



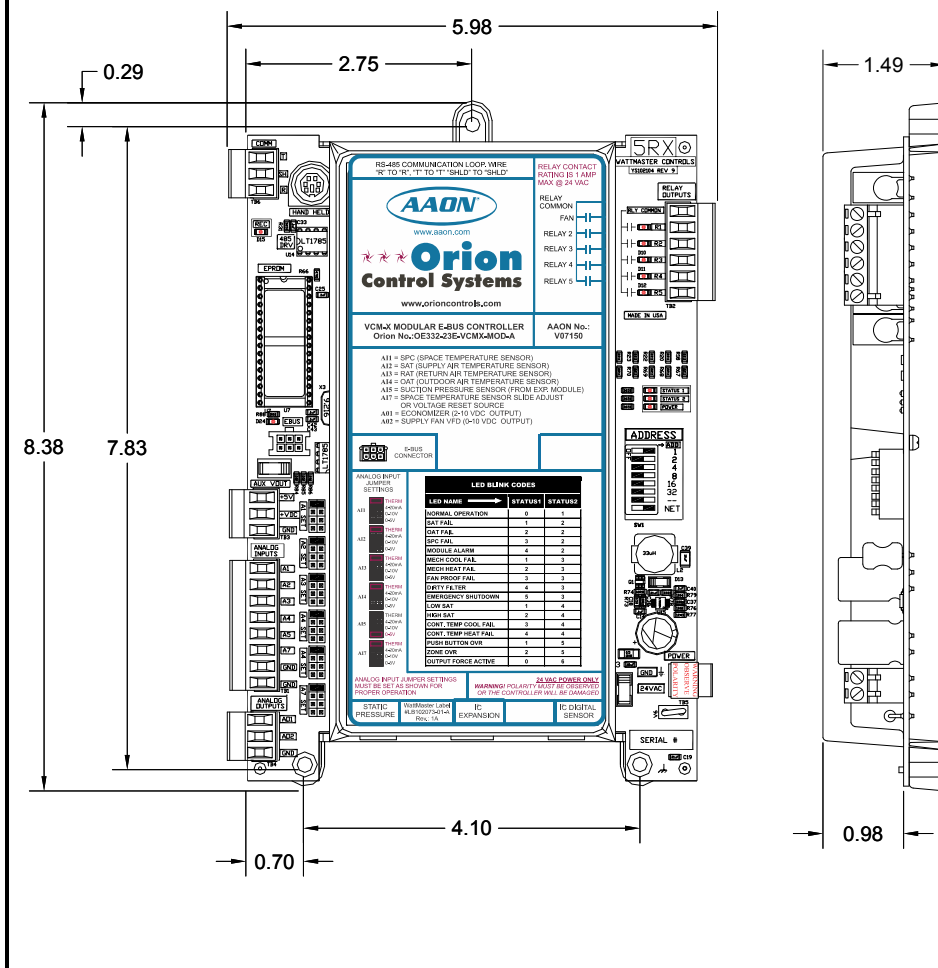
OE332-23E-VCMX-MOD-A VCM-X Modular E-BUS Controller

Description

The VCM-X Modular E-BUS Controller (Orion Part No. OE332-23E-VCMX-MOD-A; AAON Tulsa Part No. V07150) is designed with 7 analog inputs, 2 analog outputs, and 5 relay outputs. The Controller's input and output capabilities can be expanded with the VCM-X Expansion Module (OE333-23-EM), 12 Relay Expansion Module (OE358-23-12R), and 4 Binary Input Expansion Module (OE356-01-BI) that plug into the controller by means of a modular cable and the E-BUS Modular Expansion Modules such as the One & Two Condenser Head Pressure Modules and the Full Digital Module.

The VCM-X Modular E-BUS Controller can be configured for control of VAV Units (with or without VAV/Zone Controllers), Constant Volume Units, and Make-Up Air Units.

The available Expansion Module configurations allow for 8 additional binary inputs, 4 additional analog inputs, 5 additional analog outputs, and up to 16 additional binary (relay) outputs.



