

WattMaster Control Center WCC III



WCC III Provides Complete Control and Energy Management for Any Size Facility

Economical For Small Systems Because Of Modular Construction

The WCC III System is comprised of an MCD that operates primarily as a distribution point for control schedules and data used/shared by direct digital control panels (satellite controllers and terminal unit controllers) which are distributed throughout the building.

Satellite controllers and terminal unit controllers provide the actual control and are added and programmed to suit your specific system requirements.

Menu Driven Program Makes System Set-up Easy And System Operation Even Easier

All steps of the WCC III operation including initial satellite controller set-up are menu driven. This means operators do not have to be system programmers, and changes can be made without referencing a complex computer program.

Reduced Costs

Equipment Cost is reduced because the system, including satellite controllers, is modular. You only buy the number of satellites required. Satellites have capacity for 8 selectable inputs (analog or binary), 16 binary and 8 analog outputs, and there are expansion boards available to extend binary inputs and outputs along with analog outputs.

Installation Cost is reduced because "Global" information gathered at one satellite can be shared with other satellites, eliminating wiring runs and control duplication.

Direct Digital Control further reduces costs because satellite controllers interface directly with valve and damper actuators, eliminating costly intermediate controls.

Terminal Unit Controllers Reduces Wiring Costs: Use of terminal unit controllers further reduces installed costs by greatly reducing field wiring and often allowing factory installation of controls on terminal units to reduce field labor and wiring errors. Special satellites and terminal unit controllers are available to control fan coil units, heat pumps, and pressure dependent and pressure independent VAV and fan terminal boxes.

Operating Costs are reduced through menu driven programs, including adaptive optimal start, demand limiting, deadband spreading, duty cycling, night setback, and other programs you can create for your specific requirements thru the logic programs related to global commands.

Equipment Replacement Costs drop because equipment lasts longer. Close monitoring and logging of performance and run time means service needs can be recognized before a serious breakdown occurs.

Improved Cost Management: Equipment and lighting are precisely controlled during "normal occupancy hours". After hours override by tenants permits logging or extra usage so that costs can be properly allocated to tenants/departments using extra energy.

WattMaster
C O N T R O L S

WCC III Provides Comfort And Monitoring Features

Improved Comfort

Happy People: Comfortable tenants do not move out, and comfortable employees work more efficiently. The WCC III is designed to monitor and control each terminal unit in the building. Control is precise, and alarms are displayed when any temperature exceeds limits. Corrective action can be taken before occupants become aware of a problem.

Tenant Override and Report:

The override allows up to 500 different tenants to override lights, heat, and air conditioning (or other functions) for a selectable time period. Overrides are logged and totaled by tenant and subcode for monthly billing purposes. Up to 12 month log is stored by month for each tenant.

Remote Monitoring/Alarm E-mail Increases Efficiency For Owners Of Multiple Buildings

The WCC III system is supplied with remote access for authorized operators. Setpoints, schedules, etc., may be

changed and system status monitored from this remote location. Thus, the performance of multiple buildings can be monitored from a single location and alarm reports automatically received at this or any other location through the alarm e-mail function of the WCC III.

