



GERRIE

Renewable Energy Solutions

2011 - 2012

This Gerrie Electric Catalogue contains the components and systems for renewable energy (RE) applications. From small to large Gerrie has a renewable energy solution for you.

For ordering:

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Renewable Energy Product Manager: (226) 227-1003 E-mail: mrobinson@gerrie.com

Web Site: www.GerrieRenewables.com

Types of Systems: Price & Parts List separate- call in for details

- Roof mount
 - *Flush Mount: Rails attached to existing sloped roof, modules at same slope.*



KINETICS SOLAR

- **Ground Mount Fixed:**



Kinetic Solar's revolutionary racking system is an excellent option for your roof mounted solar panels. Made of structural grade extruded aluminum, our lightweight, anodized products offer an attractive, finished look that will also withstand exposure to the elements for years. Our designs are innovative and easy to install and come with all stainless steel hardware, including lag bolts. The 100% watertight flashing system is the quickest to use, making it very desirable to contractors and homeowners alike. Kinetic Solar's K-Rack and K-Flash product lines are the most cost-effective on the market.

MicroFIT 😊



KINETICS SOLAR

- **Top of Pole (TPM):**



PowerSeries are the ONLY pedestal mounts Engineered and CERTIFIED to withstand up to 140mph wind. Angled and flat roof or ground mount all use only 2 or three components to mount virtually any make model or size of panel up to 200-240w with all stainless fasteners included.

A "Top-of-Pole" or pedestal mounting system is often preferred over roof mounts for many reasons but particularly in northern climates, and this one is the best there is. Not only is it made in Ontario for harsh Canadian climates but it is designed to live in marine environments and high wind areas as well. True North Channelox rails are standard for all systems and are so well designed that PS2000 mounts can certified to withstand 110mph or even 140mph wind events.

Pedestal mounts can be manual or active tracking depending on preference. PowerSeries mounts all come with a 10 year warranty, hot dip galvanized steel strong back, aluminum and stainless hardware and can easily be assembled in under an hour with no special tools. The array can be tilted from horizontal to vertical or swivel 180 degrees and then locked into position or changed at any time in less than a minute (without climbing the roof or even a ladder if you choose). There are 4 basic sizes needed, for almost any panel, to fit 4", 6" or 8" pole for as many as 8-14 panels up to about 3kW or more. Sloped roof rails come in 3 profiles of 25, 50 or 75mm height and in 3, 4 5 or 6 meter lengths so they can be easily joined for large flat roof structures.

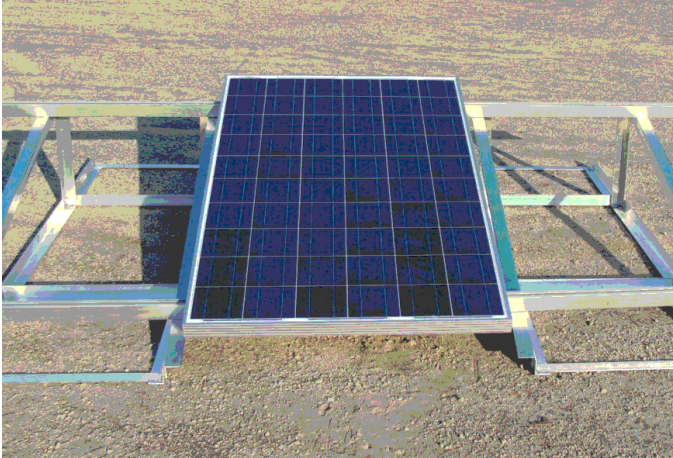
Power Series – Top of Pole Mounts

Sunpoint - GPS Tracker

Drop N Go – Precast Concrete ballast

MicroFIT 😊

○ **Ballasted Racking**



API's Ballasted Racking System

- High quality aluminum construction
- Allows rapid installation with only a few parts
- High strength design means no maintenance costs later
- Minimum volume and transport cost
- API can pre-assemble modules to rails before delivery to site
- Universal design of racking allows mounting of any type and make of solar modules
- Long service life to outlast the entire FIT contract
- Quick Assembly and reduced installation
- Hybrid system include all legs supports, no pipe to buy
- Scalable to required system size
- Lower Costs
- Allows rapid installation with only a few parts
- High strength design means no maintenance costs later
- Minimum shipping volume/weight for lower transport cost
- Fast install time with the pre-assembly options

