

Eclipse BoostPak

Flow Sensor Demand Control

Version 3

Copyright

Copyright 2010 by Eclipse, inc. All rights reserved worldwide. This publication is protected by federal regulation and shall not be copied, distributed, transmitted, transcribed or translated into any human or computer language, in any form or by any means, to any third parties, without the express written consent of Eclipse, inc.

Disclaimer Notice

In accordance with the manufacturer's policy of continual product improvement, the product presented in this brochure is subject to change without notice or obligation.

The material in this manual is believed adequate for the intended use of the product. If the product is used for purposes other than those specified herein, confirmation of validity and suitability must be obtained. Eclipse warrants that the product itself does not infringe upon any United States patents. No further warranty is expressed or implied.

Liability & Warranty

We have made every effort to make this manual as accurate and complete as possible. Should you find errors or omissions, please bring them to our attention so that we may correct them. In this way we hope to improve our product documentation for the benefit of our customers. Please send your corrections and comments to our Technical Documentation Specialist.

It must be understood that Eclipse's liability for its product, whether due to breach of warranty, negligence, strict liability, or otherwise is limited to the furnishing of replacement parts and Eclipse will not be liable for any other injury, loss, damage or expenses, whether direct or consequential, including but not limited to loss of use,

income, or damage to material arising in connection with the sale, installation, use of, inability to use, or the repair or replacement of Eclipse's products.

Any operation expressly prohibited in this manual, any adjustment, or assembly procedures not recommended or authorized in these instructions shall void the warranty.

Document Conventions

There are several special symbols in this document. You must know their meaning and importance.

The explanation of these symbols follows below. Please read it thoroughly.

How To Get Help

If you need help, contact your local Eclipse representative. You can also contact Eclipse at:

1665 Elmwood Rd.
Rockford, Illinois 61103 U.S.A.
Phone: 815-877-3031
Fax: 815-877-3336
<http://www.eclipsenet.com>

Please have the information on the product label available when contacting the factory so we may better serve you.

 ECLIPSE <small>Innovative Thermal Solutions</small>	www.eclipsenet.com
Product Name	
Item #	
S/N	
DD MMM YYYY	



This is the safety alert symbol. It is used to alert you to potential personal injunt hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

Is used to address practices not related to personal injury.

NOTE

Indicates an important part of text. Read thoroughly.

Safety

Important notices for safe operation of the BoostPak system will be found in this section. To avoid personal injury, damage to property or the facility, the following warnings must be observed. Read this entire manual before attempting to start the system. If any part of the information in this manual is not understood, contact Eclipse before continuing.

Safety Warnings



- **The BoostPak packaged gas booster systems, covered by this guide are designed to increase gas pressure to a gas utilization appliance. All fuel handling devices are capable of producing fires and explosions if improperly applied, installed, adjusted, controlled or maintained.**
- **Do not bypass any safety feature; fire or explosion could result.**
- **Never try to operate a BoostPak if it shows signs of damage or malfunction.**

NOTICE

- **This manual provides information in the use of the BoostPak for its specific design purpose. Do not deviate from any instructions or application limits described herein without written advice from Eclipse.**

Capabilities

Only qualified personnel, with good mechanical aptitude and experience with combustion equipment, should adjust, maintain or troubleshoot any mechanical or electrical part of this system.

Operator Training

The best safety precaution is an alert and trained operator. Train new operators thoroughly and have them demonstrate an adequate understanding of the equipment and its operation. A regular retraining schedule should be administered to ensure operators maintain a high degree of proficiency.

Replacement Parts

Order replacement parts from Eclipse only. Any customer supplied valves or switches should carry UL, FM, CSA, CGA and/or CE approvals where applicable.

Installation

2

Introduction

This installation guide describes additional features and requirements of this option only. This is intended to be used along with the main BoostPak Installation Guide 630-1, 630-2, 630-5, or 630-6.



WARNING

- All installation work must be carried out in compliance with current legislated standards.

Description

This control option adds a microprocessor controlled flow sensor to the BoostPak. When an appliance turns on, the gas flow is detected and the BoostPak is engaged. The flow sensor is installed in the outlet piping of the BoostPak. The flow controller is mounted and wired in the control panel enclosure and is factory set to meet the flow requirements of most applications.

Installation

This option is normally ordered with the BoostPak and installed at Eclipse. If it has been supplied as a retrofit (part number 10049626), then refer to the system drawings (10049413, 10049417) for simplex models or (10049415, 10049419) for duplex models, Data 630-FC, and do the following steps:

1. Make sure power is off and locked out.
2. Connect panel terminal 1321 (hot) to the FCS terminal #7 and panel 1323 (neutral) to the FCS #8. Connect panel 1321 to FCS #3 and panel 2161 to FCS #2.
3. Install the flow sensor into the outlet pipe as shown in Figure 2.1.

Checklist After Installation

After completing all checks in the main Installation Guide, perform the following additional steps:

Ensure the system is properly installed:

- Check the wiring for damage and ensure it is properly attached to the sensor.
- Verify the sensor has proper orientation in the pipeline as shown in Figure 2.1.

