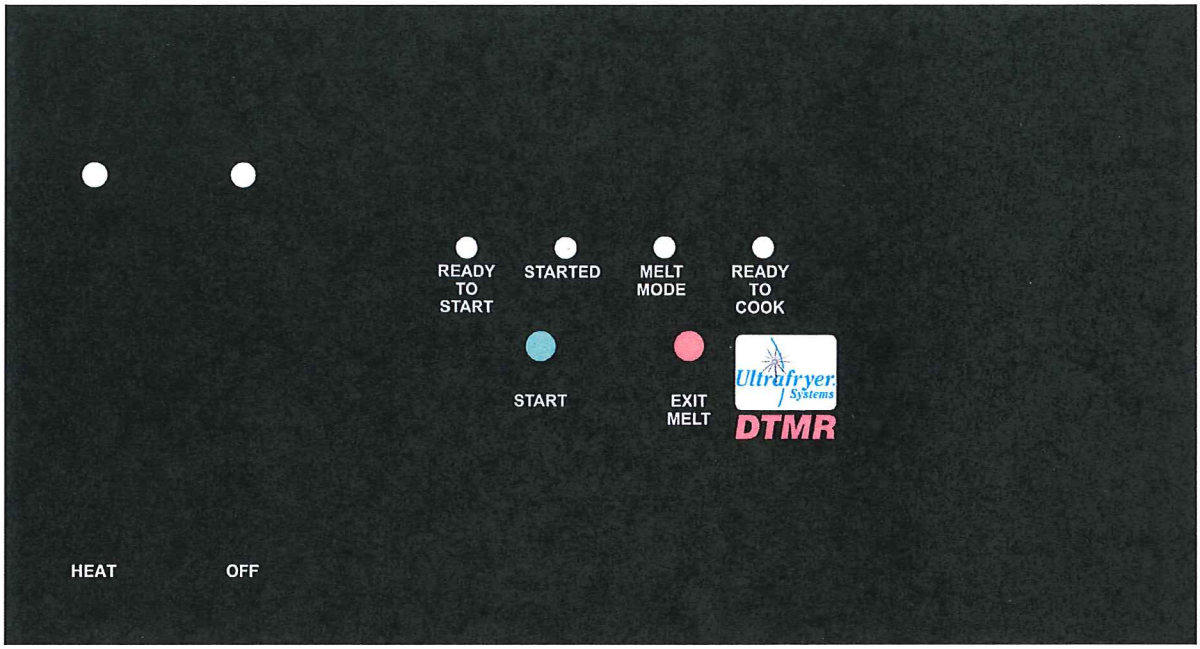
Ultrafryer® Systems



DEFAULT-TO-MANUAL-RESTART CONTROL

Operation Instructions

302 Spencer Lane · P.O. Box 5369 · San Antonio, Texas 78201
(800) 525 - 8130 · (210) 731 - 5000 · Fax: (210) 731 - 5099

PREFACE

This manual was written and published by the Technical Publications Department, Ultrafryer Systems, for use by store personnel who operate an Ultrafryer Fryer equipped with the Default-To-Manual-Restart (DTMR) Control. This manual complements and should be used in conjunction with the applicable Ultrafryer Fryer Operations Manual provided with each Ultrafryer Fryer.

TECHNICAL PUBLICATIONS DEPARTMENT
ULTRAFRYER SYSTEMS
302 Spencer Lane
San Antonio, Texas 78201
1-800-545-9189 Ext. 5007

NOTE: This Manual is applicable to both Electric and Gas Fryers equipped with a Default-To-Manual-Restart Control.

30A066 revised Jan 2007

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I. INTRODUCTION

The Default-To-Manual-Restart (DTMR) Control is intended to reduce the possibility of "operator errors" that can result in **DRY FIRING** a fryer causing shortening to be scorched, heat mechanism damage, and/or a vat fire.

