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› Meatender Upgraded PID Control Board Instruction Manual

Meatender P7-PRO

Meatender Upgraded PID Control Board Instruction Manual

Model: P7-PRO

Brand: Meatender

INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your new Meatender Upgraded PID Trapezoidal Multifunctional Control Board. This replacement control board is designed to enhance the temperature control and overall performance of compatible Pit Boss wood pellet grills. Please read this manual thoroughly before installation and use to ensure proper function and safety.

PACKAGE CONTENTS

- 1 x Meatender Upgraded PID Control Board
- 1 x User Manual (this document)

COMPATIBLE MODELS

This control board (Replacement Part Number: CAT-02-PG-AMP) is compatible with the following Pit Boss Wood Pellet Grill models:

- Pit Boss Tailgater PB340TGW1
- Pit Boss Lexington (PB500LXW1)
- Pit Boss Classic PB700FBW2
- Pit Boss Austin XL PB1000XLW1
- Pit Boss MATTE BLACK PB440FB1

NOTE: This control board is NOT compatible with ONYX EDITION grills due to its trapezoidal shape.

COMPATIBLE MODELS

TAILGATER (PB340TGW1)

LEXINGTON 500 (PB500LXW1)

CLASSIC (PB700FBW2)

AUSTIN XL (PB1000XLW1)

MATTE BLACK (PB440FB1)



Figure 1: Compatible Pit Boss Grill Models

KEY FEATURES

- **Advanced Temperature Control:** Features 4 built-in OEM and 2 PID temperature controlling programs. The PID program allows for precise temperature adjustments in 1-degree increments.
- **Real-Time Circuit Monitoring:** Automatically detects issues in connected parts such as poor contact, short/open circuits, or abnormal power levels, and alerts the user when faults occur.
- **Integrated Timer:** A timer function is included to track cooking duration, aiding in precise meal preparation.
- **Meat Probe Settings:** Supports meat probes with an alert system that notifies you when the target internal temperature is reached.
- **Pellet-Saving Efficiency:** The PID algorithm optimizes fuel consumption by modulating the fan and auger motor, ensuring stable temperatures while maximizing pellet efficiency.

PRATICAL FEATURES



2 PID and 4 OEM temperature controlling programs for different size of grills.



Real-Time Circuit Monitoring: Automatically monitor the fault of the connected parts.



Timer to time counting or time counting down.



Meat probes target temperature setting.



Set the temperature in 1-degree increments in 2 PID controlling program.

