

RSC 1000™ Remote Site Controller

With Touch Screen Technology & Modbus.*

Quest has boldly reimagined the control and monitoring experience of remote CI structures using touch screen technology. Operators can manage the Site Controller using custom graphics created for users of varying expertise. The high resolution display makes the RSC 1000 easy to use by the local technician to monitor and control the site's HVAC units and manage peripheral systems connected via Modbus RTU.

The RSC 1000 allows the end-user to improve quality, reduce maintenance costs, shrink energy consumption and boost productivity through intelligent remote management of the facility. The RSC 1000 Controller is specifically designed for use in remote sites offering added value of the latest in facility automation.



Quest RSC 1000 Features

- Base system controls up to two air conditioning units for cooling, heating, vent and economizer, plus a separate exhaust fan. Supports single stage, two stage cooling and heat pumps.
- Expandable to control an additional two air conditioning units.
- Uses Quest's patented economizer control algorithm to dynamically adjust settings to optimize the use of outside air for cooling.
- Analog outputs for direct control of economizer dampers and variable speed supply fans.
- Alarm outputs for high temperature, low temperature, smoke/fire, HVAC unit power failure, compressor lockout, generator running and controller failure.
- Standard configuration controls, monitors, and alarms inside temperature and humidity.
- Lead/Lag or Lead/Standby control of AC Units with programmable changeover time of 1-168 hours.
- Automatic changeover upon HVAC failure.
- Comfort Mode—ability to change setpoints to a Comfort Mode with automatic reset. Time delay is user defined.
- Programmable settings for control and alarm setpoints with built in limits to prevent personnel from adjusting the settings out of range.
- Menu-driven interface.
- Exhaust fan control to purge facility when gas is present or in a high temperature condition. Automatic shutdown when smoke or fire is detected.
- Graphical touch screen color display. 4.3" diagonal size with 24 bit TrueColor.
- Redundant Power—24 VAC power from AC#1, AC#2 or external transformer plus 24 VDC / 48 VDC power from DC plant.
- Ethernet communications with support for IPv6, IPv4, HTTP, HTTPS, RADIUS Password Authentication, SNMP v1, v2c and v3 and SMTP (Email).
- Data logging to monitor performance of the facility and HVAC systems, to include compressor runtime & cycles, indoor & outdoor temperature/humidity, supply & mixed air temperatures, energy consumption, etc.
- Expanded monitoring and control—Additional inputs and outputs to take direct control of economizer dampers and/or adjust temperature setpoints based on current load of DC Plant.
- Modbus RTU Communications—Supports communicating to Modbus RTU enabled equipment such as KW meters, generators, fuel level sensors and HVAC systems.
- Zone 1 temperature sensor is included with the base system.

RSC 1000™ Site Controller

RSC 1000 - I/O Summary	
20 Inputs	Qty
Analog Inputs	10
Room Temperature Sensor (Zone 1 is included in base system)	1
Additional Room Temp sensor (Zone 2)	1
HVAC Supply Temp	2
HVAC Mixed Air Temp	2
Indoor Humidity	1
Outdoor Air Temperature	1
4-20mA Inputs (Future)	2
Digital Inputs	10
Low Voltage HVAC Power Loss	2
Commercial Power Fail	1
Generator Running	1
HVAC Lockout Monitor	2
Fan/Filter/Econ Status	2
Gas Alarm	1
Smoke/Fire	1
21 Digital Outputs	Qty
Digital Outputs for Control	13
AC #1 Supply Fan	1
AC #1 Cool 1	1
AC #1 Cool 2	1
AC #1 Heat 1	1
AC #1 Emergency Vent	1
AC #1 Auxiliary (SPDT)	1
AC #2 Supply Fan	1
AC #2 Cool 1	1
AC #2 Cool 2	1
AC #2 Heat 1	1
AC #2 Emergency Vent	1
AC #2 Auxiliary	1
Exhaust Fan (SPDT)	1
Digital Outputs for Alarm (SPDT)	8
HVAC Failure	2
Smoke/Fire	1
High Temp (Stage 1&2)	2
Low Temp	1
High Humidity	1
Generator Running	1
4 Analog Outputs	Qty
AC #1 Economizer Damper	1
AC #1 Supply Fan	1
AC #2 Economizer Damper	1
AC #2 Supply Fan	1
Serial Networks (RS-485)	Qty
Modbus RTU Registers/Points*	512
RSC-ACX	2

