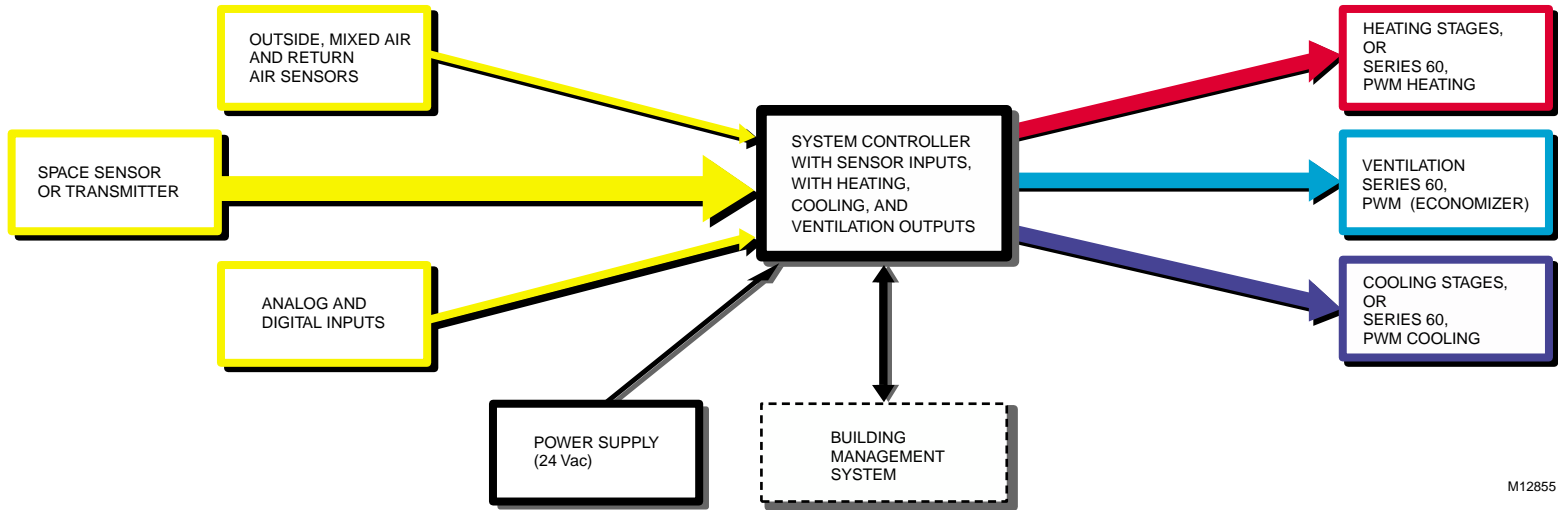


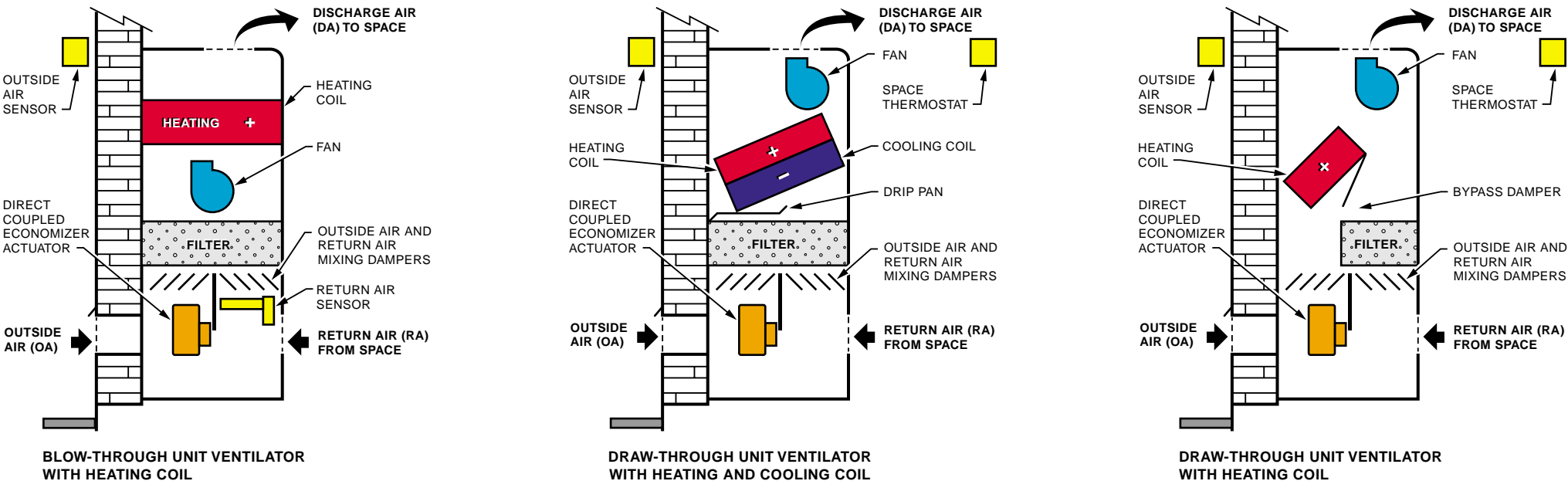
Excel 10
W7753A Unit Ventilator

- Stand-alone or expandable. LonMark® compliant, Echelon® LonWorks® protocol-compatible (on E-Bus, Q7750 Zone Manager), free topology.
- Controls heating and cooling stages, Series 60 Floating and Pulse Width Modulation (PWM) Economizer, ASHRAE Cycle I, II, and III.
- Proportional Integral Derivative (PID) control and adaptive control for discharge air setpoints. Utilizes LonMark Unit Ventilator functional profile.
- Six analog inputs: two resistive for wall module, two Vdc and two resistive for RA temperature, OA and RA enthalpy, OA and RA humidity, AI for CO.
- Four digital dry input contacts for occupancy and monitoring.
- Eight 24 Vac 500 mA Triac outputs for fan, heating, cooling economizer, and one digital output for wall module LED.

Functional
Block Diagram



Duct Diagram



- KEY**
- INPUTS
 - ACTUATORS/VALVES
 - VENTILATION/FAN
 - HEATING
 - COOLING

- ☐ Unit Ventilator
- ☐ ASHRAE Cycle
 - ☐ Cycle I, Max Fixed % OA
 - ☐ Cycle II, Min Fixed % OA
 - ☐ Cycle III, Variable OA
- ☐ Standby/Warmup Seq (No OA)
- ☐ Cooling
 - ☐ Chilled Water Coil
 - ☐ Direct Expansion
- ☐ Ventilation
 - ☐ Economizer
 - ☐ Fixed Outside Air
- ☐ Heating
 - ☐ Hot Water Coil
 - ☐ Steam Coil
 - ☐ Electric
- ☐ Face & ByPass
- ☐ Indoor Air Quality
- ☐ Energy Management
 - ☐ TOD, Occupied/Unoccupied
 - ☐ Communication

Unit Ventilator

- Inputs: 2 - Resistive for Wall Module, 2 - Resistive, 2 - 1 to 10 Vdc or 4 to 20 mA, 4 - dry contact Digital.