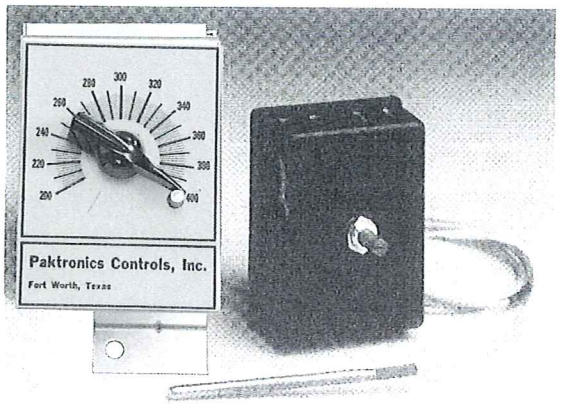
A. SAFETY - The DTMR operates on 120 volt single phase electrical power, and like other electrical equipment, should not be operated with wet hands or while standing in water. Water should **NEVER** be sprayed on or at the DTMR, as there is a danger of electrical shock and / or serious damage to its electrical circuitry. Should the DTMR accidentally be sprayed with water, **1) IMMEDIATELY** turn the Power **OFF** at the Main Power Switch and **2) IMMEDIATELY** contact a qualified service agent to check the DTMR. The DTMR is located in close proximity to hot liquid shortening and care must be taken to avoid serious burns. The floor in front of, and area around the fryer should be kept clean and dry. Whenever anything is put into a cooking vat, care should be taken to not splash the hot shortening. Products should always be "placed" into the shortening, not thrown.

B. SAFE CLEANING PROCEDURE - Before performing any cleaning routine, electrical power to the DTMR should be turned OFF at the Main Power Switch. A **SLIGHTLY** dampened cloth may then be used to clean any debris from the face of the DTMR. **DO NOT USE** any cleaner or de-greaser solvent as they may mar the face or damage the internal circuitry of the control. Any questions regarding correct cleaning procedures should be directed to the Customer Service Department at 1-800-525-8130.

II. DEFAULT-TO-MANUAL-RESTART CONTROL

A. GENERAL

The Default-to-Manual-Restart (DTMR) Control along with an Electronic Thermostat is connected to a fryer's electrical system to control operation of the fryer. The DTMR contains a Default-to-Off circuit that will **DISABLE** the fryer anytime the Drain Valve is **OPEN**, and a Default-to-Melt circuit that will automatically place the fryer in a **SHORTENING MELT MODE** to gradually and safely heat shortening each time the fryer's Toggle ON/OFF Switch is turned **ON.**

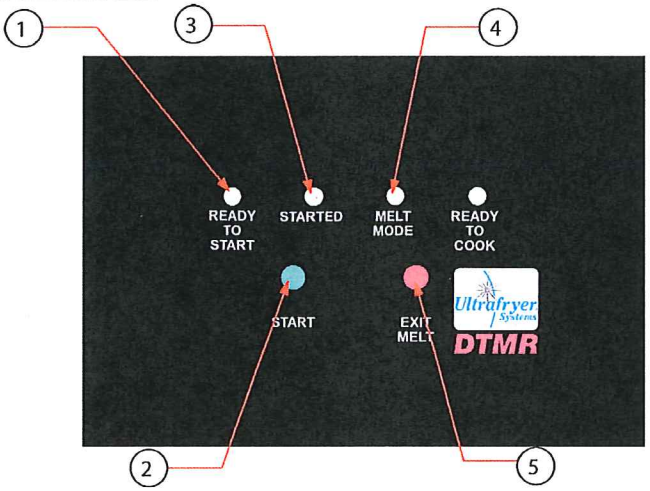


NOTE: Some older stores may be equipped with a Fenwal Temperature Control in lieu of an Electric Thermostat.

B. ELECTRONIC THERMOSTAT

The Electronic Thermostat has a temperature range from 200°F (93°C) to 400°F (204°C) and will accurately maintain a pre-set shortening cook temperature within ± 2° of the pre-set temperature.

C. DEFAULT-TO-MANUAL-RESTART CONTROL PANEL



1. **BLUE READY TO START LAMP** - When lit indicates the fryer's Toggle ON/OFF switch is in the **ON** position, the Drain Valve is **CLOSED** and the fryer is ready to be placed in operation.

2. **START BUTTON** - When the button is momentarily pressed, it places the fryer in operation.

3. **RED STARTED LAMP** - When lit indicates the **START BUTTON** has been pressed, placing the fryer in operation.

4. **AMBER MELT MODE LAMP** - When lit indicates the fryer is in the **MELT MODE** and that the timer in the DTMR Default-to-Melt circuit is turning the fryer's heat mechanism **ON** and **OFF**, as follows, to gradually and safely heat the shortening.

