



NY Thermal Inc.
Tel: (506) 657-6000
Toll Free: 1-800-688-2575
Fax: 1-506-432-1135
Web: www.ntiboilers.com
Email: info@ntiboilers.com

85233-1 210IF Interface Instructions

I/O Interface for NTI Trinity Tx/Vmax boilers

CAUTION

The 210IF is used for interfacing applicable NTI Boilers to an appropriate external control or Building Management Systems. Failure to follow these instructions may result in equipment damage, property damage or personal injury.

Applicable NTI Boiler Models:

- Trinity Tx51-200, Tx151C, Tx200C, Vmax VM110, VM110P, VM153, VM153P

85233-1 210IF Interface Kit Includes:

- 210IF Interface
- 210IF Interface Instructions
- Connectorized cables for making electrical connections

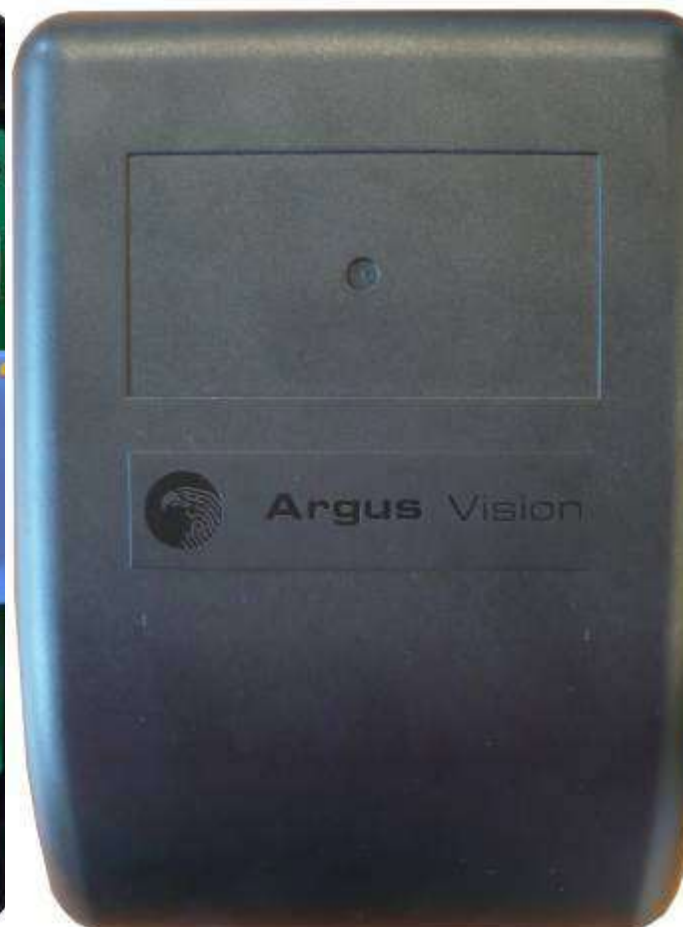




TABLE OF CONTENTS

1 INTRODUCTION 3

1.1 210IF Interface..... 3

1.2 Specifications..... 3

2 INSTALLATION 4

2.1 Location and mounting..... 4

 2.1.1..... 4

2.2 Wiring 4

 2.2.1 *Connections*..... 4

 2.2.2 *Cables*..... 4

 2.2.3 *Wiring Diagram*..... 4

3 0-10VDC INPUT..... 5

3.1 Central Heating with Analog Input Control of Setpoint (CH Mode = 4)..... 5

3.2 Central Heating with Analog Input Control of Modulation Rate (CH Mode = 5) 5

LIST OF FIGURES

Figure 1 4

Figure 2 5

Figure 3 6



1 INTRODUCTION

1.1 210IF Interface

The 210IF interface is an external, high performance input/output (I/O) expansion module that is designed to augment the capabilities of the Trinity Tx/Vmax controller. Its primary application is to provide communication to a building automation system or other external control. It accomplishes this by supporting 0-10VDC remote control input. It connects to the Trinity Tx/Vmax controller by ArgusLink, a proprietary 2-wire serial communication protocol.

