (Not Shown)
12. **System Status LED:** (Not Shown)
13. **Cooling Fan:** (Not Shown)

LED Status Control Panel:

- | | | | |
|----|---|--------------------------|----------------|
| 1 | → | <input type="checkbox"/> | External power |
| 2 | → | <input type="checkbox"/> | Inverter power |
| 3 | → | <input type="checkbox"/> | Low battery |
| 4 | → | <input type="checkbox"/> | Overload |
| 5 | → | <input type="checkbox"/> | High temp |
| 6 | → | <input type="checkbox"/> | Bulk mode |
| 7 | → | <input type="checkbox"/> | Accept mode |
| 8 | → | <input type="checkbox"/> | Float mode |
| 9 | → | <input type="checkbox"/> | Condition mode |
| 10 | → | <input type="checkbox"/> | Check battery |

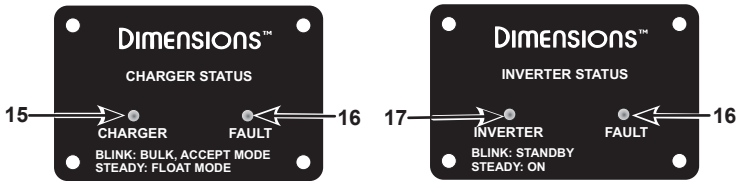
1. **External Power:** Green LED **ON** - External AC power line pass through.
2. **Inverter Power:** Green LED **ON** - Inverter is operating from batteries.
3. **Low Battery:** Red LED **ON** - Low battery voltage condition.
4. **Overload:** Red LED **ON** - Overload condition.
5. **High Temp.:** Red LED **ON** - High temperature condition.
6. **Bulk mode:** Battery charger is on bulk mode.
7. **Acceptance mode:** Battery charger is on acceptance mode.
8. **Float mode:** Battery charger is on float mode.
9. **Condition mode:** Battery charger is on condition mode.
10. **Check Battery:** Error message, check batteries or battery cable.

Remote Panel Terminal Board Connections:



11. **Charger Status Panel:** Connects to Terminals 11, 10, and 9.
12. **Inverter Status Panel:** Connects to Terminals 8, 7, and 6.
13. **Remote On/Off Switch:** Connects to Terminals 5, 4, 3, and 1 accordingly.
14. **Interlock:** Connects to Terminal 1.

System Status LED:

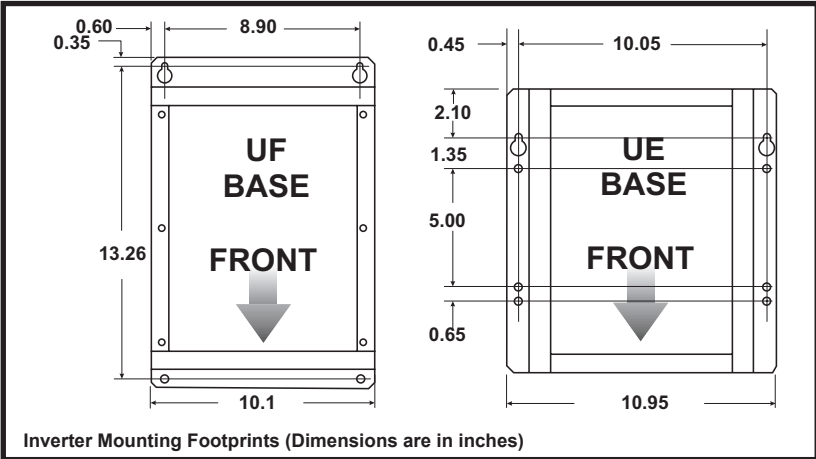


15. **Charger:** Green LED **BLINKING** - Charger is in bulk or Acceptance mode.
Green LED **STEADY** - Charger is in Float mode.
16. **Fault:** Red LED - There is a fault, consult the Front Inverter Panel for more informations.
17. **Inverter:** Green LED **BLINKING** - Inverter is in standby mode.
Green LED **STEADY** - Inverter is operating from batteries.

