

Why Use Larger Cable?

Low-voltage power systems with inverters can have very high current flows in the cables that connect the inverter to the batteries. Large AC loads like microwave ovens, toasters, irons and washers can cause an inverter operating on a 12-volt battery to draw over 100 amps. Large motors may draw 300 to 500 amps at startup. Using cables that are too small between batteries, and from batteries to the inverter, will limit the current available to the inverter and may prevent a large load from operating properly.

Battery Interconnect

Use these cables between a battery bank and an inverter, fuse or power center. They have flexible stranded UL Listed copper wire and 3/8" diameter lugs. Lug barrels are covered with glue-filled heat-shrink tubing. Cables are marked in red heat-shrink tubing for positive and white heat-shrink on black wire for negative.



Cable AWG	Length (ft.)	End color	End color	Item code	Price
Cables with 2 Lugs					
4/0	5	Red	Red	052-04005-R	\$59
	5	Black	Black	052-04005-B	\$59
	5	Black	White	052-04005-W	\$59
	10	Red	Red	052-04010-R	\$100
	10	Black	Black	052-04010-B	\$100
	10	Black	White	052-04010-W	\$100
2/0	5	Red	Red	052-02005-R	\$45
	5	Black	Black	052-02005-B	\$45
	5	Black	White	052-02005-W	\$45
	10	Red	Red	052-02010-R	\$75
	10	Black	Black	052-02010-B	\$75
	10	Black	White	052-02010-W	\$75
2	3	Red	Red	052-01003-R	\$22
	3	Black	Black	052-01003-B	\$22
	3	Black	White	052-01003-W	\$22
	5	Red	Red	052-01005-R	\$28
	5	Black	Black	052-01005-B	\$28
	5	Black	White	052-01005-W	\$28

Heavy Duty Battery Interconnects



Use these cables between individual battery cells or between battery banks. Circuits protected by 250-amp breakers or 400-amp fuses should use 4/0 cables. Use 2/0 cables for 175-amp breakers and 200-amp fuses. Use #2 cables for 110-amp or smaller fuses or breakers. Cables with 1 red end and 1 black end are used for series battery interconnects. Cables with white ends are for negative battery parallel jumpers.

When ordering, replace "-C" with "-R" for red, "-B" for black, "-W" for white or "-BR" for one end red and one end black.

Wire size (AWG)	Length of cable	Item code	Price
2	9"	052-05116-C	\$16.29
2	12"	052-05118-C	\$16.29
2	20"	052-05120-C	\$19.27
2/0	9"	052-05122-C	\$19.73
2/0	12"	052-05121-C	\$19.38
2/0	20"	052-05124-C	\$25.85
4/0	12"	052-05142-C	\$24.89
4/0	20"	052-05145-C	\$32.88

Light Duty Battery Interconnects



Use these cables between batteries where charge and discharge current will not exceed 50 amps. These cables are often used in golf cart and automotive applications.

Length of cable	Wire size (AWG)	Wire color	Item code	Price
9"	6	Black	052-05106-B	\$5.60
9"	6	Red	052-05106-R	\$5.60
12"	6	Black	052-05108-B	\$6.32
12"	6	Red	052-05108-R	\$6.32
24"	4	Black	052-05112-B	\$7.50
24"	4	Red	052-05112-R	\$7.50
36"	4	Black	052-05114-B	\$10.64
36"	4	Red	052-05114-R	\$10.64

Plated Copper Lugs

These UL- listed lugs are made from tin-plated copper tubing with 3/8" holes. Solder or crimp to stranded cable.



Description	Item code	Price
Copper lug 3/8" ring #6	051-03240	\$0.86
Copper lug 3/8" ring #4	051-03237	\$0.92
Copper lug 3/8" ring #2	051-03234	\$1.04
Copper lug 3/8" ring #2/0	051-03231	\$1.44
Copper lug 3/8" ring #4/0	051-03228	\$1.96

Compression Terminals

These solid brass terminals allow good connections to large gauge wire without the need of special tools or soldering. You just remove insulation from the end of the cable, insert in the terminal and tighten the nut with a wrench.