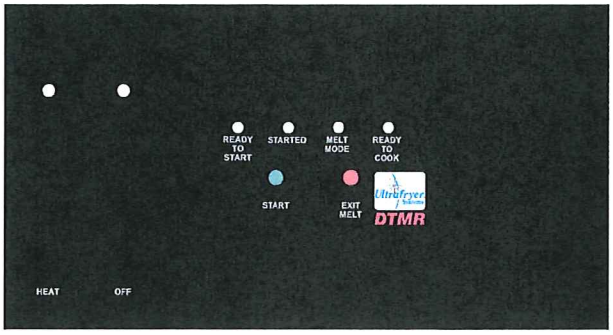
TYPE FRYER	TIME	
	ON	OFF
Electric	4 seconds	36 seconds
Gas	7 seconds	28 seconds

5. **EXIT MELT BUTTON** - When this button is momentarily pressed, the **TIMER** in the DTMR's Default-to-Melt circuit will switch to the **FULL-ON** position allowing the Electronic Thermostat to heat shortening to its **PRE-SET** temperature.

III DTMR TEST OPERATION

A. ELECTRIC FRYER

TO TEST OPERATE an Ultrafryer Electric Fryer equipped with a Default-To-Manual-Restart (DTMR) control:



1. Turn the Toggle ON/OFF Power Switch to the **OFF** Position.

2. Fill the fryer vat with hot or cold water to the middle of the **"E ←"** in the word LEVEL of the applicable shortening level mark on the rear of the vat.

3. **ENSURE** that the Exhaust Fan is **ON.**

4. Perform the following steps, in the order listed:

ITEM	ACTION	DTMR CONDITION
1	**ENSURE** the drain valve lever is in the CLOSED **UP** position and that water is at the proper level; then turn the Toggle ON/OFF switch to the **ON** position.	A. The **AMBER** power indicator will **LIGHT.** B. **BLUE READY** TO START lamp will **LIGHT.**
CAUTION: PRIOR TO PROCEEDING TO STEP 2 VISUALLY CHECK THAT THE HEAT MECHANISM IS COVERED WITH AT LEAST 2" (51 mm) OF WATER.		
2	Press, then release the momentary **START** button	A. **RED STARTED** lamp and **AMBER MELT MODE** lamp will light. B. **BLUE READY TO START** lamp will turn **OFF.** C. A **TIMER** in the Default-To-Melt electrical circuit will begin cycling the fryer heat mechanism **ON** for four (4) seconds and **OFF** for 36 seconds to safely heat the water.
CAUTION: PRIOR TO PROCEEDING TO STEP 3, VISUALLY CHECK THAT THE WATER COMPLETELY COVERS THE HEAT MECHANISM.		
3	Press, then release the momentary **EXIT MELT** button.	A. **AMBER MELT MODE** lamp will turn **OFF, RED STARTED** lamp will remain lit. B. The **TIMER** in the Default-To-Melt circuit will switch to the **FULL ON** position allowing the Electronic Thermostat to heat water to its pre-set temperature.
4	Turn the Toggle ON/OFF switch to the **OFF** position. After the water inside the fryer and the metal surfaces on the fryer have **COOLED,** drain the water into a floor drain.	A. The **AMBER** power indicator lamp will turn **OFF.** B. The **RED STARTED** lamp will turn **OFF.**

B. GAS FRYER

TO TEST OPERATE an Ultrafryer Gas Fryer equipped with a Default-To-Manual-Restart (DTMR) control:

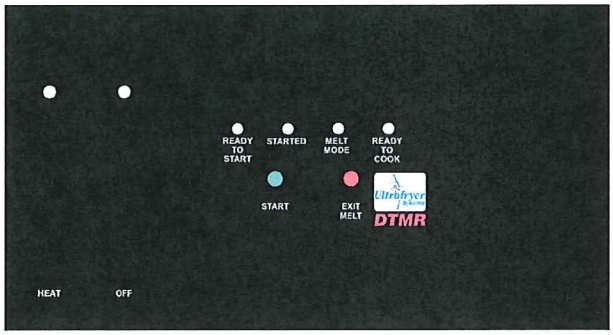
1. Turn the Toggle ON/OFF Power Switch to the **OFF** Position.

2. Fill the fryer vat with hot or cold water to the middle of the **"E ←"** in the word LEVEL of the applicable shortening level mark on the rear of the vat.

3. Turn the **MANUAL** gas valve to the **OFF** position and wait **FIVE** (5) minutes for any accumulated gas to disperse.

