User's Guide

RealTemp ™
Model TR-100

Model TR-100
Digital Grill Control

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Foreword

Preface

Ortech Controls is a leading supplier of electronic controls for wood pellet stoves, furnaces, and grills. Founded in 1983 and located in Washington, Ortech has designed and manufactured controls for American Energy Systems, Lennox Hearth Products, and Traeger Grills, among others. Working closely with Joe Traeger, Ortech developed electronic controls for his revolutionary line of wood pellet grills, including the original 3-speed and digital controls, and has shipped more than 100,000 controls for Traeger grills.

Product Reference

Model: TR-100
Product Number: 100
Applicable Software Versions: 1.10
Ortech Document Number: 100-72-01-07

Introduction

What's in the Box

Ortech RealTemp Model TR-100 Digital Grill Control
Ortech RealTemp RTD Temperature Detector
Wiring Harness Tie Wrap
User's Guide

Major Features

Three Digit Temperature Display
Front Panel Cook Control
Eight Cook Temperature Settings (180 through 375 degrees)
"High" Cook Temperature Setting
Front Panel Smoke Control
Sixteen Smoke Settings (P0 - P15)
Ignition Indicator
Smoke Setting Indicator
Cook Idle Fuel Rate Indicator
Low Temperature Indicator
Inadvertent Start Protection
Overtemperature Protection
Cool Down Feature

Applications

The RealTemp TR-100 is a plug-compatible replacement part for the Traeger Standard 3-Speed Control and the Traeger Digital Control and is compatible with the entire line of Traeger wood fired pellet grills.

Typical Applications

High performance upgrade replacement for Traeger Standard 3-Speed Control.

High performance upgrade replacement for Traeger Digital Control.

High performance service replacement for Traeger Standard 3-Speed Control.

High performance service replacement for Traeger Digital Control.

How It Works

Cook Mode
In Cook Mode, the temperature of the grill is continually monitored and a microprocessor operates the draft fan and fuel feed auger to maintain a constant grill temperature.

Smoke Mode
In Smoke Mode, the fuel feed rate is set manually by the operator. The grill operates at low temperature to provide maximum smoke.

Display → 350 ← Smoke Control

250 275 300
225   325
180 — Cook Control
Smoke   375
Off   High

ORTECH RealTemp ™
Model TR-100

Cook Control ← (Cook Control label)
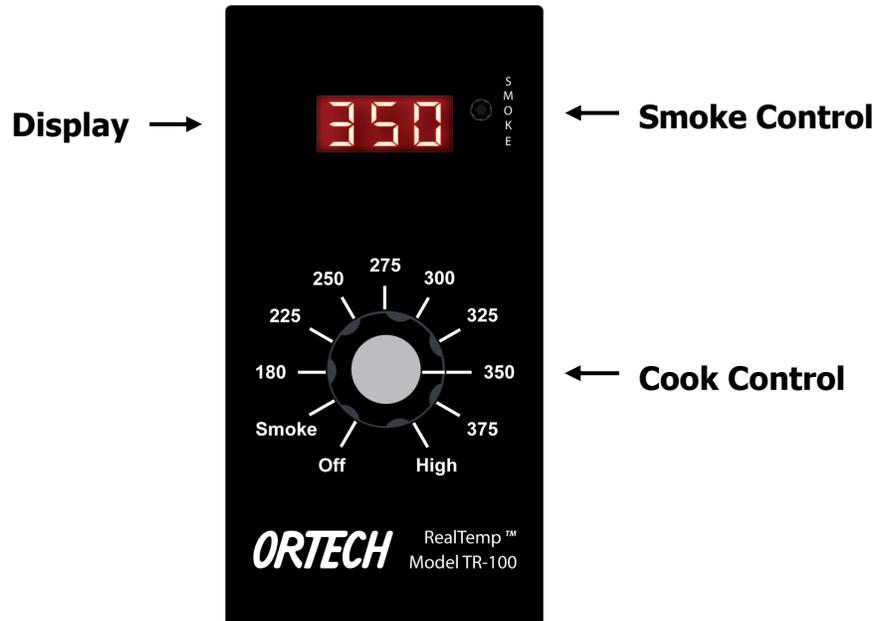
Compatible Grills

Compatible with all Traeger grills using traditional digital and 3 speed controllers.

Also compatible with Traeger XL and commercial grills containing dual draft fans, igniters, and augers (requires replacing standard 3A fuse with a 5A 250V fast blow 5x20mm fuse).

Not compatible with Traeger portable tabletop grills including the PTG, Scout, and Ranger Pellet Grills.

Installation

Removing the Old Control

Required Tools   Medium Phillips screwdriver
Small slotted screwdriver

Unplug the Grill   Unplug the grill from AC power.

WARNING: AC power is present on the control at all times and is a shock hazard unless the grill is disconnected from the wall socket or AC line.

Remove Hopper Bottom Panel   Some grills are equipped with a protective panel mounted below the hopper. This panel protects grill components while allowing air to flow into the draft fan. Remove the screws and panel from the grill, slide the panel down the power cord, and set aside.

Disconnect the Control   Working under the grill, locate the control's wiring harness. Disconnect all four plugs that connect the control to the grill's components (fuel feed auger, draft fan, igniter, and AC power).
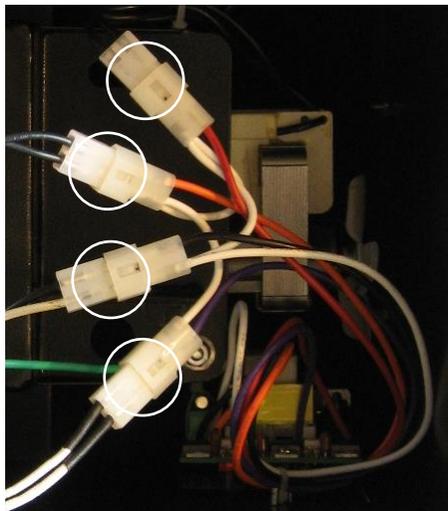
Remove the Control   Remove the faceplate screws using a medium Phillips screwdriver. Save the screws for use later. Gently pull the control forward, rotating it slightly to the right. Once clear, pull the wire harness up and out of the cutout.