MicroFIT ☺

Trackers, single & dual axis: Top of pole Automatic optical 2 axis systems



DEGERenergie

is a market leader in solar, sensor-controlled tracking systems. As a future-oriented, internationally active company, we focus on developing our own ideas and implementing them in practical solutions.

Deger 9000NT
Deger 5000HD

MicroFIT 😊



WEEB: Washer electrical Equipment Bond



WEEB

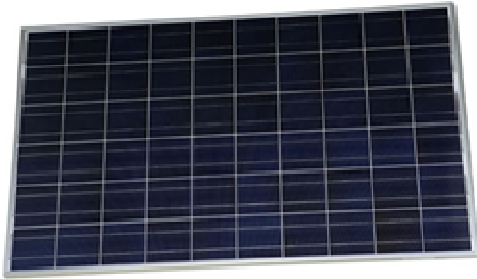
The WEEB-9.5 is a washer used to bond the frame of a PV module to a pole or ground mounting structure. The WEEB-9.5 has fingers which will hold the part in any 3/8 inch hole. This allows the WEEB-9.5 to be inserted at the mounting locations and stays in place while the module is aligned. When the hardware is tightened, specially designed teeth on the WEEB-9.5 embed into the module and mounting structure, making a gas-tight connection.



System Components:

(Spec. sheets available)

- **Solar modules:** All made in Ontario unless specified. FIT Friendly!



siliken

SLK60P6L 220Wp - 255Wp:

Polycrystalline photovoltaic module with 60 cells with a power rating of 220 to 255 Wp.

- **Application:** grid-connected installations.
- **Maximum efficiency:** 15.7%.
- **Guarantee:** 10 year limited warranty on material and workmanship. 25 Year Linear Power Guarantee: Year 1 97% of rated output. Years 2-25 0.7% p.a. reduction.
- **This product has been quality certified by TÜV.**
- **Dimensions:** 38.98 x 64.57 in.
- **Thickness (with frame):** 1.57 in.
- **Weight:** 41.89 lbs.
- **Maximum voltage of the system:** 1000 Vdc.
- **Operating temperature:** -40° to +185° F.
- **Earth connection:** Frame with two drill holes for the earth connection.
- **Connection box:** IP-65 with by-pass protection diodes.
- **Output cables:** Symmetrical cable lengths of 1.57 ft, S=0.0062 in², double isolating coating, halide-free, resistant to UV radiation.

MicroFIT ☺

- Inverters



Aurora PVI 3.0, 3.6, 4.2, 6.0, 10, 12

This inverter has all the usual Aurora benefits, including dual input section to process two strings with independent MPPT, high speed and precise MPPT algorithm for real-time power tracking and energy harvesting, as well as transformerless operation for high performance efficiencies of up to 97%. The wide input voltage range makes the inverter suitable to low power installations with reduced string size. This outdoor inverter has been designed as a completely sealed unit to withstand the harshest environmental conditions.

MicroFIT 😊

OutBack Inverter/Chargers

Are the next generation in advanced power management. Each is a DC to AC sinewave inverter, battery charger and AC transfer switch housed within a tough die-cast aluminum chassis. Just like the local utility grid, the inverter produces true sinewave AC electricity for your stand-alone or back-up power needs. Computers, TVs and pumps are just some of the examples of modern electronics that last longer and run better when powered with true sinewave electricity from an OutBack inverter. Starting up your well pump is worry-free because of our high surge power capability.

