PF3100

UI CARD

TABLE OF CONTENTS

PF3100 UI CARD INSTALLATION GUIDE

INTRODUCTION

1.1 | Functional Description

The PF3100 User Interface card is the primary access point for commissioning and programming the PF3100 system. The UI card is always installed inside the UIX enclosure.

1.2 | System Requirements

The UI card is designed to be used as part of a modular system. It is designed for Burner Management Control systems and other related Industrial Control applications. Currently, a maximum of four User Interface Class cards can operate on a given PFRN Controller Network. This allows appliances to be monitored and controlled from up to four different locations on a site. For additional information, refer to the Hardware Guide corresponding to the Controller type card (e.g., BMS Controller card) specific to your application.

CONTROLLER NETWORK   IO NETWORK

| INTERFACE CLASS | ⟷ | NETWORK CLASS | ⟷ | CONTROLLER CLASS | ⟷ | NETWORK CLASS | ⟷ | IO CLASS |
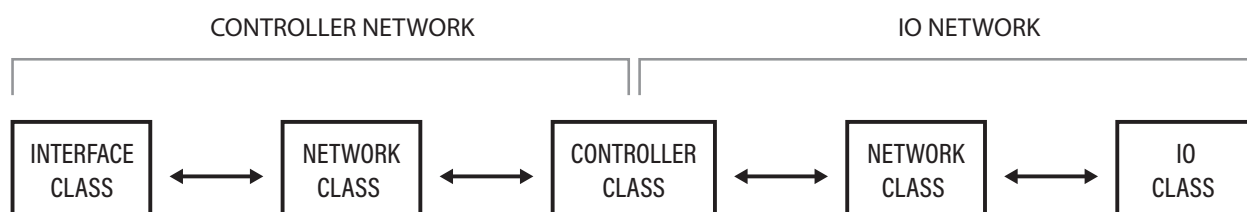
HARDWARE

2.1 | Card Specifications

TYPE	SPECIFICATIONS
Model Number	PF3100-00
PFRN Class	Interface
PFRN Power	Power Consumer
PFRN Ports	1 PFRN Port
Voltage Input	36 VDC through PFRN
Current Draw	1 A Maximum
Display	5.7" TFT-LCD VGA Color
Battery- UI Clock	CR2032, Lithium Coin Cell, 3V, 225mAh
Battery Part Number	Panasonic CR2032
Inputs	None
Outputs	None

2.2 | Card Diagram

PF3100-00 User Interface Motherboard v1.3

PROFIRE

Wiring Standard T568B
Pin 1: Orange & White
Pin 2: Orange
Pin 3: Green & White
Pin 4: Blue
Pin 5: Blue & White
Pin 6: Green
Pin 7: Brown & White
Pin 8: Brown