Mounting

The VCM-X Modular E-BUS Controller is housed in a plastic enclosure. It is designed to be mounted by using the 3 mounting holes in the enclosure base. The VCM-X Modular E-BUS Controller needs to be installed in an environment which can maintain a temperature range between -30°F and 150°F not to exceed 90% RH levels (Non-Condensing). It is important to mount the controller in a location that is free from extreme high or low temperatures, moisture, dust, and dirt. Be careful not to damage the electronic components when mounting the controller.

Technical Data		OE332-23E-VCMX-MOD-A VCM-X Modular E-BUS Controller	
Operating Power	24 VAC	Power Consumption	8 VA Maximum
Operating Temp	-30°F to 150°F	Operating Humidity	90% RH Non-Condensing
Communications	E-BUS, I ² C	Weight	1 lb.
Inputs	7 Analog Inputs	Outputs	2 Analog Outputs 5 Relay Outputs
Three Year Warranty		WattMaster reserves the right to change specifications without notice	



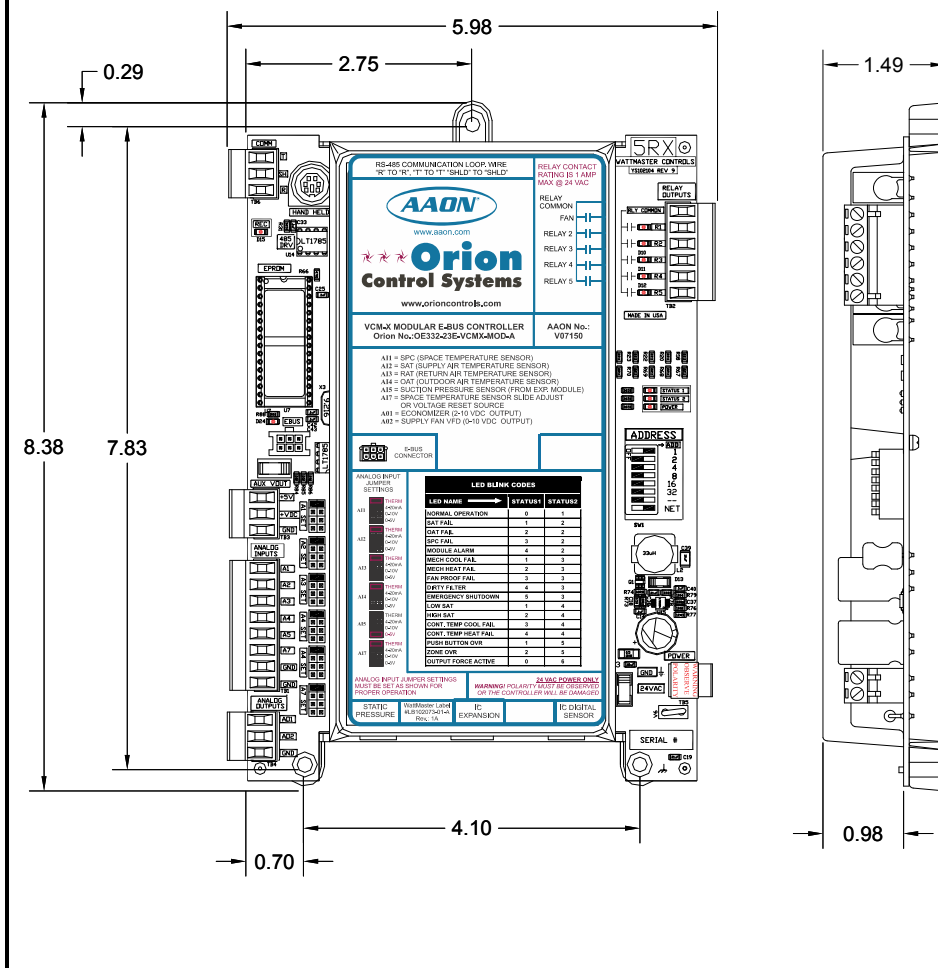
OE332-23E-VCMX-MOD-C VCM-X Modular E-BUS Controller

