

OutBack

FLEXware Complete Power Systems

Fully Assembled and Tested

NEC-compliant pre-assembled power systems include inverter(s), AC enclosure with inverter bypass, DC enclosure, inverter disconnect breaker and shunt, all mounted to a back plate and prewired. Charge controllers, 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 on the next page. 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 medium power requirements such as residential, light commercial or rural electrification systems by supporting up to two FX Series inverter/chargers and up to two FM 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 FM 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 104).

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
OBFW-O-FM60	OutBack FM60 charge controller with breaker, installed in power system					033-01513	\$895	031-02407	\$840
OBFW-O-FM60/D	Two OutBack FM60 charge controllers with breaker, installed in power system					033-01515	\$1,800	031-02409	\$1,665
OBFW-O-FM60/D-top	Two OutBack FM60 60-amp charge controller mounted on top with breakers					033-01517	\$1,765	031-02411	\$1,665
OBFW-O-FM80	OutBack FM80 charge controller with breaker, installed in power system					033-01521	\$1,058	031-02413	\$990
OBFW-O-FM80/D	Two OutBack FM80 charge controllers with breaker, installed in power system					033-01522	\$2,078	031-02415	\$1,965
TriMetric meter	Amp-hour meter – connection block installed in system					033-01215	\$273	031-02417	\$210
OBFW-O-X240	X-240 transformer installed in single inverter systems for 240 VAC input or output					033-01254	\$431	030-04270	\$399
OBDC-GFP2	Ground fault interrupter for PV array installed in DC system box 80A 2-pole					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
LA-302DC	DC Delta lightning arrestor installed					033-01281	\$57		
LA-302R	AC Delta lightning arrestor installed					033-01283	\$55		

MidNite Solar

E-Panel

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

E-Panels for OutBack Inverters

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 arrestor for grid-tie applications and the AL-PLUS version has room to mount an inverter and MX60 on the door. Right hand doors are available.

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 FM controller. Cutouts for mounting up to six additional 13mm-wide DIN rail mount breakers are provided, as are cutouts for GFCI-style AC outlets and 3-panel mount DC breaker slots. Circuit breakers and DC GFP are located on page 119.



MidNite model	Description	Item code	Price
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-L	Gray steel chassis with 125A inverter breaker 15" wide – left hinge	030-05127	\$559
MNE175STS-L	Gray steel chassis with 175A inverter breaker 15" wide – left hinge	030-05131	\$599
MNE250STS-L	Gray steel chassis with 250A inverter breaker 15" wide – left hinge	030-05135	\$599
MNE125AL-PLUS	White alum chassis with 125A inv breaker w/ charge controller mt	030-05147	\$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

E-Panels for Magnum Inverters

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 busbars, DIN rails, 3-panel mount breaker knockouts, ground bus, remote display mounting brackets, charge controller bracket, wall mount bracket and lots of hardware. 120/240 models are for Magnum MS-AE inverters.

MidNite model	Description	Item code	Price
MNE175STM-L	Gray steel chassis with 175-amp inverter breaker	030-05160	\$599
MNE250STM-L	Gray steel chassis with 250-amp inverter breaker	030-05164	\$599
MNE175ALM-L	White alum chassis chassis with 175-amp inverter breaker	030-05168	\$639
MNE250ALM-L	White alum chassis chassis with 250-amp inverter breaker	030-05166	\$639
MNE175STM-250	White steel chassis with 175-amp inv breaker 120/240	030-05167	\$799
MNE250STM-240	White steel chassis with 175-amp inv breaker 120/240	030-05169	\$799
MNE125STMM-L	Gray steel chassis with 125-amp inv breaker for MM-series	030-05172	\$529



E-Panel for Schneider Electric Xantrex XW

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, knockouts for up to 7 DIN rail mount breakers and 12 panel mount breakers and a 500-amp shunt. (Power Center Xantrex sells does not have a shunt) Tin-plated copper busbars connect to the XW's battery terminals. There are busbars 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. FM60, FM80 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.