1.2 Specifications

Power Supply	120VAC	(-15%, +10%) 60Hz (± 2%)
Ambient Temperature	Operating	-15°C to +70°C / 5°F to 158°F (Peak temperatures, not continuous)
	Storage	-25 to +75°C / -13°F to 167°F
Humidity		93% RV at 25°C / 77°F
Lifetime		Expectancy is 15 years if the average operating Temperature on an annual basis does not exceed 55°C (131°F)
Fuses		1 x 3.15AT, 250V The control is equipped with one fuse in the line (L1). The fuse-holder is appropriate for glass fuses of 5x20 mm. Fuse value may be lowered.
Protection	According to EN60529.	IP00
Dimensions	l x w x h	PCB: 100x105x10mm (3,93"x4,13"x0,39")
		Housing: 155x110x51mm (6,10"x4,33"x2,00")
Weight		439 gram / 15,49 oz
Connections		See connection diagram
Housing	Color	Black
	Material	ABS: Polylac PA-765A
	Flammability	UL 94-5VA
Position/Mounting		No preference

Table 1

2 INSTALLATION

2.1 Location and mounting

2.1.1

The 210IF must be installed in a dry non-hazardous location where temperature and humidity are within the specifications listed above. Choose a location in close proximity to a 120VAC outlet. The 210IF may be surface mounted in any orientation.

2.2 Wiring

2.2.1 Connections

Follow local electrical codes. Make electrical connections in accordance with the diagram included in these instructions. See Figure 1.

2.2.2 Cables

Limit cable lengths to 10 ft. [3 m]. If factory cables must be extended, use 18AWG copper wire.