Description

The VCM-X Modular E-BUS Controller (Orion Part No. OE332-23E-VCMX-MOD-A; AAON Coil Part No. XXXXX) is designed with 7 analog inputs, 2 analog outputs, and 5 relay outputs. The Controller's input and output capabilities can be expanded with the VCM-X Expansion Module (OE333-23-EM), 12 Relay Expansion Module (OE358-23-12R), and 4 Binary Input Expansion Module (OE356-01-BI) that plug into the controller by means of a modular cable and the E-BUS Modular Expansion Modules such as the One & Two Condenser Head Pressure Modules and the Water Source Heat Pump Modules.

The VCM-X Modular E-BUS Controller can be configured for control of VAV Units (with or without VAV/Zone Controllers), Constant Volume Units, and Make-Up Air Units.

The available Expansion Module configurations allow for 8 additional binary inputs, 4 additional analog inputs, 5 additional analog outputs, and up to 16 additional binary (relay) outputs.



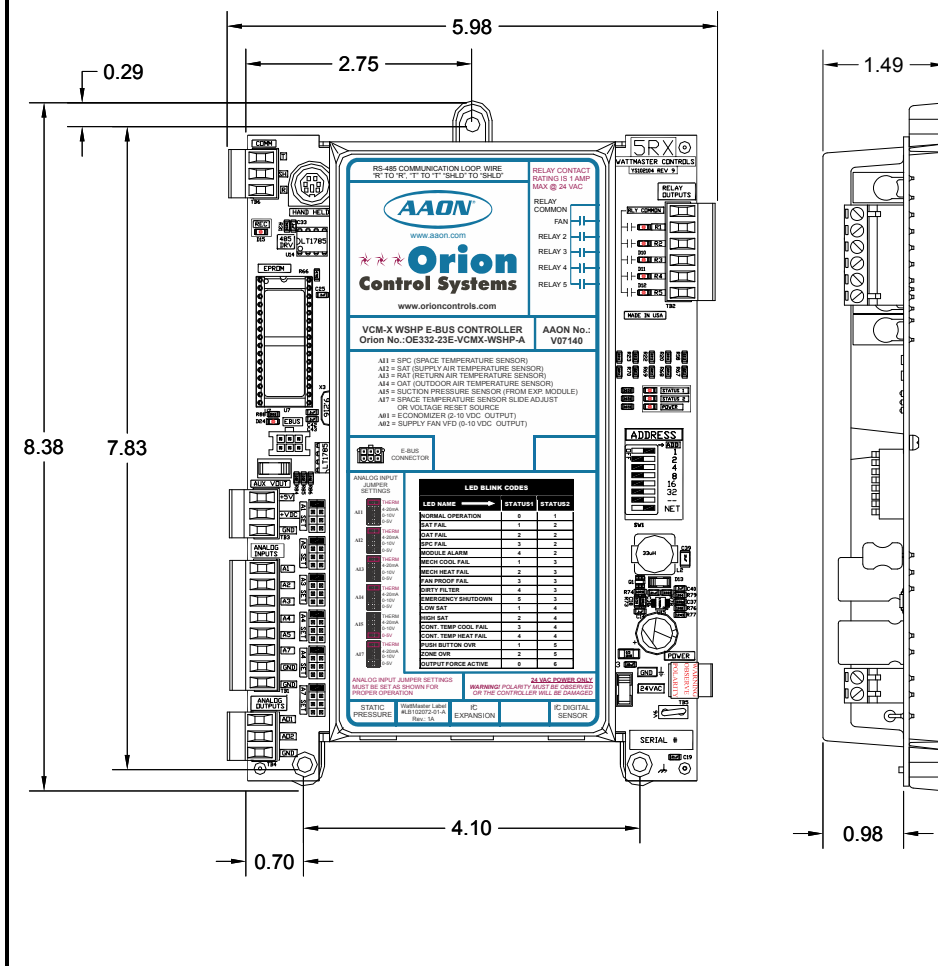
Mounting

The VCM-X Modular E-BUS Controller is housed in a plastic enclosure. It is designed to be mounted by using the 3 mounting holes in the enclosure base. The VCM-X Modular E-BUS Controller needs to be installed in an environment which can maintain a temperature range between -30°F and 150°F not to exceed 90% RH levels (Non-Condensing). It is important to mount the controller in a location that is free from extreme high or low temperatures, moisture, dust, and dirt. Be careful not to damage the electronic components when mounting the controller.