E-Panels for Xantrex TR and Samlex SL Inverters

This E-panel fits the discontinued Xantrex DR, current TR inverters and the Samlex sine wave inverter/charger. 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. Dimensions are 3" x 9" x 25" and weight is 30 lbs.



E-Panels for Apollo Solar TSW Inverters

Comes with all standard E-Panel features and includes a 124/240 VAC input/output bypass and mounting hardware for the Apollo charge controllers. Dimensions are 4" x 14" x 25" and weight is 42 lbs.



MidNite model	Description	Item code	Price
MNE250XW	E-panel to mount under one XW inverter	030-05181	\$950
MNE-XE-L-bracket	Left-side charge controller bracket	030-05183	\$20
MNE175DR/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
MNE175 Apollo	Gray steel chassis with 175-amp inverter breaker 120/240	030-05190	\$799
MNE250 Apollo	Gray steel chassis with 250-amp inverter breaker 120/240	030-05191	\$799

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 typically 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 a bypass for up to four 120/240VAC inverters.

MidNite model	Description	Item code	Price
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, busbars and breakers	030-05120	\$659



MidNite Solar

NEW! Pre-Wired Power Systems

MidNite Solar is now offering pre-assembled and tested systems using OutBack and Magnum inverters.

Magnum inverters are installed on the MNE250STM-L gray steel E-Panel with the inverter listed and a ME-RC50 remote display, ME-BMK-NS, 1 MNEPV2 breaker for BMK, an FM60 charge controller with two MNEPV63 charge control breakers, one AC lightning arrestor, one DC lightning arrestor and two battery temperature sensors. All assemblies are thoroughly tested and crating is included.

OutBack inverters are installed on the MNE250AL-Plus white alum E-Panel, or a MNE250STS-L gray steel E-Panel (see model number) and include the listed inverter/charger, a Mate-B black remote display, an FM60 charge controller, two MNEPV63 charge control breakers, one AC lightning arrestor, one DC lightning arrestor and two battery temperature sensors. All assemblies are thoroughly tested and crating is included.

Options include and FM80 charge controller in place of the FM60 and a DC-GFP to meet 2008 NEC.



Model	Midnite pre-wired E-Panel system description	Inverter	Weight	Item code	Price
MNEMS4024FM60	Magnum 120VAC Off Grid 4000 Watt 24VDC Inverter	MS4024	190	033-04301	\$4,925
MNEMS4024AEFM60	Magnum 120/240VAC Off Grid 4000 Watt 24VDC Inverter	MS4024AE	190	033-04303	\$5,299
MNEMS4448AEFM60	Magnum 120/240VAC Off Grid 4400 Watt 48VDC Inverter	MS4448AE	190	033-04305	\$5,299
MNEPLUSGVFX3524FM60	OutBack Plus 120VAC Battery backup Grid-Tie 3500 W 24V Inverter	GVFX3524	190	033-04307	\$4,999
MNEPLUSGVFX3648FM60	OutBack Plus 120VAC Battery backup Grid-Tie 3600 W 48V Inverter	GVFX3648	190	033-04309	\$4,999
MNEPLUSVFX3524FM60	OutBack Plus 120VAC Off Grid 3500 Watt 24VDC Inverter	VFX3524	190	033-04311	\$4,999
MNEPLUSVFX3648FM60	OutBack Plus 120VAC Off Grid 3600 Watt/48VDC Inverter	VFX3648	190	033-04313	\$4,999
MNESTSGVFX3524FM60	OutBack 120VAC Grid Tie 3500 Watt 24VDC Inverter	GVFX3524	190	033-04315	\$4,975
MNESTSGVFX3648FM60	OutBack 120VAC Grid Tie 3600 Watt 48VDC Inverter	GVFX3648	190	033-04316	\$4,975
MNESTSVFX3524FM60	OutBack 120VAC Off Grid 3500 Watt 24VDC Inverter	VFX3524	190	033-04317	\$4,975
MNESTSVFX3648FM60	OutBack 120VAC Off Grid 3600 Watt 48VDC Inverter	VFX3648	190	033-04319	\$4,975
FM80 Option	Change FM60 Charge controller to FM80			033-04325	\$100
DC-GFP Option	Add Ground Fault Protection to systems above			033-04329	\$69