Description	Item code	Price
Compression lug #4	051-03366	\$4.95
Compression lug #1 - #2	051-03363	\$5.18
Compression lug # 1/0	051-03369	\$5.29
Compression lug # 2/0	051-03372	\$6.79
Compression lug # 4/0	051-03375	\$7.48

SB Connectors

The SB connector has been the number 1 quick disconnect for over 20 years for battery powered vehicles and fork lifts. Use them to make quick disconnects on battery or inverter cables. Two connectors of the same size and color will mate. The 50 amp version is ideal for PV arrays and motors. The 175 and 350 amp units are used on battery and inverter cables. 175 amp connectors fit 1/0 wire. Contacts must be crimped or soldered. We stock the following colors in the larger versions: yellow (Y) for 12V, red (R) for 24V, blue (B) for 48V. The 50 amp connectors come with terminals for up to #6 wire and are available in gray only. Order two of the same size and color to mate.



Model	Max amps	Color	Wire size	Item code	Price
SB50A	50	gray	up to 6	051-07052	\$6
SB175A	175	yellow	1/0	051-07019	\$19
SB175A	175	red	1/0	051-07022	\$19
SB175A	175	blue	1/0	051-07025	\$19
SB350A-2	350	yellow	2/0	051-07031	\$27
SB350A-2	350	red	2/0	051-07034	\$27
SB350A-2	350	blue	2/0	051-07037	\$27
SB350A-4	350	yellow	4/0	051-07040	\$31
SB350A-4	350	red	4/0	051-07046	\$31
SB350A-4	350	blue	4/0	051-07049	\$31

Heat Shrink Tubing

Use this tubing to insulate copper lugs and compression terminals. Tubing shrinks and glue inside melts when heated with a heat gun or torch, sealing wires against corrosion and moisture. Maximum shrinkage is listed below. Sold in 6" lengths.



Description	Shrinks to	Item code	Price
Heat shrink tubing 1/2" x 6" black	3/16"	051-01132-B	\$0.96
Heat shrink tubing 1/2" x 6" red	3/16"	051-01132-R	\$0.96
Heat shrink tubing 3/4" x 6" black	1/4"	051-01135-B	\$2
Heat shrink tubing 3/4" x 6" red	1/4"	051-01135-R	\$2
Heat shrink tubing 1" x 6" black	3/8"	051-01137-B	\$3
Heat shrink tubing 1" x 6" red	3/8"	051-01137-R	\$3

Tray Cable (TC)

This 2-conductor flexible wire is excellent for outdoor applications like PV array lead-in and subarray wiring. It may be buried directly in the ground or exposed to direct sunlight. 10- and 12-gauge are good for array interconnects. UL Listed, stranded type THHN/THWN conductors. Conductor insulation is red and black.



Description	Item code	Price/foot
8 AWG 2-conductor TC cable	050-01156	\$2.16
10 AWG 2-conductor TC cable	050-01162	\$1.69
12 AWG 2-conductor TC cable	050-01174	\$0.94
16 AWG 2-conductor TC cable	050-01177	\$0.46
18 AWG 2-conductor TC cable	050-01180	\$0.35

Duplex Primary Cable

This cable has two flexible stranded conductors covered with a vinyl jacket. It is commonly used for low voltage house wiring. Since it is stranded, it can be used in boats and RVs where vibration is encountered. Conductor insulation is black and white.



Description	Item code	Price/foot
#8-2C Duplex primary	050-01544	\$1.69
#10-2C Duplex primary	050-01547	\$1.26
#12-2C Duplex primary	050-01550	\$0.83
#14-2C Duplex primary	050-01553	\$0.58

Pump Cable

10/2 without ground pump cable is for the SHURflo 9300 submersible pump. 2-conductor with ground pump cable is required for Grundfos SQFlex and SQ AC pumps.

Sensor Wire

This 3-conductor, 22-gauge direct-burial wire can be used between water level sensors and pump controls in pumping applications where you must sense the water level in a remote tank or in a well.



Description	Item code	Price/foot
10/2 without ground	050-01637	\$1.70
12/2 with ground	050-01635	\$2.40
10/2 with ground	050-01638	\$2.80
8/2 with ground	050-01643	\$3.60
Sensor wire 22/3	050-01273	\$0.30
Splice kit	075-00130	\$12

Direct Burial/Sunlight Resistant Cable

Type USE single-conductor copper wire for lead-in from PV arrays, wind and hydro-electric systems. It may be used for AC or DC wiring up to 600 volts. Insulation is black crosslinked polyethylene. UL Listed, USE-2 RHH / RHW-2.



