

OMEGA2

and

OMEGA Lite

Universal Site Interfaces

Installation Guide





1106 Great Falls Court, Suite G
Knightdale, NC 27545
Phone 919 266-4442 • Fax 919 266-4588
www.pie-corp.com



© Copyright 2011
Progressive International Electronics

OMEGA2 and OMEGA Lite Installation Guide

CONTENTS

System Installation Warnings.	Page 1
Introduction to OMEGA.	Page 2
General OMEGA Specifications.	Page 2
Mounting and Connecting to the OMEGA.	Page 3
Connecting to the OMEGA Lite.	Page 3
Omega Lite Diagram.	Page 4
Connecting to the OMEGA2.	Page 5
Omega2 Diagrams.	Page 6
Startup and Configuration.	Page 7
Diagnostics.	Page 7
Supporting Diagrams.	Page 8
Omega2 Current Loop DBox Board.	Page 8
Omega2 RS 485 DBox Board.	Page 9
OMEGA2 Tokheim DBox Board.	Page 10
RS232 TO OMEGA.	Page 11
VeriFone RS232 Adaptor.	Page 12

OMEGA2 and OMEGA Lite Manufacturer's Warranty

Progressive International Electronics, Inc. (SELLER) warrants to the Purchaser of fuel control equipment manufactured by Seller against defects in material or workmanship for one (1) year from date of shipment. Seller will replace or repair defective parts or replace and issue credits to the Purchaser's account in accordance with the following Conditions of Warranty.

CONDITIONS OF WARRANTY

1. Credit will be applied only when the completed warranty request form and the defective parts are received and inspected.
Decisions to repair or replace defective equipment are solely at the discretion of PIE.
2. When parts shipments are made prior to receiving the required warranty request and defective parts, they will be billed to the Purchaser.
3. In all cases, approved warranty requests will be expedited by issuing the appropriate credit to the Purchaser's account and shipping replacement parts.
4. Credits will not be issued for parts and no cash refunds for warranty credits will be made.
5. All components and parts must be returned to the factory prepaid, and in turn, replacement components and parts will be returned prepaid by the factory.
6. Seller's warranty applies only if the equipment has been installed and used in accordance with Seller's instructions. The warranty is void if any unauthorized alteration or addition has been made to the equipment or if it has been subject to damage caused by abuse, misapplication, accident or improper operation.
7. The Seller's liability for any damages, including contribution and indemnification, arising out of or in any way connected with the supplying of the equipment or its use, shall not in any case exceed the cost of repair of the equipment as herein provided. Upon expiration of the warranty, all such liability, as well as any other liability, shall terminate.
8. Nothing contained herein shall make the Purchaser, its agents or employees, an agent or representative of Seller and Seller assumes no responsibility of any act, omission, representation or warranty by the Purchaser or anyone else except as expressly stated herein.
9. The final Decision as to the validity of any claims arising under the warranty shall be determined solely by the Seller.

THE FOREGOING WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE AFORESAID OBLIGATIONS AND ARE HEREBY DISCLAIMED AND EXCLUDED BY SELLER.

WARNING

Installation must comply with the National Electrical Code, as well as Federal, State, Local and all applicable codes.

Do not install OMEGA in a volatile, combustible or explosive atmosphere. OMEGA must be

protected from severe vibration, extreme temperatures and excessive humidity.

Any peripheral equipment is to be installed in a non-hazardous location.

Any peripheral equipment connected to the OMEGA must be UL listed.

The OMEGA **must** be plugged into a dedicated 115 VAC wall socket.

History of Documentation

Version 1.0 – October 2011

Initial release



System Installation

System Installation Warnings

Safety hazards are inherent with all electrical equipment. Standard precautions must be taken at all times during installation and operation of the OMEGA units. In addition to normal electrical precautions, the following points should be noted during installation.

- Installation must comply with National Electrical Code, as well as Federal, State/Provincial, Local, and all applicable codes.
- High voltages are present in the OMEGA components, as well as the equipment to which it is attaching. To prevent personal injury or equipment damage, disconnect all power before proceeding with installation.
- OMEGA must be installed in nonvolatile, noncombustible, nonexplosive areas. Typically, this is where the field wiring comes into the building. The box must be protected from severe vibration, extreme temperatures and excessive humidity.
- All OMEGA and associated equipment must be installed in nonhazardous locations and must be UL-listed, using standard communication.

For Use in USA

Installation of the OMEGA and associated equipment must comply with the requirements of the National Electrical Code (NFPA 70), the Automotive and Marine Station Code (NFPA 30A), and all Federal, State, Local, and applicable safety codes.