CR2032

LINK

PWR

Data Logging
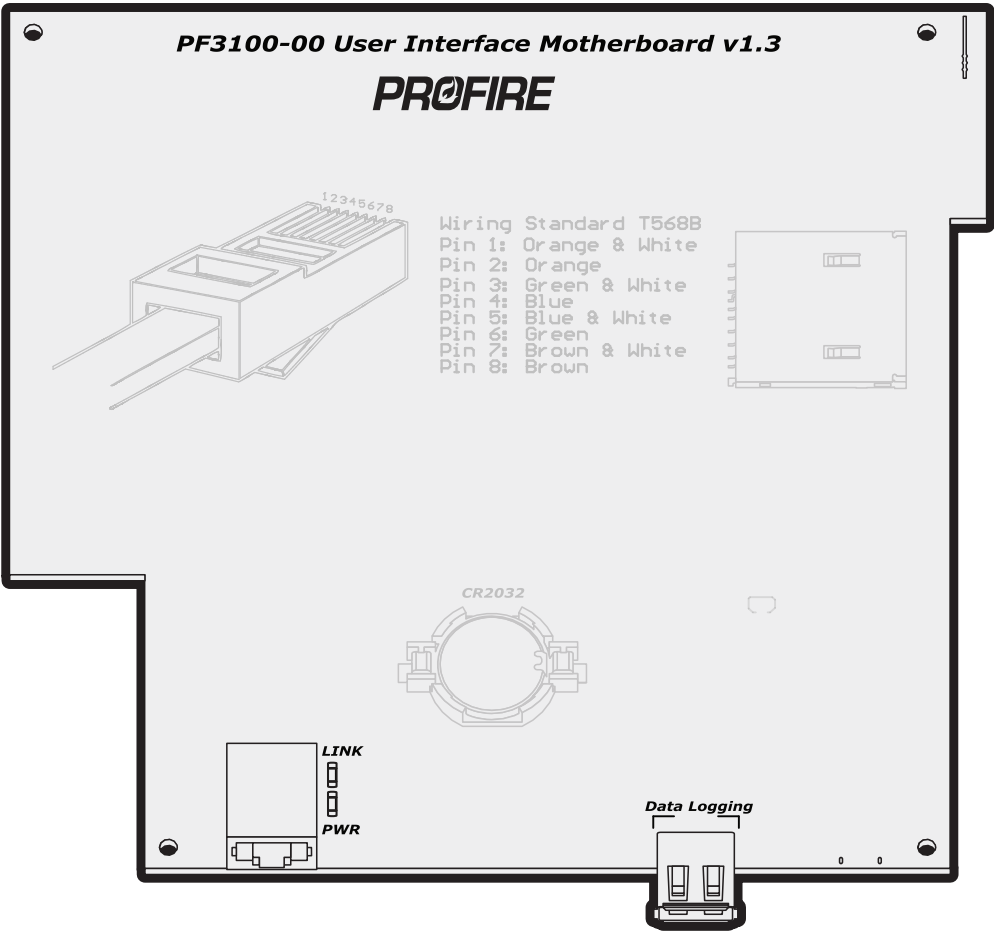
2.3 | Enclosure Specifications

The UI card is always mounted in the UIX enclosure.

SPECIFICATIONS	UIX ENCLOSURE
Dimensions	Height 30.9 cm (12.15 in)
	Width 23.4 cm (9.23 in)
	Depth 13.4 cm (5.28 in)
Hazloc Rating	Class I Div 2
Mounting	Channel Bar or Direct Mount
Enclosure Construction	Poly Painted Steel
Operating Temperature	-40°C to 60°C
Storage Temperature	-40°C to 60°C

2.4 | Enclosure Diagram

The UI card is always mounted in the UIX enclosure.
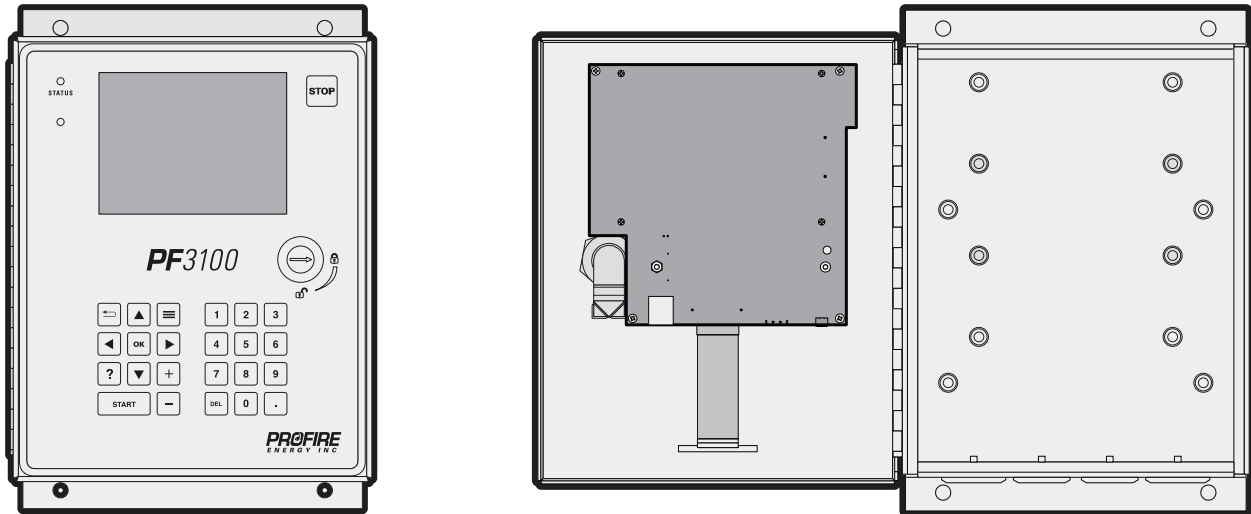
CONTROLS AND DIAGNOSTICS

The following is a list of all of the user interface items on the UI card.

