

Battery Capacity Meter (BCM)

The BCM is an economical solid-state meter for monitoring battery SOC. Assists user as to when to employ load conservation. Available in 12, 24, or 48 VDC models. One in a series of multicolored LEDs will light up corresponding to voltage and battery percent state of charge in 10% increments and in low battery, float and equalize conditions. Waterproof design is reverse polarity and surge protected with super low battery consumption. Supplied with mounting fastener and a 5 foot cable; can remote mount up to 50 feet. Five year warranty.

Product Name and Description	Part Number	Price
BCM-12	32070	\$56.00
BCM-24	32068	\$66.00
BCM-48	32071	\$84.00



Battery Capacity Meter

Link-10 xantrex

The Link-10 meter (previously known as the E-meter) displays the voltage, system current and amp-hours but doesn't stop there. This unit reports time remaining until the batteries are discharged, deepest discharge, and number of cycles on the battery bank. Above the numeric LED display is a row of four lights indicating state of charge at a glance. This meter and its level of information go a long way to unraveling the mysteries associated with living with a battery bank. The Link-10 can be used on 12 or 24 volt systems and with an optional pre-scaler, up to 100 volts can be measured. It comes with a 500A/50mV shunt. It can also be ordered with an RS-232 port so you can download the information to your computer. One year warranty.

Product Name and Description	Part Number	Price
Link-10 with shunt	51519	\$250.00
Link-10 with RS232 Port	51520	\$375.00
Meter Prescaler 0-100V	37374	\$99.95
#16-8 Meter Cable 4 Twisted Pairs	43385	\$2.00 / ft.

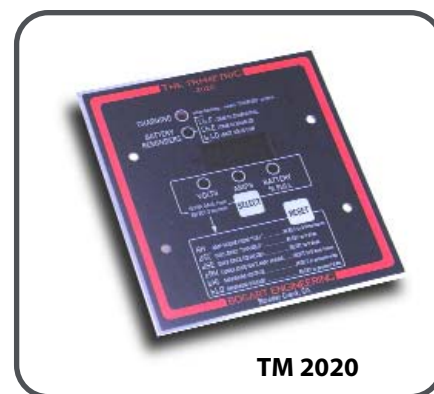


Link-10

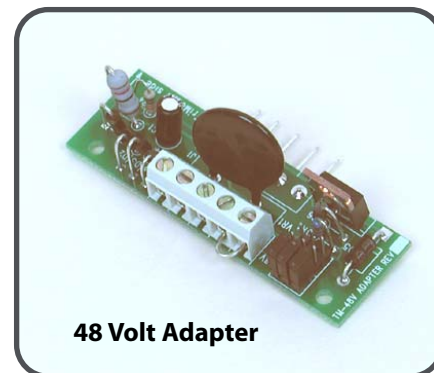
Tri-Metric 2020 Amp Hour Meter

The Tri-Metric 2020 meter displays amp-hours, net current flow and battery percent state of charge. Two additional LEDs indicate charging status and a battery reminder LED. When your system reaches your pre-set programmable full charge setpoints, the LED flashes to indicate the system has achieved a complete charge. Previous to this type of meter, one was left to guess if a full charge had been reached. The manufacturer of this meter has actively pursued feedback from system integrators and owners. The result – increased features giving more information in an easy to read, understandable format. A 100A, 100mV or 500A, 50mV shunt is required. See [page 50](#). One year warranty.

Product Name and Description	Part Number	Price
12 or 24 Volt Unit	37398	\$180.00
48 Volt Adapter	37399	\$29.00
Enclosure	37395	\$12.00



TM 2020



48 Volt Adapter

Xantrex Battery Monitor **xantrex**

The Xantrex Battery Monitor uses sophisticated microprocessor technology to provide complete battery status information for your battery. A simple display shows Volts, Amps, Amp hours consumed and operating time remaining. An LCD bar graph shows state of charge. Splash proof panel allows for outdoor mounting and hands free operation. For 12 & 24 volt DC systems. Use the Meter Prescaler for voltages higher than 24 VDC. Includes DC shunt. One year warranty. The connection kits include color-coded, twisted pair cable for connection between the meter and the shunt. For temperature compensation, use the Temp. Comp. Kits. The Communications Kit allows a PC with Windows 98/ME/2000/XP software to simultaneously display real-time data and to log, save and graphically display historical battery performance.

Product Name and Description	Part Number	Price
Battery Monitor	50190	\$275.00
Communications Kit	50191	\$150.00
Connection Kit - 32Ft.	50192	\$50.00
Connection Kit - 50Ft.	50193	\$62.50
Temp. Comp. Kit - 32Ft.	50194	\$40.00
Temp. Comp. Kit - 65 Ft.	50195	\$60.00
Meter Prescaler 0-100V	TBA	TBA



Xantrex Battery Monitor

Communications Kit

BATTERIES

Batteries are a key component in a grid-tie with back-up or a stand-alone renewable energy system that all of the other components rely on for operation. Without proper maintenance, batteries can fail prematurely and shut the whole system down. However, toiling over your battery bank with a voltmeter, hydrometer and a gallon of distilled water every day is not necessary. With simple monthly and quarterly maintenance procedures, your batteries should last for a long time. On the other hand, neglecting your batteries can drastically shorten their life span. The following statement sums it up best, "few batteries die a natural death, most are murdered". The following information is designed to tell you how to get the longest life and best performance possible from your battery bank. Most of this information is for flooded cell lead-acid batteries; alkaline (Ni-FE & Ni-Cad) and sealed gel-cell battery charging characteristics are completely different.

Battery Types Used in Solar Systems

There are three types of batteries that are most popularly used in solar electric systems. Each type has its pluses and minuses, so we will also include the systems the individual types are best suited for.

Flooded Lead Acid

Flooded lead acid batteries have the longest track record in solar electric use and are still used in the majority of stand-alone solar systems. They have the longest life and the least cost per amp-hour of any of the choices. However the other side of the coin is, in order to enjoy these advantages, they require regular maintenance in the form of watering, equalizing charges and keeping the top and terminals clean. Some examples of flooded lead-acid batteries used in solar electric systems are 6 volt golf-cart batteries, 6 volt L-16's and 2 volt industrial cells for large systems.

Absorbed Glass Mat Sealed Lead Acid (AGM)

AGM batteries are seeing more and more use in solar electric systems as their price comes down and as more systems are getting installed that need to be maintenance free. This makes them ideally suited for use in grid-tied solar systems with battery back-up. Because they are completely sealed they can't be spilled, do not need periodic watering, and emit no corrosive fumes, the electrolyte will not stratify and no equalization charging is required. AGM's are also well suited to systems that get infrequent use as they typically have less than a 2% self discharge rate during transport and storage. They can also be transported easily and safely by air. Last, but not least, they can be mounted on their side or end and are extremely vibration resistant. AGM's come in most popular battery sizes and are even available in large 2 volt cells for the ultimate in low maintenance large system storage.

When first introduced, because of their high cost, AGM's were mostly used in commercial installations where maintenance was impossible or more expensive than the price of the batteries. Now that the cost is coming down they are seeing use in all types of solar systems as some of today's owners think the advantages outweigh the price difference and maintenance requirements of flooded lead acid batteries.