USE-2 by the foot	Item code	Price/foot
#4, AWG USE-2 single conductor	050-01024	\$1.66
#6, AWG USE-2 single conductor	050-01027	\$0.90
#8, AWG USE-2 single conductor	050-01030	\$0.64
500-foot rolls	Item code	Price/roll
#10, AWG USE-2 single conductor - black	050-01144	\$250
#10, AWG USE-2 single conductor - red	050-01145	\$250
#10, AWG USE-2 single conductor - white	050-01146	\$250

PV Wire Sunlight Resistant Cable

This single conductor insulated with heat and moisture resistant, cross-linked polyethylene insulation, (Type USE-2), with an overall flame and sunlight resistant, Zero Halogen, Limited Smoke, Zero lead jacket meets the 2008 NEC code for use with transformerless inverters. UL Listed as Type PV Cable Conductors UL854 (#16 per UL 66) ICEA S-95-658/NEMA WC-70.



PV Wire by the foot	Item code	Price/foot
#10, AWG USE single conductor - black	050-01138	\$1.25

UL Listed Battery Cable

This fine-stranded, very flexible cable is UL Listed for use as battery cable. It is rated MTW or THW or AWM, 600-volt, sunlight resistant, direct burial, 105 degrees C. Available with red or black insulation.



Description	Item code	Price/foot
X-Flex battery cable 4/0 black	050-01470	\$7.75
X-Flex battery cable 4/0 red	050-01472	\$7.75
X-Flex battery cable 2/0 black	050-01476	\$5.70
X-Flex battery cable 2/0 red	050-01478	\$5.70
X-Flex battery cable 2 AWG black	050-01487	\$3.90
X-Flex battery cable 2 AWG red	050-01488	\$3.90

Multi-Contact

Cables and Connectors

The Multi-Contact Solarline family of connectors delivers a flexible system solution for time-saving, dependable series-cabling of solar modules. All module manufacturers supply their grid-tie modules with pre-assembled output cables, tested and ready for connection. This saves considerable time during an installation and greatly increases reliability over wire junction boxes. These cable couplers are fully touch-protected and designed for up to 1000 volts and 30 amps. They are also waterproof. For parallel connection of modules in 12- to 48-volt systems, Multi-Contact makes branch connectors for use with currents up to 30 amps.

For the past few years, modules have come with Multi-Contact Solarline 1 connectors which have a soft rubber insulator. In 2007, PV manufacturers began switching to Multi-Contact Solarline 2 locking connectors to meet future electrical code requirements.

The Multi-Contact plug-and-play connector system allows for the PV arrays to be pre-assembled and pre-wired in the shop or on site. We stock both styles of connectors for use with 10 AWG or 12 AWG USE-2 stranded wire. Proper crimping to the wire and insulator assembly requires special tools. We stock standard lengths of assembled cables and adapters to go between Solarline 1 and Solarline 2 connectors and the tools required for on-site assembly of cables.

MC3 Solarline 1 Array Output Cables

These cables have the old style Multi-Contact soft rubber connectors on each end. Use these output cables between PV arrays with Multi-Contact cable outputs, and junction boxes or grid-tie inverters. They have a male connector on one end and a female connector on the other end. Use them to extend module output cables or cut anywhere along the wire to obtain the needed length of male and female cable to run from the ends of a module string to a combiner box or to an inverter. For example, if you need a 30' male and a 20' female, order a 50' cable. Made with black #10 AWG USE-2 sunlight-resistant cable.



MC Solarline 1 Male/Female Cables		
Cable length (ft)	Item code	Price
6	052-09107	\$21
15	052-09111	\$26
30	052-09115	\$34
50	052-09116	\$45
70	052-09117	\$66
100	052-09118	\$72

MC4 Solarline 2 Array Output Cables

These cables have the newer, snap-together Multi-Contact hard plastic connectors on each end. Use these output cables between PV arrays with Multi-Contact cable outputs, and junction boxes or grid-tie inverters. The new Solarline 2 cables have a male connector on one end and a female connector on the other end. Use them to extend module output cables or cut anywhere along the wire to obtain the needed length of male and female cable to run from the ends of a module string to a combiner box or to an inverter. For example, if you need a 30' male and a 20' female, order a 50' cable. Made with black #10 AWG USE-2 sunlight-resistant cable.



MC Solarline 2 Male/Female Cables		
Cable length (ft)	Item code	Price
6	052-09407	\$25
15	052-09411	\$28
30	052-09415	\$36
50	052-09416	\$47
70	052-09117	\$68
100	052-09418	\$74

Tyco SolarLok Array Output Cables

These cables have Tyco SolarLok connectors to match the connectors on some SCHOTT, Day4Energy, GE and CSI Solar modules. These cables have a neutral male at one end and a negative female at the other so they can be used to extend the cables on the modules or be cut in half and used to connect to a roof-top combiner. Made with black #10 AWG USE-2 sunlight-resistant cable.