2.2.3 Wiring Diagram

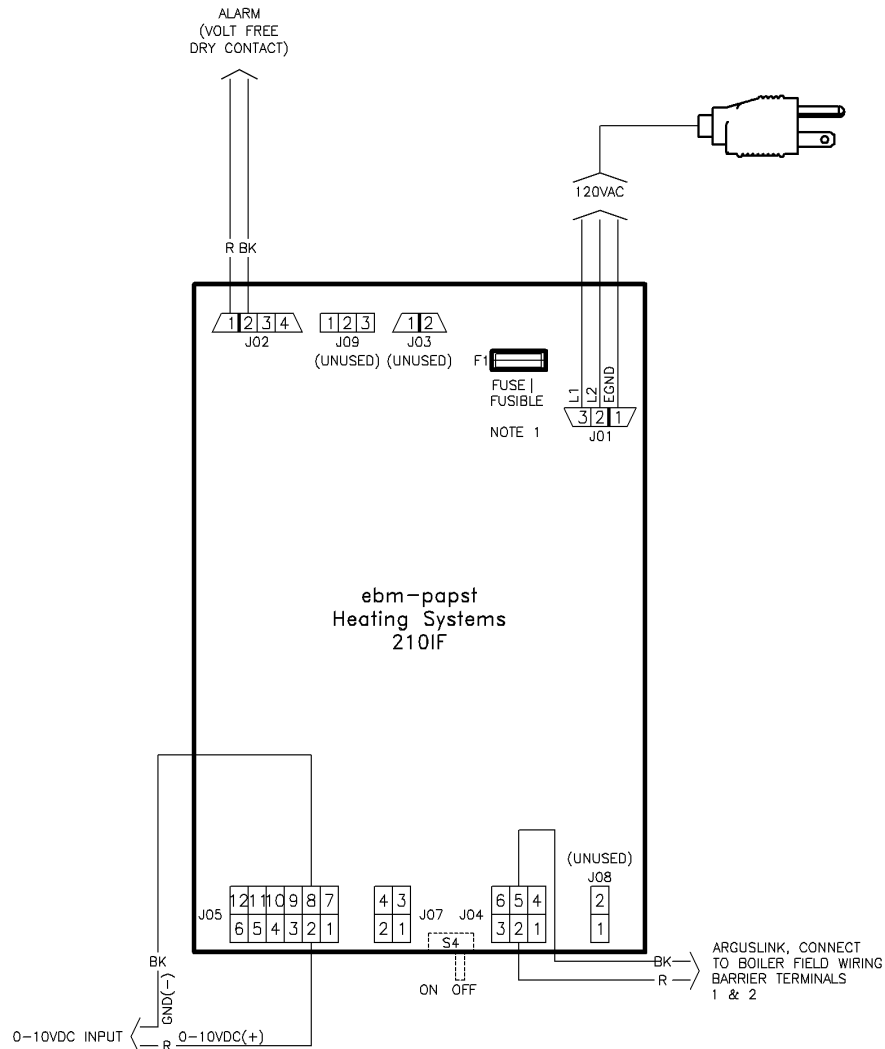


Figure 1

3 0-10VDC INPUT

3.1 Central Heating with Analog Input Control of Setpoint (CH Mode = 4)

- Access central heating mode on display, menu setting 2-03, and set CH mode to 4 (refer to the Trinity Tx/Vmax IOM instructions)
- The analog input signal, 0-10VDC, is used to adjust the boiler setpoint between 70F [21C] and 190F [88C]. An analog input signal of 2VDC corresponds to 70F [21C]; an input signal of 10VDC corresponds to 190F [88C]. **These are fixed settings, not user adjustable.**
- All other safety and control functions associated with the boiler continue to operate normally and will react to adverse conditions to override control of the analog signal to prevent an upset situation.
- A heat demand will be generated by an input of 1.5VDC or greater. The setpoint calculation occurs between 2VDC and 10VDC. The heat demand is removed when the analog signal drops below 1VDC. See Figure 2.