For Use in Canada

Installation of the all fuel control equipment must comply with the requirements of the Canadian Electrical Code, the Flammable and Combustible Liquid Code, and all Federal, Provincial, State, Local, and applicable safety codes.

The installation of the systems covered by this manual in conjunction with equipment not UL Listed has not been evaluated by the Underwriters Laboratories and is outside the intended use of this equipment. Warning: All dispensing equipment discussed in this manual is not UL Listed and the combination has not been evaluated by Underwriters Laboratories.

OMEGA2 AND OMEGA LITE USI

Introduction to OMEGA

The OMEGA is a universal site controller designed with flexibility in mind. The OMEGA2 and OMEGA Lite both have the ability to connect to POS devices/applications and to dispensers and their associated card readers. We refer to the POS connectivity as the “front end” and the part of the OMEGA that connects to the dispensers as the “pump side.”

On the front end, both OMEGA versions are designed to connect to a POS, such as a VeriFone Ruby system, and run various brands of dispensers. Both versions use the PAM 1000 protocol to control the dispensers. The pump side is capable of running up to three brands of dispensers (both domestic and foreign) at the same time.

OMEGA Lite – A direct replacement for the PAM 1000. It connects to a POS, such as VeriFone, on Port 4 and to the Gilbarco TW Universal DBox(es). It can run up to 36 fueling positions when using all three ports (Ports 1, 2 and 3).

OMEGA2 – PAM 1000 replacement, enhanced with its own built-in DBox boards. These boards control a variety of dispensers, as well as a card reader, eliminating the need for a B&B box. The OMEGA2 can also connect to price signs (up to two brands at the same time) and a tank gauge system, such as Veeder-Root, to do reconciliation.

General OMEGA Specifications

Operating Temperature	32 to 120 degrees F (0 to 49 degrees C)
Storage Temperature	32 to 120 degrees F (0 to 49 degrees C)
Humidity	50 to 90% non-condensing
Electrical Supply	115VAC, 100 watts maximum, dedicated circuit with earth bond
Size	OMEGA Lite – 14" x 10" x 4" OMEGA2 – 14" x 14" x 5.875"
Safety Certifications	MET labs US, CA CE

Note: The OMEGA power supplies may be line voltage selectable. All units are shipped from factory set for 115 VAC operation. Ensure that the selector switch on the front panel is set for 115 VAC operation.

Mounting and Connecting to the OMEGA

Refer to System Installation Warnings earlier in this manual before proceeding.

Either version of the OMEGA may be mounted on a shelf or wall. If mounting on a shelf, ensure that it is sturdy enough to support the OMEGA. If wall mounting, attach the supplied brackets and remove the rubber feet. Then, using appropriate screws and/or wall anchors, attach the OMEGA to the wall.

Connecting to the OMEGA Lite

POS Connection

Referring to the OMEGA Lite Diagram on the next page, connect to Port 4, next to the Network Connection.

- If connecting to a standard PC – Use a standard NULL-MODEM cable.
- If connecting to a VeriFone POS system – Referring to the VeriFone RS232 Adaptor Diagram, which follows, use an RJ45 to DB9 (male) adaptor to connect to the VeriFone cable.
- If connecting to other non-PC POS systems – Referring to the RS232 to OMEGA Diagram, which follows, connect using the specified connector pin-outs.

