

Providing Clean & Quiet Power Solutions
for Businesses and Community Organizations

THE CM6 POWERING A SOLAR FARM? **YES!**

WHEN A CALL CAME IN TO COYLE ABOUT A NEED FOR A TEMPORARY POWER SOLUTION FOR A MALFUNCTIONING PIECE OF CRITICAL EQUIPMENT AT A SOLAR FARM, A COYLE CM6 CAME TO THE RESCUE!

FOR 89 DAYS, AT A RENTAL COST OF ONLY \$6808, OUR SOLAR GENERATOR POWERED A TRACKING & GRID SYNCHRONIZATION SYSTEM, REPLACING A DIESEL GENERATOR THAT WOULD HAVE COST \$42,092 TO FUEL ON A DAILY BASIS (INCLUDING THE COST OF A TECHNICIAN). OUR CLIENT LATER CONFIRMED

THIS RESULTED IN A TOTAL SAVINGS OF \$35,248!



COYLE CM6 POWERING A STRATA GREEN ENERGY SOLAR FIELD

COYLE CM1

ULTRA MOBILE • CAMPING • EMERGENCY BACK-UP



THE ORIGINAL CM1 DESIGN WHICH NOW COMES EQUIPPED
WITH THREE 150 WATT PV PANELS

- 3.6 KWH BATTERY BANK
- 5,000 W CONTINUOUS AC OUTPUT
- 2.5/5* KWH AVG DAILY HARVEST
- 9 SUN HRS FOR FULL RECHARGE

THE SMALLEST OF THE COYLE UNITS, THE **CM1** PROVIDES
POWER FOR CRITICAL NEEDS DURING A DISASTER AND MORE —
FREE FROM POLLUTION, NOISE, AND FUEL DEPENDENCY.

When working from the UNCW Center For Innovation and Entrepreneurship, Mack Coyle used the CM1 'puddle pumper' as the training platform for a series of "Build Your Own Solar Generator" classes. The CM1 design meets a variety of field applications, and serves as the baseline for our ongoing mutual aid work with community organizations and disaster preparedness efforts.

* Average daily harvest based on static vs dynamic orientation.

COYLE CM1

PARTS AND SPECIFICATIONS

Power system

- 450 watt PV Array: Made In The USA/ *Solar Juice*; Sacramento, CA - Three 150 watt Bifacial Monocrystalline PERC 36 cell PV modules
- 3.6 kWh Battery: Made In The USA/ *Battle Born Batteries*; Reno, NV - Three BB5024 - 50Ah Lithium Ferrous Phosphate battery with best in class BMS
- Solar Charge Control: Made In the Netherlands/ *Victron Energy Systems* - Smart Solar MPPT with integrated Wifi & Bluetooth telemetry; accepts auxiliary PV, expandable
- Inverter/Charger: Made In the Netherlands/ *Victron Energy Systems* - Quattro 24/5000/120-100/100 120V - 5000 watt continuous/10,000 watt surge 120VAC/60Hz
- Real time remote command and control: Made In the Netherlands/ *Victron Energy Systems* - Cerbo GX with GX LTE 4G Integrated cellular WiFi telemetry
- Balance of system: Victron Energy Systems, Blue Sea Systems, Ancor

Made In The USA/ Coyle Solar, Wilmington, NC

Dimensions and Weight

- 48" (36" with handles stowed) x 26" x 34" (42"* with wheel height)
- 200 Lbs



Side Panels Fold Down 90°



COYLE CM2

TINY HOME • CAMPING • EMERGENCY BACK-UP



- 7.2 KWH BATTERY BANK
- 5,000 W CONTINUOUS AC OUTPUT
- 4/8.25* KWH AVG DAILY HARVEST
- 9.6 SUN HRS FOR FULL RECHARGE

**DISASTER-READY AND ALWAYS ON, THE CM2 POWERS
ALL YOUR CRITICAL HOUSEHOLD NEEDS AND MORE –
COMBINED WITH AN AUTOMATIC TRANSFER SWITCH,
IT'S LIKE HAVING A ROOFTOP ARRAY YOU CAN TAKE ON THE GO!**

Bluetooth, Wifi, and 4G LTE!

