

## MidNite Solar

### E-Panel

The MidNite Solar E-Panel is a quick and easy way to install most inverters. They come standard with the basic over-current protection and disconnects required to install your renewable energy system. ETL Listed to UL and CSA standards.

### OutBack E-Panels

OutBack inverters mount on a unique hinged door to keep the footprint of the system as small as possible. They come standard with left-hand hinge, allowing the charge controller to mount on the right. The STS version leaves room for the OutBack AC box with a surge arrester for grid-tie applications and the AL-PLUS version has room to mount an inverter and MX60 on the door.

Mounting brackets are included to aid in one-person installations. Main breaker, inverters cables, a 500-amp/50mv shunt for battery monitoring systems, 175-amp AC-power distribution block, 50-amp AC-input disconnect for generator or utility, 50-amp AC bypass switch are included and pre-wired. They come with a mounting bracket for an OutBack MX60. Cutouts for mounting up to six additional 13mm-wide DIN rail mount breakers are provided as well as a cutout for a GFCI-style AC outlet.

If you are installing an Apollo T80 charge controller, use the 80-amp GFP or two 80-amp breakers. For a larger selection of breakers see pages 105.



MidNite model	E-Panels	Item code	Price
<b>For OutBack Inverters</b>			
MNE125ST-L	Gray steel chassis with 125A inverter breaker – left hinge	030-05126	\$489
MNE175ST-L	Gray steel chassis with 175A inverter breaker – left hinge	030-05130	\$529
MNE250ST-L	Gray steel chassis with 250A inverter breaker – left hinge	030-05134	\$529
MNE125AL-L	White alum chassis with 125A inverter breaker – left hinge	030-05138	\$529
MNE175AL-L	White alum chassis with 175A inverter breaker – left hinge	030-05142	\$559
MNE250AL-L	White alum chassis with 250A inverter breaker – left hinge	030-05146	\$559
MNE125STS	Gray steel chassis with 125A inverter breaker 18" wide	030-05127	\$559
MNE175STS	Gray steel chassis with 175A inverter breaker 18" wide	030-05131	\$599
MNE250STS	Gray steel chassis with 250A inverter breaker 18" wide	030-05135	\$599
MNE175AL-PLUS	White alum chassis with 175A inv breaker w/ charge controller mt	030-05148	\$639
MNE250AL-PLUS	White alum chassis with 250A inv breaker w/ charge controller mt	030-05149	\$639
MNEPV63	63A 150VDC DIN rail mount breaker (13mm wide)	053-03038	\$13
MNDC-GFP	63A 150 VDC ground fault protector	030-05249	\$69
MNDC-GFP80	80A 125 VDC ground fault protector	030-05250	\$89
MNEDC80	80A panel mount breakers	030-04333	\$25

### Magnum E-Panels

Magnum inverters mount on a unique hinged door to keep the footprint of the system as small as possible. Mounting brackets are included to aid in one-person installations. They come with a main breaker, 2/0 inverters cables, a 500-amp/50mv shunt for battery monitoring systems, an AC input and bypass, PV input bus bars, DIN rails, 3-panel mount breaker knockouts, ground bus, remote display mounting brackets, charge controller bracket, wall mount bracket and lots of hardware.

MidNite model	E-Panels	Item code	Price
<b>For Magnum Inverters</b>			
MNE175STM	Gray steel chassis with 175-amp inverter breaker	030-05161	\$599
MNE250STM	Gray steel chassis with 250-amp inverter breaker	030-05163	\$599
MNE175STM-240	White steel chassis with 175-amp inv breaker 120/240	030-05167	\$799
MNE125STMM-L	Gray steel chassis with 125-amp inv breaker for MM-series	030-05172	\$529

## Xantrex E-Panels

The XW inverter is mounted directly above the E-Panel. It comes with a 250-amp inverter battery breaker, AC inputs for generator and utility, knock-outs for up to 7 DIN rail mount breakers and 6 panel mount breakers and a 500-amp shunt. Massive tin-plated copper bus bars connect to the XW's battery terminals. There are bus bars for AC inputs, AC output, neutral, ground, PV + in, PV- in, Bat +, Bat-, covered by a metal dead-front behind the reversible door. Charge controllers mount to either side or both sides at once for dual controllers. The AC bypass can be configured as input and output on/off as well as AC bypass. The XW MPPT controller requires no mounting bracket. MX60, MF80 and Classic require right or left E-Panel charge controller mounting brackets. A right-hand bracket is included. The color-matched enclosure is 16" wide, 18" tall, 8" deep and weighs 42 pounds.