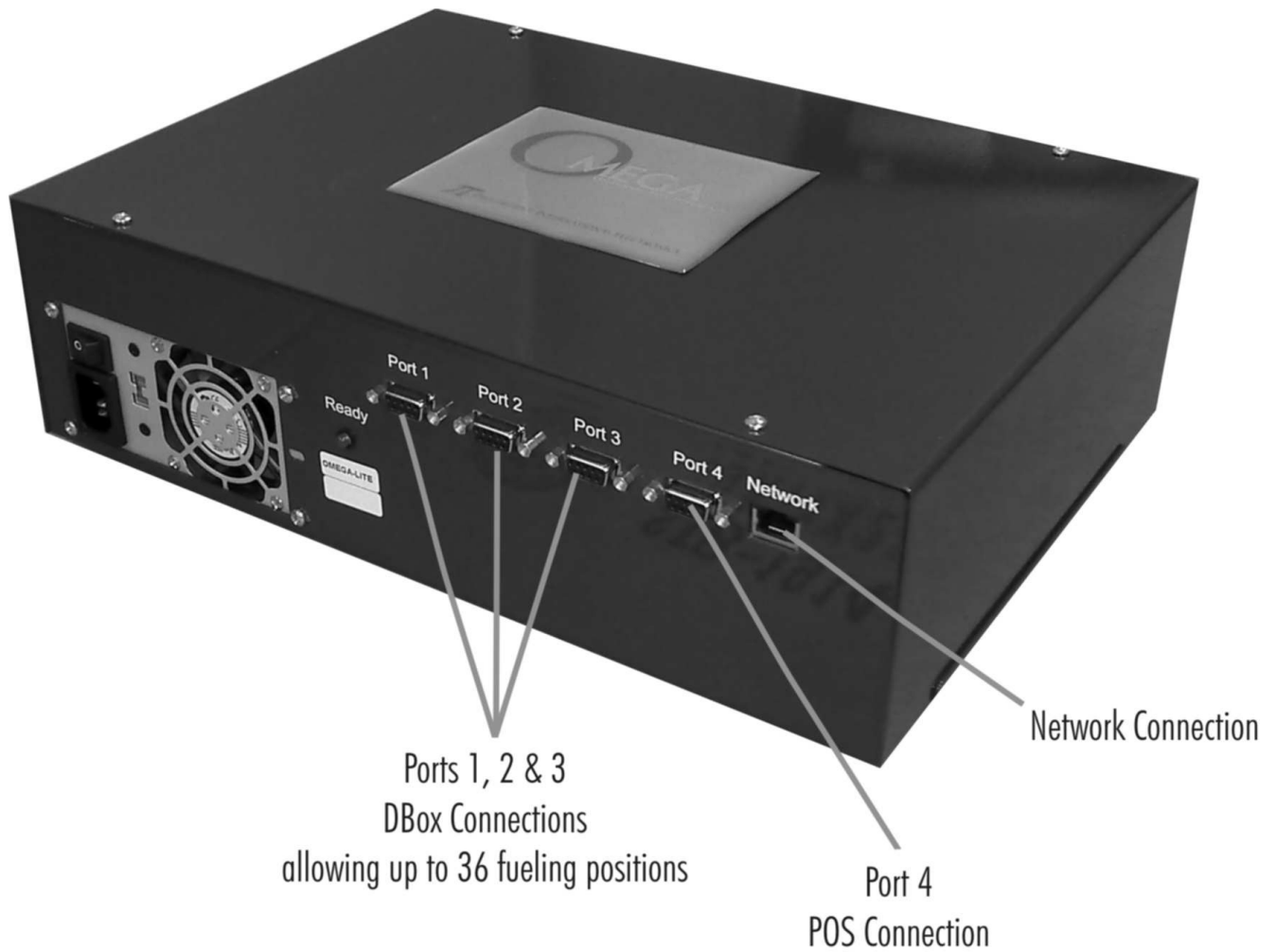
Dispenser Connection

Referring to the OMEGA Lite Diagram, which follows, identify Port 1, Port 2 and Port 3. These are all DB9 (male) connectors which connect directly to a Gilbarco Universal Data Distribution Box (TW). A standard serial cable, using all nine wires, may be used to connect the OMEGA Lite to the Gilbarco DBox. Using all three channels, the OMEGA Lite can control up to 36 dispensers.

- Port 1 controls the dispensers on Channel 1.
- Port 2 controls the dispensers on Channel 2.
- Port 3 controls the dispensers on Channel 3.

See Start-Up and Configuration in the next section of this manual for information on logging in to the OMEGA2 web site to configure the dispensers.

OMEGA Lite Diagram



OMEGA Lite Diagram

Connecting to the OMEGA2

POS Connection

Referring to the OMEGA2 Diagram – Front View, which follows, connect to the POS Port.

- If connecting to a standard PC – Use a standard NULL-MODEM cable.
- If connecting to a VeriFone POS system – Referring to the VeriFone RS232 Adaptor Diagram, which follows, use an RJ45 to DB9 (male) adaptor to connect to the VeriFone cable.
- If connecting to other non-PC POS systems – Referring to the RS232 to OMEGA Diagram, which follows, connect using the specified connector pin-outs.