MOUNTING THE INVERTER

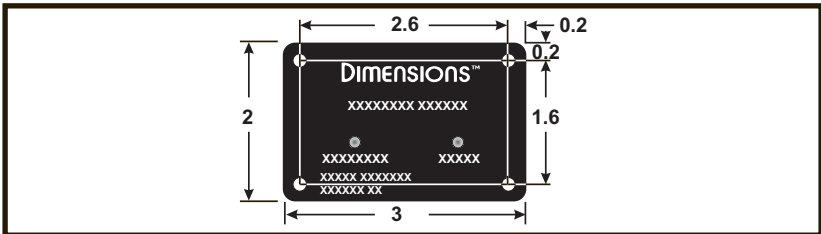
Installation Tools:

The following tools are required for inverter installation: Crimper, Cable Ties, Cutter, Drill, #2 Phillips Screw Driver, Tape Measure, Wire Cutters, and Wire Strippers.



NOTE: The inverter mounting location should provide adequate ventilation and clearance to maintain room temperature during operation. At least 1/2 inch of clearance is required on all sides.

- 1 Locate a suitable, secure vertical or horizontal mounting surface as close to the batteries as possible without being in the same airtight compartment.
- 2 If mounting the inverter on a vertical surface, it is recommended that the front control panel be pointing down whenever possible.
- 3 Locate the mounting holes on the chassis flanges and fasten them using 1/4 inch diameter screws to secure the inverter.



- 4 Mount the LED remote status panel in a convenient, visible and accessible location.
- 5 Mount the panel with #8 screws. Drill a 0.5" hole on the mounting wall to route the panels back wires through the wall (1" above and 1.5" to the right from the lower left corner of the panel.)
- 6 Wire the panel using insulated butt splice or equivalent. The terminal block on the inverter uses a stripped wire connection.

DC WIRE GAUGE & FUSING

Inverter Cable

An "inverter cable" kit (positive cable, negative cable and proper fuse) is needed to connect the inverter to a battery bank. An 8-gauge single strand cable is also recommended to connect the inverter's bonding lug to ground.

The inverter cable length and the size of the inverter will determine the cable gauge and the fuse size to use. The maximum inverter cable recommended is 20-ft; it must be fused within 18-in from the positive (+) terminal of the battery.

Cross reference the inverter model, and the estimated cable length in Table I to determine proper cable gauge, and fuse size. The inverter cable kit can be purchased directly from factory. See the accessories section on this manual.

Cable and Fusing Guide at 5% Voltage Drop at Full Output				
Inverter Model	Full Load (Amps DC)	Inverter to Battery Estimated Cable Length in Feet		
		1 Ft. to 10 Ft.	11 Ft. to 15 Ft.	16 Ft. to 20 Ft.
12UE12NR	120	4-gauge, 200A Fuse	2-gauge, 200A Fuse	1-gauge, 200A Fuse

▲ WARNING: Proper cable gauge must be used to prevent excessive voltage drop at the inverter DC input.

Cable Recommendations

To furnish an "Inverter Cable" Kit, follow below recommendations:

1. Use stranded copper cables in all cases.
2. Use SGX cross-linked polyurethane insulation type that complies with the high temperature insulation requirements (125°C.) of SAE J-1127 and vehicle manufacturer requirements.
3. Cable gauge recommendations are minimum. For higher than normal temperature applications or large motor loads and other applications with high surge currents use cable gauge 1 to 2 sizes larger than recommended in "**Cable and Fusing Guide at 5% Voltage Drop at Full Output**".
4. Keep the cable lengths between battery and inverter as short as possible.
5. Use Bussmann fuse type ANN or ANL and fuse block # 3576.