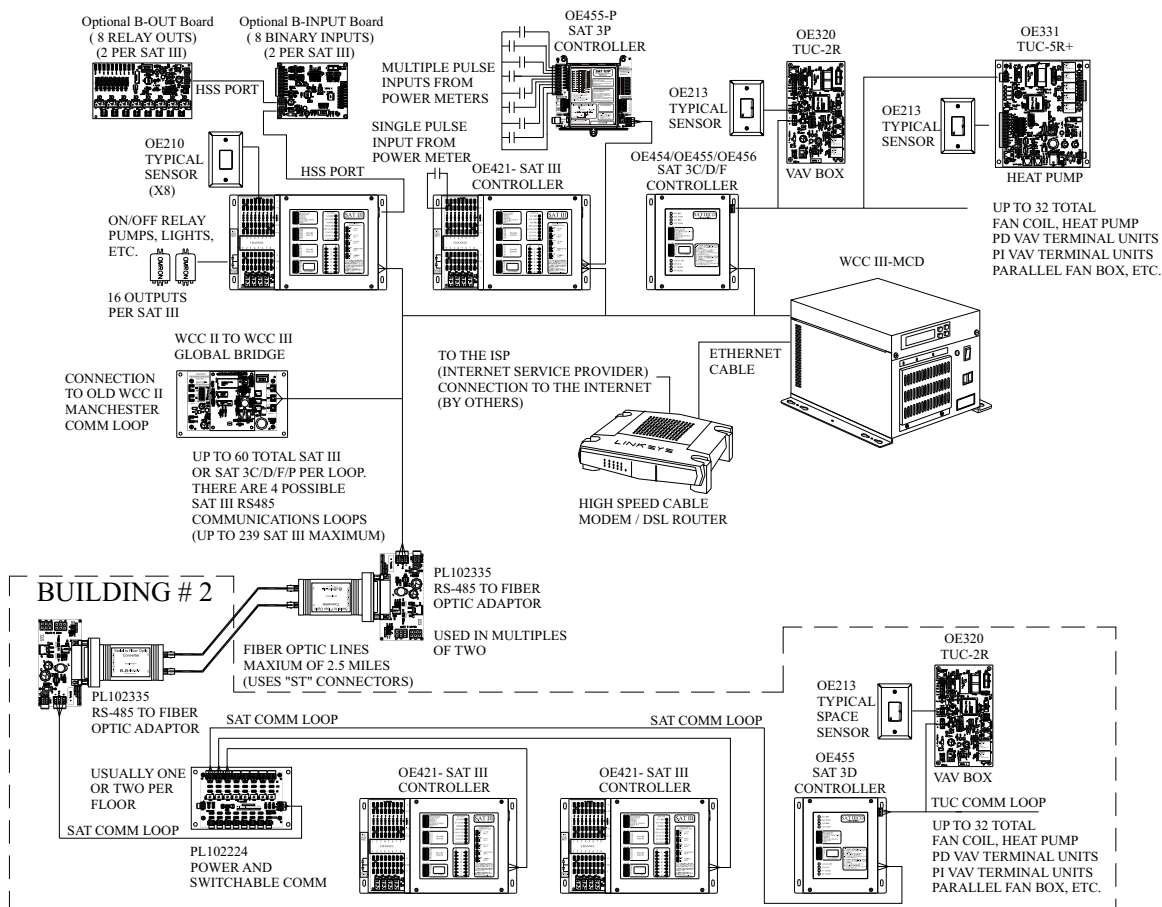
Enhanced Graphic Option

An enhanced graphics program (WGCC3) with standard symbols and drawing package is available for the user desiring further refinement of graphic capability. This is an optional upgrade.

Internet Access:

Improves communication on large facilities: The ability to have multiple operators that can have access to the system simultaneously. This truly optimizes system performance by coordinating all service maintenance and operators' input in one operating program.