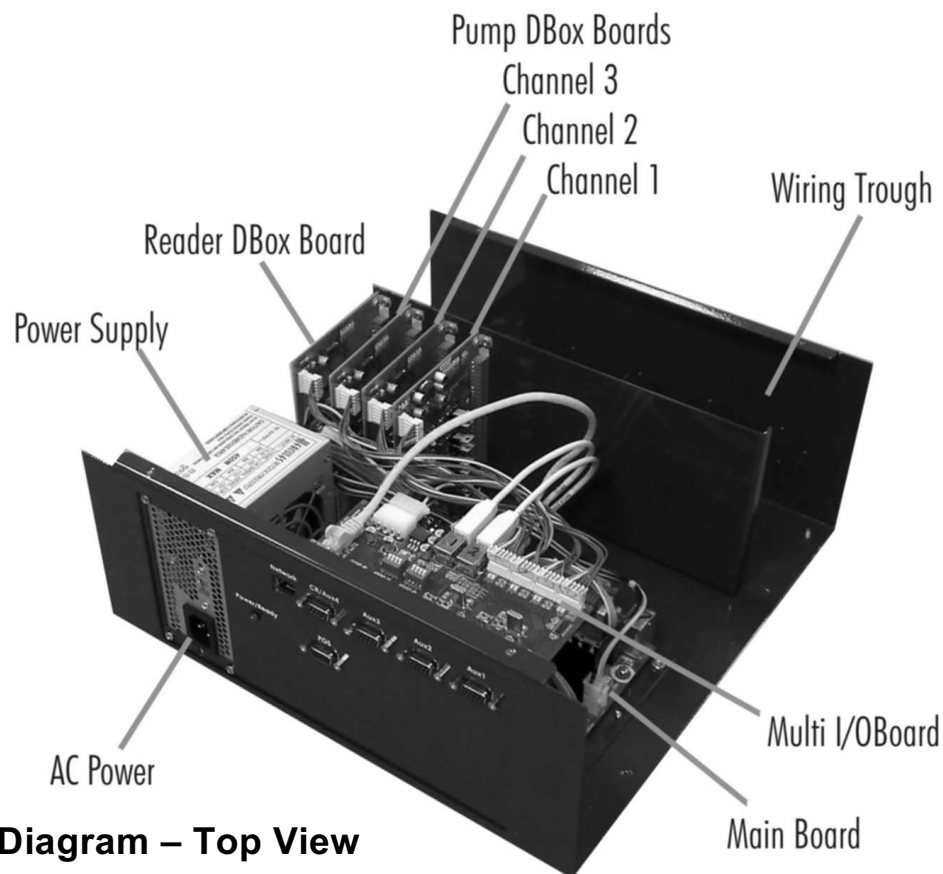
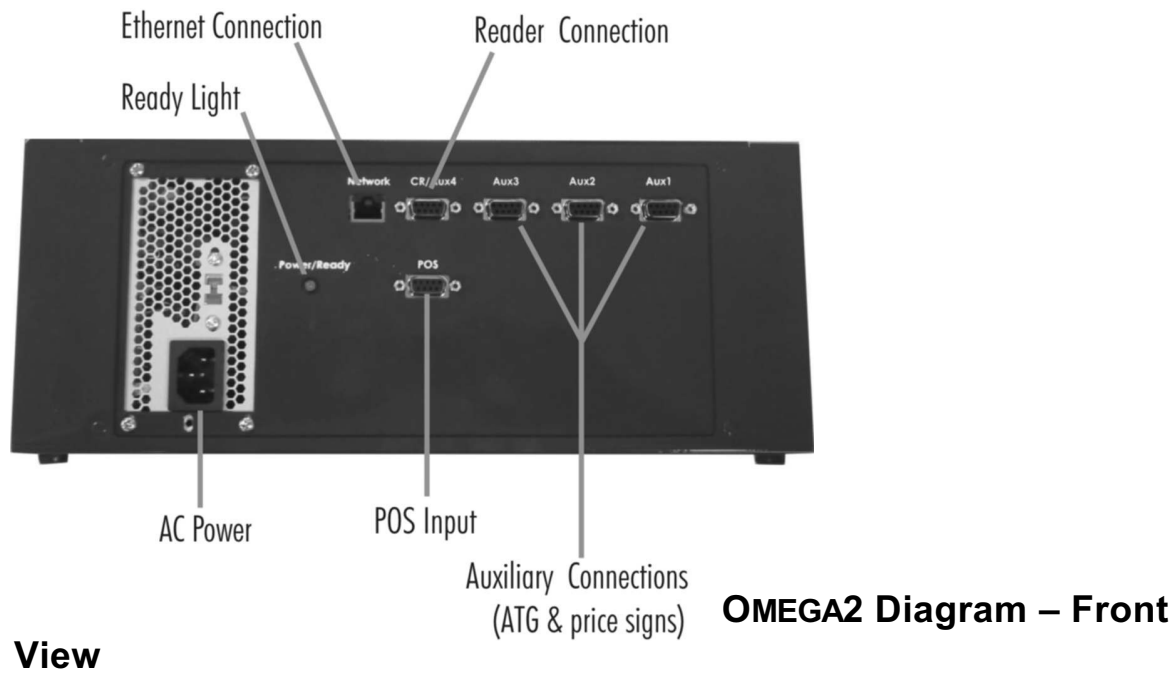
Dispenser Connection