REMOTE "ON/OFF" SWITCH

A customer supplied remote "On/Off Switch" can be wired to the terminal board located on front labeled "Remote On/Off Switch" using 18-gauge wires by two different methods:

- Positive Start: Use a jumper between Terminal **4** and **5**, connect the "On/Off Switch" between Terminals **2** and **3**.
- Negative Start: Use a jumper between Terminal **2** and **3**, connect the "On/Off Switch" between Terminal **4** and ground, leave terminal **5** open.

NOTE: Terminal **1** (Interlock) must be fused at 1-Amp and connected to +12VDC or master disconnect switch.

REMOTE STATUS PANEL CONNECTIONS

Two optional remote LED status panels can be connected to the inverter terminal board located on front. Both panels come with a 20 foot, 18-gauge lead wires extending from the back of each panel for proper connection.

Charger Panel # 171412-1 ("B3" option only)

Connect the black wire to Terminal **11**, the white wire to Terminal **10** and brown wire to Terminal **9**.

Inverter Panel # 171413-1

Connect the red wire Terminal **8**, green wire to Terminal **7** and gray wire to Terminal **6**.

TEMP. COMP. CABLE CONNECTION

Connect the ring terminated end to the negative side of a battery bank and the 2-pin connector end to the appropriate port located at the back of the inverter labeled "temp. sense". The temperature compensation cable collects critical information from the batteries for proper voltage and charge current at that moment ("B3" option only.)

NOTE: If the Temp. Comp. Cable is not connected; the battery charger will not function

Connect the Temp. Comp. Bypass dongle, P/N _____ to the Temp. Comp. Connector port to use the battery charger without the Temp. Comp. Cable. Without the Temp. Comp. Cable, the charger voltages are reduced to their minimum settings to avoid overcharging the battery in warmer conditions.

AC INPUT & OUTPUT CONNECTIONS

⚠ WARNING: Do not connect another source of AC power directly to the output of the inverter. This will result in damage not covered under warranty.

Local 120VAC, 60Hz AC Output

The inverter's local AC output power is provided at the GFCI protected outlet located on front.

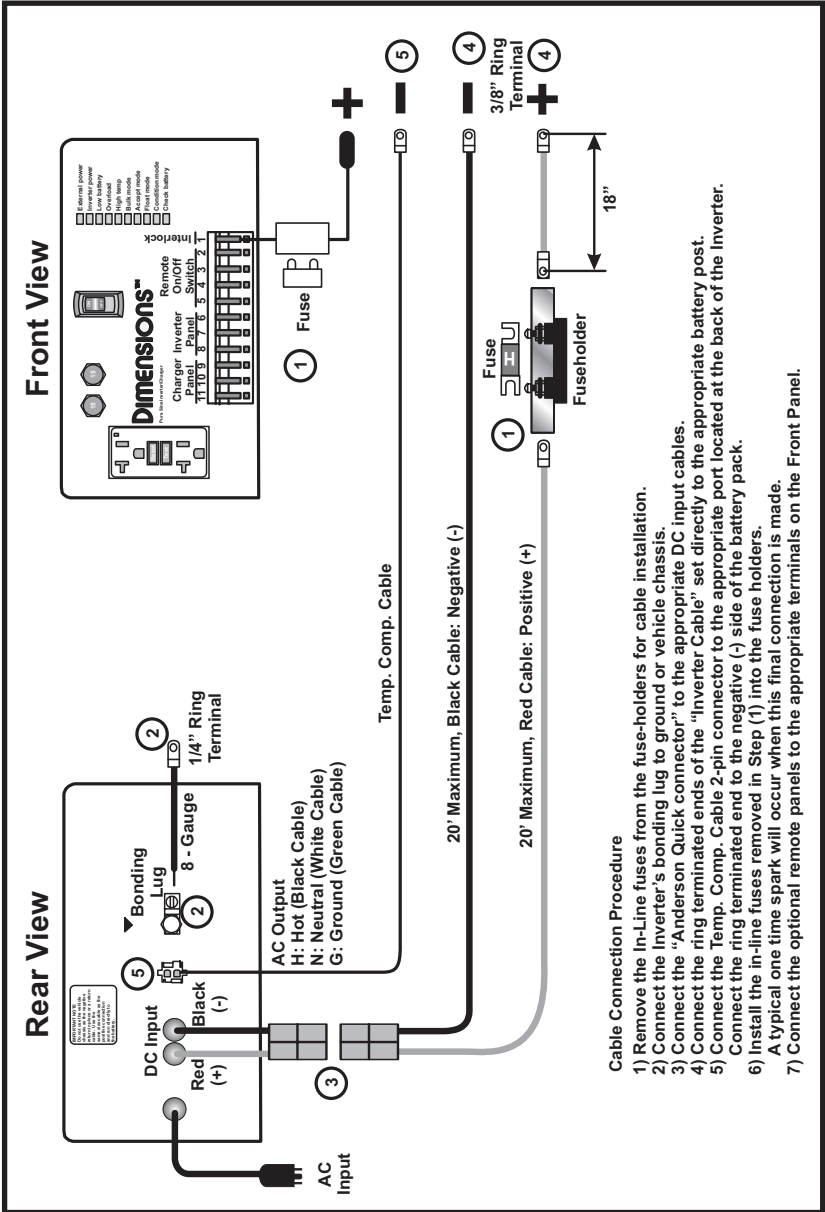
120VAC, 60Hz AC Input ("T" option only)