Disconnect the Temperature Detector

If you are removing a Traeger Digital Control, you must disconnect the temperature detector. Turn the control until the circuit board is facing you. Using a small slotted screwdriver, disconnect the temperature detector lead wires from the two-terminal connector J1 located in the upper right hand corner of the printed circuit board.
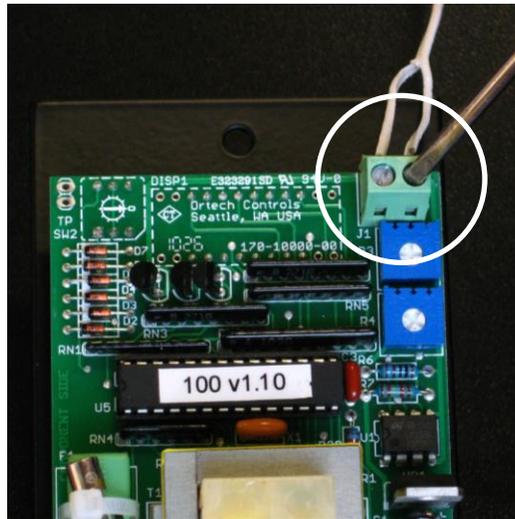
Remove the Temperature Detector

If you are replacing a Traeger Digital Control, the temperature detector is compatible with the RealTemp TR-100. Replacing it is optional. For best results, we do recommend replacing the temperature detector, especially when installing the TR-100 as a service replacement.

Open the cook lid and remove the internal grill and drip pan.

Locate the temperature detector. Using a medium Phillips screwdriver, loosen its mounting screw and nut. Lift the detector and feed its wire leads up and out of the grill.

Temperature Detector
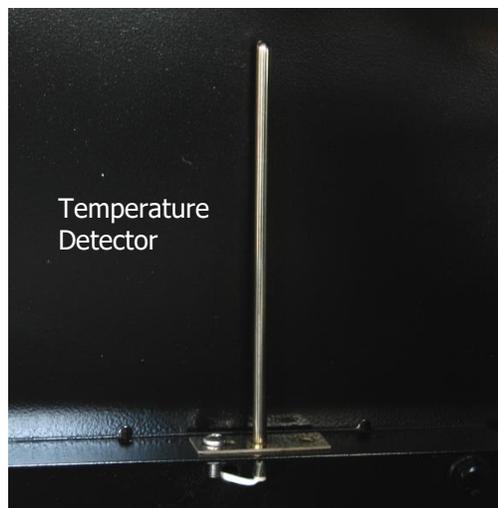
Installing the RealTemp TR-100 Digital Control

Position the Temperature Detector

Open the cook lid and remove the internal grill and drip pan.

Locate the temperature detector's mounting holes on the horizontal rail inside the grill.

Remove the screw and nut from the base of the new detector. Set the screw and nut aside for later use.

Feed the detector's wire lead down through the shaft hole and out through the wire hole.
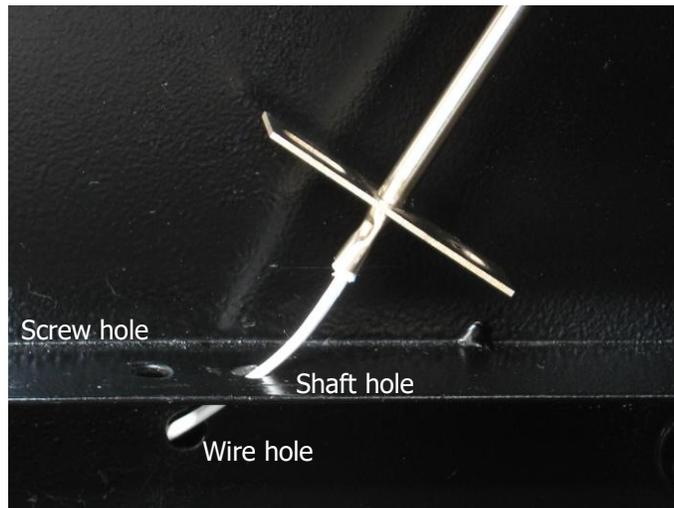
Run the Detector Wire Lead

Feed the detector wire lead down between the grill and the pellet hopper, then up and out through the control cutout. Use caution when feeding the wire lead to avoid damaging its insulation.
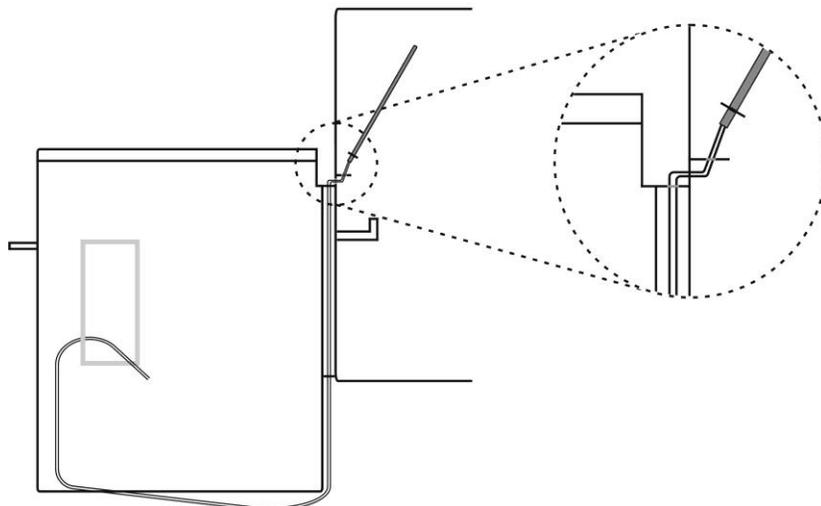
Attach the Detector to the Rail