4. **ENSURE** the **MAIN** gas shut-off valve is in the **ON** position, and that the **EXHAUST FAN** is **ON.**

5. Turn the **MANUAL** gas valve to the **ON** position.



6. Perform the following steps, in the order listed:

ITEM	ACTION	DTMR CONDITION
1	**ENSURE** the drain valve lever is in the CLOSED **UP** position and that water is at the proper level; then turn the Toggle ON/OFF switch to the **ON** position.	A. The **AMBER** power indicator will **LIGHT.** B. **BLUE READY** TO START lamp will **LIGHT.**
CAUTION: PRIOR TO PROCEEDING TO STEP 2 VISUALLY CHECK THAT THE HEAT MECHANISM IS COVERED WITH AT LEAST 2" (51 mm) OF WATER.		
2	Press, then release the momentary **START** button	A. **RED STARTED** lamp and **AMBER MELT MODE** lamp will light. B. **BLUE READY TO START** lamp will turn **OFF.** C. A **TIMER** in the Default-To-Melt electrical circuit will begin cycling the fryer heat mechanism **ON** for seven (7) seconds and **OFF** for 28 seconds to safely heat the water.
CAUTION: PRIOR TO PROCEEDING TO STEP 3, VISUALLY CHECK THAT THE WATER COMPLETELY COVERS THE HEAT MECHANISM.		
3	Press, then release the momentary **EXIT MELT** button.	A. **AMBER MELT MODE** lamp will turn **OFF, RED STARTED** lamp will remain lit. B. The **TIMER** in the Default-To-Melt circuit will switch to the **FULL ON** position allowing the Electronic Thermostat to heat water to its pre-set temperature.
4	Turn the Toggle ON/OFF switch to the **OFF** position. After the water inside the fryer and the metal surfaces on the fryer have **COOLED,** drain the water into a floor drain.	A. The **AMBER** power indicator lamp will turn **OFF.** B. The **RED STARTED** lamp will turn **OFF.**

IV DTMR EQUIPPED FRYER OPERATION

A. ELECTRIC FRYER - Safely operate an Ultrafryer Electric Fryer equipped with the DTMR as follows:

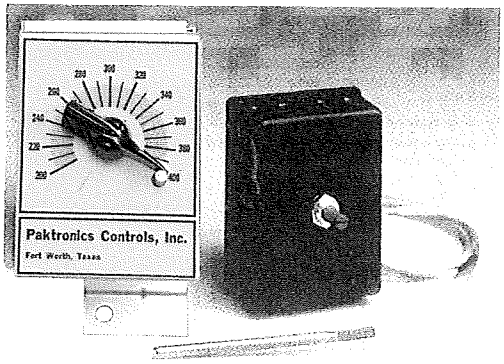
ITEM	ACTION	DTMR CONDITION
1	**ENSURE** the drain valve lever is in the CLOSED **UP** position and that shortening is at the proper level; then turn the Toggle ON/OFF switch to the **ON** position.	A. The **AMBER** power indicator will **LIGHT.** B. **BLUE READY** TO START lamp will **LIGHT.**
CAUTION: PRIOR TO PROCEEDING TO STEP 2 VISUALLY CHECK THAT THE HEAT MECHANISM IS COVERED WITH AT LEAST 2" (51 mm) OF SHORTENING.		
2	Press, then release the momentary **START** button.	A. **RED STARTED** lamp and **AMBER MELT MODE** lamp will light. B. **BLUE READY TO START** lamp will turn **OFF.** C. A **TIMER** in the Default-To-Melt electrical circuit will begin cycling the fryer heat mechanism **ON** for four (4) seconds and **OFF** for 36 seconds to safely heat the shortening
CAUTION: PRIOR TO PROCEEDING TO STEP 3, VISUALLY CHECK THAT SHORTENING COMPLETELY COVERS THE HEAT MECHANISM.		
3	Press, then release the momentary **EXIT MELT** button.	A. **AMBER MELT MODE** lamp will turn **OFF, RED STARTED** lamp will remain lit. B. The **TIMER** in the Default-To-Melt circuit will switch to the **FULL ON** position allowing the Electronic Thermostat to heat shortening to its pre-set temperature.
4	When the fryer's **RED** indicator lamp turns **OFF,** indicating the pre-set temperature has been reached, initiate a cook cycle.	