Connect the plug-in cable extending from the back of the inverter to a **non-GFCI** AC outlet.

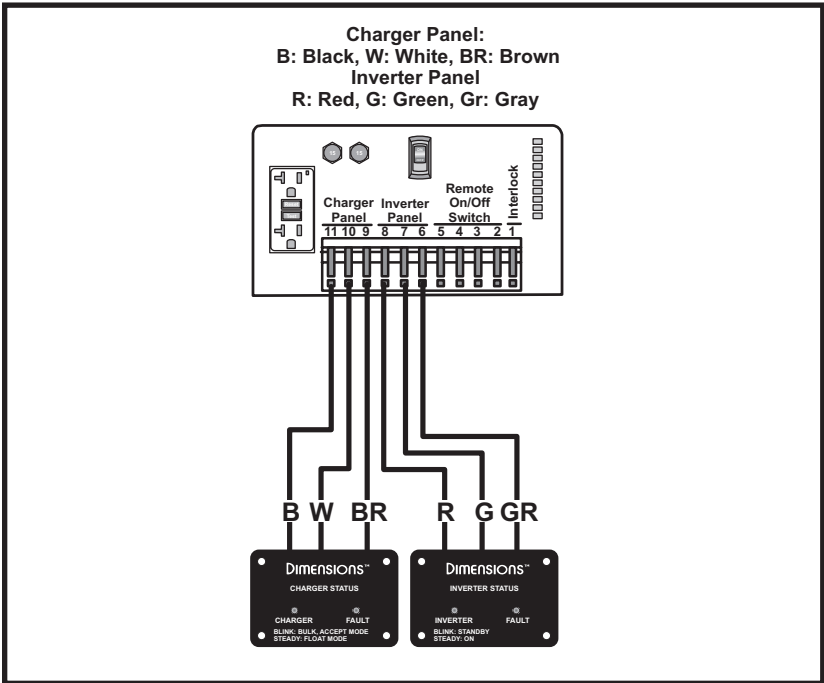
NOTE: Connecting the plug-in cord to GFCI protected outlets may cause some interference with the inverter's GFCI front output outlets.

WIRING DIAGRAMS

Inverter Cable Assembly AC/DC Cable Connections



Typical AC (no “A” option) & DC Wiring Diagram



THEORY OF OPERATION

The “Local On/Off Switch” located on front, or the “Remote On/Off Switch” if used controls the inverter. Both the Local and “Remote On/Off” switches are configured in series. To control the inverter remotely set the “Local On/Off switch” to **OFF**.

NOTE: +12VDC must be applied to terminal ! for the inverter to operate. The module disconnect switch, if available must be set to **ON**.