Technical Data		OE332-23E-VCMX-MOD-C VCM-X Modular E-BUS Controller	
Operating Power	24 VAC	Power Consumption	8 VA Maximum
Operating Temp	-30°F to 150°F	Operating Humidity	90% RH Non-Condensing
Communications	I ² C	Weight	1 lb.
Inputs	7 Analog Inputs	Outputs	2 Analog Outputs 5 Relay Outputs
Three Year Warranty		WattMaster reserves the right to change specifications without notice	



The available Expansion Module configurations allow for 8 additional binary inputs, 4 additional analog inputs, 5 additional analog outputs, and up to 16 additional binary (relay) outputs.



The VCM-X WSHP E-BUS Controller is housed in a plastic enclosure. It is designed to be mounted by using the 3 mounting holes in the enclosure base. The VCM-X WSHP E-BUS Controller needs to be installed in an environment which can maintain a temperature range between -30°F and 150°F not to exceed 90% RH levels (Non-Condensing). It is important to mount the controller in a location that is free from extreme high or low temperatures, moisture, dust, and dirt. Be careful not to damage the electronic components when mounting the controller.

Technical Data		OE332-23E-VCMX-WSHP-A VCM-X WSHP E-BUS Controller	
Operating Power	24 VAC	Power Consumption	8 VA Maximum
Operating Temp	-30°F to 150°F	Operating Humidity	90% RH Non-Condensing
Communications	E-BUS, I ² C	Weight	1 lb.
Inputs	7 Analog Inputs	Outputs	2 Analog Outputs 5 Relay Outputs
Three Year Warranty		WattMaster reserves the right to change specifications without notice	



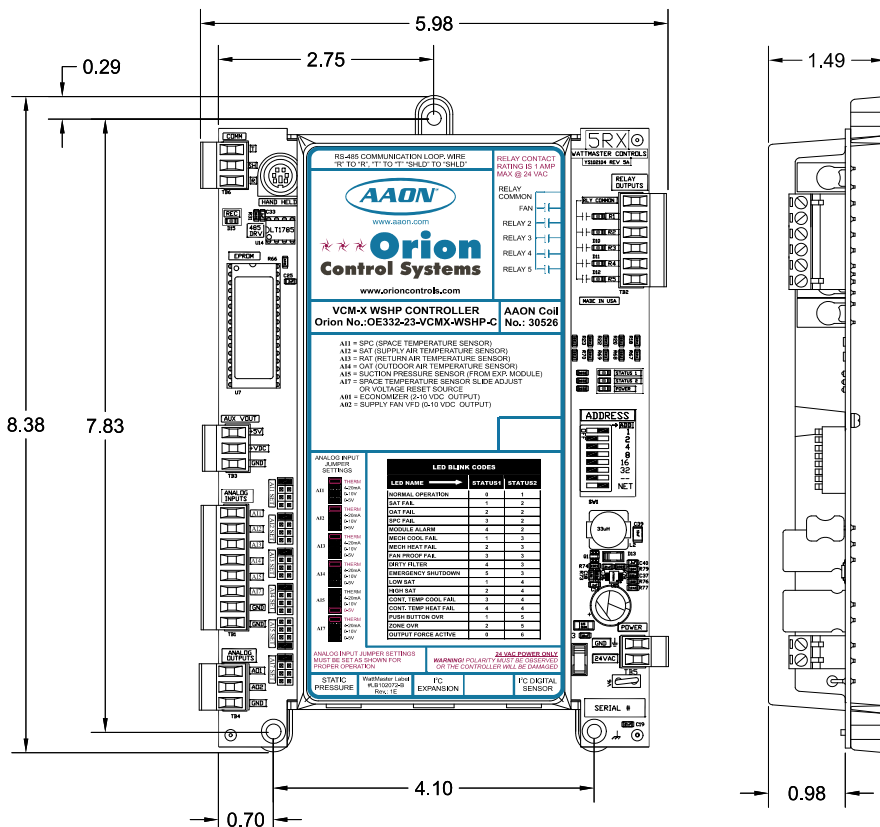
OE332-23E-VCMX-WSHP-C VCM-X WSHP E-BUS Controller