## DR and TR E-Panels

Sounds strange but now that the DR inverter has been discontinued, MidNite designed an E-Panel for it! This unit also works for the replacement TR inverter from Xantrex. It comes with all the normal E-Panel features such as inverter cables, PV+ busbar, battery+ busbar, 50-amp AC input/output bypass, 50-amp AC input disconnect, 175- or 250-amp 125VDC inverter battery breaker, AC busbars, covers for DC and AC end, wall mounting brackets and hardware. AC breakers are rated at 277VAC. Dimensions are 11" x 14" x 28" and weight is 30 lbs.



MidNite model	Description	Item code	Price
<b>For Xantrex XW and TR Inverters</b>			
MNE250XW	E-panel to mount under one XW inverter	030-05181	\$950
MNE-XE-L-bracket	Left-side charge controller bracket	030-05183	\$20
MNE175DT/TR-L	Gray steel chassis with 175-amp inverter breaker	030-05186	\$559
MNE250DR/TR-L	Gray steel chassis with 250-amp inverter breaker	030-05187	\$559

## More E-Panels

The E-Panel Lites come with a left-hand door, inverter breaker, pre-wired AC input and bypass, 500-amp/50mV shunt, AC terminal blocks, DIN rails, wall mounting brackets, instructions and lots of hardware.

UltraLite comes with a 50-amp AC input disconnect, 125-, 175- or 250-amp inverter breaker, ground busbar and the normal hardware and DC covers normally associated with E-Panels. They do not include an AC Bypass switch or AC and DC busbars.

Nottagutter accepts 2 UltraLites on top and 2 on the bottom, has bypass.

MidNite model	Description	Item code	Price
<b>Miscellaneous MidNite Extras</b>			
MNE125LT	Gray steel chassis with 125-amp inverter breaker (Lite)	030-05105	\$459
MNE175LT	Gray steel chassis with 175-amp inverter breaker (Lite)	030-05109	\$499
MNE250LT	Gray steel chassis with 250-amp inverter breaker (Lite)	030-05113	\$499
MNE125ALT	White alum chassis with 125-amp inverter breaker (Lite)	030-05101	\$499
MNE175ALT	White alum chassis with 175-amp inverter breaker (Lite)	030-05102	\$539
MNE250ALT	White alum chassis with 250-amp inverter breaker (Lite)	030-05103	\$539
MNE125ALULite-L	125 amp alum OutBack UltraLite w/o bypass	030-05116	\$479
MNE175ALULite-L	175 amp alum OutBack UltraLite w/o bypass	030-05117	\$479
MNE250ALULite-L	250 amp alum OutBack UltraLite w/o bypass	030-05118	\$479
Nottagutter	Gutter with bypass, bus bars and breakers	030-05120	\$659

Please call us with any questions! Our contact information is on the cover.

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425-374-9060

## OutBack

### FLEXware Complete Power Systems

#### Fully Assembled and Tested

NEC-compliant pre-assembled power systems include inverter(s), AC enclosure inverter bypass, DC enclosure, inverter disconnect breaker and shunt, all mounted to a back plate and wired. Charge controllers and battery cables and displays are not included. Charge controllers, additional AC and DC input, and load breakers can be added at the time of pre-assembly or in the field. Some options are listed below. Many other options are available. Please contact us for more information. Power systems ship by truck freight. ETL Listed to UL standards.

#### Complete Kits to Assemble on Site

All our FLEXware systems are available as parts kits to assemble in place. All parts are UPS shippable.

#### FLEXware 500 System

A FLEXware 500-based system will satisfy a majority of renewable energy applications with large power requirements such as residential, light commercial or rural electrification systems by supporting up to two FX Series inverter/chargers and up to two MX charge controllers. FLEXware 500 AC and DC enclosures accommodate all the essential protective devices while still providing lots of room for additional breakers and large cable connections. In addition to the ability to be mounted horizontally, a FLEXware 500 based system can also be mounted vertically for added versatility. FLEXware 500 systems come with one RTS, IOB-D-120/240VAC and HUB4. Two-inverter systems also come with a X-240.