Optional modes: “External Power” mode, and “Inverter Power” mode.

External Power Mode

The green LED “External Power” will come on indicating that there is a valid external AC power line applied to the inverter AC input. Valid AC line is a voltage between 90 and 135 volts RMS. If the inverter panel 171413-1 is included and the inverter is set ON, the green LED “Inverter” will blink to indicate that the inverter is in standby mode (shore power available.)

Transfer Relay Switch

The loads attached to the inverter output will operate directly from the external AC power line independently of the inverter ON/OFF status. If the inverter is left ON (standby mode), the built-in transfer relay will automatically cycle back and forth between “Inverter Power” mode and “external power” mode depending on the availability of the external AC power line.

Battery Charger (“B3” option only)

The battery charger cannot be defeated, and will engage automatically independently of the inverter ON/OFF status. The charging process goes through a 3-step charging modes: Bulk, acceptance and float mode. A conditioning mode automatically triggers every 10th complete charging cycle.

The proper LED light located on front of the inverter will come on to indicate the charging status mode. If the charger panel 171412-1 is included, the green LED "Charger" will blink to indicate "bulk" or "acceptance" mode. If the green LED keeps steady, the charger is in "float" mode.

NOTE: The battery charger will engage any time AC input voltage is present.

Three Step Charger Recipes, voltages with Temp. Comp. Cable				
	Switch Position	WL—Pos C	AGM —Pos A	GEL —Pos B
	Battery Type	Wet	AGM	GEL
Bulk charge phase				
Bulk	Bulk charge current limit	50A DC	50A DC	50A DC
	Bulk phase time-out	8 hours	8 hours	8 hours
Acceptance charge phase				
Acceptance	Acceptance charge voltage @ 77°F	14.6	14.3	13.7
	Acceptance charge Temp. Comp.	0.028V/cell Per 10°F	0.028V/cell Per 10°F	0.028V/cell Per 10°F
	Maximum acceptance voltage at low temps	15.0v	15.0v	14.5v
	Acceptance phase time-out	8 hours	6 hours	10 hours
Float charge phase				
Float	Float voltage @ 77°F	13.2	13.4	13.4
	Float voltage temp. comp.	0.28V/cell per 10°F	N/A	N/A
Condition (Equalization) Phase				
Condition	Condition voltage @77°F	Acceptance Volts + 0.2V	Never	Never
	Condition voltage temp. comp.	0.28V/cell per 10°F	N/A	N/A
	Condition duration	3 hours	N/A	N/A
	Condition frequency	10 cycles	N/A	N/A
Battery Temperature				
Batt. Temp.	Charger High Battery Temp. shutoff in all modes: Bulk/Accept/Float	122°F/50°C	122°F/50°C	122°F/50°C
	Charger Restart in all modes: Bulk/Accept/Float	112°F/45°C	112°F/45°C	112°F/45°C

Charger operation with temperature compensation cable

The battery charger temperature compensation cable measures the battery temperature and automatically adjusts the charger output voltage for the fastest and safest charge.

When batteries are cold, their chemical reaction is slowed, so they don't take on charge as easily. A charge voltage optimized for room temperature will not charge the battery at low temperatures. The Temp. Comp. Cable allows the charger to increase the charge voltage for optimum charging at low temperatures.

When batteries are hot, their chemical reaction is accelerated and they absorb energy too readily. A charge voltage optimized for room temperature will tend to overcharge the batteries and cause gassing. The Temp. Comp. Cable will cause the charger to decrease the charge voltage to a safe level.

Manufacturers of Lead Acid batteries recommend that charging cease when the battery temperature reaches 122°F/50°C. Our charger will stop charging if the sensed battery temperature reaches the limit. The charger will resume charging when the battery cools to 112°F/45°C.