Description

The VCM-X WSHP E-BUS Controller (Orion Part No. OE332-23E-VCMX-WSHP-C; AAON Coil Part No. XXXXX) is designed with 7 analog inputs, 2 analog outputs, and 5 relay outputs. The Controller's input and output capabilities can be expanded with the VCM-X Expansion Module (OE333-23-EM), 12 Relay Expansion Module (OE358-23-12R), and 4 Binary Input Expansion Module (OE356-01-BI) that plug into the controller by means of a modular cable and the E-BUS Modular Expansion Modules such as the Two Condenser Head Pressure Module and the Water Source Heat Pump Module.

The VCM-X WSHP E-BUS Controller can be configured for control of VAV Units (with or without VAV/Zone Controllers), Constant Volume Units, and Make-Up Air Units.

The available Expansion Module configurations allow for 8 additional binary inputs, 4 additional analog inputs, 5 additional analog outputs, and up to 16 additional binary (relay) outputs.



Mounting

The VCM-X WSHP E-BUS Controller is housed in a plastic enclosure. It is designed to be mounted by using the 3 mounting holes in the enclosure base. The VCM-X WSHP E-BUS Controller needs to be installed in an environment which can maintain a temperature range between -30°F and 150°F not to exceed 90% RH levels (Non-Condensing). It is important to mount the controller in a location that is free from extreme high or low temperatures, moisture, dust, and dirt. Be careful not to damage the electronic components when mounting the controller.

Technical Data		OE332-23E-VCMX-WSHP-C VCM-X WSHP E-BUS Controller	
Operating Power	24 VAC	Power Consumption	8 VA Maximum
Operating Temp	-30°F to 150°F	Operating Humidity	90% RH Non-Condensing
Communications	I ² C	Weight	1 lb.
Inputs	7 Analog Inputs	Outputs	2 Analog Outputs 5 Relay Outputs
Three Year Warranty		WattMaster reserves the right to change specifications without notice	