#### FLEXware 1000 System

A FLEXware 1000-based system is best utilized in applications with greater power requirements like large residential, commercial or mini-grid projects. FLEXware 1000 system architecture is capable of supporting up to four FX Series inverter/chargers, four MX charge controllers, and all the required AC and DC components and wiring. FLEXware 1000 is easily expandable for systems as large and complex as your imagination allows. FLEXware 1000 AC and DC enclosures accommodate all essential protective devices while still providing lots of room for additional breakers and large cable connections. With mounting provisions for three DC shunts, there is now space for enough to max out the inputs of multi-channel amp-hour meters. For added versatility a FLEXware 1000-based system can be mounted horizontally or vertically. FLEXware 1000 systems come with one RTS, IOB-Q-120/240VAC, HUB10 and X-240.

Both the FLEXware 500 and 1000 systems come with the MATE remote monitors (page 89).



Model	FLEXware type	Inverter(s) qty - model	Rated power kW - AC output	DC Voltage	Battery charger	Assembled & tested		Parts only	
						Item code	Price	Item code	Price
OBFW5-FX2012T/S	500	1 – FX2012T	2.0kW 120V	12 VDC	80 AMP	033-00321	\$4,689	031-01015	\$4,122
OBFW5-FX2012T/D	500	2 – FX2012T	4.0kW 120/240V	12 VDC	160 AMP	033-00323	\$7,819	031-01017	\$7,095
OBFW5-VFX2812/S	500	1 – VFX2812	2.8kW 120V	12 VDC	125 AMP	033-00325	\$4,889	031-01019	\$4,322
OBFW5-VFX2812/D	500	2 – VFX2812	5.6kW 120/240V	12 VDC	250 AMP	033-00327	\$8,219	031-01021	\$7,495
OBFW5-FX2524T/S	500	1 – FX2524T	2.5kW 120V	24 VDC	55 AMP	033-00329	\$4,671	031-01023	\$4,104
OBFW5-FX2524T/D	500	2 – FX2524T	5.0kW 120/240V	24 VDC	110 AMP	033-00331	\$7,826	031-01025	\$7,102
OBFW5-VFX3524/S	500	1 – VFX3524	3.5kW 120V	24 VDC	85 AMP	033-00333	\$4,889	031-01027	\$4,322
OBFW5-VFX3524/D	500	2 – VFX3524	7.0kW 120/240V	24 VDC	170 AMP	033-00335	\$8,217	031-01029	\$7,493
OBFW5-FX3048T/S	500	1 – FX3048T	3.0kW 120V	48 VDC	35 AMP	033-00337	\$4,602	031-01031	\$4,035
OBFW5-FX3048T/D	500	2 – FX3048T	6.0kW 120/240V	48 VDC	70 AMP	033-00339	\$7,677	031-01033	\$6,953
OBFW5-VFX3648/S	500	1 – VFX3648	3.6kW 120V	48 VDC	45 AMP	033-00341	\$4,798	031-01035	\$4,231
OBFW5-VFX3648/D	500	2 – VFX3648	7.2kW 120/240V	48 VDC	90 AMP	033-00343	\$8,037	031-01037	\$7,313
OBFW10-FX2524T/D	1000	2 – FX2524T	5.0kW 120/240V	24 VDC	110 AMP	033-00365	\$8,715	031-01039	\$7,991
OBFW10-FX2524T/Q	1000	4 – FX2524T	10.0kW 120/240V	24 VDC	220 AMP	033-00367	\$14,415	031-01041	\$13,153