Utilizing the onboard Bluetooth apps that are available with Victron Batteries, you can use your smartphone to check the status of your generator, and even make adjustments to its operation. If you choose to plug in a sim card for locally available carrier network, you can check your generator from anywhere in the world!

* Average daily harvest based on static vs dynamic orientation.

COYLE CM2

PARTS AND SPECIFICATIONS

Power system

- 750 watt PV Array: Made In The USA/ *Solar Juice*; Sacramento, CA - Five 150 watt Bifacial Monocrystalline PERC 36 cell PV modules
- 7.2 kWh Battery: Made In The USA/ *Battle Born Batteries*; Reno, NV - Six BB5024 - 50Ah Lithium Ferrous Phosphate battery with best in class BMS
- Solar Charge Control: Made In the Netherlands/ *Victron Energy Systems* - Smart Solar MPPT with integrated Wifi & Bluetooth telemetry; accepts auxiliary PV, expandable
- Inverter/Charger: Made In the Netherlands/ *Victron Energy Systems* - Quattro 24/5000/120-100/100 120V - 5000 watt continuous/10,000 watt surge 120VAC/60Hz
- Real time remote command and control: Made In the Netherlands/ *Victron Energy Systems* - Cerbo GX with GX LTE 4G Integrated cellular WiFi telemetry
- Balance of system: Victron Energy Systems, Blue Sea Systems, Ancor

Made In The USA/ Coyle Solar, Wilmington, NC

Dimensions and Weight

- L 52" x W 36" x H 32"
- 350 Lbs



COYLE CM4

MAINTENANCE CREWS • CAFES & KIOSKS • FILM PRODUCTION



CM4 SHOWN WITH OPTIONAL INTEGRATED WATER SYSTEM

- 14.2 KWH BATTERY BANK
- 20K W CONTINUOUS AC OUTPUT
- 9/18* KWH AVG DAILY HARVEST
- 8 SUN HRS FOR FULL RECHARGE

**THE CM4 POWERS EVERYTHING FROM FILM AND
MAINTENANCE CREWS, TO A CAFE IN THE MOUNTAINS —
WITH AN ROI IN MONTHS, NOT YEARS.**

WHEN WORK REQUIRES POWER, THE CM4 DELIVERS.

The CM4's steel box assembly and tow chassis are designed to be pulled at highway speeds, and left securely at job sites with an integrated anti-theft tracking system!

* Average daily harvest based on static or dynamic orientation.

COYLE CM4

PARTS AND SPECIFICATIONS

Power system

- 1650 watt PV Array: Made In The USA/ *Solar Juice*; Sacramento, CA - Three 550 watt Bifacial Monocrystalline PERC 72 cell PV modules
- 14.2 kWh Battery: Made In The USA/ *Battle Born Batteries*; Reno, NV - Twelve BB5024 - 50Ah Lithium Ferrous Phosphate battery with best in class BMS and integrated heating.
- Heliotropic orientation: Made In The USA/ *Coyle Solar & Manufacturing Methods*, Leland, NC - This system doubles the average daily power harvest to 18 kWh.
- Solar Charge Control: Made In the Netherlands/ *Victron Energy Systems* - Smart Solar MPPT 150/70 Amp with integrated Wifi & Bluetooth telemetry, accepts auxiliary PV, expandable
- Inverter/Charger: Made In the Netherlands/ *Victron Energy Systems* - Two Quattro 48/10000/140-100/100 120V delivering 20K watt continuous & 40K watt surge 240VAC/60Hz power (available with 3 phase, DCFC level III car chargers, higher current and lower current etc.)
- Real time remote command and control: Made In the Netherlands/ *Victron Energy Systems* - Cerbo GX with GX LTE 4G Integrated cellular WiFi telemetry
- Balance of system: Victron Energy Systems, Blue Sea Systems, Ancor

Made In The USA/ Coyle Solar, Wilmington, NC

Dimensions and Weight

- 144" L x 60" W x 44" H (deployed array 60 sq. ft)
- 1200 Lbs.