Referring to the OMEGA2 Diagram – Top View, on the next page, locate the appropriate DBox boards inside the OMEGA2. The position closest to the center of the OMEGA2 is Channel 1, the next position is Channel 2, the next is Channel 3, and the last position is the Reader Board. When shipped, the OMEGA2 is only equipped with the DBox board(s) and/or Reader Board specified for the order. Since the OMEGA2 can accommodate mixed brands, refer to the brand-specific board and the corresponding wiring diagram for that board, which follows later in this manual. See Start-Up and Configuration in the next section of this manual for information on logging in to the OMEGA2 web site to configure the dispensers.

ATG & Price Signs

Referring to the RS232 to Omega Diagram, which follows, create a cable to these specifications. Referring to the OMEGA2 Diagram – Front View, on the next page, connect to the Auxiliary Connections Port(s). See Start-Up and Configuration in the next section of this manual for information on logging in to the OMEGA2 web site to configure the ATG and/or price signs.

OMEGA2 Diagrams



Startup and Configuration

After installing the OMEGA Lite or OMEGA2, apply power. Once the unit is initialized, the “Ready” light on the front panel should begin blinking. This can take a couple of minutes.

To configure the unit, connect to the Ethernet, using IP address 192.168.0.250 (default) and port number 10010 (e.g., <http://192.168.0.250:10010>) The login is:

User	admin
Password	pie.omega2

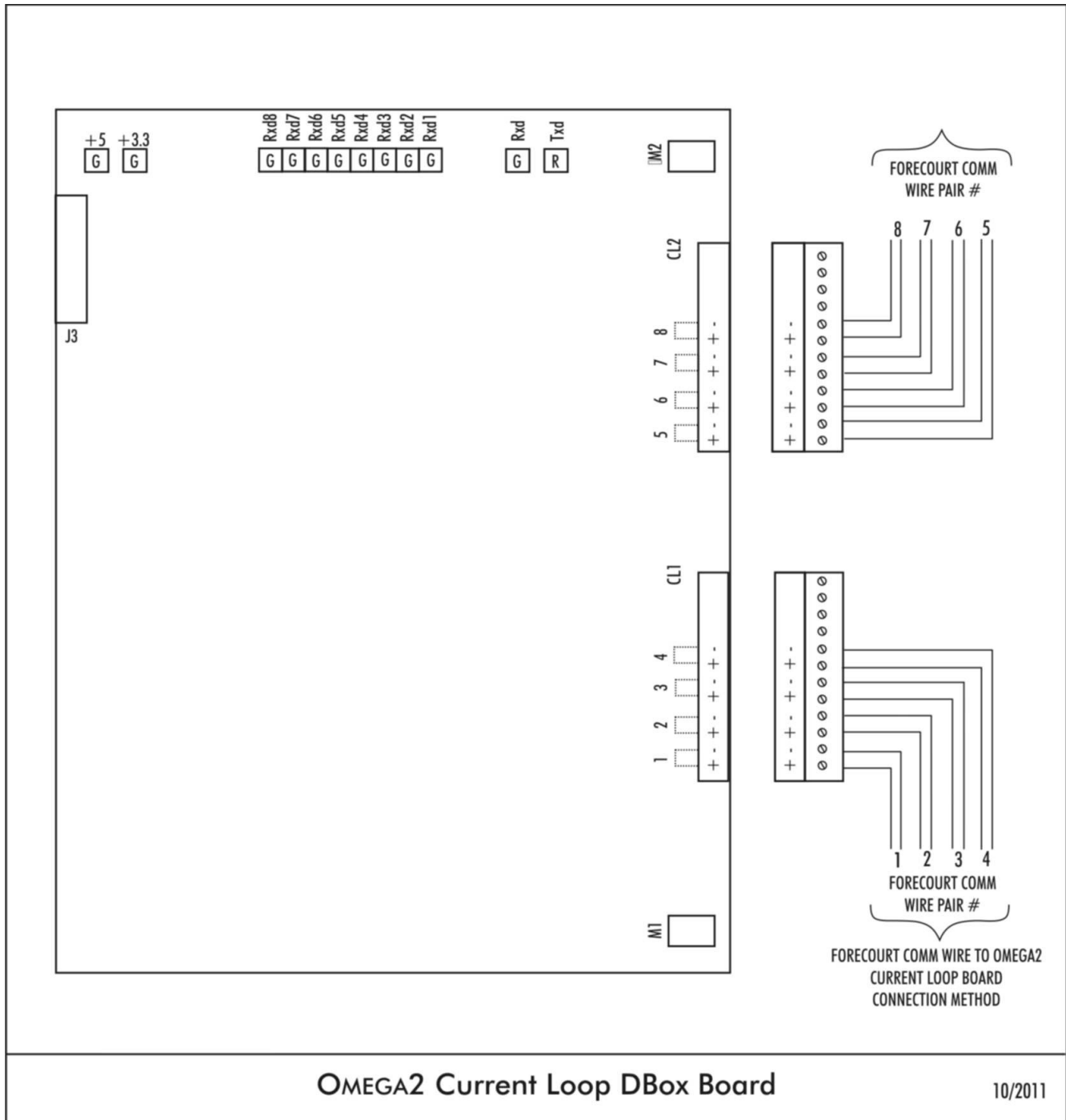
A web page will appear. Set up the OMEGA, following online instructions. The OMEGA Lite should be set for “Gilbarco” ONLY. The OMEGA2 should be set according to the options installed. Enter the correct number of fueling positions for each channel of dispensers.