Install the detector into the shaft hole with the slot positioned over the screw hole. Install the screw from above, down through the slot and through the screw hole. Install the nut from below and tighten.
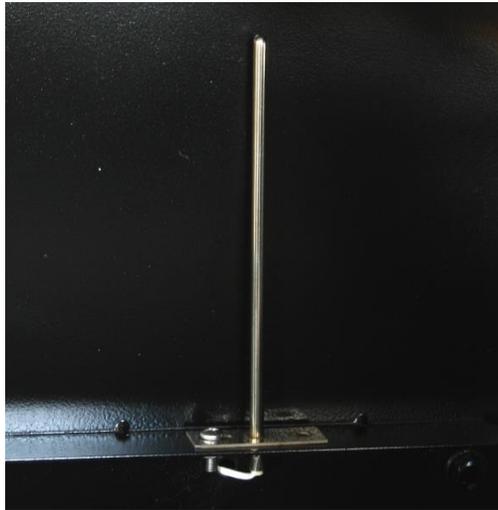
Connect the Temperature Detector to the Control

WARNING: Disconnect the grill from AC power. Installing the control while the grill is connected to AC power could result in shock or could damage the control.

Connect the temperature detector lead wires to connector J1 located in the upper right hand corner of the printed circuit board. Use a small flat blade screwdriver to fully open the contacts by turning the set screw counter clockwise. Insert the wires and tighten the contacts by turning the set screw clockwise. You can connect either lead wire to either terminal of connector J1.
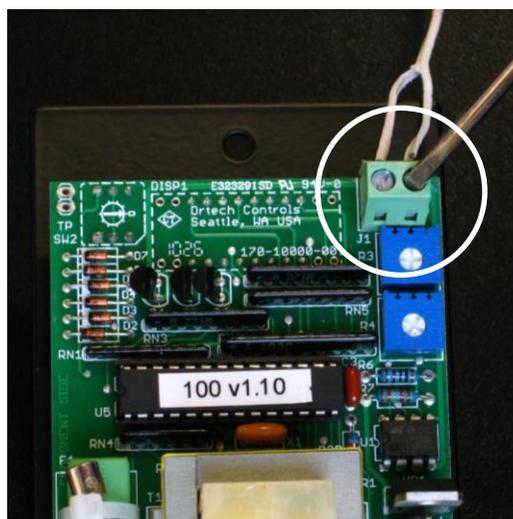
Install the Control into the Cutout

Feed the control wiring harness (four plugs with orange, purple, red, black, and white wires) downward into the grill's cutout.

Insert the control into the cutout. Install the control's circuit board into the cutout at an angle to ensure the circuit board fits through the cutout without damage.

WARNING: Do not force the control into the cutout. Bumping electronic components into the edge of the cutout during installation may damage the control.

Retrieve the two faceplate mounting screws that were used to hold the old control in place.

Using a medium Phillips screwdriver, install the top faceplate screw and lightly tighten. Install the bottom faceplate screw and tighten. Tighten the top faceplate screw.

Connect the Control to Grill Components

Connect the fuel feed auger, draft fan, igniter, and AC power to the TR-100. Working under the hopper, connect the control wiring harness to the grill components as follows:

Control Wiring Harness	*Grill Component*
Plug with Red Wire	Fuel Feed Auger
Plug with Orange Wire	Draft Fan
Plug with Purple Wire	Igniter
Plug with Black Wire	AC Power

See the figures on the following pages.

Connect Control's Red Wire to Auger

Auger Plug
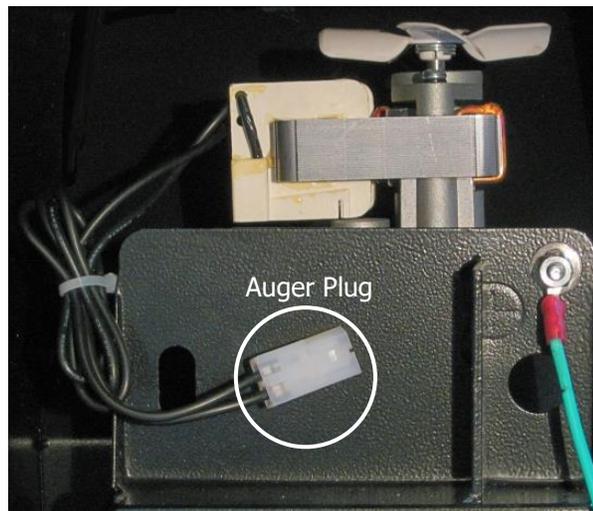
Connect Control's Orange Wire to Draft Fan

Draft Fan Plug

Connect Control's Purple Wire to Igniter

Igniter Plug
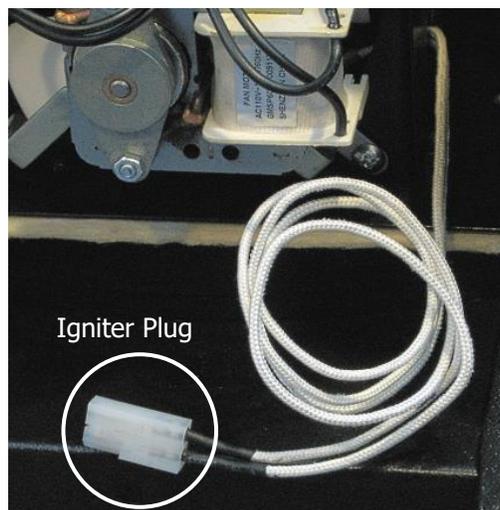
**Connect Control's
Black Wire to
AC Power**

