

EXCEL5000 OPEN™
S Y S T E M

Excel 15 W7760C Plant Controller

SPECIFICATION DATA



FEATURES

- Programmable control of mechanical equipment and auxiliary points.
- Configurable inputs/outputs are expandable with up to three Excel 10 Remote Input/Output (RIO) devices.
- Eight digital inputs; eight analog inputs.
- Eight optically isolated digital outputs; six 0 to 20 mA analog outputs.
- Easy programming with LONSPEC™ Software.
- Two-piece construction for easy installation.
- Easy access to all I/O points for check-out while operational.
- LONTALK® Network communications protocol.
- LONWORKS® Free Topology Transceiver (FTT).

GENERAL

The Excel 15 W7760C Plant Controller is used to monitor and control HVAC equipment and other miscellaneous loads in a distributed network. The W7760C Plant Controller communicates via the 78 kilobaud LONWORKS Network, using a free topology transceiver (FTT).

Control Techniques Supported

W7760C Plant Controller provides configurable control loops for a wide variety of applications.

(Each of the following control strategies can be configured with a combination of features, up to the maximum number stated for each loop type.)

- Scheduling (from a W7760A Building Manager).
- Time-of-Day Bypass.
- Setpoint Reset.
- Adaptive Intelligent Recovery™.
- Sequencer.
- Lead/Lag.
- Demand Limit Control (from a W7760 Building Manager).
- Analog Limit.
- Setpoint Override.
- Setpoint Alarming.

General Purpose Configurable (PID) Control Loops (ten maximum):

- Modulating or staged output (up to four stages per sequencer).
- Built-in auxiliary output to coordinate pumps or fans.

General Purpose Configurable (Non-Linear) Control Loops (improved stability over PID, ten maximum):

- Modulating or staged output (up to four stages per sequencer).
- Built-in auxiliary output to coordinate pumps or fans.

Start/Stop Loops (eight maximum).

If/Then/Else Logic Loops (32 maximum).

Math Functions: MIN, MAX, AVG, SUM, SUB, SQRT, MUL, DIV, ENTHALPY (36 maximum).



SPECIFICATIONS

Inputs/Outputs

Eight dry contact digital inputs, 100 ohm maximum contact resistance.
Eight 0 to 10V, 100 to 6500 ohms or 20K NTC analog inputs with open/short detection.
Six 0 to 20 mA analog outputs.
Eight 24 Vac optically isolated Triac digital outputs, high or low side switching (25 mA minimum and 100 mA maximum).
One 20 Vdc power supply for auxiliary devices with a maximum current of 65 mA.

Communications

The W7760C Plant Controller uses a FTT to support a polarity-insensitive free topology wiring. T-tap, star, loop and mixed wiring are all supported by this architecture.

The maximum number of control nodes per bus segment is 60. The maximum number of control nodes in a two-segment FTT subnet is 120, when using a repeater between the two segments.

Each W7760C Plant Controller can support three Excel 10 RIO devices. Operator access is provided over the LONWORKS network via the Excel 15 Command Display or PC workstation.

Power Supply Requirements:

18 VA maximum, 50/60 Hz, with no digital outputs.
42 VA maximum, 50/60 Hz, with fully loaded digital outputs.

Environmental Ratings:

Operating Temperature: -40° to 150°F (-40° to 65°C).
Shipping Temperature: -4° to 122°F (-20° to 50°C).

Relative Humidity:

5% to 95% non-condensing.

Mounting:

The W7760C mounts on a panel, wall or DIN Rail.

Dimensions (H/W/D):

W7760C Cover Assembly: 7-1/2 in. (191 mm) x 5-1/4 in. (133 mm) x 1-15/16 in. (49 mm).

W7760C Subbase: 7-3/4 in. (197 mm) x 5-3/4 in. (146 mm) x 15/16 in. (24 mm).

Approvals:

Underwriters Laboratories Listed: UL916 (E14480) as Class 2 device.

Canadian Underwriters Laboratories Listed: UL916 (E14480) as Class 2 device.

Federal Communications Commission Listed: Part 15 Subpart J, Class A.

European Community Mark: Conforms to European Consortium Standards.

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