Description

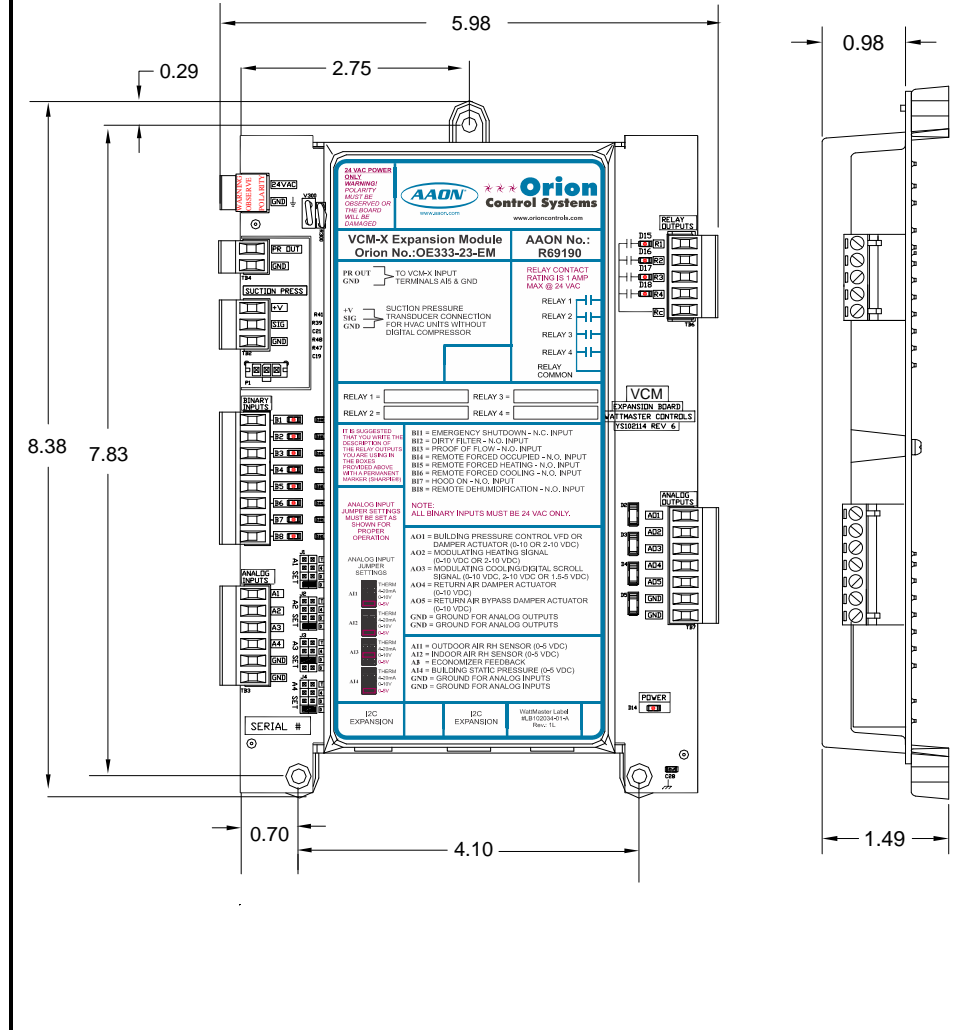
The VCM-X Expansion Module (OE333-23-EM) connects to any one of the VCM-X E-BUS Controllers (OE332-23E-VCMX-MOD, OE332-23E-VCMX-WSHP) to provide additional inputs and outputs beyond those found on the VCM-X E-BUS Controller.

The VCM-X Expansion Module provides an additional 8 Binary Inputs, 4 Analog Inputs, 4 Relay Outputs, and 5 Analog Outputs.

The VCM-X Expansion Module can be used individually or together with the 12 Relay Expansion Module (OE358-23-12R) to provide the required inputs and outputs for your specific application.

The VCM-X Expansion Module must be connected to a 24 VAC power source. When wiring the VCM-X Expansion Module, its binary inputs and relay outputs must be wired as wet contacts (connected to 24 VAC).

The VCM-X Expansion Module has an easy-to-read label and connects to the VCM-X Controller via a modular cable. The Module is also supplied with a suction pressure transducer conditioning circuit.



Mounting

The VCM-X Expansion Module is housed in a plastic enclosure. It is designed to be mounted by using the 3 mounting holes in the enclosure base. The VCM-X Expansion Module needs to be installed in an environment which can maintain a temperature range between -30° F and 150° F not to exceed 90% RH levels (Non-Condensing). It is important to mount the module in a location that is free from extreme high or low temperatures, moisture, dust, and dirt. Be careful not to damage the electronic components when mounting the module.

NOTE: The VCM-X Expansion Module contains no user-serviceable parts. Contact qualified technical personnel if your Module is not operating correctly.

Technical Data		OE333-23-EM VCM-X Expansion Module	
Operating Power	24 VAC	Power Consumption	10 VA Maximum
Operating Temp	-30°F to 150°F	Operating Humidity	90% RH Non-Condensing
Communications	I ² C	Weight	1 lb.
Inputs	8 Binary Inputs 4 Analog Inputs	Outputs	4 Relay Outputs 5 Analog Outputs
Three Year Warranty		WattMaster reserves the right to change specifications without notice	

Description

The 12 Relay Expansion Module (OE358-23-12R) connects to any one of the VCM-X Controllers (OE332-23-VCMX, OE332-23-VCMX-MOD, OE332-23-VCMX-WHP) to provide additional outputs beyond those found on the VCM-X Controller.