OutBack

NEW! FLEXpower ONE Pre-Wired Power System

The new FLEXpower ONE System accommodates all the essential protective devices in a small space at a low installed cost for applications with modest power requirements such as cabins, chalets, homes, remote communication sites and backup power systems. Utilizing a compact design and an easy-to-install mounting bracket, the fully pre-wired and factory tested.

FLEXpower ONE includes a single inverter, AC and DC wiring boxes, a single FLEXmax 80 charge controller, MATE, HUB, FLEXnet DC and surge protector. The system is also equipped with battery and PV array breakers, a PV GFDI breaker, an input-output-bypass assembly, mounting locations for both AC GFCI Type B and EU Type F style outlets and additional AC breakers. FLEXpower ONE components carry all of the necessary ETL certifications allowing for a code compliant installation. Dimensions are 12.88 x 19.69 x 33.44 inches. Weight is 98 lbs.



Model	FLEXpower ONE - System Description	Inverter	Item code	Price
FP1-1	Prewired AC and DC boxes with 120VAC Bypass and Type B Outlet, 250ADC breaker	VFX3524	033-04100	\$4,899
FP1-2	Prewired AC and DC boxes with 120VAC Bypass and Type B Outlet, 175ADC breaker	VFX3648	033-04101	\$4,899
FP1-3	Prewired AC and DC boxes with 120VAC Bypass and Type B Outlet, 250ADC breaker	GVFX3524	033-04102	\$4,899
FP1-4	Prewired AC and DC boxes with 120VAC Bypass and Type B Outlet, 175ADC	GVFX3648	033-04103	\$4,899
FP1-5	Prewired AC and DC boxes with 230VAC Bypass and 250ADC breaker - EXPORT	VFX3024E	033-04104	\$4,999
FP1-6	Prewired AC and DC boxes with 230VAC Bypass and 175ADC breaker - EXPORT	VFX3048E	033-04105	\$4,999

MidNite Solar

Mini-DC Disconnect Power Center (MNDC)

Use this small DC disconnect, which includes the inverter breaker, to provide overcurrent protection for any single inverter. The MNDC comes with a DIN rail for 5 additional DC breakers for DC loads, charge controller disconnect, battery status monitor feed etc. included is a ground bus, 5/16" bonding battery minus stud. Mounting



holes for a 500 amp shunt are built in.. The white powder-coated aluminum chassis measures 10" X 5" X 18" and weighs 7 pounds. Three main breaker sizes are available. Left side main breaker placement is available on special order.

The MNDC Plus version of the popular MNDC adds another DIN rail allowing up to ten DIN rail mount breakers. Two DIN rail cover plates and two panel mount plates are included. The panel mount plates allow for mounting the 3/4" 125VDC breakers that range from 60 amps to 100 amps. You can also fit the MNDC-GFP80 plus four more panel mount breakers in the enclosure. Another configuration would be one MNDC-GFP, one 3/4" panel mount breaker and five DIN rail breakers as well as the large 125-250A inverter breaker. Mounting is provided for a 500 amp shunt and a MNTBB-R terminal busbar. Battery negative stud is included as well as a ground busbar.

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
MNDC125 Plus	125A mini-DC disconnect	053-00091	\$250
MNDC175 Plus	175A mini-DC disconnect	053-00092	\$280
MNDC250 Plus	250A mini-DC disconnect	053-00093	\$280
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

DC Ground Fault Protection Circuit Breakers

These breakers use a trip mechanism to connect battery negative and earth ground to open the larger breaker in case of



a ground fault. The 2008 NEC requires DC ground fault protection on all solar installations. The DIN rail GFPs will mount in most combiners, where they will do the most good, but that means going on the roof if one trips.