Grid interactive – Off-grid



Fronius Grid-Tie Inverters 3.0, 3.8, 5.0, 6.0, 7.5, 10, 11.4, 12

Three Efficiency Peaks.

Greater power harvest for every system size: The unique automatic transformer switching function of the Fronius IG Plus makes enables not one, but three equal Efficiency Peaks. The result: Consistently high efficiency over a wide input voltage range. In comparison: The efficiency of inverters without transformer switching declines steadily with an increasing input voltage. Devices without a transformer only have one Efficiency Peak. With a 96.2 % maximum efficiency, the Fronius IG Plus series scores the highest grade among HF devices.

MIX™ Concept.

Get the maximum power harvest out of partial load ranges, e.g. on cloudy days, through a clever combination of multiple power stages in each inverter. The power stages in Fronius inverters divide up the work depending on operating hours and only operate as many power stages as required to efficiently process available power from the PV array.

Module Manager™.

The Module Manager™ keeps all Fronius IG inverters at the maximum power point (MPP) with fast and exact MPP tracking, ensuring that you get the most power out of each ray of sunlight. This is especially important for amorphous modules whose MPP can be more challenging to track.

Smart Ventilation Design.

Disruptive ambient factors such as biological infestation, dust, moisture or coastal salt air stay outside the new Fronius IG Plus Inverters away from the circuitry. How: Cool air is drawn in through a filter screen on the back of the inverter and routed through a closed channel over the heat sink. This prevents contact between outside air and the circuit boards while cooling the inverter components ensuring the inverter operates consistently. All circuit boards are also dipped in Conformal coating to provide an added measure of protection.

MicroFIT 😊



POWERING YOUR FUTURE

- Micro-Inverters



Enecsys Micro-Inverters

MicroFIT Compliant - for 60 & 72 cell modules

Enecsys micro inverters mount on the railing system behind solar modules. Solar PV systems may use one micro inverter per module, a Duo micro inverter that accepts DC input from two individual modules, or a combination of these products.

Using innovative and patented technology, Enecsys micro inverters are designed for high reliability and match the 25-year service life of solar modules. They achieve a peak efficiency of up to 96% (depending on the model) and maintain full performance in real-world operating conditions over a temperature range of -40 degrees C to +85 degrees C. In order to achieve this high level of reliability, the Enecsys micro inverter embodies three key attributes: a patented rugged topology, a component line based on high temperature rating and ruggedness, and a unique and patented energy storage technique that enables the use of thin film capacitors instead of less reliable electrolytic capacitors and the elimination of opto-couplers.

The elimination of the components known to have relatively poor reliability - electrolytic capacitors and opto-couplers – was critical to improving the lifetime and reliability of Enecsys solar micro inverters. The failure modes of electrolytic capacitors include leakage or depletion of electrolyte solution from the capacitor, which in turn causes their internal temperature to rise and performance to deteriorate at an ever-accelerating pace.

MicroFIT 😊



**Midnite Solar Magnum
E-Panels Assembled**

MNEMS4448PAECL150

- MNE250STM-L -240 E-Panel white steel E-Panel
- MS4448PAE 4400 watt inverter/charger
- ME-RC50 remote display
- ME-BMK-NS
- 1 MNEPV2 breaker for BMK
- Classic 150 charge controller
- 2 MNDC panel mount breakers
- Battery Main Breaker: 175 Amp
- DC-GFP - built into the Classic
- Arc Fault Detector - built into the Classic
- 3 MNSPD (Surge Protection Device)
- General labor for assembly, test and crating
- 1 MidNite BTS, 1 Magnum BTS

Many different variations - see Pricelist or call in.



**Midnite Solar Outback
E-Panels Assembled**

MNEPLUSGVFX3648CL150

- MNE175AL-Plus E-Panel White alum E-Panel
- GVFX3648 inverter/charger
- Mate remote display
- Classic 150 charge controller
- 2 MNDC panel mount breakers
- 2 MNSPD (Surge Protection Devices)
- Battery Main Breaker: 175 Amps
- General labor for assembly, test and crating
- 2 MidNite BTS

Many different variations - see Pricelist or call in.