OBFW10-VFX3524/D	1000	2 – VFX3524	7.0kW 120/240V	24 VDC	170 AMP	033-00369	\$9,113	031-01043	\$8,389
OBFW10-VFX3524/Q	1000	4 – VFX3524	14.0kW 120/240V	24 VDC	340 AMP	033-00371	\$15,266	031-01045	\$14,004
OBFW10-FX3048T/D	1000	2 – FX3048T	6.0kW 120/240V	48 VDC	70 AMP	033-00373	\$8,568	031-01047	\$7,844
OBFW10-FX3048T/Q	1000	4 – FX3048T	12.0kW 120/240V	48 VDC	140 AMP	033-00375	\$14,121	031-01049	\$12,858
OBFW10-VFX3648/D	1000	2 – VFX3648	7.2kW 120/240V	48 VDC	90 AMP	033-00377	\$8,970	031-01051	\$8,245
OBFW10-VFX3648/Q	1000	4 – VFX3648	14.4kW 120/240V	48 VDC	180 AMP	033-00379	\$14,899	031-01053	\$13,636
Model	Description					Install options		Parts only	
						Item code	Price	Item code	Price
MX60 Control	One OutBack MX60 60-amp charge controller mounted on side with breaker					033-01513	\$795	031-02407	\$740
2 x MX60	Two OutBack MX60 60-amp charge controller mounted on side with breakers					033-01515	\$1,601	031-02409	\$1,465
2 x MX60	Two OutBack MX60 60-amp charge controller mounted on top with breakers					033-01517	\$1,565	031-02411	\$1,480
FLEXmax 80 Control	One OutBack FM80 80-amp charge controller mounted on side with breaker					033-01521	\$958	031-02413	\$890
2 x FLEXmax 80	Two OutBack FM80 80-amp charge controller mounted on side with breakers					033-01522	\$1,877	031-02415	\$1,765
Trimetric meter	Amp-hour meter – installed in PSDC 24 volt system					033-01215	\$273	031-02417	\$210
Trimetric meter	Amp-hour meter – installed in PSDC 48 volt system					033-01216	\$282	031-02419	\$230
OBDC-GFP2	Ground fault interrupter for PV array installed in DC system box					033-01221	\$171	031-02421	\$135
OBDC-100	100-amp DC load breaker installed in system					033-01227	\$65	031-02423	\$63
OBDC-80	80-amp DC load breaker installed in system					033-01228	\$42	031-02425	\$32
OBDC-60	60-amp DC load breaker installed in system					033-01229	\$33	031-02427	\$23
OBDC-40	40-amp DC load breaker installed in system					033-01231	\$33	031-02429	\$17
OBDC-30	30-amp DC load breaker installed in system					033-01233	\$33	031-02431	\$17
OBDC-15	15-amp DC load breaker installed in system					033-01235	\$33	031-02433	\$17
OBDC-10	10-amp DC load breaker installed in system					033-01237	\$33	031-02435	\$17
OBDC-1	1-amp DC load breaker installed in system					033-01239	\$33	031-02437	\$17
Flexnet	Flexnet metering installed with 2 additional shunts (3 total)					033-01291	\$640	031-02451	\$490
Aux Relay	Aux relay installed (specify inverter or MX60)					033-01287	\$106	031-02455	\$25
SP-ACA	Surge Protector ACA installed (one per inverter)					033-01285	\$270	031-02463	\$250