- Outputs: 1 - 22 Vdc for Sensor Power, 8 Triac Digital (24 Vac, 50 mA) for Series 60 or PWM Heating, Cooling and Ventilation.
- ASHRAE Cycles I, II, and III, and LonMark® Unit Ventilator Functional Profile.

Minimum Required
– Grey Blocks –

Power Supply

AT140A1018, 120, 240/24 Vac, 40 VA, Foot/Plate Mount
AT150A1007, 120, 240/24 Vac, 50 VA, Foot/Plate Mount
AT175A1008, 120, 240/24 Vac, 75 VA, Foot/Plate Mount

Space Sensor

T7770A1006, Sensor only
T7770A2004, Sensor only with network jack
T7770B1004, Sensor with 55 to 85°F Setpoint Scale
T7770C1002, Sensor with 55 to 85°F Setpoint Scale, Occupied Button, LED
T7770E1007, Sensor with 55 to 85°F Setpoint Scale, Occupied Button, LED, Auto/off/on Fan Switch
T7770F1005, Sensor with 55 to 85°F Setpoint Scale, Occupied Button, LED, Auto/Off/On/1/2/3 Fan Switch

OA Sensor RTD

C7031F1018, -40 to 302°F, Outside Sensor
C7170A1002, -40 to 257°F, 24 in. lead

RA/MA Sensor RTD

C7770A1006, 3/8 in. X 6-1/2 in.
C7031B1033, -40 to 302°F, 5 in. Element, Water/Air
C7031C1031, -40 to 302°F, 18 in. Element, Water/Air
C7031D1062, -40 to 302°F, 5 in. Element, with 123872A 1/2 in. NPT well
C7031F1018, -40 to 302°F, OA Enclosure
C7031J1050, -40 to 302°F, 144 in. Averaging Duct Element
C7031K1017, -40 to 302°F, Strap-on Element, Water

DA Sensor RTD

Actuator Outputs, Economizer, Heat, Cool

W7753A2002

Series 60 and PWM Actuators

MLXXXX*
MLXXXX*
ML,VBXXXX*
ML,VBXXXX*

Additional Inputs for W7753A2002

* See Actuator Selection Guide at right

Outside Air Humidity Sensors

C7600B1000, 2 to 10 Vdc, Wall Mount
C7600B1018, 2 to 10 Vdc, J-Box Mount
C7600B1008, 4 to 20 mA, Duct Mount