- **Controllers**



Outback Controllers FM60 & FM80

The FLEXmax family of charge controllers is the latest innovation in Maximum Power Point Tracking (MPPT) charge controllers from OutBack Power Technologies. The innovative FLEXmax MPPT software algorithm is both continuous and active, increasing your photovoltaic array power yield up to 30% compared to non-MPPT controllers. Thanks to active cooling and intelligent thermal management cooling, both FLEXmax charge controllers can operate at their full maximum current rating, 60 Amps or 80 Amps respectively, in ambient temperatures as high as 104°F (40°C).

Included in all of the FLEXmax Charge Controllers are the revolutionary features first developed by OutBack Power, including support for a wide range of nominal battery voltages and the ability to step-down a higher voltage solar array to recharge a lower voltage battery bank. A built-in, backlit 80 character display shows the current status and logged system performance data for the last 128 days at the touch of a button. The integrated OutBack network communications allows FLEXmax series Charge Controllers to be remotely programmed and monitored via a MATE system display and provides unrivaled complete system integration.

FLEXmax MPPT Charge Controllers are the only choice when you demand a high performance, efficient and versatile charge controller for your advanced power system.



Midnite Solar Controllers

The Classic MPPT Charge Controller substantially increases the flexibility, features and range currently found on MPPT controllers. The Classic is the only MPPT controller that has Arc Fault Detection, making this controller the safest controller available. With the Classic 150 ranging up to 96 amps, the Classic 200, 79 amps and the Classic 250, 63 amps, why would you need any other controller?

- 150, 200 and 250V operating voltages.
- 12-72V battery charging standard with models up to 120V battery bank
- Built in DC-GFP and Arc Fault Detector
- Solar, wind and hydro MPPT modes
- Ethernet, USB and RS232
- Remote and local displays possible
- 20 megs of data logging
- Set up Wizard



Phocos Dingo Controllers

Dingo 20/20 is quite possibly the most-sophisticated, most-versatile charge controller available for stand-alone power supplies. It is the industry standard, field-proven way to assume complete control of your battery-based system. Dingo's highly-sophisticated, adjustable regulation software is installed in tens of thousands of systems worldwide and charges at five selectable nominal voltages (12, 24, 32, 36 or 48V). Wherever a system demands superior reliability, functionality and flexibility, Dingo 20/20 will be there.



phocos

Phocos PL Controllers

The PL series controllers offer complete control over the charge cycle and gives information about current and past performance. PL regulators have a built-in low battery disconnect switch. In addition, the versatile event controller can switch power on or off according to criteria set by the user. This allows the PL to do extra tasks such as switching a light on at night or keeping a water tank full by operating a pump when needed. Regulation can be done in slow speed switching and PWM in both series and shunt modes. Other features include backup generator control and charging a second battery.

Display shows battery voltage, charge current, ampere hours in and out of battery, load being drawn from the battery and charge status. Information is available for the past 30 days - so even if the user doesn't remember what happened, the regulator will. With the optional PLI interface, the user can access the regulator from a computer or via modem. Data can be read and setting adjusted. Up to three units can operate in parallel.

Energy System Controllers

12V, 24V, 32V, 36V and 48V in one controller

- Built-in 30 days data logger
- Multifunctional LCD Display
- External current sensing (optional)
- RS232 interface (optional)
- Hybrid system control
- Widely programmable
- Built-in programmable logic



phocos

Phocos CX Controllers

High End Charge Controller Family. This one terrifies the competition! Ideal for industrial uses and equipped with outstanding and unparalleled features like PC interface, built-in 1-year datalogger and system history, and nightlight features for street light applications. German engineering combined with high-quality components make this compact controller able to work in systems of around 1000 Watts!



