Model 400 HVAC Controller

The Model 400 Controller is designed to work as a standalone HVAC control system or in conjunction with the TELSEC® ESB2 Environmental Controller to provide a comprehensive monitoring and control system for Telecom/broadband facilities. Multiple HVAC units can be grouped by the area they serve to provide lead/lag/standby functionality per zone.

HVAC systems with economizers can take advantage of Quest's patented economizer control algorithm to maximize the amount of time outside air can be used to maintain the temperature in each zone. One outside air sensor can be shared with all Model 400 units. The Model 400 Controller is a convenient and reliable controller that provides the necessary redundancy for critical facilities while providing optimization that reduces energy consumption of the HVAC equipment.

Model 400 HVAC Controller, Part Number 150966-5

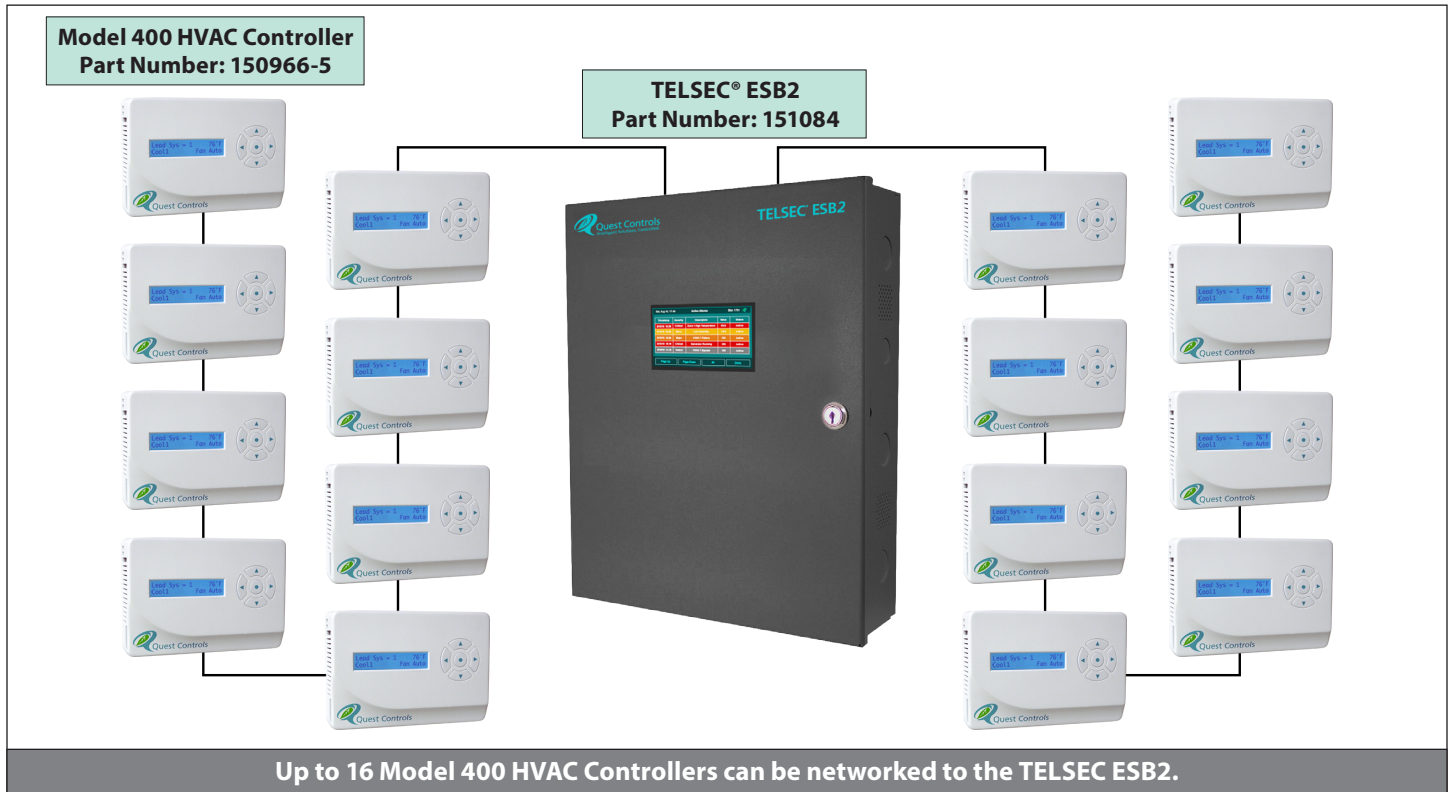| Example Settings	Value
Standalone mode - cool 1 on	76
Standalone mode - cool 2 on	78
Standalone mode - All cooling off	74
Standalone mode - heat 1 on	55
Standalone mode - heat 2 on	53
Standalone mode - All heating off	60
Standalone mode - fan operation	Auto
Network mode - cool 1 on	78
Network mode - cool 2 on	80
Network mode - All cooling off	74
Network mode - heat 1 on	50
Network mode - heat 2 on	48
Network mode - All heating off	53
Network mode - fan operation	On