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Specifications subject to change without notice



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Specifications for the RSC 1000	
Part Number	150982, 150982-4
Mounting	Wall mount
Inputs	10 dry contact digital inputs (Normally Open/Closed), 7 Thermistor Inputs (10k Type3), and three 0-20 mA sensors.
Digital Outputs	21 digital outputs - (8 SPST, 5 SPDT) 8 amp at 250 VAC, 5 amps at 300 VDC, (8 SPDT) 1 amp at 30 VDC, .5 amps at 125 VDC.
Analog Outputs	4 analog outputs selectable for 0-10 VDC or 4-20 mA.
Power	24 VAC power from AC#1, AC#2 plus a separate 24 VAC or 18-65 VDC.
Front Panel	Color Touch Screen LCD 4.3" diagonal with 24-bit TrueColor. WQVGA resolution (480 x 272)
Serial Port	2 RS-485 (2 wire) for RSC ACX expansion modules and Modbus RTU*.
Network Interface	Ethernet 10/100 Base-T
Protocols Supported	IPv6, IPv4, HTTP, HTTPS, RADIUS Password Authentication, SMTP (email), SNMP v1, v2c and v3 for Gets, Sets and traps/informs
Logging	Logs data for inputs, outputs, alarms, control states and Modbus registers*.
Software	Built-in web server supports all modern web browsers (e.g. IE 6+, Firefox 1.5+, Chrome).
I/O Terminals	2 piece pull-off terminals for all field wiring.
Battery	Long life lithium: 10 year shelf life, 1.5 years under load.
Temp/Humidity Sensor Accuracy	Temp: ±1°F (±0.5°C). Temperature Sensor Standard, Optional Remote Temperature/Humidity Sensor (PN 150749), Temp: ±1°F (±0.5°C), Humidity: ±3% of range
Ambient Operating Temp	23° to 131°F (-5° to 55°C), 0-95% RH Non-condensing
Certification	UL, cUL, FCC 47 CFR Part 15B, ISED ICES-003 Class A
Dimensions	11.25"W x 16.25"H x 3.5"D (286 x 413 x 89 mm)
Weight	6 lb. (2.7 kg)
Warranty	1 year

Available Sensors	
Part Number	Sensor
151045	RSC ACX – Expansion Module Used to control an additional HVAC system. The RSC 1000 supports two RSC ACX modules.
151018	Standard Temperature Monitoring Bundle Includes (2) 8" Duct Mounted Temp Sensors (pn#300199) and (1) Wall Mounted Zone sensor (pn#150681).
151019	Extended Temperature Monitoring Bundle Includes (2) 8" Duct Mounted Temp Sensors (pn#300199), (1) Wall Mounted Hum/Temp Sensor (pn#150749) and (1) Outdoor Temp Sensor (pn#150747-C).
151020	Economizer Monitoring Bundle Includes (2) 8" Duct Mounted Temp Sensors (pn#300199), (1) Wall Mounted Hum/Temp Sensor (pn#150749), (1) Outdoor Temp Sensor (pn#150747-C) and (2) Bullet Probe Temp Sensors (pn#510049).
150681	Zone temperature sensor (thermistor) Indoor wall mount enclosure
150749	Zone temperature sensor (thermistor)/Humidity (3%/4-20mA) Wall Mount
510049	Thermistor 10K bullet probe, 18" Universal sensor used for indoor temp air monitoring applications.
300199	Supply air temperature (thermistor) sensor, bell box duct mount with 8" probe
150747-C	Outdoor Temperature sensor (thermistor) – Weatherproof
301008	Fan Run Monitor – Split-Core Current Switch Adjustable Trip Point – Output Ratings: N.O. 1.0 A @30 VAC/DC, Setpoint: Adjustable, 0.5 A or less, Range: 0.5 to 175 A continuous, not polarity sensitive (terminal strip, accepts #14-24 AWG Wire)

*Modbus RTU available in part number 150982