WCC III Typical System Schematic



WCC III Provides These Specific Features

Function	Benefit
Menu Driven Software	Easiest system to operate on the market today
Sort By Descriptions	
Automatic Daylight Savings Correction	
Linux-Based Software	Embedded system approach from the start
Capacitor Backup Memory for the Satellite Memory	Protection from 72 plus hour power failure
Program Flow Trace	Simplifies program analysis on large systems
Multiple (8) Alarm Levels	Reduces nuisance alarms
E-mailing of Alarms	Improves service /maintenance support
Automatic Alarm Printout	Provides hard copy record of alarms
Data Copy Functions	Reduces set time and errors
Adaptive Optimal Starts (64 programs)	Optimizes energy use and comfort
Demand Limiting, Deadband Spreading	
Morning Warm-up Program	Controlled warm-up maximizes comfort
Controlled Restart after Power Outages	Prevents breaker lockout from electrical surges
Softstart for Morning Warm-up	Reduces electrical surge and demand peak problems
Isolated RS-485 Communications to SATs	Reduces damage from voltage surges
Fiber Optics	Reduces damage from voltage surges
Multiple Levels of Operator Security Codes	Prevents unauthorized access to program level
Temporary Overrides - Locally or Remotely	Permits temporary schedule changes by the tenant or maintenance
Analog Input Simulation	Aids in service and system checkout and reduces start-up time
Analog Input Trend Logs	Log (and graph) of all analog inputs improves system analysis
Extreme Trend Logs	Helps determine system performance
Change of State Logs	Documents equipment operation time/characteristics
Runtime Accumulation	Improves service, maintenance, and after hours billing capabilities
Analog Comparison, Boolean Logic	Optimizes system performance and minimizes energy use
Math Operators/Enthalpy Logic	Energy consumption is reduced with customized programs
User Configurable Lookup Tables	Precise readout from nonlinear inputs
Event Initiated Logic	Reduces wiring interlocks costs
Signal Selection/Averaging	Optimizes reset schedules from selectable loads
Proportional Reset/Graph	Reduces energy use, stabilizes control, and graph simplifies readout
Programmable Switch Hysteresis	Extends equipment life by reducing cycling
Programmable Filter Time Constants	Improves system stability and performance
Multiple Demand Limiting	Ten energy consumption screens fit multiple meter facilities
Remote Monitoring/Uploading/Downloading	Improves service capabilities
Internet Based Communications	Accessible from anywhere
Terminal Unit Interface (Sat3 c/d/f)	Reduces installed cost
Duty Cycling User Definable	Versatile program for special applications

WCC III

Technical Specifications

WCC III added system improvements over the WCC II system:	<ul style="list-style-type: none"> • Increased the Global Analogs from 128 to 256 • Increased the Global Binaries from 256 to 512 • Increased the Week Schedules from 32 to 128 • 16 dedicated PID programs • Since the system is now internet based, multiple workstations are now supported.
SAT III controller added improvements over the SAT II controller:	<ul style="list-style-type: none"> • Relay outputs instead of “Chipswitches” • LED status indicators for the relay outputs • HSS expansion port – supports new Binary Input, Binary Output boards. • Added HSS Binary Outputs to SAT III (Up to 16 more relay outputs) • The SAT III has a 12 bit A to D converter, while the SAT II has a 10 Bit A to D converter. • Analog Inputs of 0 to 1 VDC, 0 to 5 VDC, 0 to 10 VDC, 4 to 20mA, and Thermistor sensors are now supported.
Recommended Computer for the WCC III program:	<ul style="list-style-type: none"> • Pentium 4 computer or better that is running at 2 GHz or faster • 1 Gig RAM minimum • Windows XP-Pro • 80 Gig Hard Drive or larger • High Speed internet access (cable modem preferred) • Printer (optional for data print outs)
Computer Power Requirements (WCC III-MCD):	<ul style="list-style-type: none"> • 96 to 143 VAC 50/60 Hz 200 Watts • Use dedicated 120 VAC circuit (4-3 wire ground plug required) • (UPS is recommended)
SAT III Power Requirements:	<ul style="list-style-type: none"> • 24 VAC @ 1 Amp
Communications Loop:	<ul style="list-style-type: none"> • Each communications loop communicates with up to 60 SATs. (4 loops are possible) • Communications wire is 18 gage twisted with shield. • 4000 feet to furthest Satellite. • Fiber Optics
Internet Access Requirements:	<ul style="list-style-type: none"> • High Speed Access (cable modem is preferred)
Operating Temperature:	<ul style="list-style-type: none"> • 50 to 100 degrees Fahrenheit, 10% to 90% (non condensing)