The 12 Relay Expansion Module provides for up to 12 Configurable Relay Outputs.

The 12 Relay Expansion Module can be used individually or together with the OE333-23-EM, VCM-X Expansion Module to provide the required inputs and outputs for your specific application.

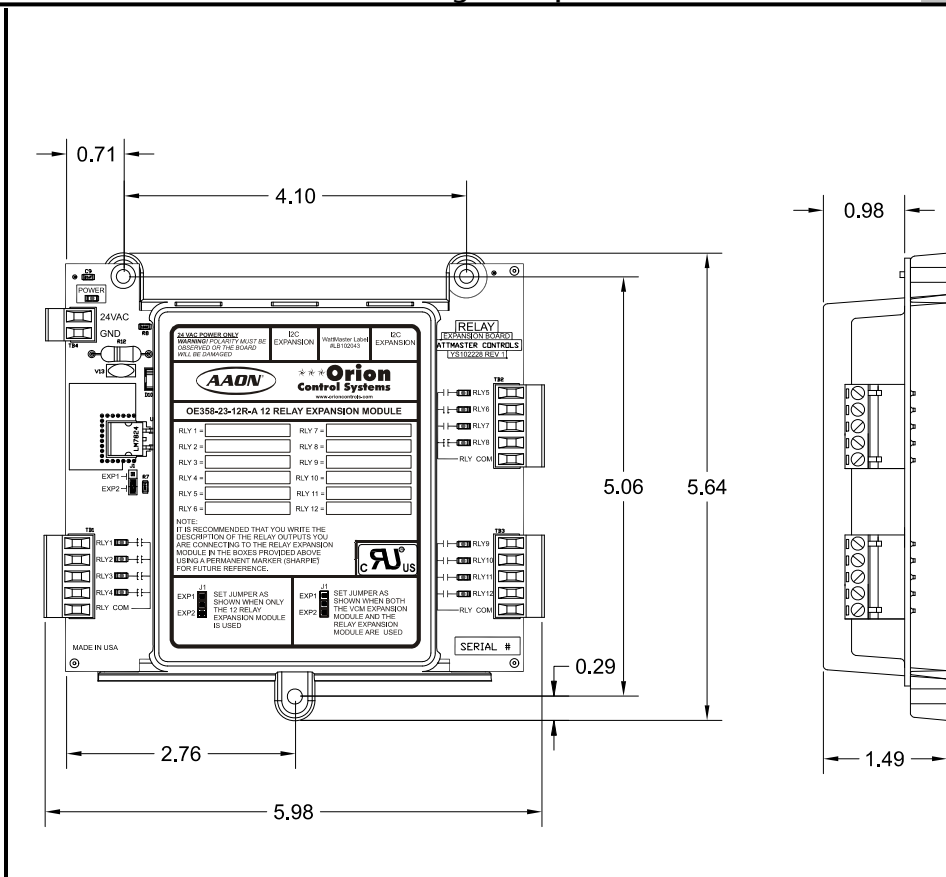
When using the 12 Relay Expansion Module, you must set the configuration jumper correctly on the board depending on whether it will be used by itself or in addition to the VCM-X Expansion Module. The configuration jumper is located on the edge of the 12 Relay Expansion Module on the same side of the module as the power connection.

The 12 Relay Expansion Module must be connected to a 24 VAC power source. All Relay groups being used must have the relay common associated with its group connected to a power source not greater than 24 VAC to supply power to each relay.

Mounting

The 12 Relay Expansion Module is housed in a plastic enclosure. It is designed to be mounted by using the 3 mounting holes in the enclosure base. The 12 Relay Expansion Module needs to be installed in an environment which can maintain a temperature range between -30°F and 150°F not to exceed 90% RH levels (Non-Condensing). It is important to mount the module in a location that is free from extreme high or low temperatures, moisture, dust, and dirt. Be careful not to damage the electronic components when mounting the module.

NOTE: The 12 Relay Expansion Module contains no user-serviceable parts. Contact qualified technical personnel if your Module is not operating correctly.