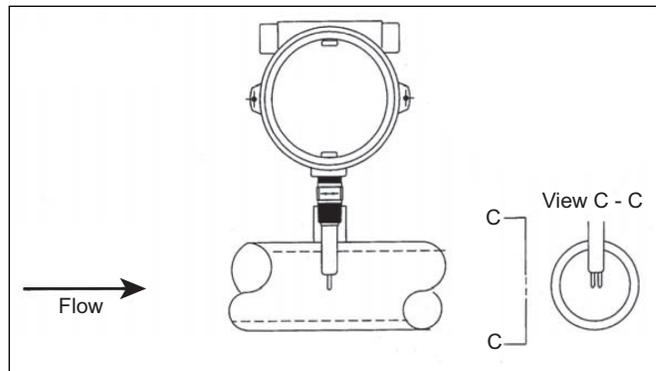


Figure 2.1 Flow Application

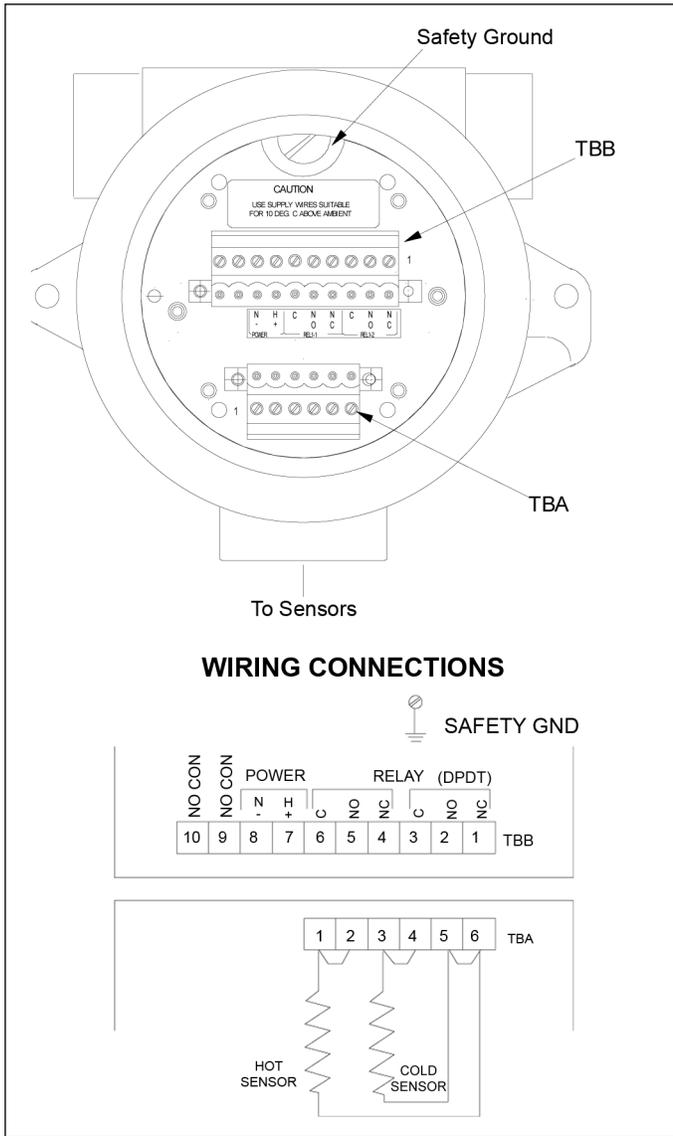


Figure 2.2 Commissioning

Commissioning

Refer to the main BoostPak Installation Guide and write the controller setting on the commissioning record sheet included there.

1. Connections to sensor Terminal Block A (TBA) are factory installed and should not be disconnected in the field. Note jumpers 1-2, 3-4, and 5-6 must be in place on TBA for proper operation of local electronics.
2. 110-VAC connect hot to TBB7 and neutral to TBB8 (TBB is Terminal Block B).
3. Connect ground wire to ground screw located in or on the instrument enclosure.
4. Use supply wires suitable for 10°C above ambient.

NOTICE

- **A ground wire must be attached to the ground screw located inside or outside of the instrument enclosure for proper operation.**



Appendix

Conversion Factors

Metric to English

From	To	Multiply By
actual cubic meter/h (am ³ /h)	actual cubic foot/h (acfh)	35.31
normal cubic meter/h (Nm ³ /h)	standard cubic foot /h (scfh)	38.04
degrees Celsius (°C)	degrees Fahrenheit (°F)	(°C x 9/5) + 32
kilogram (kg)	pound (lb)	2.205
kilowatt (kW)	Btu/h	3415
meter (m)	foot (ft)	3.281
millibar (mbar)	inches water column ("w.c.)	0.402
millibar (mbar)	pounds/sq in (psi)	14.5 x 10 ⁻³
millimeter (mm)	inch (in)	3.94 x 10 ⁻²
MJ/Nm ³	Btu/ft ³ (standard)	26.86

Metric to Metric

From	To	Multiply By
kiloPascals (kPa)	millibar (mbar)	10
meter (m)	millimeter (mm)	1000
millibar (mbar)	kiloPascals (kPa)	0.1
millimeter (mm)	meter (m)	0.001

English to Metric

From	To	Multiply By
actual cubic foot/h (acfh)	actual cubic meter/h (am ³ /h)	2.832 x 10 ⁻²
standard cubic foot /h (scfh)	normal cubic meter/h (Nm ³ /h)	2.629 x 10 ⁻²
degrees Fahrenheit (°F)	degrees Celsius (°C)	(°F - 32) x 5/9
pound (lb)	kilogram (kg)	0.454
Btu/h	kilowatt (kW)	0.293 x 10 ⁻³
foot (ft)	meter (m)	0.3048
inches water column ("w.c.)	millibar (mbar)	2.489
pounds/sq in (psi)	millibar (mbar)	68.95
inch (in)	millimeter (mm)	25.4
Btu/ft ³ (standard)	MJ/Nm ³	37.2 x 10 ⁻³



Notes