Model 400 HVAC Controller Features

- Can be configured to control most HVAC systems such as single stage, two stage or heat pump systems.
- Designed to work with existing HVAC economizer control modules or take direct control of the outside air damper.
- Supports variable speed control of the supply air fan.
- Powered from the HVAC's 24VAC transformers.
- Additional 24VDC power source supported.
- Networkable to the ESB2 or any Modbus RTU controller.
- Works in standalone mode if communications are lost.
- LCD display for current operating mode and temperature readings.
- Five button keypad for navigation to other status screens.
- Default settings and configuration are settable through password protected screens.
- All settings can be modified remotely through Modbus RTU.
- Built-in zone temperature for ease of installation.
- Additional zone sensor can be added for controlling based upon the average or high of the two sensors.

Quest Controls
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Quest HVAC Controller

I/O Summary

7 Inputs	Qty
Analog Inputs	5
Zone Sensor Built in to the Controller	1
Remote Zone Temperature Sensor	1
Supply Air Sensor	1
4-20mA Input (can be used for HVAC current monitoring)	1
Mixed Air Temperature for econ control	1
Digital Inputs	2
HVAC Fail – Lockout Alarm	1
Fan Proof of Run	1

6 Digital Outputs	Qty
Digital Outputs for Control	6
24VAC Output for Supply Fan	1
24VAC Output for Cool stage 1	1
24VAC Output for Cool stage 1	1
24VAC Output for Heat stage 1/ B terminal for Heat pump mode	1
24VAC Output for Heat stage 2	1
24VAC Output for Reversing Valve (O terminal) on heat pumps	1

2 Analog Outputs	Qty
0-10VDC output for damper control	1
0-10VDC output for variable speed fan	1

Specifications

Part Number	150966-5
Mounting	Wall mount directly or standard single gang electrical box
Enclosure	Color: Quest white Material: Two piece thermal molded plastic enclosure. All wiring is done on the mounted base and the controller is pull-off.
Inputs	Digital Inputs:(2)dry contact closures Analog inputs: Temperature sensors (4) Thermistors sensor ± 1°F (0.5°C) 4-20mA input (1) – HVAC Current Monitoring
Outputs	Digital Outputs: (6) 30V AC max, 1 A continuous , 3A in-rush Analog Outputs: (2) 0-10VDC
Power	24VAC and 24VDC simultaneously
LCD Display	Type: Backlit LCD display Display Area: 2 rows of 16 characters each
Keypad	Five button directional arrows plus enter button
Communication	RS485, Modbus RTU
Environmental	Operating Temperature: 0°C to 50°C; 32°F to 122°F Storage Temperature: -30°C to 50°C; -22°F to 122°F Relative Humidity: 0 to 95% non-condensing
Dimensions	5.32"W x 3.5"H x 1.5"D (135 x 89 x 38 mm)
Weight	0.5 lb (227 g)
Warranty	1 year

**Model 400 HVAC Controller
Part Number: 150966-5**

**TELSEC® ESB2
Part Number: 151084**

Up to 16 Model 400 HVAC Controllers can be networked to the TELSEC ESB2.