Phocos MPPT Controllers

MPPT 100/20

Maximum Power Point Tracker (20 amps)
With innovative maximum-power-tracking technology, Phocos' MPP-Tracker ensures maximum performance from your solar array at all times and in all weather conditions.



Phocos CM Controllers

CM Series

Charge Controller
This convenient and compact controller fits seamlessly into any small- to medium-sized system that doesn't require low-voltage-disconnect (LVD), where the loads or inverter will be connected directly to the battery.



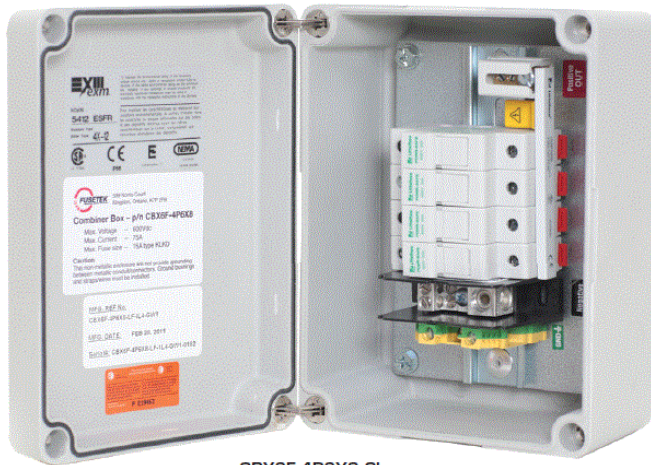
Phocos CA Controllers

CA Series

Solar Charge Controller
Due to its user-friendly design and technology, the CA offers optimal battery protection for small- to medium-sized solar home systems. The choice when battery life counts and price matters

phocos

- Combiner Boxes & Disconnects



CBX6F-4P6X8 Shown



FUSETEK Combiner Boxes

Fusetek is proud to introduce our “Made in Ontario” combiner boxes for the Ontario microFIT Solar market. The FTK-CBX series of combiner boxes are non metallic, waterproof, corrosion proof, compact and architecturally appealing. They are available up to 12 poles, using either 600Vdc or 1000Vdc fuses and fuseholders with or without indication. Inside, heavy duty, industrially rated components are clearly marked and laid out to make wiring a breeze. Use either non-metallic cable glands or liquid tight conduit fittings for cable entry. It’s unique features, “made in Ontario” content and competitive price points will make your bottom line shine. ONE SOLUTION



Midnight Solar Combiner Boxes

MNPV Series (For 150 VDC charge controllers and 600 VDC gridtie inverters) (The most popular PV combiner in North America.) Gray aluminum type 3R rainproof enclosure with insulating dead front, will accept six 150VDC breakers or 4 600VDC fuse holders.



Siemens Industry, Inc.

Introduces the first heavy duty, UL listed, three-pole solar disconnect switch able to control three separate 600VDC circuits. Available in 30, 60 and 100-amp ratings, the Solar Photovoltaic Type VBII Safety Switch lowers equipment and installation costs by doing the work of three traditional switches in similar solar applications.

Siemens Nema 3R Outdoor AC breaker panels and breakers available.

SIEMENS

- Wiring & Balance of system (BOS)



MC4 Cables



PV Cable by the Metre



PV Cable by the Reel

General Cable

MC4 Cable & Connectors

PV & PVT Wire (SPM Cable) - Our photovoltaic wire gives you flexible choices to meet UL 4703 PV wire and UL 4703 PV wire/TÜV 2 PFG 1169 wire requirements. **Features:**

- Sunlight, ozone, and UV resistant
 - Moisture resistant
 - RoHS compliant
 - REACH compliant
 - -40°C to +90°C temperature range
- 3m, 6m, 10, 15m, assemblies.