## Xantrex

### DC Disconnect

The Xantrex DC Disconnect is a white, powder-coated indoor enclosure with conduit knockouts for connection to inverters, batteries, DC charging sources, charge controllers and DC load centers. It comes with one 175A or 250A circuit breaker for an inverter (with space for a second breaker for a second inverter; order separately) that meets the National Electric Code requirements for disconnection and overcurrent protection of battery-based power systems. There are knockouts on the sides for four 15- to 100-amp DC breakers used for charging sources and DC loads. Use the DC Bonding Block (DCBB; order separately below) for connecting the negative cables and for single-point DC system grounding. There are pre-drilled places inside for two metering shunts. Knock-outs on the top are provided for mounting two Xantrex C-Series or OutBack MX-60 PV charge controllers, or one BlueSky PV charge controller. Knockouts on the sides are designed for mounting two Xantrex SW, SW Plus, or DR inverter/chargers with their optional conduit boxes and 2" offset nipples.

Order 175A or 250A DC surface mount circuit breakers listed at right for adding second inverter breaker. Order 15A to 100A DC panel-mount circuit breakers on the next page to use in the DC Disconnect side spaces. Use the DC175 for the Xantrex SW4048, SW Plus 2524 & 2548, DR1512, DR1524, and DR2424 inverters. Use the DC250 for the Xantrex SW4024, SW5548, DR2412, and DR2436 inverters. ETL Listed to UL508. Dimensions: 21"H x 10.5"W x 5"D. Weight: 14 pounds.



Xantrex model	Description	Item code	Price
DC250	Xantrex 250A DC disconnect	030-01414	\$329
DC175	Xantrex 175A DC disconnect	030-01411	\$329
DCBB	DC bonding block	030-01417	\$75
GJ1-175-SM	175 A add-on breaker	053-01056	\$119
GJ1-250-SM	250 A add-on breaker	053-01061	\$119
GJ1 Rear mounting kit for second breaker		053-01066	\$10

## MidNite Solar

### Mini-DC Disconnect Power Center

Use this small DC disconnect, which includes the inverter breaker, to provide overcurrent protection for any single inverter. It has a DIN rail for additional rail mounted breakers for DC inputs or loads and it is pre-drilled for a shunt and optional busbars listed below. The white powder-coated aluminum chassis measures 10" X 5" X 18" and weighs 7 pounds. Three main breaker sizes are available.

### Baby Box

The Baby Box encloses up to four MNEPV or MNEAC DIN rail breakers. It is a general-use enclosure for retrofits, a small inverter disconnect, a PV disconnect or a small AC or DC distribution center. It has concentric ¾" and 1" knockouts at each end. Breakers are not included. Order DIN rail breakers on the next page. Boxed: 3" x 3" x 7" and weighs 2 pounds.

### Accessories

These UL Recognized components can be use in the Mini-DC Disconnect and Baby Box above.

**Busbars** with colored insulators. Each has four 1/0 and eleven #6 usable wire slots, with two sizes of 10-32 screws. 4.63" long.

**Ground busbar**, 3.45" long with green screws. Two 1/0 and seven #6 wire slots with mounting screws.



Model	Description	Item code	Price
MNDC125	125A mini-DC disconnect	053-00091	\$205
MNDC175	175A mini-DC disconnect	053-00092	\$235
MNDC250	250A mini-DC disconnect	053-00093	\$235
Bay Box	Baby box breaker center	053-00089	\$36
MNTBR	Red terminal busbar	053-00105	\$17
MNTBB	Black terminal busbar	053-00106	\$17
MNTBW	White terminal busbar	053-00107	\$17
MNGBB	Ground busbar	053-00100	\$12

DIN mount AC breakers with set-screw compression terminals for 14 to #2AWG wire. Use these for AC in OutBack FLEXware and MidNite E-panels.

Breaker amps	Poles	Voltage rating	Frequency rating	Width (inches)	OutBack number	MidNite Solar #	Item code	Price
15	1	120	50/60HZ AC	0.5	OBB-15-120VAC-DIN	MNEAC15	030-04415	\$19
15	2	120/240	50/60HZ AC	1	OBB-15D-240VAC-DIN		030-04416	\$39
20	1	120	50/60HZ AC	0.5	OBB-20-120VAC-DIN	MNEAC20	030-04418	\$19
20	2	120/240	50/60HZ AC	1	OBB-20D-240VAC-DIN		030-04419	\$39
25	2	120/240	50/60HZ AC	1	OBB-25D-240VAC-DIN		030-04421	\$39
10	1	277	50/60HZ AC	0.5	OBB-10-277VAC-DIN	MNEAC10	030-04439	\$19
15	1	277	50/60HZ AC	0.5	OBB-15-277VAC-DIN		030-04440	\$19
30	1	277	50/60HZ AC	0.5	OBB-30-277VAC-DIN	MNEAC30	030-04437	\$19
30	2	277/480	50/60HZ AC	1	OBB-30D-480VAC-DIN		030-04414	\$39
30	3	277/480	50/60HZ AC	1.5	OBB-30T-480VAC-DIN	MNEAC30-3P	030-04435	\$59
50	1	277	50/60HZ AC	0.5	OBB-50-277VAC-DIN	MNEAC50	030-04422	\$19
50	2	277/480	50/60HZ AC	1	OBB-50D-480VAC-DIN		030-04423	\$39
50	3	277/480	50/60HZ AC	1.5	OBB-50T-480VAC-DIN	MNEAC50-3P	030-04432	\$59
60	1	277	50/60HZ AC	0.5	OBB-60-277VAC-DIN	MNEAC60	030-04431	\$29
60	2	277/480	50/60HZ AC	1	OBB-60D-480VAC-DIN		053-03036	\$41