B. GAS FRYER - Safely operate an Ultrafryer Gas Fryer equipped with the DTMR as follows:

ITEM	ACTION	DTMR CONDITION
1	**ENSURE** the drain valve lever is in the CLOSED **UP** position and that shortening is at the proper level; then turn the Toggle ON/OFF switch to the **ON** position.	A. The **AMBER** power indicator will **LIGHT.** B. **BLUE READY TO START** lamp will **LIGHT.**
CAUTION: PRIOR TO PROCEEDING TO STEP 2 VISUALLY CHECK THAT THE HEAT MECHANISM IS COVERED WITH AT LEAST 2" (51 mm) OF SHORTENING.		
2	Press, then release the momentary **START** button.	A. **RED STARTED** lamp and **AMBER MELT MODE** lamp will light. B. **BLUE READY TO START** lamp will turn **OFF.** C. A **TIMER** in the Default-To-Melt electrical circuit will begin cycling the fryer heat mechanism **ON** for seven (7) seconds and **OFF** for 28 seconds to safely heat the shortening.
CAUTION: PRIOR TO PROCEEDING TO STEP 3, VISUALLY CHECK THAT THE SHORTENING COMPLETELY COVERS THE HEAT MECHANISM.		
3	Press, then release the momentary **EXIT MELT** button.	A. **AMBER MELT MODE** lamp will turn **OFF, RED STARTED** lamp will remain lit. B. The **TIMER** in the Default-To-Melt circuit will switch to the **FULL ON** position allowing the Electronic Thermostat to heat shortening to its pre-set temperature.
4	When the fryer's **RED** indicator lamp turns **OFF,** indicating the pre-set temperature has been reached, initiate a cook cycle.	

ELECTRONIC THERMOSTAT CALIBRATION

V **Electronic Thermostat CALIBRATION -** The Electronic Thermostat in all fryer configurations are equipped with a Dial and Knob and should be checked and calibrated when necessary as follows:



A. **ENSURE** electrical power and, if applicable, gas to the fryer has been turned **OFF.**

B. **CAREFULLY** drain sufficient shortening from the fryer to **LOWER** the shortening about 4" (102 mm) beneath the Electronic Thermostat sensing probe.

C. After the sensing probe has **COOLED,** loop the bead of an **ACCURATE** digital test thermometer temperature probe around the sensing element; then connect the probe to the thermometer.

D. Replace shortening drained in step B and **ENSURE** it is level with the shortening level mark on the rear of the vat; then turn the power and, if applicable, gas to the fryer **ON.**

E. Set the **KNOB** of the Electronic Thermostat to the **CENTER** (300) of the dial and periodically **STIR** the shortening in a **COUNTER-CLOCKWISE (CCW)** direction with a long handle skimmer to pull congealed shortening **UPWARD** from the Cold Zone area.

F. When shortening has reached the set temperature and the **RED** indicator lamp on the fryer has turned **OFF,** allow the Electronic Thermostat to cycle **ON** and **OFF** about five (5) times to stablize the system.

G. After the shortening temperature has stablized, record the temperature reading of the **TEST THERMOMETER** immediately after the **RED** indicator lamp and the fryer turns **OFF.**

H. **CAREFULLY** loosen the set screw on the Electronic Thermostat **KNOB** without turning the thermostat potentiometer, set the thermostat knob pointer to the temperature recorded by the test thermometer; then tighten the set screw on the thermostat knob taking care not to turn the thermostat's potentiometer.

I. Repeat steps A and B above, remove the test thermometer temperature probe from the Electronic Thermostat sensing element; then repeat step D to return the fryer to normal operation.

SERVICE AND PARTS

1. **TECHNICAL ASSISTANCE** - Contact an authorized service agent or the Customer Service Department, Ulftfryer Systems at 1-800-525-8130 for technical assistance.

2. **ORDERING INFORMATION:**

   A. **REPLACEMENT PARTS** - Provide the following information when ordering replacement parts by phone, fax or mail:

   Your company name and phone number
   Your company purchase order number
   Bill-to address
   Ship-to address
   Quantity desired
   Part number and description of the desired-item
   Your name or signature of authorized-buyer