AC Power Plug
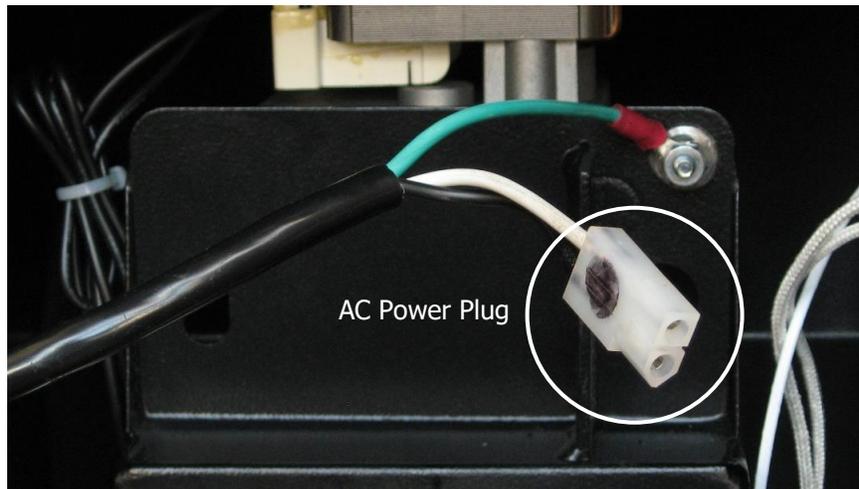
Organize Wire Lead

If necessary, use the tie wrap to tie back the temperature detector wire lead and the control's wiring harness to ensure they do not interfere with the draft fan and other grill components.

**Attach Hopper
Bottom Panel**

If your grill is equipped with a hopper bottom panel, attach the panel, install and tighten the screws.

Testing the Grill

Prepare the Grill

Set the Cook Control to the Off position. Open the cook lid and remove the internal grill, the drip pan, and the heat baffle to expose the firepot.

Turn the Grill On

Plug the grill's AC power cord into an outlet. Turn the Cook Control switch to the Smoke position.

Check the Draft Fan

Place your hand above the firepot and verify air movement from the draft fan.

Check the Igniter

Verify the igniter located in the base of the firepot is getting hot. DO NOT TOUCH THE IGNITER!

Check the Fuel Auger

Verify that pellets are flowing into the firepot. If the pellet hopper is empty, open the hopper lid, look inside the hopper and verify the auger is turning.

Turn the Grill Off

Set the Cook Control to the Off position.

Reassemble the Grill

If the grill passes the tests above, reassemble the grill. If not, refer to the "Troubleshooting" section of this manual.

Operation

Overview

LED Readout Displays grill temperature, smoke settings, idle fuel feed settings, igniter status, cool down timer, low temperature status, and error messages.

Cook Control Switch Selects Off, Smoke Mode, or one of nine Cook Mode grill temperatures.

Smoke Control Switch Selects one of sixteen smoke/Idle Fuel Feed Rates.

Cook Mode Maintains the selected cook temperature automatically.

Smoke Mode Provides manual control of the fuel feed rate to produce maximum smoke at a low grill temperature.

Microprocessor Control In Cook Mode, the temperature of the grill is continually monitored and a microprocessor operates the draft fan and fuel feed auger to maintain a constant grill temperature.

Manual Control In Smoke Mode, the fuel feed rate is set manually by the operator. The grill operates at low temperature to provide maximum smoke.

Display →   **3 5 0**   SMOKE   ← Smoke Control

250   275   300
225   325
180   350   ← Cook Control
Smoke   375
Off   High

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Model TR-100
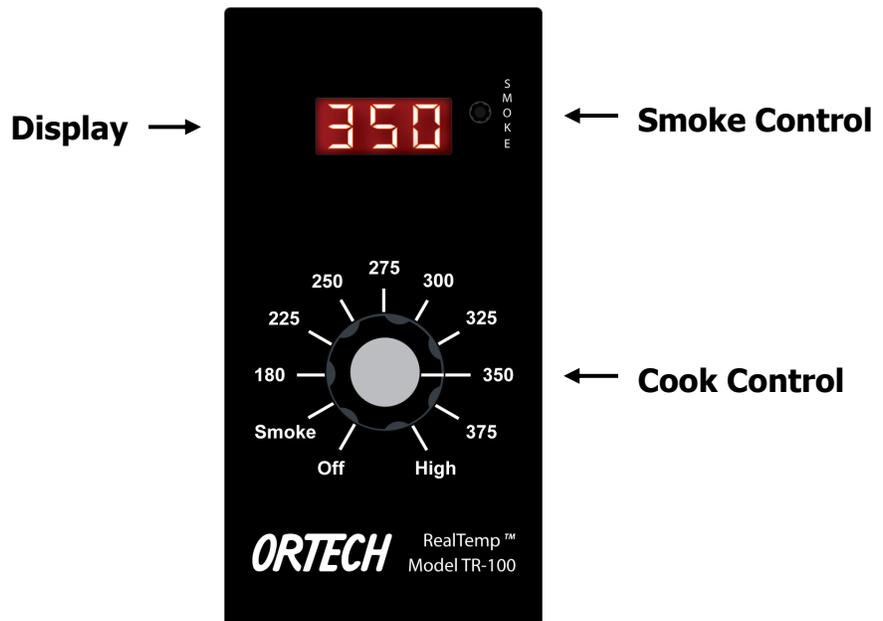
Understanding the Display

Numbers	When the grill is connected to AC power, the model number and software version of the control are displayed momentarily.
Temperature	In Cook Mode and Smoke Mode, the grill temperature is displayed in 5 degree (Fahrenheit) increments.
Flashing Temperature	In Cook Mode, the displayed temperature flashes if the grill temperature is below 150 degrees.
	In Smoke Mode, the displayed temperature flashes if the grill temperature is below 110 degrees.
Flashing Dots	The igniter is on.
"P0" - "P15"	When the Cook Control switch is set to the Smoke position, the smoke setting is displayed for 3 seconds.
	If you adjust the Smoke Control switch while in Smoke Mode, the smoke setting is displayed for 3 seconds.
	If you adjust the Smoke Control switch while in the Cook Mode, the Idle Fuel Feed Rate setting is displayed for 3 seconds.
Flashing "C10"	The grill is cooling down. The cool down timer is displayed and decremented ("C10", "C 9", "C 8"...).
Flashing "ErH"	The grill temperature exceeded 615 degrees.
Flashing "ErP"	The Cook Control switch was not in the Off position when the grill was connected to AC power.