Male & Female separate connectors

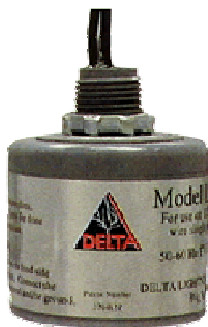


MC4 Connectors



MC4 Cable & Connectors

The **SolarSpec™ DC Connectors** from **Molex** provide a secure, sealed connection for series cabling of **silicon photovoltaic (PV) panels** through industry-standard pin and socket construction, easy 'snap-lock' mating, and an internal locking mechanism. The **SolarSpec™ DC Connectors** have **Molex's** exclusive design features including molded surface ribs for a secure grip, "touch-proof" safety construction to protect against an electrical current whether the **connectors** are mated or unmated, and a contact resistance of <math><0.5\text{m}\Omega</math>. The rugged design of the **Molex SolarSpec™ DC Connectors** meets **IP-67**, NEC 2008 and NFPA 70; US-code for "the safe installation of electrical wiring and equipment" and the TÜV and UL dual-qualification for long-life in harsh conditions. The connectors are suitable for 14, and 12 to 10 AWG cable.

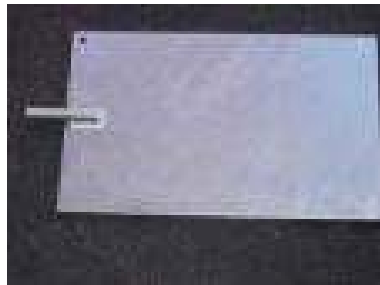


Delta Lightning Arrestors

The Delta LA Series handles the big surges, like lightning up to 50,000 amps, passing them harmlessly to ground.

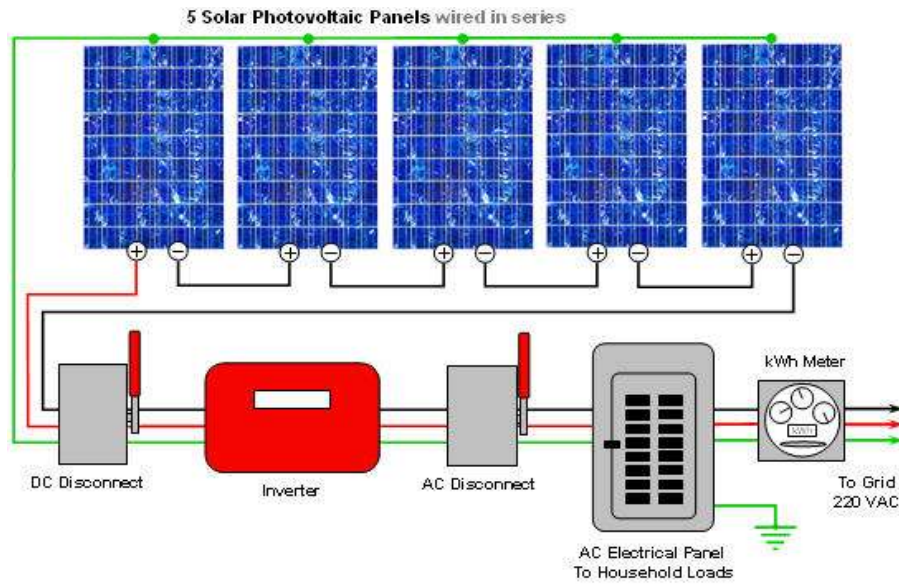
Single phase
3 phase

- Ground Rods & Plates, PVC Conduit, J-Boxes, Wiring, Etc.




Systems (On-grid)

Complete systems available that meet and or exceed MicroFIT & FIT rules.