Diagnostics

To access OMEGA diagnostics, use either Telnet or HyperTerminal for connectivity. Set up a TCP/IP connection, using the configured IP address (default: 192.168.0.250) and port 10004.

Supporting Diagrams

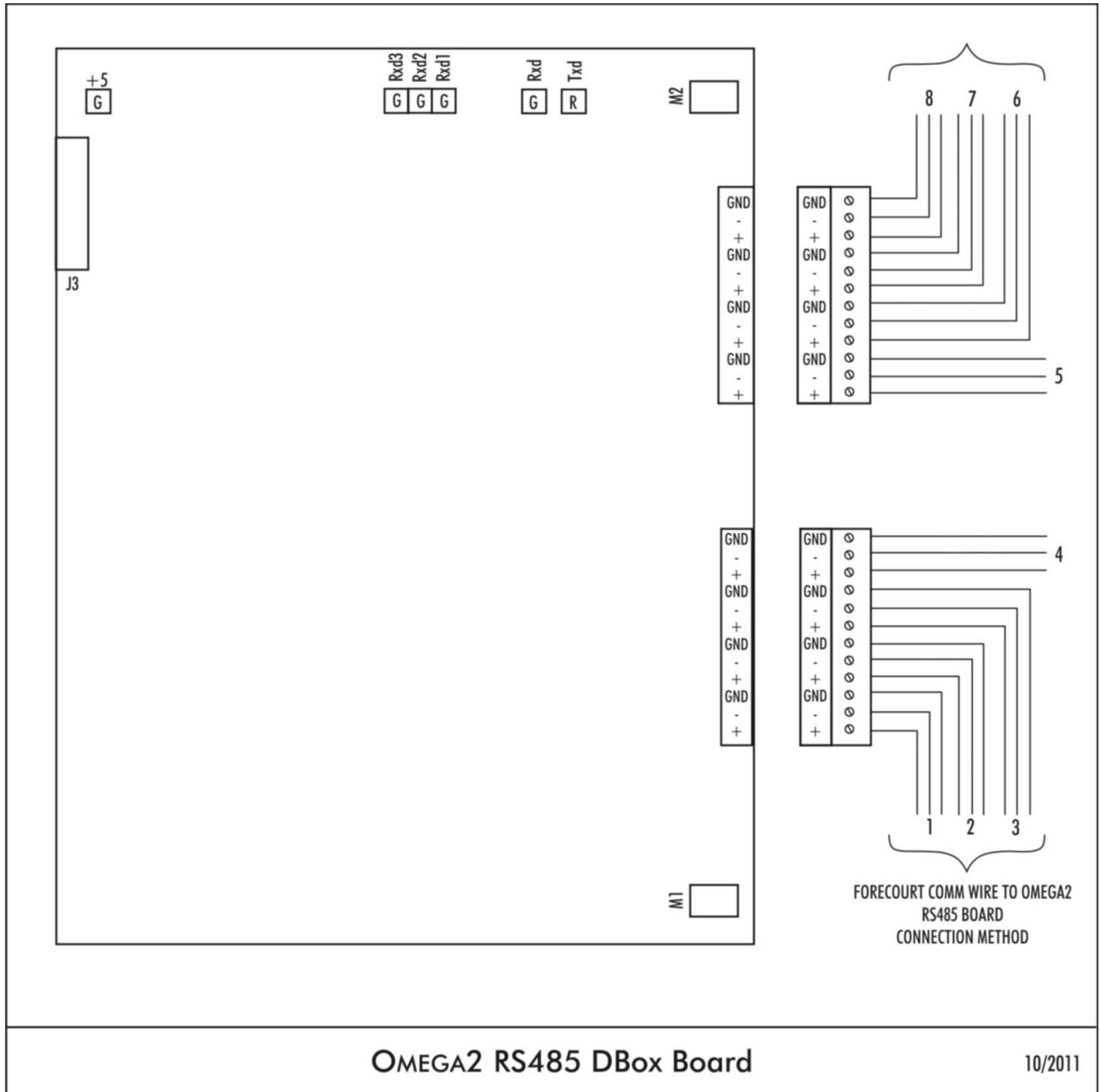
OMEGA2 Current Loop DBox Board And Forecourt Comm Wire Connection Method