Connecting the Grill to AC Power

Turn the Grill Off   Set the Cook Control switch to the Off position.

Plug the Grill In   Connect the grill to AC power. The control displays its model number and software version.

If you see "ErP"   If the Cook Control switch is in the Smoke position or any temperature setting when the grill is plugged in, the control will display "ErP", indicating an inadvertent start error. The standard ignition sequence is halted. This feature prevents an inadvertent start. To clear the error, set the Cook Control switch to Off.

Igniting the Grill

Cook Control   To ignite the grill, open the grill lid and set the Cook Control switch to the Smoke position. The grill will begin to smoke once the pellets are ignited. When you see smoke, shut the grill lid and turn the Cook Control switch to your desired setting. Allow the grill to warm up for 15 minutes before adding food or making any other changes.

Ignition Sequence   The draft fan turns on.

                             The igniter turns on.

                             The fuel feed auger turns on and delivers fuel continuously for two minutes.

                             The grill temperature is displayed along with three flashing dots signifying that the igniter is on.

                             The igniter will turn off when one of the following three conditions is met:

                             - The igniter has been on for four minutes and the grill temperature has increased by 30 degrees.
                             - The igniter has been on for four minutes and the grill temperature is greater than 150 degrees.
                             - The igniter has been on for five minutes.

                             Once the igniter turns off, if the Cook Control switch is set to the Smoke position, the grill operates in Smoke Mode. If the Cook Control switch is set to a temperature setting, the grill operates in Cook Mode. The flashing dots are turned off.

Cooking

Cook Control Set the Cook Control switch to the desired temperature. The control displays the grill's current temperature.

Cook Sequence Once the ignition sequence is complete and the igniter turns off, the auger feeds fuel into the fire pot to maintain the set temperature.

Temperature Settings

180	180 degrees
225	225 degrees
250	250 degrees
275	275 degrees
300	300 degrees
325	325 degrees
350	350 degrees
375	375 degrees
High	450 degrees or Maximum Temperature

High Temperature Setting If the Cook Control switch is set to High, the grill operates at 450 degrees. If the grill is unable to attain 450 degrees due to ambient temperature and humidity, fuel type and quality, and/or thermal characteristics of the grill, the auger feeds fuel continuously allowing the grill to operate at its Maximum Temperature.

On Fuel Feed Rate The On Fuel Feed Rate is the rate the auger delivers fuel while the grill is below the set temperature. In Cook Mode, the On Fuel Feed Rate is designed to drive the grill's temperature upward to the set temperature and limit temperature overshoot. The On Fuel Feed Rates are preprogrammed into the control and are not adjustable.

Temperature Setting	On Fuel Feed Rate
180	Auger on for 15 seconds, off for 15 seconds
225	Auger always on
250	Auger always on
275	Auger always on
300	Auger always on
325	Auger always on
350	Auger always on
375	Auger always on
High	Auger always on

Idle Fuel Feed Rate	The Idle Fuel Feed Rate is the rate the auger delivers fuel while the grill is idling at or above the set temperature. In Cook Mode, you can manually adjust the Idle Fuel Feed Rate using the Smoke Control switch. See "Understanding Idle Fuel Feed Rate and Smoke Settings" for more information.
Low Temperature	If the grill temperature is less than 150 degrees, the displayed temperature flashes, indicating a low temperature. This is not an error condition and does not affect the operation of the grill. The flashing display is designed to alert the operator that there is some risk of the fire going out.
High Temperature Limit Error (ErH)	If the grill temperature is greater than 615 degrees, a flashing "ErH" is displayed indicating a high limit error and the grill shuts down. Refer to the "Error Modes and Messages" section for details.

Smoking

Smoke Control
Set the Cook Control switch to Smoke. Use the Smoke Control switch to manually select the auger fuel feed rate. The control displays the grill's current temperature.

Smoke Sequence
Once the ignition sequence is complete and the igniter turns off, the auger delivers fuel at a constant rate determined by the smoke setting (P0 - P15).

Smoke Setting
The smoke fuel feed rate is the rate the auger delivers fuel while the grill is operating in Smoke Mode. In Smoke Mode, manually adjust the fuel feed rate using the Smoke Control switch to establish the desired temperature and/or smoke output. See "Understanding Idle Fuel Feed Rate and Smoke Settings" for more information.

Low Temperature
If the grill temperature is less than 110 degrees, the displayed temperature flashes, indicating a low temperature. This is not an error condition and does not affect the operation of the grill. The flashing display is designed to alert the operator that there is some risk of the fire going out.

High Temperature Limit Error (ErH)
If the grill temperature is greater than 615 degrees, a flashing "ErH" is displayed indicating a high limit error and the grill shuts down. Refer to the "Error Modes and Messages" section for details.

Cooling Down the Grill

Cook Control   To cool down the grill, change the Cook Control switch from Smoke or any of the temperature settings to the Off position.

Cool Down Sequence   The igniter turns off.

The fuel feed auger turns off.

The draft fan turns on.

A count down timer is displayed. The counter starts at "C10" and is decremented every minute.

Once the 10 minute count down timer expires:

- The display is blank.
- The draft fan turns off.
- The fuel feed auger pulses on for 10 seconds to clear burned pellets from the auger tube.

Understanding Idle Fuel Feed Rate and Smoke Settings

Smoke Control Switch

The Smoke Control switch sets the fuel feed rate (the amount of fuel delivered in a given period of time) when the grill is operating in Smoke Mode and when the grill is idling in Cook Mode.