Charger operation with Temp. Comp. Bypass dongle

If the charger is used with the Temp. Comp. Cable Bypass Dongle, the charger will lock in to a hot setting for the charge voltages per the table. The bypass dongle may significantly reduce charger effectiveness at low temperatures and will not sense an overheated battery, and may not avoid a hazardous condition

3 Step Battery Charger Recipes, voltages with Temp. Comp. Bypass Dongle			
Switch Position	WL —Pos C	AGM —Pos A	GEL —Pos B
Battery Type	Wet	AGM	GEL
Bulk charge current limit	50A DC	50A DC	50A DC
Acceptance charge voltage	14.1	13.8	13.2
Float voltage	12.7	12.9	12.9
Condition voltage	14.3	Never	Never

Equalization

▲WARNING: Explosive gasses, equalization generates explosive gasses, ensure adequate ventilation.

CAUTION: Batteries may be damaged. Always check electrolyte level before and after equalization. Fill with distilled water per battery manufacturer’s guidelines.

When the battery type selector switch is set to **WET**, the charger will equalize the batteries every 10th complete charging cycle, after the charger has reached the Float stage. The charger will not perform equalization if the selector switch is set to AGM or GEL.

If your flooded batteries do not have provisions for adding electrolyte, the AGM battery selection would be a better choice for battery type.

Load Management

The charger shares incoming power with the AC loads connected to the front panel receptacle. The AC loads are given priority, this means the charger will reduce its output with large AC loads. This feature controls the total amperage draw of the system so the input circuit breaker is not tripped. The Load Management system will return the charger to full output when the AC loads are removed.

Dead battery charging

The charger will operate any time the AC line is within the valid range. There is no minimum battery voltage required for the charger to start.

Inverter Power Mode

The green LED “Inverter” will come on. If the inverter panel 171413-1 is included the green LED will turn ON steady. The AC power produced by the inverter comes from the energy stored in the battery bank through a sophisticated electronic inversion process. A transformer, a Metal Oxide Silicon Field Effect Transistors (MOSFET), a filter capacitor and a 16-bit, 16 MHz microprocessor control are used to generate clean useful AC power.

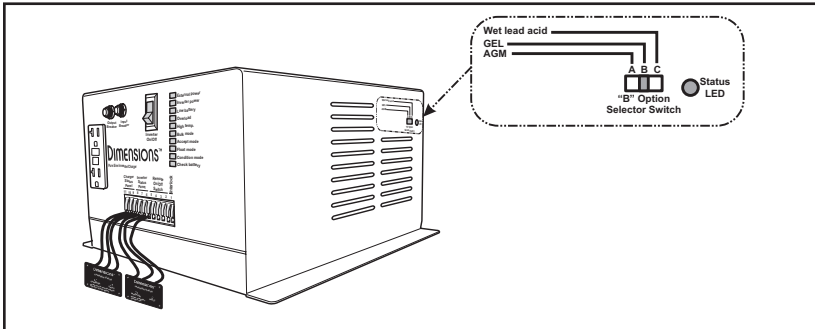
The inverter will operate at DC input voltages ranging from 10.5 to 16 volts. Above 16 volts the system will stop operating due to input voltage being out of range. The inverter can tolerate up to 24V DC input. When the input voltage drops to 10.5 volts, the inverter will stop operating due to a low battery condition. When the lead acid battery voltage drops to 10.5 volts, the battery is fully discharged.

Note: The signal output waveform produced by the inverter when in “inverter mode” is pure sinusoidal. It has a total harmonic distortion of less than 5%.

TROUBLESHOOTING

Call or e-mail customer service for free consultation during business hours (central time) at: 1-800-553-6418; 1-651-653-7000; fax: 1-888-439-3565; 1-651-653-7600
E-mail: inverterinfo@sensata.com; <http://dimensions.sensata.com>

This model inverter features a System Status LED located next to the Battery Type Selector switch. This LED will be continually blinking if the inverter is in a normal operating state. This LED also provides troubleshooting information if the inverter is not.