3.1 | Ports

PFRN Controller Network Port

This is the port through which the card is powered. See the Card Diagram for the port location.

USB Port

This port allows the user to plug in a USB flash drive. It is commonly used for uploading new firmware to the system, saving/loading system settings, and logging event activity.

SD Card Port

In the event that the operating system needs an update, this port may be used. Refer to instructions that come with the update for more information. For most software bundle updates, the USB port must be used instead.

3.2 | LEDs and Buttons

POWER LED

A Power LED is located next to the PFRN port indicating whether the port is receiving power from the network.

INDICATION	COLOR	STATE
Off	-	Port is not powered
On	Blue	Port is powered

LINK LED

A link LED is located next to the PFRN port indicating traffic on the PFRN port.

INDICATION	COLOR	STATE
Off	-	PFRN network is not available
On	Green	PFRN network is ready for communication
Blinking	Green	Indicates that network traffic is going through the link

RESET BUTTON

Press this button to force the user interface to reboot without disconnecting power.

CLOCK BATTERY

The clock battery ensures that the date and time settings are not lost in the event of a power outage.

3.3 | UIX User Interface

STATUS LED

Off: Not powered
Green: All appliances are running
Red: All appliances are stopped
Amber: Some appliances are running and some are stopped

LCD SCREEN

Displays controls, status, settings, and other information.

STOP KEY

Brings up a menu that allows for stopping one or more appliances.

BACK KEY

Used to go back one screen or cancel out of dialog boxes.

ARROW KEYS

Used to navigate through user interface elements.

TRIPLE BAR KEY

Opens a context sensitive menu.

OK KEY

Used to enter a menu, acknowledge a prompt, or save an edited setting.

? (HELP) KEY

Allows access to system help. One button press brings up tooltips for items on the current screen. Two button presses opens the integrated user manual for the selected item.

+/- KEYS

Used to adjust settings up or down.