Amps	Volts	Mount type	Width (inch)	Item code	Price
63	150	DIN rail w/ screw lugs	1	030-05249	\$69
80	125	Panel w/ 1/4" studs	1.5	030-05250	\$69
50	300	DIN rail w/ screw lugs	2	030-05248	\$119

Baby Boxes and Wiring Accessories

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 3/4" and 1" knockouts at each end. Breakers are not included. Boxed: 3" x 3" x 7" and weighs 2 pounds.



The Big Baby overcomes the Baby Box smallness. This box is at least one inch larger in all dimensions. It also includes a ground box lug and mounting provisions for our short insulated busbar. It holds up to 4 of the 13mm wide DINrail breakers from 1-63 amps. Box Size is 9" x 5" x 4" and weighs 3 pounds.

MNEAC Quad is the same size as the Big Baby but holds up to four MNEAC-type panel-mount DC breakers available on page 120 or the panel-mount high amperage (70-100A) breakers on page 121.

Accessories

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

Busbars with colored insulators. Each MNT bar has four 1/0 and eleven #6 usable wire slots, with two sizes of 10-32 screws. 4.63" long. MNS is a shorter version, useful for PV+ input on the narrow OB E-Panel and for a separate PV- busbar for charge controllers. Four #6 and two 1/0 wire slots.

Ground busbar, 3.45" long with green screws has two 1/0 and seven #6 wire slots with mounting screws. 2.3" long bar has two 1/0 & four #6 wire slots. Both come with mounting screw and nut #10-32 x 7/8".

Big Busbar is a pair for plus and minus with 5 battery connetions and six small wires.

Model	Description	Item code	Price
Baby Box	Baby box breaker center	053-00089	\$36
Big Baby Box	Baby box breaker center	053-00088	\$45
MNEAC QUAD	Holds 4 MNEAC80 breakers	053-00087	\$55
MNTBB-R	Red terminal busbar	053-00105	\$17
MNTBB-B	Black terminal busbar	053-00106	\$17
MNTBB-W	White terminal busbar	053-00107	\$17
MNGBB	Ground busbar - 3.45" long	053-00100	\$12
MNSBB-R	Red terminal short busbar	053-00108	\$15
MNSBB-B	Black terminal short busbar	053-00109	\$15
MNSBB-W	White terminal short busbar	053-00110	\$15
Big Busbar	Pair of 5 hole 280A busbars	053-00115	\$75

DIN Mount AC Circuit Breakers

DIN mount AC breakers with set-screw compression terminals for 14 to #2AWG wire. Use these for AC in OutBack FLEXware, MidNite E-panels, and Magnum 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	n/a	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	MNEAC20-2P	030-04419	\$39
25	2	120/240	50/60HZ AC	1	OBB-25D-240VAC-DIN	n/a	030-04421	\$39
10	1	120	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	n/a	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	n/a	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	MNEAC50-2P	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	n/a	053-03036	\$41

DIN Mount DC Circuit Breakers

DIN rail mount breakers fit MidNite and Magnum enclosures, and MNPV and OutBack PV array combiners. Breakers for arrays with maximum voltage of 150 V and arrays with voltage up to 300 V are listed below.