Status LED Normal States		
LED Color	LED State	Operating Conditions
Green	1 Blink	Bulk Charge
Green	2 Blinks	Accept Charge
Green	3 Blinks	Float Charge
Green	4 Blinks	Load Management Active
Yellow	1 Blink	Inverting
Status LED Fault States		
None	1 Blink	No power to unit or internal fault
Any Color	Constant ON	Internal fault
Red	1 Blink	Inverter low battery shutdown
Red	2 Blinks	Inverter overload shutdown
Red	3 Blinks	Transformer high temp.
Red	4 Blinks	MOSFET high temp.
Red	5 Blinks	Battery probe open or shorted
Red	6 Blinks	Charger high battery temp.
Amber	2 Blinks	System overload reset required
Amber	3 Blinks	High battery voltage

- 1) **No AC output power:**
 - 1.1) No LEDs on: Make sure +12VDC is applied to terminal 1 "Interlock".
 - Check in-line fuse which is located within 18" from the battery's positive post.
 - DC connections to be tight and clean.
 - Battery voltage to be above 9 VDC
 - Bypass or disconnect remote On/Off switch if used.
 - 1.2) Green LED "Inverter Power" on: Disconnect all loads and connect a test light to the hard wire output leads (Black: Hot, White: Neutral, Green: Ground.)
 - If test light is on: Bad GFCI.
 - If test light is off: Possible bad inverter.
 - 1.3) Green LED "External Power" on: Repeat Step 1.2.
- 2) **Low Battery:** The use of battery isolator is not recommended due to excessive voltage drop across terminals
 - Battery voltage to be above 10.5 when vehicle's engine is **OFF**, and above 13 VDC when it is **ON**.
 - Check for proper DC wire gage (see Wire Gauge & Fusing Section)
- 3) **Overload:** Unplug all loads, disconnect the AC output hard wire leads if used and reset the inverter On/Off:
 - If the overload condition persists, possible bad inverter
 - Overload conditions clears, check for short circuits or check load size versus inverter output wattage size.
- 4) **High Temp.:** Let the inverter to cool down to 40°C (104°F)
- 5) **Check Battery:** Reset the inverter (plug/unplug cord from shore power) and disconnect DC cables (Pos. and Neg.) and connect them back after a few minutes.
 - Short cell battery or corroded Loose DC wires
 - Check voltage and current readings against charger recipe table

ACCESSORIES

ADI Part Number	Item Description
171412-1	Remote "Charge" status panel comes with 20 ft. cable ("B3" option only)
171413-1	Remote "Inverter" status panel comes with 20 ft. cable
210080	Anderson connector
430010	Fuse 200A, ANN-200
430011	Fuse 250A, ANN-250
430012	Fuse 300A, ANN-300
431021	Fuse holder with cover
611098	Inverter cable assembly 5ft, 4-gauge, 200A fuse and fuse holder
611096	Inverter cable assembly 10ft, 4-gauge, 200A fuse and fuse holder
611090	Inverter cable assembly 12ft, 2-gauge, 250A fuse and fuse holder
611034	Inverter cable assembly 15ft, 2-gauge, 250A fuse and fuse holder
611100	Inverter cable assembly 20ft, 1/0-gauge, 350A fuse and fuse holder
611600-20	Temp. Comp. Cable 20ft ("B3" option only)
611877	Temp. Comp. Cable Bypass dongle

APPENDIX

Battery Specification Chart						
Group Number	Voltage Volts DC	Capacity Amp-Hour	Dimensions in Inches			Weight in Lbs.
			L	W	H	
GC2	6	220	10-3/8	7-3/16	10-5/8	70
L16	6	350	11-3/4	7-1/8	16-3/4	125
27/31	12	95	13	6-13/16	9-7/16	70
4D	12	180	20-3/4	8-3/4	9-7/8	140
8D	12	225	20-3/4	11-1/8	9-7/8	170

NOTE: The use of deep-cycle batteries is strongly recommended on inverter application; deep discharge cycles typical with inverter applications can shorten the life of other type of batteries.