COYLE CM6

SMALL BUSINESS • CONSTRUCTION • RESTAURANT



- 38.8 KWH BATTERY BANK
- 20K W CONTINUOUS AC OUTPUT
- 18/36* KWH AVG DAILY HARVEST
- 12 SUN HRS FOR FULL RECHARGE

**THE CM6 POWERS SMALL BUSINESSES
WITH BIGGER POWER NEEDS AND GIVES THEM
THE FREEDOM TO BE ALMOST ANYWHERE —
THE CM6 HAS THE CHASSIS AND CAPACITY
TO LEAD A CLEAN ENERGY REVOLUTION.**

The CM6's HeliTrack™ points the PV array towards the sun at the touch of a button. The next iteration of the CM6 will have real-time motion-tracking of the sun.

* Average daily harvest based on static or dynamic orientation.

COYLE CM6

PARTS AND SPECIFICATIONS

Power system

- 3300 watt PV Array: Made In The USA/ *Solar Juice*, Sacramento, CA - Six 550 watt bifacial Monocrystalline PERC 72 cell modules;
- 38.8 kWh Battery: Made In The USA/ *Battle Born Batteries*, Reno, NV - Twelve GC3 12V-270Ah Lithium Ferrous Phosphate battery with best in class BMS.
- Heliotropic orientation: Made In The USA/ *Coyle Solar & Manufacturing Methods*, Leland, NC - This system doubles the average daily power harvest to 36 kWh.
- Solar Charge Control: Made In the Netherlands/ *Victron Energy Systems* - Smart Solar MPPT 150/70 Amp with integrated Wifi & Bluetooth telemetry, accepts auxiliary PV, and expandable
- Inverter/Charger: Made In the Netherlands/ *Victron Energy Systems* - Two Quattro 48/10000/140-100/100 120V delivering 20K watt continuous & 40K watt surge 240VAC/60Hz power dual AC input, grid interactive; expandable and available, delivering 3 phase, higher current etc.
- Real time remote command and control: Made In the Netherlands*/ *Victron Energy Systems* - Cerbo GX with GX LTE 4G Integrated cellular WiFi telemetry
- 8500W Dual Fuel Westinghouse Autostart Generator 6.6 Gal gasoline Fuel tank
- Balance of system: Victron Energy Systems, Blue Sea Systems, Ancor

Made In The USA/ Coyle Solar, Wilmington, NC

Dimensions and Weight

- 174" L x 84" w x 70" H (deployed array 130' sq.ft./ 12 sq. mt.)
- 4200 Lbs.



COYLE CM-CAPS

FIELD OFFICE • CAFE • COMMAND CENTER



- 77.6 KWH BATTERY BANK
- 20K W CONTINUOUS AC OUTPUT
- 60.5 KWH DAILY HARVEST
- 7 SUN HRS FOR FULL RECHARGE

THE CM-CONTAINER ARRAY POWER SYSTEM

CONVERTS ANY SHIPPING CONTAINER INTO

A DEPLOYABLE REMOTE FIELD OFFICE

WITH POWER TO COMMAND OR COMFORT ANYWHERE —

THE CAP SYSTEM IS SHIPPED IN 8' OR SMALLER BOXES

AND INSTALLED USING A SINGLE TOOL

The CAP system is resistant to winds up to 120 MPH, and requires no penetration of the container roof to mount!