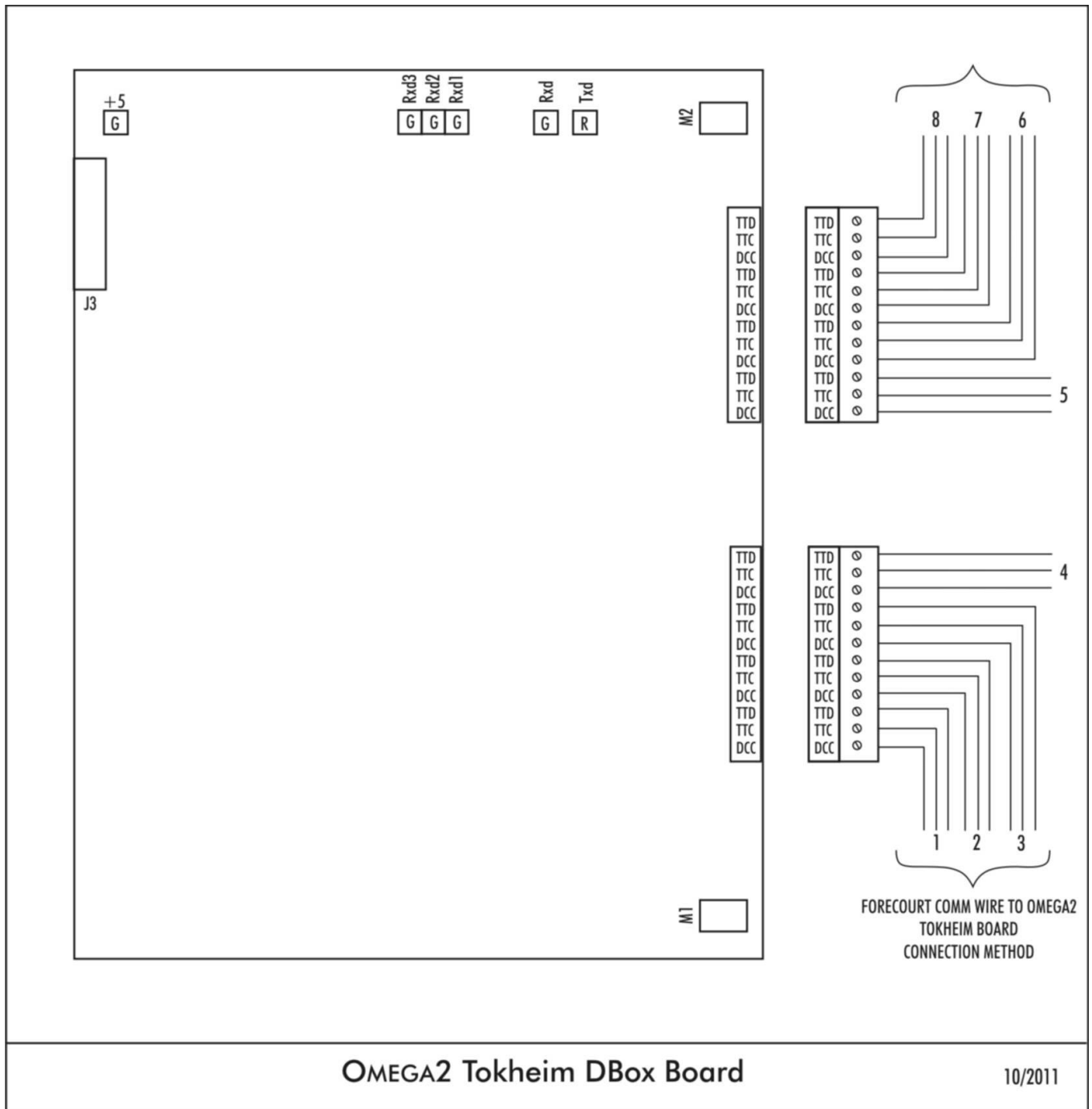
OMEGA2 Current Loop DBox Board

10/2011

OMEGA2 RS 485 DBox Board And Forecourt Comm Wire Connection Method