Panel mount breakers with stud terminals. Ring terminals on wire are required. Use these breakers for DC protection in OutBack FLEXware enclosures, and MidNite E-panels when equipped for the Apollo T-80 controller. Stud size is 1/4" on 80A and smaller, 5/16" on 100A and 125A and 3/8" on 175A and 250A.

Breaker amps	Poles	Voltage rating	Frequency rating	Width (inches)	OutBack number	MidNite Solar #	Generic number	Item code	Price
1	1	150	AC/DC	0.75	OBB-1-150VDC120VAC-PNL		LELK1-1	030-04350	\$25
5	1	150	AC/DC	0.75	OBB-5-150VDC120VAC-PNL		LELK1-5	030-04349	\$25
10	1	150	AC/DC	0.75	OBB-10-150VDC120VAC-PNL		LELK1-10	030-04348	\$25
15	1	150	AC/DC	0.75	OBB-15-150VDC120VAC-PNL		LELK1-15	030-04344	\$25
20	1	150	AC/DC	0.75	OBB-20-150VDC120VAC-PNL		LELK1-20	030-04347	\$25
30	1	150	AC/DC	0.75	OBB-30-150VDC120VAC-PNL		LELK1-30	030-04341	\$25
40	1	150	AC/DC	0.75	OBB-40-150VDC120VAC-PNL		LELK1-40	030-04338	\$25
50	1	150	AC/DC	0.75	OBB-50-150VDC120VAC-PNL		LELK1-50	030-04337	\$25
60	1	150	AC/DC	0.75	OBB-60-150VDC120VAC-PNL		LELK1-60	030-04335	\$25
70	1	150	DC	0.75	OBB-70-150VDC-PNL	MNEDC70		030-04334	\$25
80	1	150	DC	0.75	OBB-80-150VDC-PNL	MNEDC80		030-04333	\$25
100	1	150	DC	1	OBB-100-150VDC-PNL			030-04332	\$59
125	1	150	DC	1	OBB-125-150VDC-PNL	MNEDC125		030-04331	\$59
175	1	150	DC	1.5	OBB-175-150VDC-PNL	MNEDC175		030-04329	\$129
250	1	150	DC	1.5	OBB-250-150VDC-PNL	MNEDC250		030-04326	\$129



Panel mount breakers with 1/4" stud terminals. One inch wide body. Ring terminals are required. Use these breakers for side knockouts of the Xantrex DC Disconnect, and in the Xantrex XW Distribution Panel. The 175A and 250A panel mount breakers for the Xantrex DC Disconnect are listed on the previous page with the DC disconnect.

Surface mount breakers with screw lug terminals. 125 VDC rated. 10,000A interrupting current for direct connection to a battery. One inch wide body. Mounting feet allow them to be bolted to the back panel in an enclosure. Use these breakers in the Xantrex XW Distribution Panel, and for custom DC control panels.

Amps	Part #	Volts	Item code	Price	Amps	Part #	Item code	Price
10	CD10-PM	125	053-01010	\$25	10	CF-10	053-01011	\$25
15	CD15-PM	125	053-01015	\$25	15	CF-15	053-01016	\$25
20	CD20-PM	125	053-01020	\$25	20	CF-20	053-01021	\$25
30	CD30-PM	125	053-01025	\$25	30	CF-30	053-01026	\$25
50	CD50-PM	125	053-01030	\$25	50	CF-50	053-01031	\$25
60	CD60-PM	125	053-01035	\$35	60	CF-60	053-01036	\$35
60	CD-60-PX	160	030-01192	\$25				
75	CD75-PM	125	053-01040	\$35	75	CF-75	053-01041	\$35
80	CD80-PM	125	030-01189	\$29	100	CF-100	053-01051	\$39
100	CD100-PM	125	053-01050	\$39	110	CF-110	053-01051	\$39