Example Basic System

Example System: 10kW MicroFIT Compliant, Flush Roof Mount

Dealer Quotation					
Dealer Name: Generic Quote		Date of Quotation	Gerrie Electric		
Street Address		Nov. 14, 2011	23 Craig Street, Unit 8		
City, Postal Code			Brantford, Ontario		
Phone Fax:		Tier: 4	N3R 7H8		
E-mail:		Version: Nov-11-11	FAX: 519 428-3024		
		Rep: MR	E-MAIL: mrobinson@gerrie.com		
QTY	PART NO.	DESCRIPTION	MSRP	DEALER PRICE	TOTAL
10kW Flush Mount Sloped Roof System					
44	SLK60P6L-255	Siliken SLK60P6L 255w poly, 25yr Linear Warranty	\$ 590.16	\$ CALL	Discount
2	PV15.0-OUTD-S	Power-One PV15.0-OUTD-NA, 5000 W, 240 VAC; 208 OR 277 VAC 1 PH, DC DISC, 10 YR WTY	\$ 3,151.68	\$ CALL	Discount
15	KMR144-C	Kinetics K-Rack Rail, 144" Clear Anodizing - 2 pack	\$ 155.15	\$ CALL	Discount
17	KJS2-2C	Kinetics Joiner Clear Anodizing - 2 pack, Sold with Stainless Steel bolts, washers & lock washers	\$ 15.58	\$ CALL	Discount
10	KLBS-12C	Kinetics "L" Bracket Clear Anodizing - 12 pack, Sold with Extruded Nut and Stainless Steel bolts(s), washer(s) & lock washer(s)	\$ 67.03	\$ CALL	Discount
2	KEC3-8C	Kinetics End Clamp Clear Anodizing - 8 pack (up to 46mm thick panel) specify size, Sold with Extruded nut and hardware	\$ 32.89	\$ CALL	Discount
10	KMC-8C	Kinetics Mid Clamp Clear Anodizing - 8 pack (up to 47mm thick panel) Sold with hardware (Bolts(s), washer(s) & lock washer(s))	\$ 28.95	\$ CALL	Discount
1	CBX6F-4P6X8	Fusetek Combiner Box, 4 fuse holders, no fuses, CSA, Nema 4X, hinged cover	\$ 147.26	\$ CALL	Discount
10	KLKD-15	Fusetek 15A/600Vdc fuses, 10pcs min.	\$ 5.07	\$ CALL	Discount
10	LPSM001Z	Fusetek 1P 600Vdc fuseholder, 10pcs min	\$ 5.57	\$ CALL	Discount
2	LA302DC	Delta Lightning Arrestor, 3 wire DC: 18" leads, 0-500 volts	\$ 44.97	\$ CALL	Discount
2	LA302R	Delta Lightning Arrestor, 3 wire single phase: 18" leads, 0-300 volts	\$ 41.51	\$ CALL	Discount
2	GC3-PV	General Cable 3 meter PV CONNECTOR cable, male & female ends, 10awg, 1pc	\$ 9.79	\$ CALL	Discount
2	GC6-PV	General Cable 6 meter PV CONNECTOR cable, male & female ends, 10awg, 1pc	\$ 15.01	\$ CALL	Discount
4	GC15-PV	General Cable 15 meter PV CONNECTOR cable, male & female ends, 10awg, 1pc	\$ 30.53	\$ CALL	Discount
88	WEEB-9.5	WEEB Washer, Electrical Equipment Bond	\$ 1.46	\$ CALL	Discount
8	WEEB Lug 6.7	WEEB Grounding Lug, with 1/4" hardware	\$ 6.61	\$ CALL	Discount

Call for your custom Grid-Tie or Off-grid Quote

Catalogue

This Catalogue is being updated regularly. Please call or e-mail for your latest copy and Price List.

Web Site

Our web site: www.gerrierenewables is the place to find the most updated and current content.

Disclaimer

“It is the responsibility of the purchaser, installer and/or the person reviewing this catalogue to verify that the listed system components will work for the actual installation conditions, required project specifications and any applicable safety codes. Neither Gerrie Electric, nor any of its employees have visited the site or personally assessed the actual PV system design requirements, and are not to be held liable or responsible for the listed components, design, installation, kWh production, code compliance, or any other matters related to the systems. This catalogue is subject to the full terms and conditions outlined in our Resellers Agreement.”

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