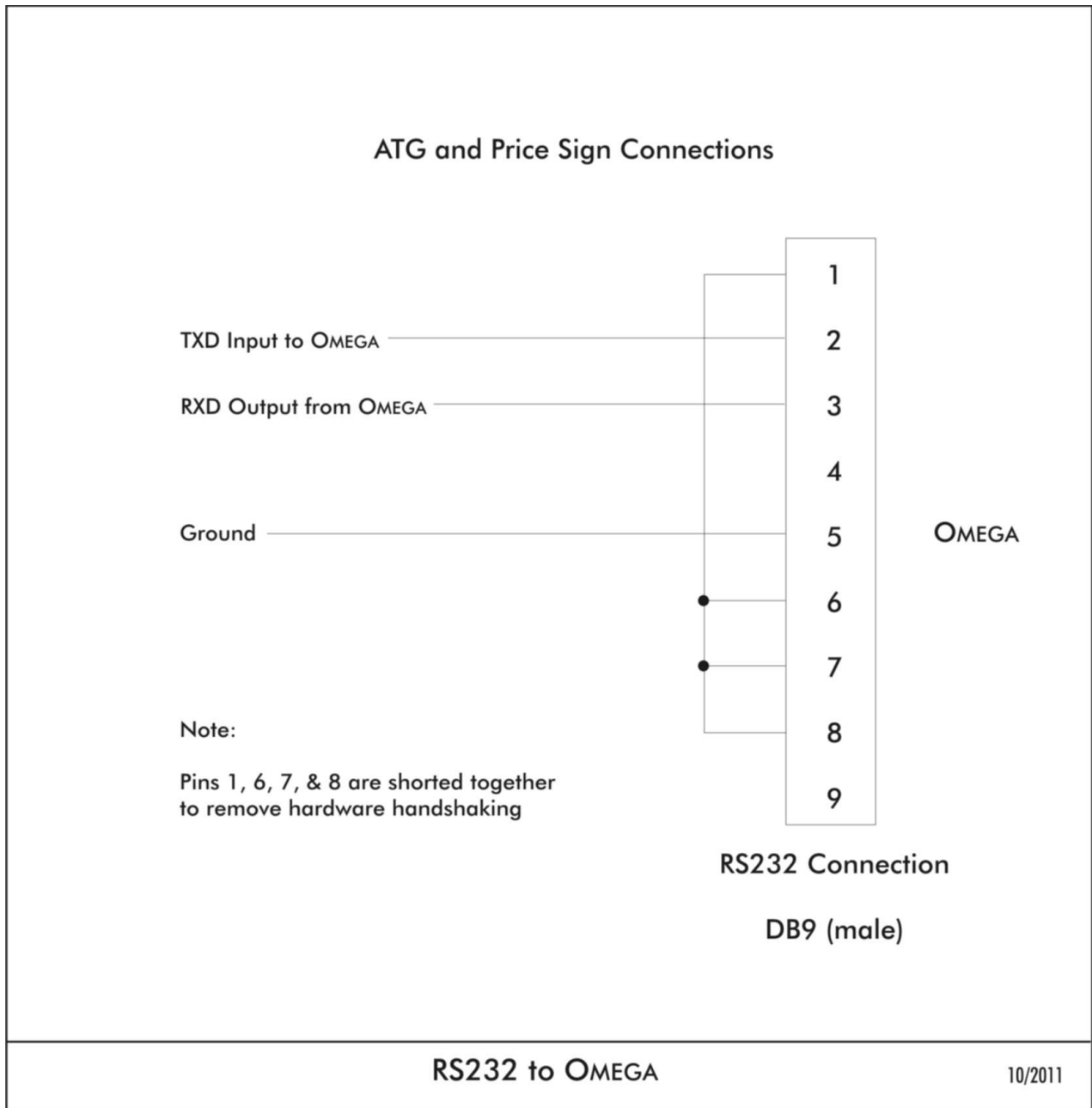
OMEGA2 Tokheim DBox Board And Forecourt Comm Wire Connection Method



OMEGA2 Tokheim DBox Board

10/2011

RS232 TO OMEGA



VeriFone RS232 Adaptor