During cook idle or smoke mode, the auger turns on, delivers fuel for 15 seconds, then turns off. The off time is set by the Smoke Control switch.

"P" Settings

The fuel feed rate setting is displayed momentarily whenever the Cook Control switch is set to the Smoke position. It is also displayed whenever the Smoke Control switch is adjusted. The setting is designated with the letter "P" and a number. The greater the "P" setting number the greater the auger off time.

Setting	Auger On	Auger Off
P 0	15 seconds	45 seconds
P 1	15	55
P 2	15	65
P 3	15	75
P 4	15	85
P 5	15	95
P 6	15	105
P 7	15	115
P 8	15	125
P 9	15	135
P10	15	140
P11	15	145
P12	15	150
P13	15	155
P14	15	160
P15	15	165

Dual Function

The selected "P" setting controls both the Smoke Mode fuel feed rate and the Cook Mode Idle Fuel Feed Rate. They are one and the same.

For example, if "P3" is selected using the Smoke Control switch, the auger delivers fuel for 15 seconds, turns off for 75 seconds, and repeats in Smoke Mode. It also delivers fuel for 15 seconds, turns off for 75 seconds and repeats while idling at or above the selected set temperature in Cook Mode.

Cook Mode
Idle Fuel Feed Rate

The Idle Fuel Feed Rate is the rate of fuel delivery that maintains the fire in the fire pot without raising the grill's temperature.

In Cook Mode, whenever the grill temperature is at or above the set temperature, the auger runs at the Idle Fuel Feed Rate. If the grill temperature is below the set temperature, the auger operates per the On Fuel Feed Rate.

We recommend the "P2" setting as the default Idle Fuel Feed Rate while in Cook Mode.

For the experienced operator, the auger Idle Fuel Feed Rate can be adjusted to improve the grill's performance. For example, to optimize temperature stability at a high temperature setting, select "P1" or "P0" to increase the auger Idle Fuel Feed Rate. Or, if due to ambient conditions the grill is unable to cool down enough to reach a low temperature setting such as 180 degrees, select "P3", "P4", or higher to decrease the Idle Fuel Feed Rate.

High Temperature
Idle Fuel Feed Rate

In Cook Mode, the Idle Fuel Feed Rate for the High temperature setting is preprogrammed into the control. The idle fuel feed auger timing at High is 15 seconds on / 15 seconds off and is independent of the Smoke Control switch "P" setting. The preprogrammed fuel feed rate helps maintain the elevated cooking temperature at the High setting.

Smoke Mode
Fuel Feed Rate

In Smoke Mode, increasing the "P" setting decreases the fuel feed rate, lowering the grill temperature. Start at setting "P2", adjust the "P" setting manually for the desired temperature and/or smoke output.

Error Modes and Messages

Inadvertent Start Error (ErP)

If the Cook Control switch is set to Smoke or to a temperature setting at the time the grill is plugged in, the control will display "ErP" indicating an Inadvertent Start Error. The standard ignition sequence is halted.

This feature prevents an inadvertent start. For example, if the grill is stored in the garage, the grill will not ignite if plugged in inadvertently.

To clear the error, set the Cook Control switch to the Off position.

High Temperature Limit Error (ErH)

If the grill temperature exceeds 615 degrees, the control displays "ErH" indicating a High Temperature Limit Error.

The fuel feed auger is turned off, the igniter is turned off, and the draft fan is turned off.

To clear the error, set the Cook Control switch to the Off position. If the error will not clear, your temperature detector is not functioning normally. See "Display is Flashing 'ErH'" in the "Troubleshooting" section.

Flashing Temperature

In Cook Mode, the displayed temperature flashes if the grill temperature is below 150 degrees.

In Smoke Mode, the displayed temperature flashes if the grill temperature is below 110 degrees.

These are not error conditions and do not affect the operation of the grill. The flashing display is designed to alert the operator that there is some risk of the fire going out.

Cool Down Timer (C10)

The grill is cooling down.