MONITORING THE LOAD OF CONNECTED UNITS AT ALL TIMES

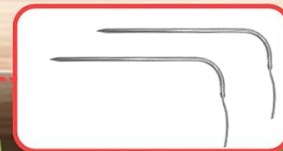


Figure 2: Practical Features Overview

THE PID CONTROLLER CAN EFFECTIVELY MINIMIZE THE TEMPERATURE FLUCTUATIONS

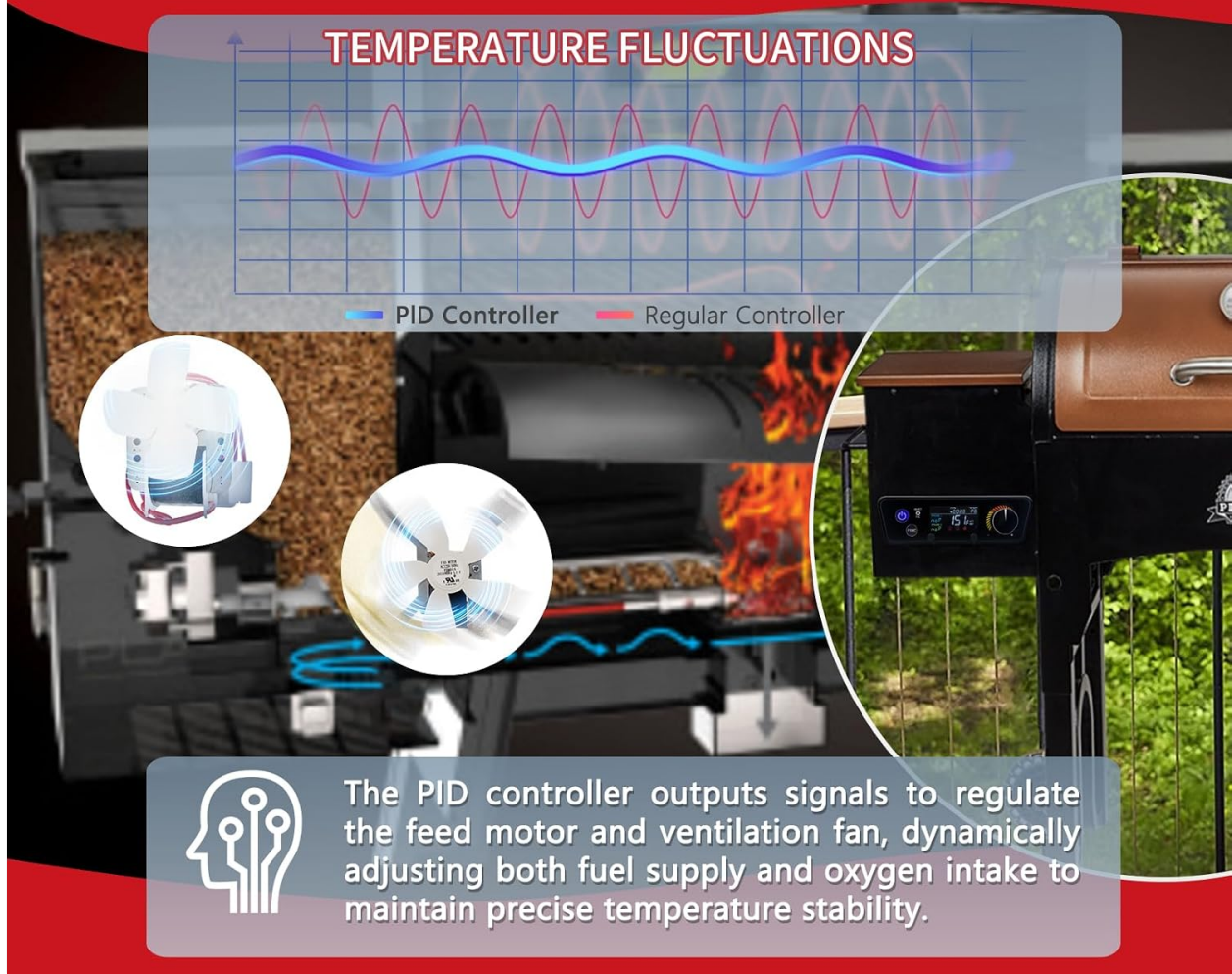


Figure 3: PID Controller Temperature Stability

PELLET-SAVER EFFICIENCY

The PID optimizes fuel use by modulating the fan and auger, maintaining precise temperature control while reducing pellet consumption.



PID Algorithm

+



Figure 4: Pellet-Saving Efficiency

8-IN-1 COOKING VERSATILITY:

bake, braise, roast, grill, barbecue, char-grill, and sear



MEAT SMOKING GUIDE

MEAT TYPE	SMOKING TEMPERATURE	APPROXIMATE COOKING TIME	INTERNAL TEMPERATURE	RECOMMENDED WOOD
BEEF				
BRISKET	225°F	1-1.5 HRS/LB	205°F	APPLE, CHERRY, WALNUT
CORNER ROAST	225°F	1.5-2 HRS/LB	195°F	APPLE, CHERRY, WALNUT
FILET MIGNON	225°F	1-1.5 HRS	135°F	APPLE, CHERRY, WALNUT
PANFRIED	225°F	0.5-1 HRS/LB	145°F	APPLE, CHERRY, WALNUT
PRIME RIB	225°F	1.5 HRS/LB	130°F	APPLE, CHERRY, WALNUT
ROAST	225°F	2 HRS/LB	145°F	APPLE, CHERRY, WALNUT
TENDERLOIN/PRIME TIP	225°F	1-1.5 HRS	135°F	APPLE, CHERRY, WALNUT
WAL	225°F	1.5-2 HRS/LB	145°F	APPLE, CHERRY, WALNUT
PORK				
ARM OF PORK/LOIN CHOPS	225°F	4-6 HRS	205°F	APPLE, CHERRY, WALNUT
ROAST PORK (SHOULDER)	225°F	1.5-2 HRS/LB	195°F	APPLE, CHERRY, WALNUT
SAUSAGE	225°F	1-1.5 HRS	160°F	APPLE, CHERRY, WALNUT
SMOKE RIBS	225°F	2-3 HRS	145°F	APPLE, CHERRY, WALNUT
TENDERLOIN	225°F	1-1.5 HRS	145°F	APPLE, CHERRY, WALNUT
WAL	225°F	1.5-2 HRS	145°F	APPLE, CHERRY, WALNUT
LAMB				
LEG/ROAST OF LAMB	225°F	1-1.5 HRS	130°F	APPLE, CHERRY, WALNUT
LOIN CHOPS	225°F	1-1.5 HRS	130°F	APPLE, CHERRY, WALNUT
SHOULDER	225°F	1.5-2 HRS	145°F	APPLE, CHERRY, WALNUT
WAL	225°F	1.5-2 HRS	145°F	APPLE, CHERRY, WALNUT
BIRDS				
CHICKEN (BREAST/WHOLE BIRD)	225°F	4-6 HRS	165°F	APPLE, CHERRY, WALNUT
CHICKEN (LEG/WHOLE BIRD)	225°F	4-6 HRS	165°F	APPLE, CHERRY, WALNUT
TURKEY (BREAST/WHOLE BIRD)	225°F	4-6 HRS	165°F	APPLE, CHERRY, WALNUT
WAL	225°F	4-6 HRS	165°F	APPLE, CHERRY, WALNUT
GAME				
CHICKEN GAMB (HEAD)	225°F	1-1.5 HRS	165°F	APPLE, CHERRY, WALNUT
WAL	225°F	1-1.5 HRS	165°F	APPLE, CHERRY, WALNUT
OTHER				
PIZZA PELLETS	225°F	1-1.5 HRS	145°F	APPLE, CHERRY, WALNUT
WAL	225°F	1-1.5 HRS	145°F	APPLE, CHERRY, WALNUT

ALWAYS COOK TO TEMP AND TIME, ENJOY YOUR BBQ.

Control Panel: 186°F, 00:00, PRIME, SELECT, PFC, ON/OFF.

SMOKE (low) temperature range (under 65°C/150°F):

It allows the smoke to penetrate the meats to intensify the savory flavor

LOW TEMPERATURE (82-125°C/180-257°F):

It is used to slow roast, increase smoky flavor, and to keep foods warm

MEDIUM TEMPERATURE (135-180°C/275-356°F):

It is best for baking, roasting, and finishing off that slow smoked creation

HIGH TEMPERATURE (205-260°C/401-500°F):

It is used to grill at high heat, also used as the burn-off temperature to clean off the cooking grids after use

Figure 5: 8-in-1 Cooking Versatility

INSTALLATION AND SETUP

Before beginning installation, ensure your grill is completely cool and unplugged from any power source. Safety is paramount during this process.

Installation Steps:

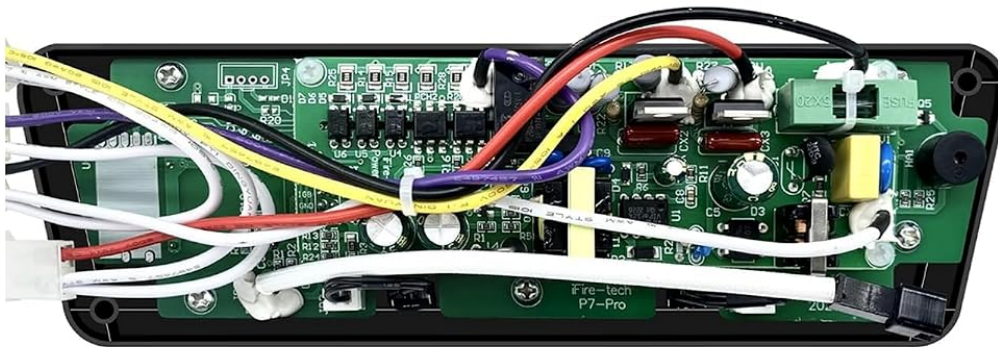
1. **Disconnect Power:** Unplug the grill from the electrical outlet.
2. **Access Control Panel:** Locate and carefully remove the screws securing the existing control board panel on your grill.
3. **Disconnect Old Board:** Gently disconnect all wires from the old control board. Take note of each wire's connection point, or take a photo for reference.
4. **Install New Board:** Position the new Meatender control board in place.
5. **Connect Wires:** Reconnect the wires to the corresponding ports on the new control board. Refer to the wiring diagram below for guidance. Ensure all connections are secure.