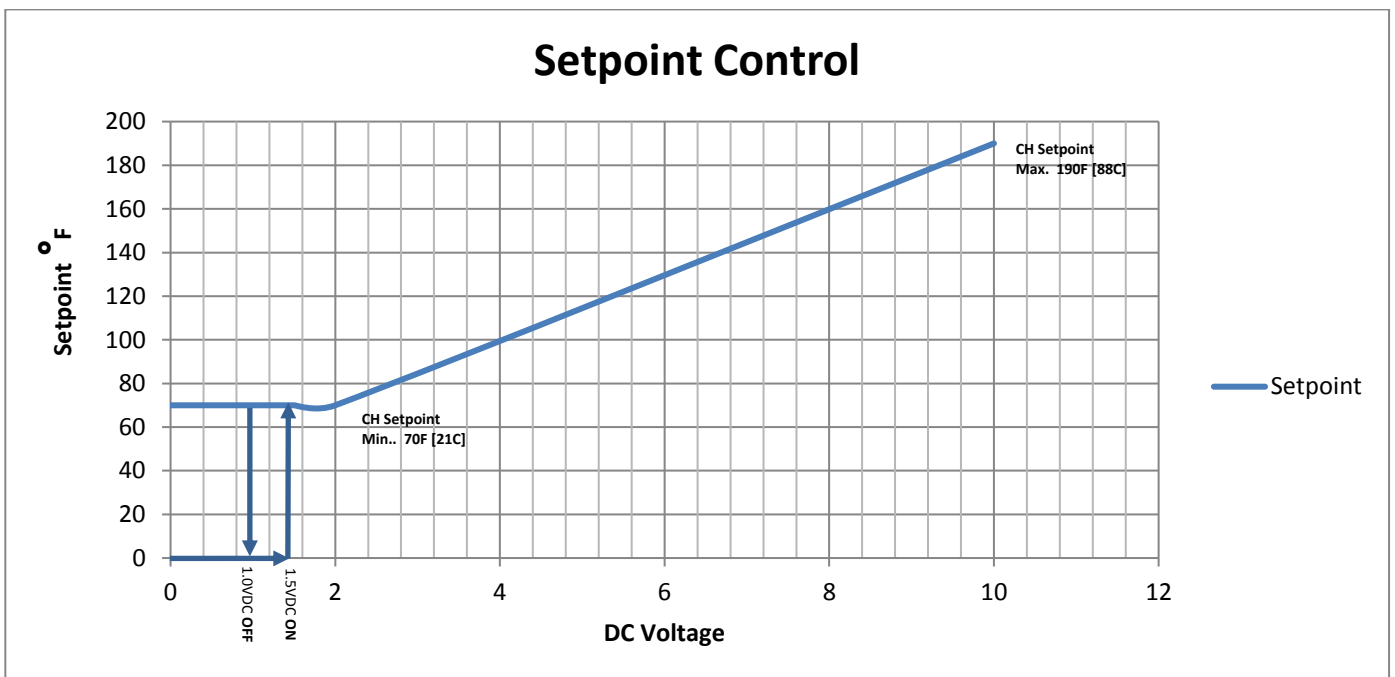


Figure 2

3.2 Central Heating with Analog Input Control of Modulation Rate (CH Mode = 5)

- Access central heating mode on display, menu setting 2-03, and set CH mode to 5 (refer to Trinity Tx/Vmax IOM instructions).
- An input of 2VDC corresponds to minimum firing rate or power; 10VDC corresponds to maximum firing rate or power.
- In similar fashion to mode 4 explained above, the boilers' safety and control functions operate normally to prevent upset situations.
- A heat demand is triggered when the input signal is 1.5VDC and above. Heat demand ends when the signal is below 1VDC. See Figure 3.

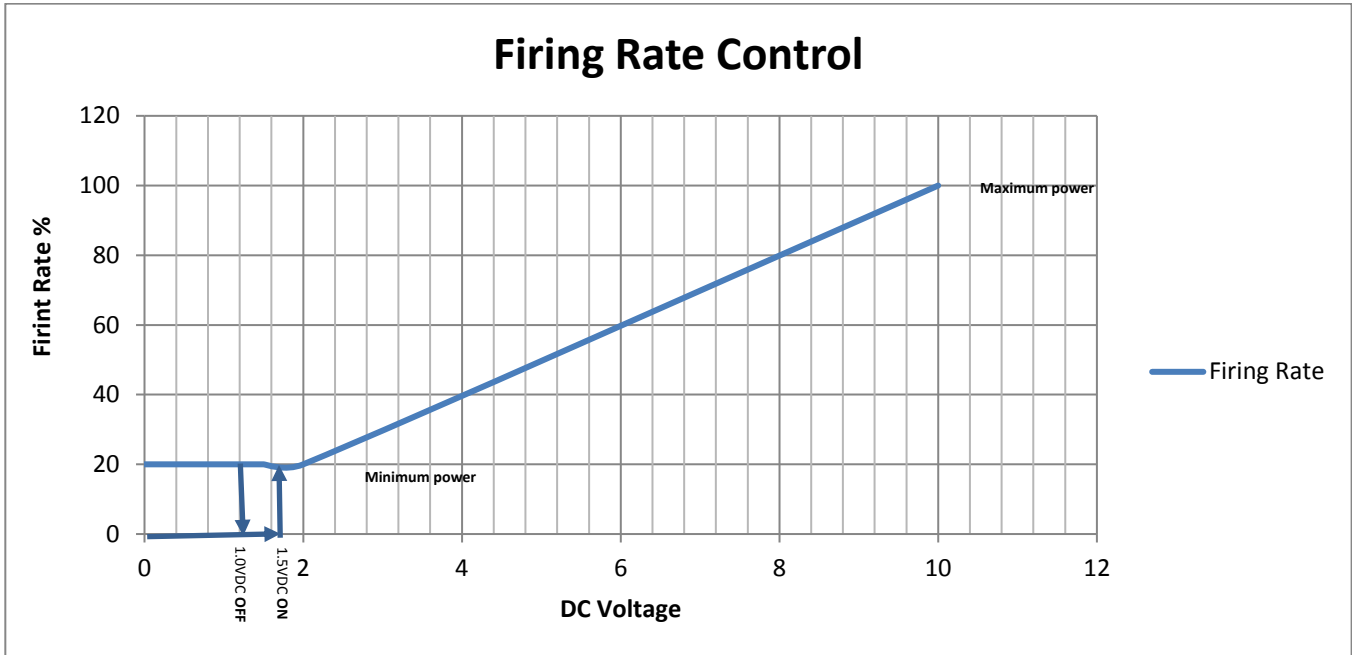


Figure 3