Amps	OutBack number	MidNite Solar #	Item code	Price	Amps	OutBack number	MidNite Solar #	Item code	Price
1	OBB-1-150VDC-DIN	MNEPV1	053-03033	\$13	40	OBB-40-150VDC-DIN	MNEPV40	053-03039	\$13
2	OBB-2-150VDC-DIN	MNEPV2	053-03034	\$13	50	OBB-50-150VDC-DIN	MNEPV50	053-03035	\$13
3	OBB-3-150VDC-DIN	MNEPV3	053-03024	\$13	60	OBB-60-150VDC-DIN	MNEPV60	053-03037	\$13
4	OBB-4-150VDC-DIN	MNEPV4	053-03020	\$13	63	OBB-63-150VDC-DIN	MNEPV63	053-03038	\$13
5	OBB-5-150VDC-DIN	MNEPV5	053-03025	\$13	DIN Rail Mounted 300 VDC Circuit Breakers				
6	OBB-6-150VDC-DIN	MNEPV6	053-03021	\$13	Amps	Voltage	MidNite Solar #	Item code	Price
8	OBB-8-150VDC-DIN	MNEPV8	053-03022	\$13	7	300 VDC	MNEPV7-300	053-03107	\$34
9	OBB-9-150VDC-DIN	MNEPV9	053-03023	\$13	10	300 VDC	MNEPV10-300	053-03110	\$34
10	OBB-10-150VDC-DIN	MNEPV10	053-03026	\$13	12	300 VDC	MNEPV12-300	053-03112	\$34
12	OBB-12-150VDC-DIN	MNEPV12	053-03027	\$13	15	300 VDC	MNEPV15-300	053-03115	\$34
15	OBB-15-150VDC-DIN	MNEPV15	053-03029	\$13	20	300 VDC	MNEPV20-300	053-03120	\$34
20	OBB-20-150VDC-DIN	MNEPV20	053-03030	\$13	30	300 VDC	MNEPV30-300	053-03125	\$34
30	OBB-30-150VDC-DIN	MNEPV30	053-03032	\$13	50	300 VDC	MNEPV50-300	053-03130	\$34

Panel Mount AC/DC Circuit Breakers

Single pole breakers with 1/4" stud connections. Ring terminals on wire are required on these panel mount breakers with stud terminals. Use these breakers for DC protection in OutBack FLEXware enclosures, and MidNite E-panels (three spaces). Breakers are rated for 150VDC/120VAC.



Breaker amps	Voltage rating	Width (inches)	MidNite Solar #	OutBack number	Generic number	Item code	Price
1	150	0.75	MNEDC-1	OBB-1-150VDC120VAC-PNL	LELK1-1	030-04350	\$25
5	150	0.75	MNEDC-5	OBB-5-150VDC120VAC-PNL	LELK1-5	030-04349	\$25
10	150	0.75	MNEDC-10	OBB-10-150VDC120VAC-PNL	LELK1-10	030-04348	\$25
15	150	0.75	MNEDC-15	OBB-15-150VDC120VAC-PNL	LELK1-15	030-04344	\$25
20	150	0.75	MNEDC-20	OBB-20-150VDC120VAC-PNL	LELK1-20	030-04347	\$25
30	150	0.75	MNEDC-30	OBB-30-150VDC120VAC-PNL	LELK1-30	030-04341	\$25
40	150	0.75	MNEDC-40	OBB-40-150VDC120VAC-PNL	LELK1-40	030-04338	\$25
50	150	0.75	MNEDC-50	OBB-50-150VDC120VAC-PNL	LELK1-50	030-04337	\$25
60	150	0.75	MNEDC-60	OBB-60-150VDC120VAC-PNL	LELK1-60	030-04335	\$25

Panel Mount High Amperage DC Circuit Breakers

Single pole 3/4" wide breakers with stud connections. Ring terminals on wire are required on these panel mount breakers with stud terminals. Use these breakers for DC protection in OutBack FLEXware enclosures, and MidNite E-panels when equipped with 80A controllers.



Breaker amps	Voltage rating	Stud Size	Width (inches)	OutBack/Apollo number	Apollo Solar #	Item code	Price
70	150	1/4"	3/4	OBB-70-150VDC-PNL	n/a	030-04334	\$25
80	150	1/4"	3/4	OBB-80-150VDC-PNL	n/a	030-04333	\$27
100	125	1/4"	3/4	n/a	Apollo 100	030-04310	\$39

Panel Mount DC Circuit Breakers

Single Pole panel mount breakers with stud terminals. Ring terminals are required. Use these breakers for side knockouts of the Xantrex DC Disconnect, and in the Xantrex XW Distribution Panel.