Technical Data		OE358-23-12R 12 Relay Expansion Module	
Operating Power	24 VAC	Power Consumption	15 VA Maximum
Operating Temp	-30°F to 150°F	Operating Humidity	90% RH Non-Condensing
Communications	I ² C	Weight	1 lb.
Output	12 Relays @ 1 Amp Max		
Three Year Warranty		WattMaster reserves the right to change specifications without notice	

4 Binary Input Expansion Module

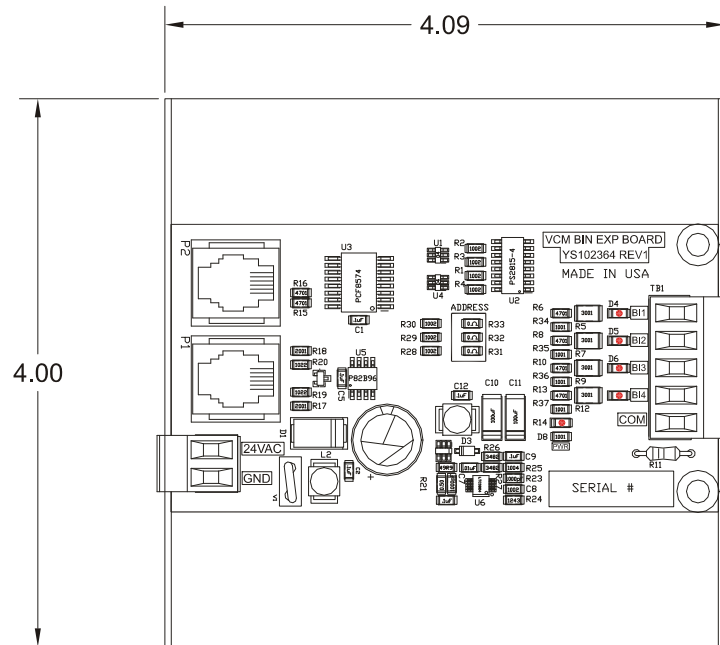
Description

The 4 Binary Input Expansion Module (OE356-01-BI) connects to any one of the VCM-X Controllers (OE332-23-VCMX, OE332-23-VCMX-MOD, OE332-23-VCMX-WHP) to provide additional inputs beyond those found on the VCM-X Controller.

You can use the OE356-01-BI if your HVAC unit only requires a Emergency Shutdown Enable, Dirty Filter, Proof of Flow, or Remote Forced Occupied Inputs or all of these 4 inputs and you don't need any of the other inputs or outputs provided by the OE332-23-EM VCM-X Expansion Module.

The transformer used for powering the 4 Binary Input Expansion Module must also be used to power the binary inputs.

The 4 Binary Input Expansion Module must be connected to a 24 VAC power source. Do not apply any voltage greater than 24 VAC to the binary inputs. Higher voltages will damage the expansion module and possibly other components on the system.



Mounting

Each 4 Binary Input Expansion Module is provided with a plastic snap track modular mounting base. The snap track is designed to be mounted with sheet metal screws to a flat surface using the pre-punched mounting slots provided. The 4 Binary Input Expansion Module is then snapped into place on the snap track providing for easy field mounting and servicing. The 4 Binary Input Module needs to be installed in an environment which can maintain a temperature range between -30°F and 150°F not to exceed 90% RH levels (Non-Condensing). It is important to keep the module in a location that is free from extreme high or low temperatures, moisture, dust, and dirt. Be careful not to damage the electronic components.

NOTE: The 4 Binary Input Expansion Module contains no user-serviceable parts. Contact qualified technical personnel if your Module is not operating correctly.

Technical Data		OE356-01-BI 4 Binary Input Expansion Module	
Operating Power	24 VAC	Power Consumption	5 VA Maximum
Operating Temp	-30°F to 150°F	Operating Humidity	90% RH Non-Condensing
Communications	I ² C	Weight	1 lb.
Inputs	4 Inputs @ 1 Amp Max		
Three Year Warranty		WattMaster reserves the right to change specifications without notice	