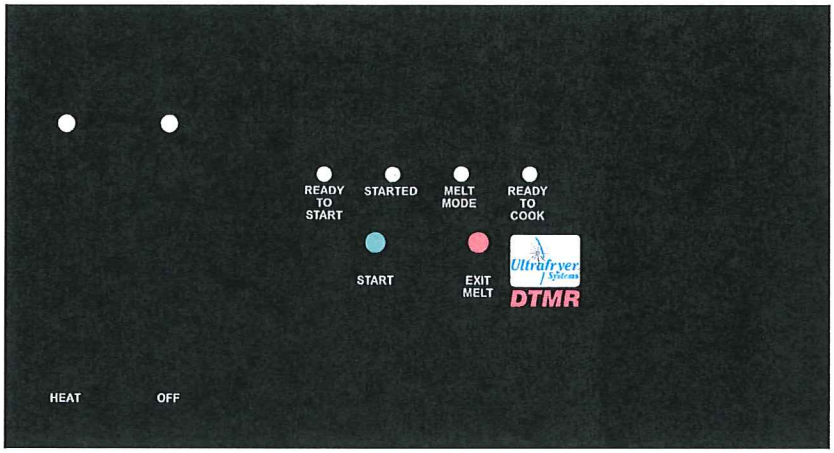
Phone in order to:	1-888-331-5031
FAX order to:	1-210-731-5099
Mail order to:	Ultrafryer Systems Order Entry Office P.O. Box 5369 San Antonio, TX 78201
E-Mail your order to:	Ultrafryerservice@afce.com

   B. **TERMS** - Net 30 days for customers on open accounts. Past due balances will be charged 1 1/2% per month (18% per annum) until full balance is paid.

   C. **DAMAGES** - Ultrafryer Systems is not responsible for damage occurring in transit. All deliveries must be inspected for damage to shipping containers prior to departure of the delivering carrier. Any damage must be notated on the receiving document to facilitate filing of freight claims. Carriers must be notified immediately and freight inspections must be requested from the carrier. Ultrafryer Systems can and will gladly assist you in preparing and processing of the necessary claims only if proper notification has been accomplished on the carrier delivery document. Damaged equipment and or containers must be available for the claims inspector to inspect.

   D. **RETURNS** - Ultrafryer Systems cannot guarantee credit for items returned without proper authorization. All returns must have prior Ultrafryer Systems Customer Service or Warranty department approval. An assigned number will be issued by the approval authority. Please print the assigned number on all returned packages and corresponding paperwork. Returned goods are subject to a 15% restocking charge. Ultrafryer Systems is not responsible for freight charges on returned goods unless authorized by Customer Service and or Warranty personnel. Ultrafryer Systems does not receive freight collect or C.O.D. shipments.

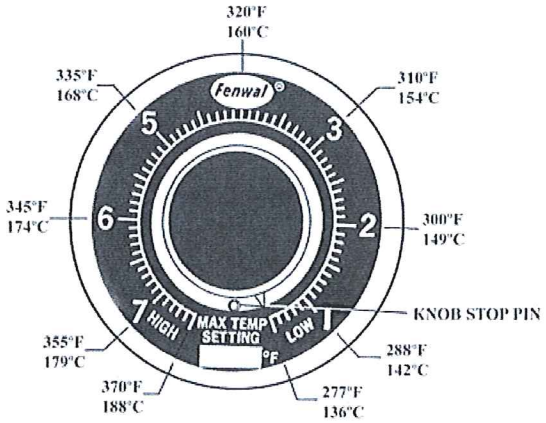
3. **PARTS IDENTIFICATION** - Locate the part on the following sketches and note the index number i.e, 1, 2, etc; then obtain the part number and description for that index number beneath the sketch. Use that part number when ordering a replacement part.



A. DTMR CONTROL FOR FRYERS EQUIPPED WITH A FENWAL THERMOSTAT PN 18-233

FENWAL THERMOSTAT DIAL

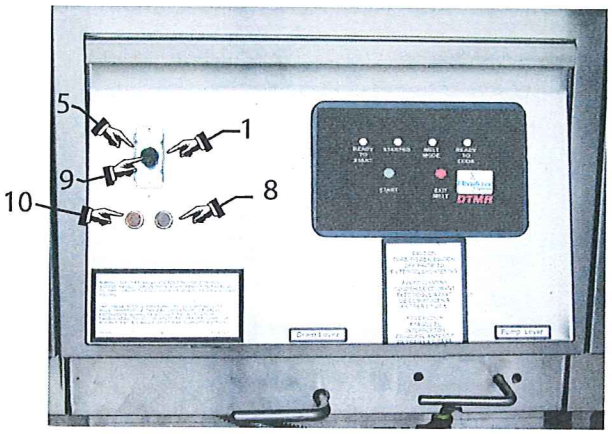
FRYER DESCRIPTION	DTMR PN
Model Par-2 Gas Fryer	12A259
Model Par-3 Gas Fryer	12A798
Model ZRT Gas Fryer	12A824
Model EU or Countertop Electric Fryer	12A265
Model ZRT Electric Fryer	12B051

