

# Capstone Accessories

This is a partial listing of accessories available directly from Capstone Turbine. A number of other accessory devices are available through 3<sup>rd</sup> parties.



## PowerServer (512675-101)

Networking device to multipack up to 100 microturbines. See separate documentation (512317) on this option.



## Dual Mode Controller (DMC)

The Capstone Dual Mode Controller (DMC) automatically transfers the microturbine from Grid Connect operation to isolated StandAlone operation when a utility outage occurs. When operating in StandAlone mode, the microturbine powers protected loads during the outage. When utility power is restored, the DMC can be set to automatically return the microturbine to grid connect service. The DMC also allows the microturbine to be used as an automatically dispatched standby generator. Numerous DMCs are offered in various voltage and current ranges. See catalog or price list for specific part numbers.



## Battery Charger for C30 and C60 (512933-001)

The 1000 watt DC output power supply provides low noise, precisely regulated, variable DC output for charging either C30 or C60 battery packs. Each unit includes overvoltage protection and thermal shutdown as standard features. Universal AC inputs allow global use of line voltages without resetting switches or adding outputs. Voltage range is 0-330VDC; current rating is 0-3.2 amps. The Battery Charger (512933-001) includes:

- Charger
- Power Cable
- Charging Cable for C30 and C60 Battery Pack
- User Instructions

### 650 Volt MOV Surge Arrester (510694-001)

The 650 Volt Surge Arrester protects against lightning-induced surges for electrical equipment and wiring to a maximum line-to-ground voltage of 650 volts rms.



### ModBus Translator Module (510961-100)

The ModBus Translator is an electrical device powered from a nominal 12VDC source that provides data exchange from the RS-232 port of a Capstone MicroTurbine System to an RS-485 ModBus Network.

### CPC-100 Protocol Converter (513047-100)

Converts Capstone RS232 commands into a TCP/IP protocol for transmission over a local or wide-area network, or the Internet. Optionally converts microturbine commands to RS485 ModBus<sup>1</sup> and TCP/IP encapsulated ModBus<sup>2</sup> commands, providing an industry standard method of commanding and controlling Capstone C30s and C60s.



The CPC-100 serves HTML, JAVA and other document types to enable a web browser to display generator status and control functions.

- Ethernet / TCP/IP – connect using CAT5
- Works with Capstone Remote v4.2 or higher
- Supports multiple users simultaneously connecting to the same system/array at different password levels.
- Supports remote maintenance functions, including software uploads

### Emergency Stop (E-Stop) Option Kit (508490-101)

The Emergency Stop (E-Stop) Option Kit safely and immediately shuts down the microturbine in an emergency. (The E-Stop is not intended to routinely shut down a unit.) The E-Stop option kit consists of a NEMA-3R rated enclosure, which has a stop button and a weather resistant, lockable clear plastic cover to prevent accidental E-Stop activation. Includes:

- E-Stop Switch with attached 25-foot cable
- Instruction Sheet



<sup>1</sup> See Modicon Modbus Protocol Reference Guide PI-MBUS-300 Rev J

<sup>2</sup> See <http://www.modicon.com/openmbus/> ModBus TCP/IP

## Capstone Remote™ Monitoring Software (CRMS)

**M3X-CRMS-S, Single User (513251-100)**

**M3X-CRMS-M, Multiple User (511935-100)**

Capstone Remote monitoring software (CRMS) provides dispatch, control, monitoring, trending, E-mail alarming, data logging, and automated operation for the Capstone MicroTurbine. CRMS is compatible with Windows 95, 98, NT, 2000, ME and XP and runs on standard desktop or laptop PCs. CRMS communicates with up to 100 microturbines simultaneously, either locally via serial port or remotely via modem or the optional CPC-100 Internet protocol converter. A customizable desktop displays up to 100 microturbine control panels, strip charts, trend graphs, event alarms, and automation panels.



CRMS can be used to communicate with different microturbines spread across multiple locations or a single-site Multipac (multiple microturbines operating as a unified system).

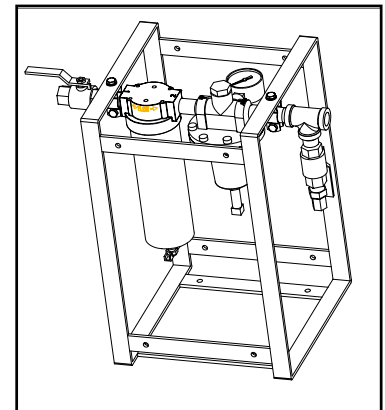
## External Fuel Kits

**High-Pressure with regulator (507849-101)**

**Low-Pressure (507849-201)**

**Sour Gas (508604-100)**

Filters out particulates and regulates the pressure of utility quality natural gas. The filter has the ability to remove liquids; however, such action would require periodic maintenance and is not expected to be necessary in processing utility quality natural gas. The fuel handling components' mounting frame permits mounting in various locations, such as a base or a wall.



External Fuel Kits includes:

- Manual Shutoff
- Filter
- Regulator with gauge (not included with low-pressure kit)
- Purge Valve
- Mounting Frame

## MultiPac Interconnection Kit

**15-Foot (509949-100)**

**50-Foot (509949-200)**

The MultiPac Interconnection Kit is required to implement MultiPac functionality. One kit is required to connect two systems together in a multipac (N-1 kits required per multipac, where N=total number of systems.)



The MultiPac Interconnection Kit contains:

- An intercontroller cable
- A coaxial cable
- Two intercontroller terminators
- Two coaxial terminators

### **Exhaust Silencer, Capstone Model C60 (511295-002)**

The exhaust silencer is a sound attenuation device that efficiently reduces the noise level exposure generated from the C60 exhaust stream. The exhaust silencer is an absorptive type device that consists of an exhaust inlet, sound attenuation insulated chambers, and exhaust vents, all designed to give optimum acoustic performance. Sound levels are reduced from 70dBA to 65dBA at 10 meters.



### **Remote Modem Kit**

**(North America UL-Listed: H3X-MODEM)**

**(Those requiring additional certifications: CE, CSA, Class I Div 2, et al.: 514715-100)**

The Remote Modem Kit facilitates microturbine remote communication over a standard telephone line to a microturbine's RS232 input. The kit includes a high-speed modem and all necessary communication and power cables. A local computer is not needed and the modem is powered directly from the microturbine. The modem may be installed inside a microturbine's user connection bay at the rear of the unit.



In concert with Capstone Remote Monitoring Software, this kit allows the following functions to be performed remotely: dispatch; control; monitoring; queries; logging data; system adjustments; troubleshooting.

The Remote Modem Kit includes:

- 33,600 bps modem
- Power cord for connection to the microturbine
- Communications cable for connection to the microturbine User Interface Port
- Adapter for connection to the microturbine Maintenance Interface Port
- Installation Instructions

### **Roll Out Option Kit for C60 and C30 Industrial Package MicroTurbines (512749-100)**

The Roll Out Option Kit is a roller assembly that can be retrofitted to the C60 and the C30 industrial package. The Roll Out Option enables microturbines sited side-by-side to be rolled out for service without the use of a pallet jack or forklift (site must have a smooth rolling surface.)



The Roll Out Option Kit includes:

- Wheel Bracket Assembly
- Z-Bracket
- Installation Instructions