BLUEBOX CONTROLS – E88E-EPM V1.00 DATASHEET

FEATURES

Microprocessor	Rabbit 6000 162.5MHz Core Module for easy software updates
Ethernet Port	10/100Base-T, RJ-45, 2 LEDs Act/Link
External SRAM	1MB (16 bit)
RAM	1MB
SRAM	32KB – on chip Battery Backed
Flash Memory	4MB – Core module Serial Flash - Webpage Storage
Main Board Flash Memory	64MB – NOR Used for Operation Database
Main Board EEPROM	128KB – Board Settings
Serial Ports – Tx/Rx LED all channels	2 - QCPort – Independent - Channel A and Channel B – RJ/11 1 - Modbus – RS485 – DB9 1 - PROFIBUS – RS485 – DB9
Real Time Clock (RTC)	Extremely Accurate Battery Backed Integrated RTC/TCXO/Crystal Real-Time Clock Counts Seconds, Minutes, Hours, Date of the Month, Month, Day of the Week, and Year, with Leap-Year Compensation Valid Up to 2100 • Accuracy ±2ppm from 0°C to +40°C • Accuracy ±3.5ppm from -40°C to +85°C
Display	2 x 20 or 2 x 24 LCD Character Display White Backlit (standard) Larger LCD - Option
External Interfaces	Dallas 1-Wire PROFBUS (Profichip VPC3+S) Isolated
Auto Configure Switch	Yes
On Board Temperature Sensors	2
On Board Serial Number	64 bit On chip, non-duplicating

Power	9 – 28 volts AC/DC <0.150amps @ 24 volts
Operating Temperature	-40°C to +85°C
Humidity	5% to 95%, non-condensing
Board Size	4.87" (123.764mm) x 3.11" (78.984mm)
Enclosure	Blue Anodized Extruded Aluminum 80.5mm x 133.0mm without mounting flanges 165.0mm with removable mounting flanges

The E88E-EPM is a drop-in replacement for the Eaton / Cutler Hammer D77D-EIP QCP Adaptor. Ethernet/IP conformance has not been applied for, but is scheduled for later in 2018. Future protocols such as PROFIBUS, MODBUS RTU (RS485), and MODBUS TCP are scheduled after Ethernet/IP conformance has been completed. All hardware for the above protocols are installed in the E88E.

The 64MB Flash chip is used for the database to store operational data such as Start/Stop of devices, Fault Information such as missing permissive, E-Stops, Trip conditions, Ground Faults (when provided and enabled), Manual/Auto, resets, and IP address of user accessing the web page. The database can be viewed on the webpage or downloaded as a file. If enough interest is generated we will consider adding real time database event uploads to a server. This will require access to the Internet.

The E88E servers a web page where settings such as IP, netmask, gateway addresses and if the board will respond to an ICMP ping can be input. The web interface also displays the E88E serial number and MAC address. A finite number of status and faults are also displayed such as Running /Stopped, permissive, E-Stop, Manual/Auto switch position for detected devices on QCPort. The web page is where you would select the mode of operation such as Ethernet/IP, PROFIBUS, and MODBUS

No special software is required to configure the E88E. No more BOOTP. All that is required is a web browser. When a new E88E is purchased it is set up as a DHCP device. When the E88E receives a valid IP address from a DHCP router it is displayed on the LCD screen. Enter the IP address in any web browser, enter the username and password when prompted and make the network setting changes required. Do not forget to change the username and password for added security. When finished reboot the E88E and it will display the new static IP address.

If the Username / Password is ever lost or forgotten, simply power down the E88E, Press the Auto configure button and apply power. There will be a countdown screen displayed on the LCD giving you the chance to change your mind before resetting the Username / Password or resetting the board to factory defaults.

When the Auto configure button is pressed while the board is powered will cause the E88E to scan for all devices, initialize the device and bring it online. During this operation the E88E will not respond to network requests. This is button is also used when readdressing a bucket. Simply changing the address switches on a bucket does not change the address.

A Dallas 1-Wire interface allows for future expansion of capabilities such as the requirement to have a Dallas iButton to make setting changes or to add remote I/O.

The LCD display is used to provide board startup information while booting and display of Run/Stop commands and active faults while running. Along with the Red/Green Status LEDs on the original QCPort adaptor the E88E has Blue Tx/Rx LEDs on every serial port. This helps debugging in the field to verify that there is communications reaching the E88E. There are also LEDs to verify the onboard 3.3 and 5.0 volt power supply operation. The LCD display is not required for proper operation.

If the E88E is used to replace a system where a backplane connector interface is used, it will require an adaptor cable between the backplane connector and the E88E 6 point connector. The E88E does not have a DIN Rail connector. It is possible to supply power via the E88E 6 point connector and use Channel A (must remove power leads from RJ11 cable) and/or Channel B (no modification) without tying into the power supplied for or by the Cover Controls.

The E88E does not have an operating system such as Windows CE®, Linux, or Android®. What does this mean to you? No viruses, no virus software, no unintentional external changes to the software, no mandatory software updates just to keep the system working.