COYLE CM-CAPS PARTS AND SPECIFICATIONS OF POWER SYSTEM

Commercial Power system

- 11,000 watt PV Array: Made In The USA/ *Solar Juice*, Sacramento CA - Twenty 550 watt Bifacial Monocrystalline PERC 72 cell modules; 60.5 kWh daily harvest avg (5.5 sun hour avg.)
- 77.6 kWh Battery: Made In The USA/ *Battle Born Batteries*; Reno, NV - Twenty-four GC3 12V-270Ah Lithium Ferrous Phosphate battery with best in class BMS.
- Tamper resistant 316 Stainless Steel cabinet/vault with locking NEMA 4X access doors and panels, mounts to roof frame-not to cargo container.
- Integrated IP66 interconnection inlets, outlets, service disconnect
- Solar Charge Control: Made In the Netherlands*/ *Victron Energy Systems* - Smart Solar MPPT 150/70 Amp with integrated Wifi & Bluetooth telemetry, accepts auxiliary PV, and expandable
- Inverter/Charger: Made In the Netherlands*/ *Victron Energy Systems* - Two Quattro 48/10000/140-100/100 120V delivering 20K watt continuous & 40K watt surge 240VAC/60Hz power dual AC input, grid interactive; expandable and available, delivering 3 phase, higher current etc.
- Real time remote command and control: Made In the Netherlands*/ *Victron Energy Systems* - Cerbo GX with GX LTE 4G Integrated cellular WiFi telemetry
- Integrated PV module cleaning system
- Balance of system: Victron Energy Systems, Blue Sea Systems, Ancor

Made In The USA/ Coyle Solar, Wilmington, NC

Dimensions and Weight of the Power System Enclosure

- Length 72" x Width 48" x Height 36"
- 2000 Lbs.



COYLE CM-CAPS PARTS AND SPECIFICATIONS OF PV ARRAY

Technical Description

- 120 MPH Wind resistant roof system which attaches to 20' Cargo Container with no roof or wall penetrations.
- All components of the roof system are made of 6061 Aluminum.
- All components of the roof system finished with thermoset powder coating.
- All fasteners (bolts, nuts, washers, etc) are 316 stainless steel.
- Entire roof rack system is built onsite and assembled without the need for skilled labor; no drilling, no welding, no cutting - all fasteners use the same 10mm hex drive.
- The structural roof system members are all the same dimensions and are interchangeable.
- The structural splices are all the same dimensions and are interchangeable.
- Roof system ships in 8' length or shorter boxes.
- Provides a roof system for racking an array of twenty typical 72 cell modules.
- Design creates an awning structure from the PV racking and modules which provides shading on the container roof and extending 3'4" on both of the ends, and 4'6" on both of the sides of the shipping container.

Dimensions of PV Array

- Length 26' x Width 17.5' x Height 2' above container roof
- 455 sq. ft.



COYLE CM-CAPS

PARTS AND SPECIFICATIONS OF PV MOUNTING SYSTEM

PV Array Roof Frame

- Beams, girders, joists 34 - 2" x 3" x 88" x .25" thickness 6061 Aluminum box tube
- Splices tubes: 18 - 1.5" x 2.5" x 60 "x .25" thickness 6061 Aluminum box tube
- 4 Coyle Solar double face beam anchors
- 12 Coyle Solar corner brackets, Grade 10.9 bolt package
- 8 cargo container anchor point cam lock clamps
- 80 - 316 Stainless steel Binding bolt and screw assemblies
- 10mm drivers and wrenches
- Critter Guard animal fencing

Dimensions of Frame

- L 24' x W 16' x H 1.5'



COYLE CM MODELS INTERCONNECTIONS

INTERCONNECTIONS - (Can be configured for any requirement)	CM1	CM2	CM4	CM6	CAPS
NEMA 5-15/20 R 120VAC/60Hz power outlet 20A	2	2	4	4	8
NEMA L5-30 120VAC/60Hz outlet	1	1	1	1	1
NEMA L5-30 120VAC/60Hz inlet	1	1	1	1	1
Marinco 50 Amp Easy Lock Shore Power Inlet 125/250VAC 50A			2	2	2
Marinco 50 Amp Easy Lock Shore Power Outlet 125/250VAC 50A				1	2
Auto Start Generator inlet and outlet Aviation Connector Set 20mm 7 Terminals 5A 150V, GX20 Waterproof Male Female Connector Fittings / unit uses the male interconnection	1	1	1	1	1