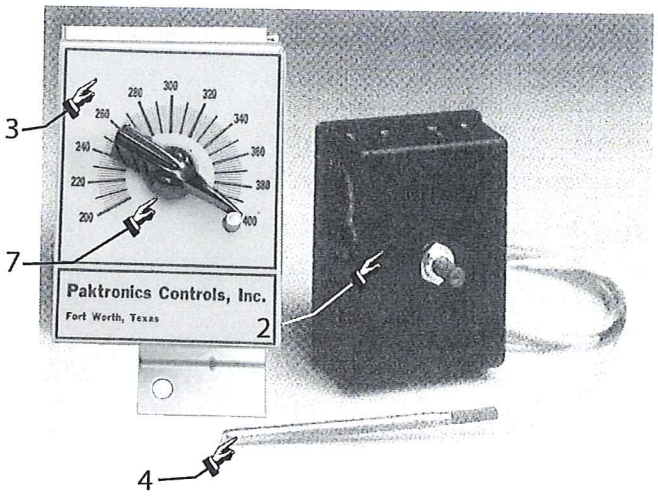


B. DTMR CONTROL FOR FRYERS EQUIPPED WITH AN ELECTRONIC THERMOSTAT PN 12B077

FRYER DESCRIPTION	DTMR PN
Model Par-2 Gas Fryer	12B057
Model Par-3 Gas Fryer	12B013
Model ZRT Gas Fryer	12B014
Model EU or Countertop Electric Fryer	12B070
Model ZRT Electric Fryer	12B069

ELECTRONIC THERMOSTAT DIAL





ITEM	DESCRIPTION	PN
1	Toggle ON/OFF Switch Guard	18-129
2	Electronic P14 Thermostat	18A058
3	Electronic Thermostat Face Plate	18A070
4	Temperature Probe	18A276
5	Toggle ON/Off Switch	18A287
*6	Electronic P14 Thermostat Bracket	19B174
7	Electronic Thermostat Knob	22A169
8	125 Volt 3 Watt Snaplight w/Red Lens	23-362
9	Toggle ON/OFF Switch Protective Boot	23-402
10	125 Volt 3 Watt Snaplight w/Amber Lens	23A056

* Not Shown

E5 COOKING CONTROL

PURPOSE: The purpose of the E5 cooking controller is to provide a simplified knob control using the thermistor probe. In addition, the E5 can provide either an ON/OFF type of control, similar to the Pakstat or a less aggressive proportional control to minimize temperature overshoot.

HOW DOES IT WORK: To activate the controller, flip the toggle switch, provided on the control box, to the on position. A yellow LED will come on. The fryer will be immediately turned on. Depending on current status of the fryer, the control will either activate the power train (heating elements on the electric fryer or the heat exchanger on the gas fryer) calling for heat or, if the fryer is up to the set point temperature, the fryer will stay in the ready mode and not call for heat. NOTE: The red heat demand LED will be on to signify the call for heat. This is located on the front face of the control panel next to the yellow "power on" LED. When you first switch on the control, a slight delay will occur while the control board powers up.

SEQUENCE OF OPERATIONS:

1. Select the set point on the potentiometer to the desired cooking temperature. NOTE: The potentiometer will be located on a bracket on the inside front of the fryer cabinet and will be calibrated by the manufacturer.

2. Turn the power toggle switch on. This will bring power to the control.
3. Fryer will turn on and bring the oil temperature up to the set point. If oil temperature is at the set point temperature, the fryer will be in the ready mode.
4. Fryer is ready to cook. The operator will be required to provide their own timing device i.e. timer, stop watch, clock, etc.

5. The fryer will turn on and power the fryer up or stay in the ready mode.

6. The fryer is ready to cook.

FEATURES OF THE E5 CONTROL

The control is a FAST E5 Mod electronic thermostat with on/off or proportioning control features. Unlike other knob type controls, the Proportioning feature controls the ascent of the oil temperature during ramp up when the fryer is first turned on or during a cook cycle. This reduces the amount of temperature overshoot and keeps a more uniform temperature throughout the vat.
The E5 is used in conjunction with the same thermistor probe used with the primary control. This eliminates the need for an additional probe.