START KEY

Brings up a menu that allows for starting one or more appliances.
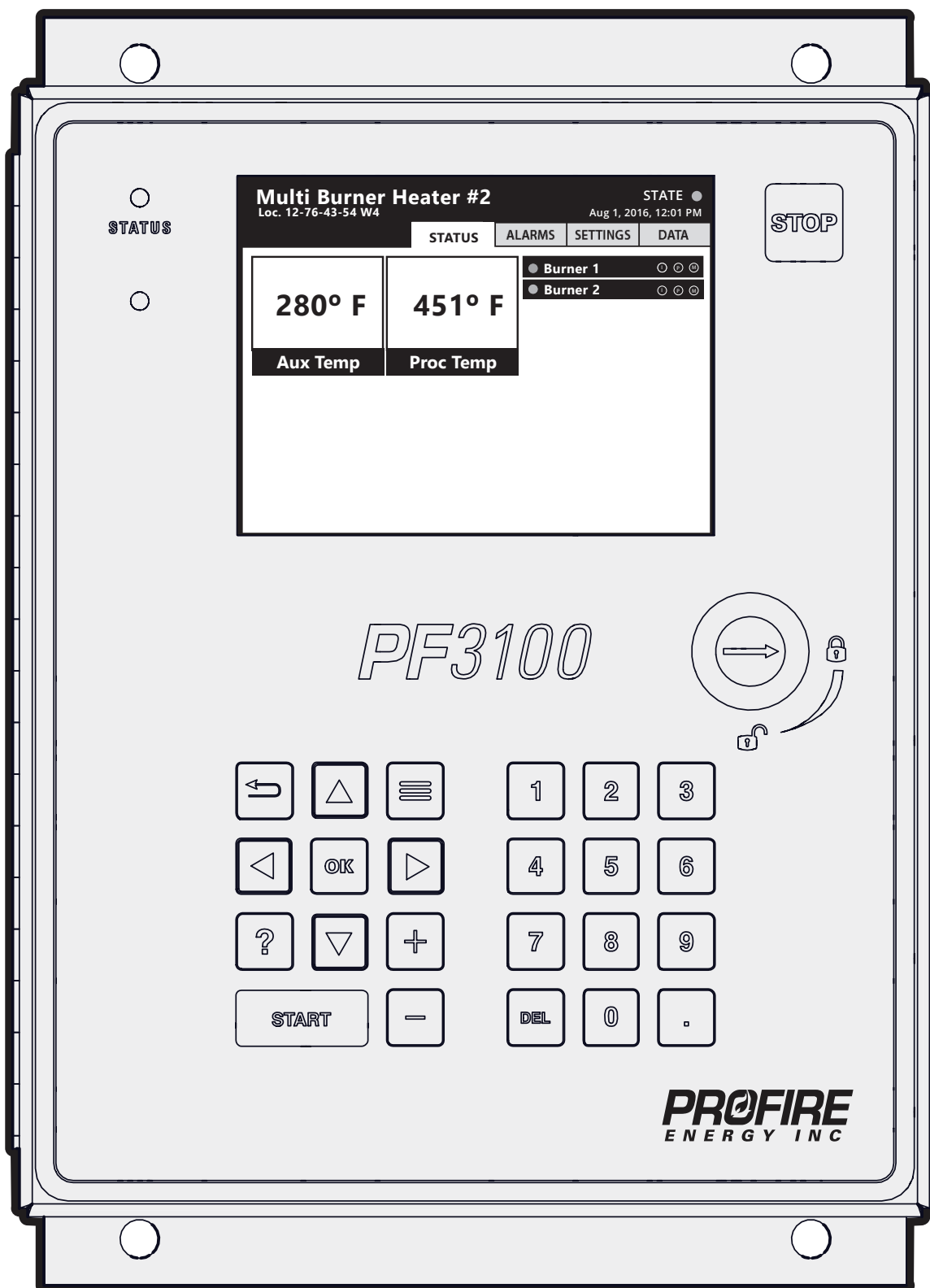
NUMBER PAD

Used to key in changes in settings.

DELETE KEY

Used to delete the last character entered.

ENCLOSURE DOOR LOCK

Mechanism for securing the door. A flat-head screwdriver is needed to open and close the enclosure.

3.4 | Important Safety Information

Before installing the PF3100, please review the following list of warnings.

Failure to observe the following may result in death, electrocution, property damage, product damage, and/or government fines.

WARNING: EXPLOSION HAZARD

Do not disconnect while circuit is live unless area is known to be non-hazardous or equivalent.

Substitution of components may impair suitability for specified zones.

Do not service unless area is known to be non-hazardous.

Do not open when energized.

Installation & use must conform to the directions in this guide.

System must be properly connected to earth-ground for effective operation of flame detection circuitry.

INSTALLATION WARNINGS

Make sure that the PF3100 enclosures are securely closed each time after opening the enclosure. This protects the internal circuitry from moisture damage and other environmental concerns. Moisture damage is not covered by the product warranty.

APPENDIX A: NETWORK TERMINOLOGY

The following terms are used to explain the network operations:

Interface Class Card - Any PF3100 card that provides a control or monitoring interface to a user or remote PLC. Examples include the User Interface card and the Modbus card.

Controller Class Card - Any PF3100 card that provides safety control for a specific application. Examples include the BMS Controller card and Combustor Controller card.

Network Class Card - Any PF3100 card that provides multiple network ports so that additional cards may be connected together on the PFRN network. Examples include the Network Switch card, Modbus card, and the BMS Controller card.

IO Class Card - Any PF3100 card that provides input and output terminals for control and monitoring. Examples include the Ion Pilot card and the Thermocouple card.

PFRN - Profire Reliability Network. A proprietary safety network developed by Profire which can also be used to distribute power. The PFRN has two sub-networks: the Controller Network and the IO Network.

Controller Network - A sub-network of PFRN Interface class and Controller class cards talk to each other on this network. There is usually only one of these networks in an installation.

IO Network - A sub-network of PFRN IO class card talk to a single Controller class card. There is one of these networks for each Controller class card in the system.

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