Return Air Humidity Sensors

Outside Air Enthalpy Sensor

Return Air Enthalpy Sensor

C7400A1004, 4 to 20 mA, Duct Mount

Air Filter Differential Pressure

Third Party, 2 to 10 Vdc, 0 to 5 in. WC

CO₂, 0-2000 PPM, IAQ Sensors

Third Party, 0 to 10 Vdc

Monitoring Sensors

2 TO 10 Vdc (Monitored and Displayed) Third Party

W7753A2002

F & ByPs
Econ
Ht
CL

OA Humidity
RA Humidity
OA Enthalpy
RA Enthalpy

R8222B1067 Relay, 24 Vac Coil, spdt, 16A/120 Vac, 25A/208,277 Vac	_____	Quantity	_____
R8222D1014 Relay 24 Vac Coil, dpdt, 16A/120 Vac, 25A/208,277 Vac	_____	Quantity	_____
AK3791 Wire, E-BUS, Single Twisted Pair, Plenum Rated, in feet	_____	feet	_____

63-7044 —1 Rev. 7-99

Actuator	Torque (lb-in.)	Spring Return	Notes	Accessories
ML6161B2024	35	No		ML6161B
ML6174B2019	70			#4074ENJ 45 & 60 Stop Pin & 3/8 Shaft Adapter
ML6174C2000			w/Feedback potentiometer	#7640QW Metal Enclosure for Conduit Connection & Plenum Rating
ML6184A1003a	150			#200976A 500 ohm Feedback Pot., #200976C 1000 ohm Feedback Pot.
ML6184C1001a			w/Two Auxillary Switches	#201052A 1-SPDT Auxillary Switch, #201052B 2-SPDT Auxillary Switch
				ML6174,75,84,85,94,95
ML6175A1001a	25	Yes		#205753 3/8 in. Hub Sleeve, #205758 5/8 in. Hub Sleeve
ML6175F1006a			w/Two Auxillary Switches	#205820A 3-Point Mounting Kit
ML6185A1000a	50			#205830A Crank Arm Assembly
ML6185F1005a			w/Two Auxillary Switches	#205840A Tandem Mount Kit
ML6195A1009	144			#205850A End Stop Kit

BALL VALVE SELECTION, Series 60 Floating, Non-Spring & Spring Return
24 Vac, -30 to 150°F Ambient Temperature

Valve Assembly	Sweat Size (in.)	Cv	Ball Valve	Actuator	Spring Return	Close-off (psi)	Notes
VB34A1072	1/2 FP	15	VB30A1039	ML6161B2024	No	150	2-way FP = Full Port; RP = Reduced Port NPT Pipe Thread
VB34A1304	3/4 RP	30	VB30A1047	ML6174A2019	No	150	
VB34A1312	3/4 FP	51	VB30A1054		No	150	
VB34A1536	1 FP	56	VB30A1070	ML6184A1003 ^a	No	150	
VB34A1544	1-1/4 RP	48	VB30A1088		No	150	
VB34A2088	1-1/4 FP	125	VB30A1096	ML6194A1002 ^a	No	150	
VB34A2104	1-1/2 FP	177	VB30A1112		No	150	
VB34B1014	1/2 RP	5.4	VB30B1004	ML6161B2024	No	150	3-way FP = Full Port; RP = Reduced Port NPT Pipe Thread
VB34B1089	3/4 RP	12	VB30B1012	ML6174A2019	No	150	
VB34B1162	1 RP	14	VB30B1020	ML6184A1003 ^a	No	150	
VB35B1170	1-1/4 RP	21	VB30B1036		No	150	
VB35B1477	1 1/4 RP	21	VB30B1095	ML6194A1002 ^a	No	150	
VB35B1485	1-1/2 RP	34	VB30B1103		No	150	
VB35B1493	2 RP	47	VB30B1053		No	150	
VB35A1020	1/2 RP	4	VB30A1187	ML6185A1000 ^a	Yes	150	2-way FP = Full Port; RP = Reduced Port NPT Pipe Thread
VB35A1038	1/2 FP	15	VB30A1195		Yes	150	
VB35A1046	3/4 RP	30	VB30A1203		Yes	150	
VB35A1723	3/4 FP	51	VB30A1211	ML6195A1009	Yes	150	
VB35A1731	1 RP	43	VB30A1062		Yes	150	
VB35A1749	1-1/4 RP	48	VB30A1088		Yes	150	
VB35B1003	1/2 RP	5.4	VB30B1061	ML6185A1000 ^a	Yes	150	3-way FP = Full Port; RP = Reduced Port NPT Pipe Thread
VB35B1102	3/4 RP	12	VB30B1079		Yes	150	
VB35B1326	1 RP	14	VB30B1020	ML6195A1009	Yes	150	
VB35B1334	1-1/4 RP	21	VB30B1038		Yes	150	

VC Series Balan ced Valve Selection, Series 60 Floating, Non-Spring Return
24 Vac, -32 to 150°F Ambient Temperature

Valve Assembly	Sweat Size (in.)	Cv	Close-off (psi)	Pattern	Actuator
VCZAA1100	1/2	3.2	60	Two-way	VC6831ZZ11, 24 Vac, 1m cable, Floating, 120 sec Timing
VCZAM1100	3/4	4.6	60		
VCZAS1100	1	6.6	60		
VCZMA6100	1/2	3.8	60	Three-way	VC6831ZZ11, 24 Vac, 1m cable, Floating, 120 sec Timing
VCZML6100	3/4	5.9	60		
VCZMS6100	1	6.6	60		