Breaker amps	Voltage rating	Stud size	Width (inches)	OutBack number	MidNite Solar #	Part #	Item code	Price
10	125	1/4"	1			CD10-PM	053-01010	\$25
15	125	1/4"	1			CD15-PM	053-01015	\$25
20	125	1/4"	1			CD20-PM	053-01020	\$25
30	125	1/4"	1			CD30-PM	053-01025	\$25
50	125	1/4"	1			CD50-PM	053-01030	\$25
60	125	1/4"	1			CD60-PM	053-01035	\$35
75	125	1/4"	1			CD75-PM	053-01040	\$35
80	125	1/4"	1			CD80-PM	030-01189	\$29
100	125	5/16"	1	OBB-100-125VDC-PNL		CD100-PM	053-01050	\$39
125	150	5/16"	1	OBB-125-125VDC-PNL	MNEDC125		030-04331	\$59
175	150	3/8"	1.5	OBB-175-125VDC-PNL	MNEDC175		030-04329	\$129
250	150	3/8"	1.5	OBB-250-125VDC-PNL	MNEDC250		030-04326	\$129

Surface (Back) Mount DC Circuit Breakers

Surface mount breakers with screw lug terminals. 10,000A interrupting current for direct connection to a battery. Mounting feet on 10-110 amp 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. 175 and 250 fit Trace DC Disconnect.



Breaker amps	Lug Max Wire AWG	Voltage rating	Width (inches)	Part #	Item code	Price
10	1	125	1	CF-10	053-01011	\$25
15	1	125	1	CF-15	053-01016	\$25
20	1	125	1	CF-20	053-01021	\$25
30	1	125	1	CF-30	053-01026	\$25
50	1	125	1	CF-50	053-01031	\$25
60	1	125	1	CF-60	053-01036	\$35
60	1	160	1	CD-60-PX	030-01192	\$25
75	1	125	1	CF-75	053-01041	\$35
100	1	125	1	CF-100	053-01051	\$39
110	1	125	1	CF-110	053-01051	\$39
175	4/0	125	1.5	GJ1-175-SM	053-01056	\$119
250	4/0	125	1.5	GJ1-175-SM	053-01061	\$119
Rear mount kit for GJ1 breakers above					053-01051	\$10

Square D QOU Circuit Breakers

QOU circuit breakers are designed for surface or DIN rail mounting. They are UL Listed for DC branch circuits up to 48VDC (not for use in 48V systems). They can also be used for 120VAC (1-pole) or 120/240VAC (2-pole) circuits. Circuit breakers in 10A to 30A sizes can handle one or two #14 to #10 wires or one #8 wire. Circuit breakers 40A to 70A will handle #8 to #2 wire sizes.

Description	Part #	Item code	Price
10-amp 1 pole	QOU110	053-02006	\$25
15-amp 1 pole	QOU115	053-02009	\$25
20-amp 1 pole	QOU120	053-02015	\$25
30-amp 1 pole	QOU130	053-02024	\$25
40-amp 1 pole	QOU140	053-02030	\$25
50-amp 1 pole	QOU150	053-02036	\$25
60-amp 1 pole	QOU160	053-02042	\$25
70-amp 1 pole	QOU170	053-02048	\$38
15-amp 2 pole	QOU215	053-02012	\$50
20-amp 2 pole	QOU220	053-02018	\$50
30-amp 2 pole	QOU230	053-02027	\$50
40-amp 2 pole	QOU240	053-02033	\$50
50-amp 2 pole	QOU250	053-02039	\$50
60-amp 2 pole	QOU260	053-02045	\$50

