

# ESB vs. ESB2 Quick Glance of Features/Capabilities



Feature	TELSEC® ESB - PN 150770	TELSEC® ESB2 - PN 151084	Benefit
<b>Display</b>	Monochrome LCD 80-character Display; 18-key programming panel	Full color touchscreen LCD 4.3 diagonal with 24-bit TrueColor, WQVGA resolution (480 x 272)	A menu driven touchscreen that quickly allows a local technician to access data for analysis and resolution. The touch screen allows the user to review status of all inputs and outputs including Modbus points. The display supports trend graphing of points along with reviewing active alarm and historical alarm logs.
<b>Power</b>	Single-Source - 24 VAC / 20-60 VDC	Dual-Source - 24 VAC / 20-60 VDC	Redundant A&B power feed to the system to continue monitoring should a failure of one DC source fail.
<b>Sensor Power</b>	12 VDC	24 VDC	Provides support for a greater variety of sensors and transducers that typically are powered from a 24 VDC source.
<b>Custom Input Scales</b>	8 user definable scales maximum to be shared for all inputs	Each input can be scaled for the type of sensor being monitored	Ability to support a greater number of unique sensors and transducers.
<b>Inputs</b>	16 universal inputs, expandable up to 128 in 16 input increments	16 universal inputs, expandable up to 272 in 16 input increments	Increased monitoring capability by adding expansion modules.
	Configurable for one of the following: 0-5 VDC, 0-20 mA, Dry contacts, Thermistors	Configurable for one of the following: 0-5 VDC, 0-20 mA, Dry contacts, Wet contacts (up to 60 VDC), Thermistors	
<b>Outputs - Digital</b>	16 digital outputs, expandable up to 64 in 8 output increments	16 digital outputs, expandable up to 144 in 8 output increments	
<b>Outputs - Analog</b>	2 on-board, expandable up to 10 analog outputs, 0-10 VDC or 0-20 mA or 4-20 mA	2 on-board, expandable up to 66 analog outputs, 0-10 VDC, 0-20 mA or 4-20 mA	
<b>Network Interface</b>	Optional 10 / 100 Base-T Ethernet	10 / 100 Base-T Ethernet included	Reduce total system cost with built-in Ethernet.
<b>Protocols Supported</b>	Supports IPv4, HTTP, Telnet, NTP, SMTP (Email), SNMPv1, v2c, Traps / Inform	IPv6, IPv4, HTTP, HTTPS, Telnet, NTP, SSH, RADIUS Password Authentication SMTP (Email), SNMPv1, v2c & v3 for Gets, Sets and Traps / Inform, TL1 Alarming	Robust Ethernet interface that supports dual stack (IPv4 / IPv6) and secure communications.
<b>Network Secure Protocols Support</b>	None	HTTPS, RADIUS Password Authentication, SNMPv3 encryption and SSH	Secure encrypted communication is used to protect the data coming to and from the system. These secure protocols help to ensure compliance with the latest network security requirements and certifications.
<b>Serial Network Options Supported</b>	1 RS-485 Used for communication with Quest Expansion Modules 1 RS-485 (Optional) Used for Modbus RTU	Three Configurable RS-485 Ports Modbus RTU* & Quest Expansion Modules <i>*Able to be configured to 2 ports, increasing total Modbus limit</i>	Expanded Modbus capabilities with efficient optimized polling algorithm. Supports the ability to write to Modbus registers through the web server or from SNMP to Modbus conversion.
<b>HVAC Control</b>	16 standalone HVAC RTU Controllers Programmable Outputs - Digital / Analog	16 standalone HVAC Controllers Programmable Outputs - Digital / Analog	Stand alone controllers with the ability to control the HVAC autonomously or in conjunction with other controllers when networked to the ESB2. HVAC controller support advanced functions for variable speed fans and Quest's patented economizer control algorithm.
<b>System Memory</b>	1MB RAM, 4MB Flash	512 MB RAM, 512 MB Flash	Significant increase in memory available for system operation and data logging
<b>Logging (Data)</b>	Approx 10240 logging points for Inputs and Outputs only Cannot log Modbus history data	No fixed limit to the logging data for all points	Extensive data logging of all monitoring points including Modbus points. Ability to do historical search and download data to a CSV file.
<b>Logging (Alarms)</b>	99 most recent alarms	No fixed limit for alarm history entries	Expanded historical alarm log with context sensitive filtering of data along with additional filters for alarm severity and date range. Alarm data can be downloaded to a CSV file.
<b>Modbus</b>	Alarming / Read Only Supports 512 points	All Modbus points are available for Logging, Alarming and use in Control (program / read / write) strategies, Supports up to 1024 points* <i>*If Modbus is configured for 2 Ports</i>	Provides the ability to use Modbus points in control strategies. Supports reading and writing to registers through the control equations which allows the ESB2 to monitor and provide control for Modbus enabled devices.
<b>Programming Method</b>	Telnet Only Control and Alarming Programming	Simplified Web-based programming for all monitored points	All programming can be accomplished through the built in web server using a standard web browser (IE, Edge, Chrome, Firefox). No additional software programs or protocols are required. All point definition, setpoints changes and system configuration are accomplished through web pages plus the system supports upload / download of a configuration file through the web server.
	Config file upload through Telnet only	Config file upload through web server using HTTP file transfer protocol	
<b>Program limitations</b>	Maximum 96 equations and 32 set points for control and alarming of analog points	Virtually unlimited number of alarm programs, setpoints and control equations	Provides a simple, powerful and flexible solution for today's complex building and systems.
<b>System upgrades</b>	Telnet file transfer for base unit plus proprietary software program for Ethernet communications upgrade	Upgraded entire system using HTTP file transfer or by inserting an SD card with the upgrade files. Application program is not erased during upgrade	Upgrade time for an ESB can take 45 minutes and requires the application program to be reloaded. The ESB2 upgrade takes a couple minutes and the application program is preserved. Significantly reduced time and less chance for errors.