This is not an error condition. During cool down, a timer is displayed and decrement. The flashing timer is designed to alert the operator that the grill cooling down.
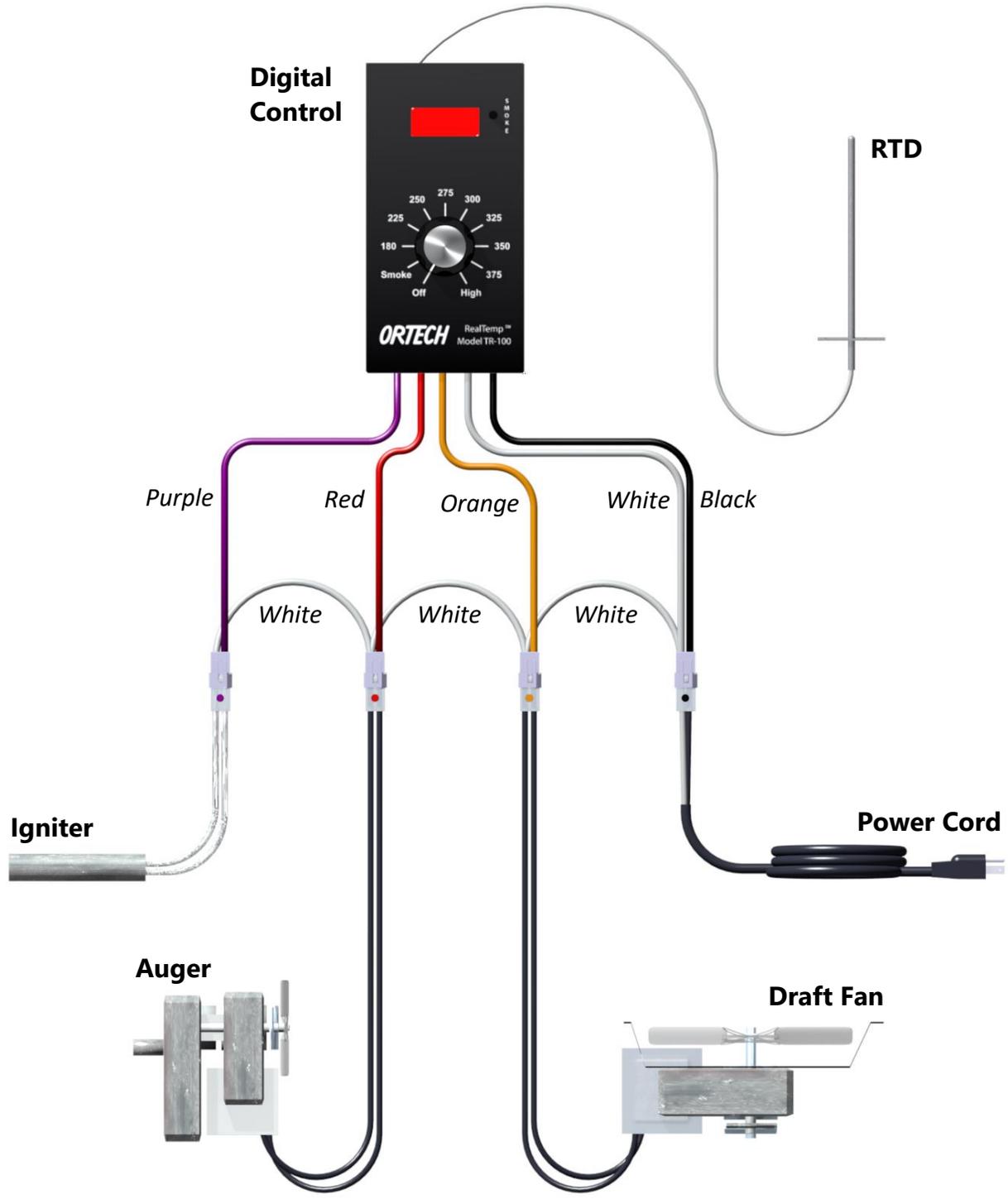
Flashing Dots

The igniter is on.

This is not an error condition and does not affect the operation of the grill. The flashing dots are designed to alert the operator that the igniter is on.

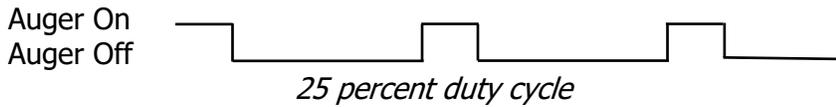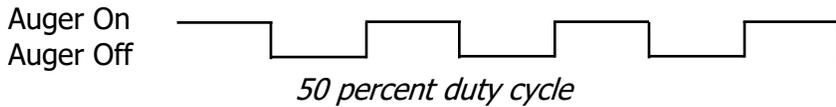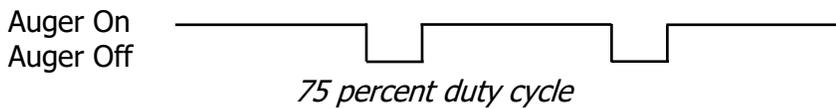# Product Service and Support

Wiring Diagram

AC Auger Theory of Operation

AC Auger

The grill is equipped with an AC auger. AC augers operate at a single speed and deliver fuel at a constant rate while on. The fuel feed rate (amount of fuel delivered in a given period of time) is adjusted by varying the on and off time intervals.

Duty Cycle

The ratio of time the auger is on is sometimes referred to as the duty cycle and is expressed as a percentage. For example, if the auger is always on, its duty cycle is 100 percent. If the auger is on half the time, its duty cycle is 50 percent, etc.

Auger On
Auger Off

75 percent duty cycle

Auger On
Auger Off

50 percent duty cycle

Auger On
Auger Off

25 percent duty cycle

Idle and Smoke Fuel Feed Rates and "P" Settings

When the TR-100 is in Smoke Mode or idling in Cook Mode, the AC auger is turned on and delivers fuel continuously for 15 seconds and is then turned off. The Smoke Control switch sets the auger off time. The Smoke Mode/Cook Mode Idle Fuel Feed Rates are as follows:

Setting	Auger On	Auger Off	Duty Cycle
P 0	15 seconds	45 seconds	25.0 percent
P 1	15	55	21.4
P 2	15	65	18.8
P 3	15	75	16.7
P 4	15	85	15.0
P 5	15	95	13.6
P 6	15	105	12.5
P 7	15	115	11.5
P 8	15	125	10.7
P 9	15	135	10.0
P10	15	140	9.7
P11	15	145	9.4
P12	15	150	9.1
P13	15	155	8.8
P14	15	160	8.6
P15	15	165	8.3

Troubleshooting

WARNING!   **Always disconnect the grill from AC power before accessing the control for service or working under the grill.**

Removing the control from the grill, installing the control into the grill, or working under the grill while the grill is connected to AC power could result in shock or damage the control.

Digital Control Display is Blank

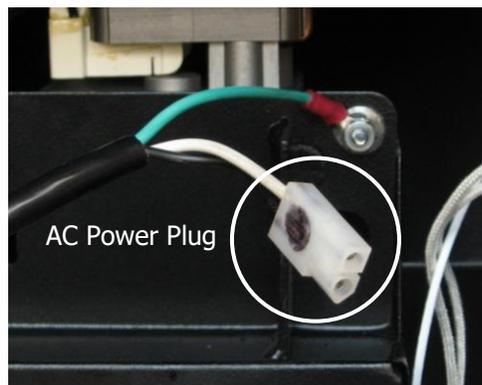*Cook Control switch is set to the Off position.*
Set Cook Control switch to the Smoke position or any temperature setting.

