OE365-15-EBA
E-BUS Adapter Board
Technical Guide
Table of Contents

OVERVIEW ......................................................................................................................... 3
Dimensions .......................................................................................................................... 3

INSTALLATION AND WIRING .......................................................................................................... 4
Multiple E-BUS Modules to VCM-X E-BUS or RNE Controller .......................................................... 4
Air Flow Monitoring Station Wiring to VCM-X E-BUS or RNE Controller ................................................ 5
Multiple E-BUS Sensors and/or Modules to VCB-X Controller ............................................................ 6
Air Flow Monitoring Station Wiring to VCB-X Controller ..................................................................... 7

PART NUMBER CROSS REFERENCE TABLE

<table>
<thead>
<tr>
<th>PART DESCRIPTION</th>
<th>ORION</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-BUS Adapter Board</td>
<td>OE365-15-EBA</td>
</tr>
<tr>
<td>VCM-X E-BUS Modular Controller</td>
<td>OE332-23E-VCMX-MOD</td>
</tr>
<tr>
<td>VCB-X Controller</td>
<td>OE335-23E-VCBX</td>
</tr>
<tr>
<td>RNE Modular Controller</td>
<td>OE332-23E-RNE</td>
</tr>
</tbody>
</table>
Overview

The OE365-15-EBA E-BUS Adapter Board (Figure 1) is used to provide a connection point for multiple E-BUS Sensors or Modules when added communication wiring length is needed.

The E-BUS Adapter Board is also used for connecting an EBTRON® GTC-116 Airflow Measurement Digital Transmitter, a GreenTrol™ GA-200-N Transmitter Module with GF Series Airflow Monitoring Station, or Paragon MicroTrans® series Airflow Measurement Digital Transmitter to the VCM-X E-BUS Modular Controller*, RNE Controller*, or VCB-X Controller.

You must wire the EBTRON®, GreenTrol™, or Paragon* Airflow Measurement Digital Transmitter to this Adapter Board.

The E-BUS Adapter Board has (4) Modular E-BUS ports, (3) HSSC Connections, and (2) MSTP E-BUS Connections.

NOTE: With custom VCM-X or RNE software, the Paragon® MicroTrans EQ series Air Flow Monitoring Station can be used and would wire into the E-BUS Adapter Board the same way.

Figure 1: E-BUS Adapter Dimensions
Connecting Multiple E-BUS Modules to the VCM-X E-BUS or RNE Controller

If using multiple E-BUS Modules, the E-BUS Adapter Board can be used when the one HSSC E-BUS port on the VCM-X E-BUS or RNE Controller is not enough.

Up to (2) E-BUS Modules can be connected to the E-BUS Adapter Board’s HSSC E-BUS ports. The Unit Controller connects to the third HSSC E-BUS port on the E-BUS Adapter Board.

See Figure 2 below for details when connecting multiple E-BUS Modules to a VCM-X E-BUS Controller or RNE Controller.

Figure 2: Multiple E-BUS Modules Wiring to Unit Controller Using the E-BUS Adapter (VCM-X E-BUS Controller Shown)
Connecting to the VCM-X E-BUS or RNE Controller

**NOTE:** Only the EBTRON® GTC116 series* or GreenTrol™ GA-200-N Module (with GF series Airflow Station) of MODBUS transmitters are compatible with the VCM-X E-BUS or RNE Controller.** No other series of EBTRON® or GreenTrol™ transmitters will work for this application.

The E-BUS Adapter Board attaches to the VCM-X E-BUS or RNE Controller with an HSSC E-BUS cable (supplied separately). The Adapter Board is used for connecting the EBTRON® or GreenTrol™ Airflow Measurement Digital Transmitter to the VCM-X E-BUS or RNE Controller. You must wire the EBTRON® or GreenTrol™ Airflow Measurement Digital Transmitter to the Adapter Board as shown in Figure 3.

**NOTE:** Up to 3 EBTRON® or GreenTrol™ Airflow Measurement Digital Transmitters can be attached to each Adapter Board.

***NOTE:** With custom VCM-X/RNE software, Paragon MicroTrans™ Airflow Stations can be used and would wire into the E-BUS Adapter Board the same way. The Paragon MODBUS ID must be set to 9 and the baud rate must be set to 9600.

---

**Figure 3:** EBTRON® GTC116 Series and GreenTrol™ GA-200-N Series to VCM-X E-BUS or RNE Controller Wiring (VCM-X E-BUS Controller Shown)
E-BUS Adapter Board

E-BUS Modules and/or Sensors to VCB-X Controller Wiring

Connecting Multiple E-BUS Modules and/or Sensors to the VCB-X Controller

If using multiple E-BUS Sensors or Modules, the E-BUS Adapter Board can be used when there are not enough available E-BUS ports on the Unit Controller.

Up to (3) E-BUS Modules or Sensors can be connected to the E-BUS Adapter Board(s) MODBUS E-BUS ports. The VCB-X Controller connects to the fourth MODBUS E-BUS port on the E-BUS Adapter Board.

See Figure 4 for wiring details when connecting multiple E-BUS modules and/or sensors to the VCB-X Controller.

WARNING!!
Observe Polarity! All boards must be wired with GND-to-GND and 24 VAC-to-24 VAC. Failure To observe polarity could result in damage to the boards.

Size Transformer For Correct Total Load. VCB-X Controller = 8 VA

NOTE: Connect the VCB-X Controller To The E-BUS Adapter’s Modular E-BUS Port.

NOTE: Connect both Sensors to the E-BUS Adapter’s Modular E-BUS Ports Using The Provided EBC E-BUS Cables.

Figure 4: Multiple E-BUS Sensors Wiring to VCB-X Controller Using the E-BUS Adapter
**Connecting to the VCB-X Controller**

**NOTE:** Only the EBTRON® GTC116 series, GreenTrol™ GA-200-N Module (with GF series Airflow Station) or Paragon MicroTrans™ series of MODBUS transmitters are compatible with the VCB-X Controller. No other series of EBTRON®, GreenTrol™, or Paragon transmitters will work for this application. Contact WattMaster Controls for information on other airflow station options.

The E-BUS Adapter Board attaches to the VCB-X Controller with an EBC E-BUS cable (supplied separately). The Adapter Board is used for connecting the EBTRON® or GreenTrol™, or Paragon Airflow Measurement Digital Transmitter to the VCB-X Control System. You must wire the EBTRON®, GreenTrol™, or Paragon Airflow Measurement Digital Transmitter to the Adapter Board as shown in Figure 5.

**NOTE:** Up to 4 EBTRON®, GreenTrol™, or Paragon Airflow Measurement Digital Transmitters can be attached to each Adapter Board.

**NOTE:** If using multiple E-BUS Sensors or Modules, the E-BUS Hub (HZ-EBC-248 or MS000248) may be required.

**NOTE:** When configuring the GTC-116 Series, be sure to set the Parity to “NO PARITY, 1 STOP BIT.”

---

**Figure 5: EBTRON® GTC116 Series, GreenTrol™ GA-200-N Series, and Paragon MicroTrans™ Series Wiring**

---

**Technical Guide**

Revised: 10/23/13 7