6. **Secure Panel:** Reattach the control panel cover with the screws.

7. **Power On:** Plug the grill back into the electrical outlet.

Wiring Diagram:

WIRING



BLACK WIRE
CONNECTS POWER CORD



PURPLE WIRE
CONNECTS HOT ROD



RED WIRE
CONNECTS MOTOR



ORANGE WIRE
CONNECTS FAN



Grill Probe



Figure 6: Control Board Wiring Connections

Black Wire: Connects to the power cord.

Purple Wire: Connects to the hot rod.

Red Wire: Connects to the auger motor.

Orange Wire: Connects to the fan.

Grill Probe: Connects to the grill temperature probe.

OPERATING INSTRUCTIONS

Temperature Control (PID & OEM Programs):

The control board features both OEM (Original Equipment Manufacturer) and PID (Proportional-Integral-Derivative) temperature control programs. The PID program offers more precise temperature management, allowing for 1-degree increment adjustments.

- Use the main temperature knob to set your desired grill temperature.
- The PID program will cycle the auger motor and fan on and off to maintain a stable temperature. This may produce a "puffing" sound, which is normal operation for a PID controller.

PRODUCT SIZE



NOTE: THE CONTROLLER IS TRAPEZOID SHAPE, NOT RECTANGLE, SO NOT FOR THE ONYX EDITION

Figure 7: Stepless Temperature Knob

Timer and Meat Probe Settings:

The control board includes a timer to monitor cooking duration and supports meat probes for internal temperature monitoring.

- **Timer:** Use the display to set and track your cooking time.
- **Meat Probes:** Insert the meat probe into your food. Set the desired target temperature on the control board. An alert will sound when the food reaches the set temperature.



Figure 8: Meat Probe Alert System

MAINTENANCE

To ensure the longevity and optimal performance of your control board, follow these simple maintenance guidelines:

- **Cleaning:** Wipe the control board surface clean with a soft, damp cloth. Do not use abrasive cleaners or immerse the unit in water.
- **Storage:** When not in use for extended periods, store the grill in a dry, protected area to prevent exposure to extreme weather conditions.
- **Inspections:** Periodically inspect all wire connections to ensure they remain secure and free from corrosion.

TROUBLESHOOTING

Fault Detection System:

The control unit is equipped with a fault detection system that monitors connected parts. If an issue is detected (e.g., poor contact, short/open circuits, or abnormal power levels), the system will alert you and may stop functioning.

- If the fault detection system activates, it does not always indicate permanent damage to the control board.
- **Bypassing the System:** You can temporarily bypass the system by turning the unit off and then on again to continue use.
- **Recommended Action:** It is highly recommended to identify and replace the faulty part promptly to avoid further issues and ensure safe operation.

Normal Operation Sounds:

As the grill reaches and maintains the set temperature, the PID controller will cycle the auger motor and fan on and off. This action will produce a "puffing" sound, which is a normal characteristic of the PID system working to achieve stable temperature control.

SPECIFICATIONS

Feature	Detail
Product Dimensions	8.9 x 2.76 x 2.8 inches
Item Model Number	P7-PRO
Weight	12.31 ounces
Manufacturer	Meatender
Country of Origin	China
Special Features	Large Display, Timer, Alarm, High Accuracy, Dual Probe
Color	Black
Included Components	1 Control Board, 1 User Manual
Outer Material	Wood (referring to grill compatibility, not board material)
Product Care Instructions	Wipe Clean



Figure 9: Meatender P7-PRO Control Board (Front and Back)

WARRANTY AND SUPPORT

Meatender products are manufactured to high-quality standards. For any inquiries regarding your control board, including warranty information or technical support, please reach out to us through the "Contact Seller" option in your "Order History" on the platform where you purchased the product.