Circuit breaker on AC outlet is tripped.
Reset wall power outlet circuit breaker.

Control is disconnected from grill AC power.
Verify control wiring harness plug with black wire is connected to AC power.

AC Power Plug

**Digital Control
Display is Blank**

Control AC line fuse is blown.
Replace control's fuse F1 with provided spare fuse or a replacement fuse.

A blown AC line fuse may be caused by several conditions including shorted grill component lead wires, a jammed auger, or a failing igniter. Inspect the grill's components and component lead wires if replacement fuses are continually blown.

Fuse: *3A 250V fast blow 5x20mm*
Example: *Littelfuse part number 235003*

The following grills contain dual draft fans, igniters, and augers and use a 5A 250V fast blow 5x20mm fuse.

Traeger XL	BBQ150
Double Commercial Trailer	COM190
Large Commercial Trailer	COM200

Fuse ⟶

Control is defective.
Contact Ortech Controls customer service.

Grill Will Not Ignite   *No fuel in firepot.*
Fill hopper with good, dry fuel.
Verify auger is properly connected to control.
Clear auger if jammed.
Replace auger and/or auger motor if defective.

No draft air flow.
Verify draft fan is properly connected to control and
operating normally.
Replace draft fan if defective.

No ignition heat source.
Verify igniter is properly connected to control and operating
normally.
Replace igniter if defective.

Control is defective.
Contact Ortech Controls customer service.

Fire Goes Out   Set Cook Control switch to the Off position and allow grill to
cool.

No fuel in hopper.
Fill hopper with good, dry fuel.

No fuel in firepot.
Verify the control is properly connected to auger.
Clear auger if jammed.
Replace auger and/or auger motor if defective.

Unburned fuel in firepot.
Adjust Smoke Control switch (decrease the "P" setting) to
increase auger Idle Fuel Feed Rate.

No draft air flow.
Verify the control is properly connected to draft fan and
operating normally.
Replace draft fan if defective.

Control is defective.
Contact Ortech Controls customer service.

Grill Temperature at the 180 Degree Cook Setting is too High	*Auger Idle Fuel Feed Rate is too high.* Adjust Smoke Control switch (increase the "P" setting) to decrease Idle Fuel Feed Rate.
	Temperature detector is defective. Replace temperature detector.
	Control is defective. Contact Ortech Controls customer service.
Grill Temperature at the High Cook Setting is too Low	At the High temperature setting, the auger runs continually until the grill temperature reaches 450 degrees.
	Grill lid is open. Close grill lid. Grill is designed to operate with grill lid closed.
	Insufficient amount of fuel in fire pot. Clear auger if jammed. Tighten auger connection to auger motor shaft if slipping. Replace auger and/or auger motor if defective.
	Damp fuel source. Replace damp fuel with good dry fuel.
	Adverse operating conditions. Shield grill from cold wind and/or rain. Grill may not be able to attain 450 degrees in an extremely cold operating environment.
	Temperature detector is defective. Replace temperature detector.
	Control is defective. Contact Ortech Controls customer service.
Grill Temperature Subject to Unexpected Large Swings	*Grill is missing heat shield or drip pan.* Install heat shield and drip pan. Grill is designed to operate with both heat shield and drip pan installed.
	Fire pot is clogged with ash. Thoroughly clean fire pot to remove ash build up.
	Irregular draft air flow. Verify draft fan is always on during operation. If draft fan cycles, it may be improperly wired. Check draft fan and auger to verify their wiring has not been reversed.

Unexpected Temperature is Displayed	*Auger Idle Fuel Feed Rate is too high.* Adjust Smoke Control switch (increase the "P" setting) to decrease Idle Fuel Feed Rate.
	Auger Idle Fuel Feed Rate is too low. Adjust Smoke Control switch (decrease the "P" setting) to increase Idle Fuel Feed Rate.
	Grill lid is open. Close grill lid. Grill is designed to operate with grill lid closed.
	Temperature detector is defective. Replace temperature detector.
	Control is defective. Contact Ortech Controls customer service.
Grill Temperature Displayed is Different Than Dome Thermometer	*This is normal.* The displayed temperature is the precise temperature at the temperature detector. The dome thermometer is located in a different position inside the grill.
Displayed Temperature is Flashing	*Low grill temperature.* This is not an error condition and does not affect the operation of the grill. The flashing display is designed to alert the operator that there is some risk of the fire going out.
Display Always Reads 0 Degrees	*Temperature detector wire leads are shorted.* Check connection at control terminal J1. Fully open contacts by turning set screw counter clockwise. Reinsert wires and tighten contacts by turning set screw clockwise. Check the insulation for shorts throughout the wire run from detector to control terminal J1.
	Temperature detector is defective. Replace temperature detector.
	Control is defective. Contact Ortech Controls customer service.

Display is   *Inadvertent Start Error.*
Flashing "ErP"   *The grill was plugged in with the Cook Control switch in the Smoke position or set to a temperature setting.*
Set the Cook Control switch to the Off position.

Display is   *Overtemperature Error.*
Flashing "ErH"   *The grill temperature exceeded 615 degrees and shut off automatically.*
Set the Cook Control switch to the Off position.

Temperature detector wire leads are open.
Check connection at control terminal J1. Fully open contacts by turning set screw counter clockwise. Reinsert wires and tighten contacts by turning set screw clockwise.
Check for breaks in the wire throughout the wire run from detector to control terminal J1.

Temperature detector is defective.
Replace temperature detector.

Control is defective.
Contact Ortech Controls customer service.

Replacement Parts List

**Description and
Ortech Part Number**
      RealTemp TR-100 Digital Control   31-100-ORT

      RTD Temperature Detector   31-098-PKG-48

      3 Amp Fuse Kit, five 3A fuses   39-100-3A

      5 Amp Fuse Kit, five 5A fuses   39-100-5A

Contacting Ortech Controls

Customer Service   For product support and service, contact Ortech Controls:

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