NEMA 5-15/20



NEMA L5-30



Marinco 125/250 50A



7 PIN 5A 150V

COYLE CM MODELS CHASSIS, BODY, AND HARDWARE

CM1 & CM2 Box Assembly Enclosure

- Ultra robust lightweight aluminum single piece weldment
- NEMA 4-X doors and weather seals
- IP66 self sealing enclosure drain
- Finished with thermoset powder coating

CM4 & CM6 Trailer Chassis and Lower Box Assembly

- Ultra robust and vibration resistant steel plate single piece weldment.
- Single piece weldment is WATS zinc metalized, and then thermoset powder coated, for 20 year corrosion resistance.
- NEMA 4-X doors, hatches, and weather seals
- IP66 self sealing enclosure drains
- All parts finished with thermoset powder coating.

CM1-CAPS Hardware and Upper Box/Enclosure

- All parts are 316 stainless steel and 5052 aluminum.
- All fasteners, washer, and nuts are 316 Stainless steel.
- Box finished with thermoset powder coating

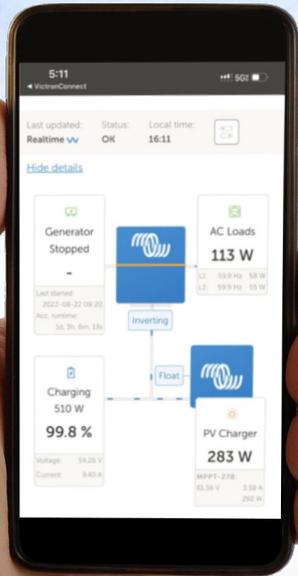
CM1-CAPS Electrical Hardware Components, Wires, Cables, Terminations, and Interconnections

- All wire is fully tinned corrosion resistant marine grade exceeding ABYC standard.
- All wire is fully insulated and abrasion, heat, and oil and chemical resistant exceeding ABYM standard.
- All electrical terminations are marine grade fully insulated exceeding ABYC standard.
- All multi conductor cables are marine grade exceeding ABYM standard.
- Power distribution overcurrent protection components are marine grade thermal circuit breakers exceeding ABYM standard.
- Weather and waterproof interconnection inlets and outlets are marine grade exceeding ABYM standard.



COYLE CM MODELS

BLUETOOTH, WIFI, & 4G LTE CONNECTIVITY



All CM Solar Generators come with Bluetooth & Wifi connectivity!

And with an inexpensive 4G plan, you can now have mobile internet connectivity!

For or a very low monthly cost (around \$20.⁰⁰), a CM unit owner can purchase a sim card* for their CM unit, and check the status or change the settings of their Coyle Solar Generator anywhere in the world!

*Where local wireless carriers are available.



COYLE CM MODEL WARRANTY INFORMATION 09.2022

The 3 year warranty will cover:

1) Power system - Inverter/Charger, WiFi control system, Charge Controller, Battery

A) Replacement of defective parts, including shipping costs, is warranty burden supported by Coyle Solar - which is supported by manufacturer warranties.

B) Please refer to the language in the distributor pricing agreement; per se we would rely on our local partner to provide warranty service labor, customer service, and technical support directly to the customer. This warranty labor is paid for by Coyle Solar, at the rates as described in the proposal.

2) Mechanical system - PV array deployment mechanism, trailer chassis, wheels, handles, locks, and other mechanical functions

A) Replacement of defective parts supported by Coyle Solar

B) Distributor partner providing customer service, technical support, and warranty service labor - paid for by Coyle Solar.

After 3 years, these manufacturer warranties will apply:

- Batteries: 11 years
- PV modules: 25 year (power performance)

All the Coyle Solar equipment designs are "smart" and interconnected for reporting, allowing Coyle Solar and our partners to monitor and analyze, actual use and performance if opted in. This insight allows for effective warranty forecasting and customer support. Warranty and pricing information is subject to change without notice.



For more than 18 years, Coyle Solar has continued to innovate on the idea of a mobile solar-powered generator, evolving from a wheelbarrow sized unit, into a design that would power a deployable remote field office; utilizing the form factor of a shipping container, and capped with an array of 20 PV panels.

We can't wait to see what comes next!



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We Power Potential!