LIMITED WARRANTY TERMS & CONDITIONS

SHIPPING TERMS: F. O. B. St. Paul Minnesota. Freight prepaid and billed, subject to prior credit approval.

MINIMUM ORDER: \$50.00 Net Price

LOSS OR DAMAGE: Loss or damage in transit are the responsibility of the carrier. Any claim should be filed with the delivering transport company. Invoice, Bill of Lading and Delivery receipt with damage noted therein must accompany any claims for freight damage. Claims for shortage and lost shipments must be made in writing to Sensata Technologies, Power Controls White Bear, St. Paul, MN within 10 days of date of shipment. Claims not reported within this time frame will not be honored.

PRICES: Prices are subject to change without notice. All orders are subject to acceptance at the factory. We reserve the right to invoice prices in effect at time of shipment.

TERMS: Net 30 days with approved credit, credit card or C.O.D.

RETURN GOODS POLICY:

- No returned materials will be accepted without an accompanying Returned Materials Authorization Number (RMA) from the factory.
- Credit will be issued for returned goods to the original purchaser within 60 days of purchase, provided the inverter is returned to Sensata unused and not mounted. The amount of credit will be issued at Sensata's discretion based on the condition of the product.
- Customer must be in good standing with Sensata Technologies.
- Inverters that are discontinued, high-voltage (over 24vdc), special-order or used are excluded and will not be eligible for credit. Non-inverter items such as cable assemblies, fuses and fuse holders, will not be eligible for credit
- Support components supplied by Sensata vendors will be covered under that manufacturer's credit return policy.
- Customer pays return freight.

PLEASE SHIP AUTHORIZED RETURNS TO:

Sensata Technologies | Power Controls White Bear | 4467 White Bear Parkway | St. Paul, MN 55110
Return Freight Prepaid

LIMITED WARRANTY:

Sensata Technologies extends the following warranty to the original purchaser of those goods subject to the qualifications indicated. Sensata warrants to the original purchaser for use that the goods or any component thereof manufactured by Sensata will be free from defects in workmanship from the date of purchase for the period listed on the product label, provided such goods are installed, maintained and used in accordance with Sensata and the original manufacturer's written instructions. Damages caused by the misuse, undue care or obvious wear through use will not be covered by this warranty.

Components not manufactured by Sensata, but used within the assembly provided by Sensata, are subject to the warranty period as specified by the individual manufacturer of said component, provided such goods are installed, maintained and used in accordance with Sensata and the manufacturer's written instructions.

Sensata sole liability and the Purchaser's sole remedy for a failure of goods under this limited warranty and for any and all claims arising out of the purchase and use of the goods, shall be limited to the repair or replacement of the goods that do not conform to this warranty.

WARNING: LIMITATIONS ON USE: DIMENSIONS® brand products are not intended for use in connection with Life Support Systems and for Avionic use. Sensata Technologies makes no warranty or representation in connection with their products for such uses. To obtain repair or replacement service under the limited warranty, the purchaser must contact the factory for a Return Material Authorization (RMA). Once obtained, send the Return Material Authorization Number along with the defective part or goods to: Sensata Technologies, Power Controls White Bear, 4467 White Bear Parkway, St. Paul, MN 55110 Return Freight Prepaid

THERE ARE NO EXPRESS WARRANTIES COVERING THESE GOODS OTHER THAN AS SET FORTH ABOVE. THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED IN DURATION TO ONE YEAR FROM DATE OF PURCHASE.

SENSATA TECHNOLOGIES ASSUMES NO LIABILITY IN CONNECTION WITH THE INSTALLATION OR USE OF THE PRODUCT, EXCEPT AS STATED IN THIS LIMITED WARRANTY. SENSATA TECHNOLOGIES WILL IN NO EVENT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

WARNING: LIMITATIONS ON USE: DIMENSIONS® brand products are not intended for use in connection with Life Support Systems and for Avionic use. Sensata Technologies makes no warranty or representation in connection with their products for such uses.

Sensata Technologies
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Form No. 122164 (03/10)
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