Tyco SolarLok 2 Male/Female Cables		
Length (ft)	Item code	Price
6	052-09439	\$25
15	052-09442	\$28
30	052-09442	\$36
50	052-09445	\$47
100	052-09449	\$74

MC4 Solarline 2 PV-Wire Cables

These cables have the newer, snap-together Multi-Contact hard plastic connectors on each end and are made with PV-Wire that has an extra layer of insulation for use on ungrounded arrays in conjunction with transformerless inverters. This type of wire is required to meet the 2008 NEC if you are using a transformerless inverter.



MC Solarline 2 Male/Female PV Wire Cables		
Cable length (ft)	Item code	Price
6	052-09451	\$26
15	052-09453	\$30
30	052-09455	\$39
50	052-09457	\$52
100	052-09458	\$84

MC4-Solarline 2 to MC3-Solarline 1 Adaptors

Use these adaptors to connect new-style modules to old-style Solarline 1 cables or anywhere a transition is needed between Solarline 1 and Solarline 2 cables.



Description	Item code	Price
MC4-Solarline 2 male to MC3-Solarline 1 female adapter	052-09399	\$13
MC3-Solarline 1 male to MC4-Solarline 2 female adapter	052-09398	\$13

MC4-Solarline 2 to Tyco SolarLok Adaptors

Use these adaptors to connect solar modules with Tyco connectors to MC4 cables.



Description	Item code	Price
Tyco female negative to MC4 female adapter	052-09471	\$13
Tyco male neutral to MC4 male adapter	052-09473	\$13

Tyco SolarLok Connectors

These connectors can be assembled quickly on site by a contractor allowing assembly of custom cables at the job site. A special crimping tool and wrench set are required to assemble the connector. For 10 AWG USE-2 wire. Sold in packs of 25.



Connector description	Item code	Price
SolarLok male neutral connector - 25 pack	097-01361	\$128
SolarLok female negative connector - 25 pack	097-01366	\$128

Cable Clip

Use this clip to keep module interconnect cables neatly secured to module frames so they do not drop below the array. Bags of 100 stainless steel clips.



Description	Item code	Price
Bag of 100 clips for 10-12 AWG USE-2 - stainless	052-09100	\$45
Bag of 100 clips for AWG 10 PV Wire - stainless	052-09102	\$47

MC3-Solarline 1 Branch Connectors

These waterproof Y-connectors make it possible to parallel wire PV modules with Multi-Contact output cables. Maximum current allowed through connectors is 30 amps.



Description	Item code	Price
Solarline 1 branch cable coupler female - 2 male	052-09103	\$18.40
Solarline 1 branch cable coupler male - 2 female	052-09104	\$19.55

MC4-Solarline 2 Branch Connectors

These waterproof Y-connectors make it possible to parallel wire PV modules with Multi-Contact output cables. Maximum current allowed through connectors is 30 amps.



Description	Item code	Price
Solarline 2 branch cable coupler female - 2 male	052-09403	\$18.40
Solarline 2 branch cable coupler male - 2 female	052-09404	\$19.55

MC3-Solarline 1 Connectors

These connectors can be assembled quickly on site by a contractor allowing assembly of custom cables at the job site. A special crimping tool and boot installation tool are required to assemble the connector. For 10 AWG USE-2 wire. Packs of 25.



Connector description	Item code	Price
Male Solarline 1 – fits + cables on module - 25 pack	097-01402	\$95
Female Solarline 1 – fits - cable on module - 25 pack	097-01404	\$95

MC4-Solarline 2 Connectors

The connector can be assembled quickly on site by a contractor allowing assembly of custom cables at the job site. A special crimping tool and wrench set are required to assemble the connector. We have connectors for 10 AWG USE-2 wire and for larger diameter 10AWG PV wire. Sold in Packs of 25 connectors.



Connector description	Item code	Price
Male Solarline 2 locking connector for USE-2 wire	097-01407	\$95
Female Solarline 2 locking connector for USE-2 wire	097-01409	\$95
Male Solarline 2 locking connector for PV wire	097-01411	\$95
Female Solarline 2 locking connector for PV wire	097-01413	\$95
MC safety locking collar PV-SSH4 – pack of 25	097-01419	\$12