CALIBRATION:

To calibrate the potentiometer for the controller follow these steps:

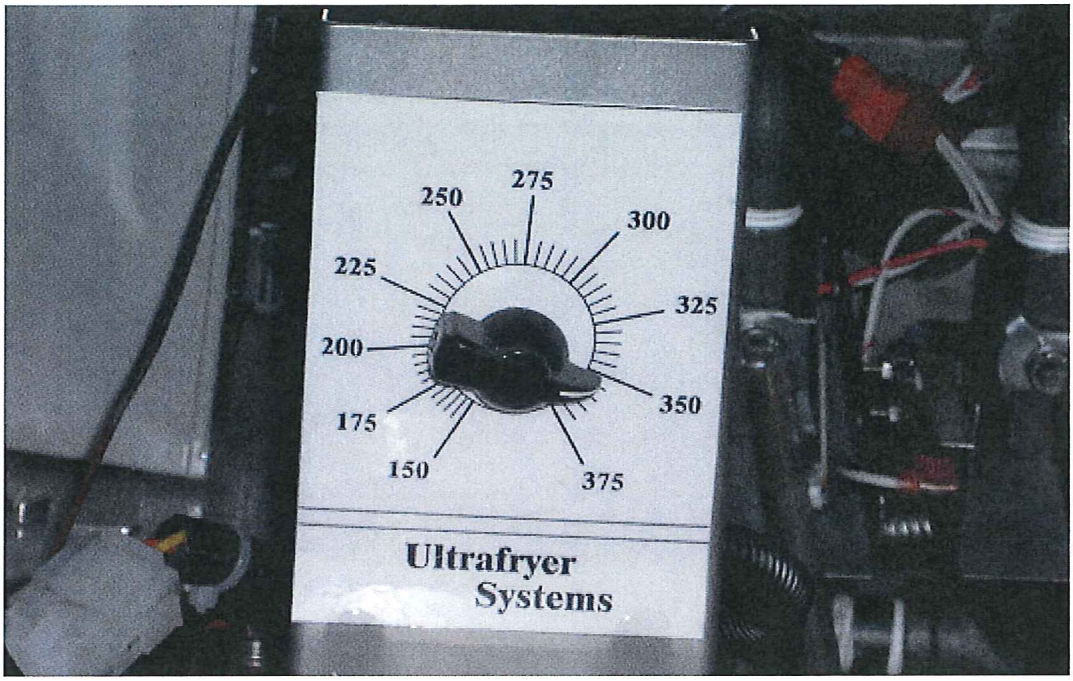
1. Remove the potentiometer bracket from the fryer by disconnecting the 3-pin connector attached to the potentiometer and loosening the speed nuts from the bracket.
2. With a small screwdriver, remove the black knob from the shaft of the potentiometer by loosening the set screw, located in the back of the knob.
3. Turn the shaft of the potentiometer CCW until it stops. The flat side of the shaft should be opposite the 150°F mark on the temperature scale.
4. Place the knob on the shaft with the pointer end (marked with a white line) of the knob aligned with the 150° line on the temperature scale and the back of the knob facing the flat side of the shaft.
5. While holding the pointer end of the knob aligned with 150° line, tighten the knob with the set screw until it stops against the flat side of the shaft. NOTE: Be sure the set screw is completely on the flat side of the shaft. DO NOT OVER TIGHTEN THE SET SCREW.
6. Check the pointer end of the knob alignment with 150° line on the temperature scale. The white line on the pointer end of the knob should be aligned with 150° line. If not, loosen the set screw, and turn the knob slightly to align the white line on the knob with the 150° line of temperature scale. Repeat this step until you are satisfied the alignment is correct.

7. Once the calibration is complete, turn the knob to the desired cooking temperature. Remount the potentiometer bracket and reconnect the 3 pin connector from the potentiometer.

8. To check the accuracy of the calibration, set the knob to the desired cooking temperature. Place the thermometer in the same area as the end of temperature probe, and as close to the probe as possible. Turn the fryer on and let the fryer run until it shuts off. Read the temperature. If the temperature of the oil is within +/- 10ºF of the set point, the fryer is ready to use. If the thermometer reading is less than or greater than +/- 10ºF, repeat steps 1 through 7. If you are still unable to obtain a satisfactory calibration, call customer service at 1-800-525-8130.

PARTS LIST

1) 22A687	**Controller, E5 W / Proportioning**	**1**
2) 22A688	**Controller, E5 W/O Proportioning**	**1**
3) 18A006	**Temperature Probe (Thermistor)**	**1**
4) 23A392	**Potentiometer, E5 Control**	1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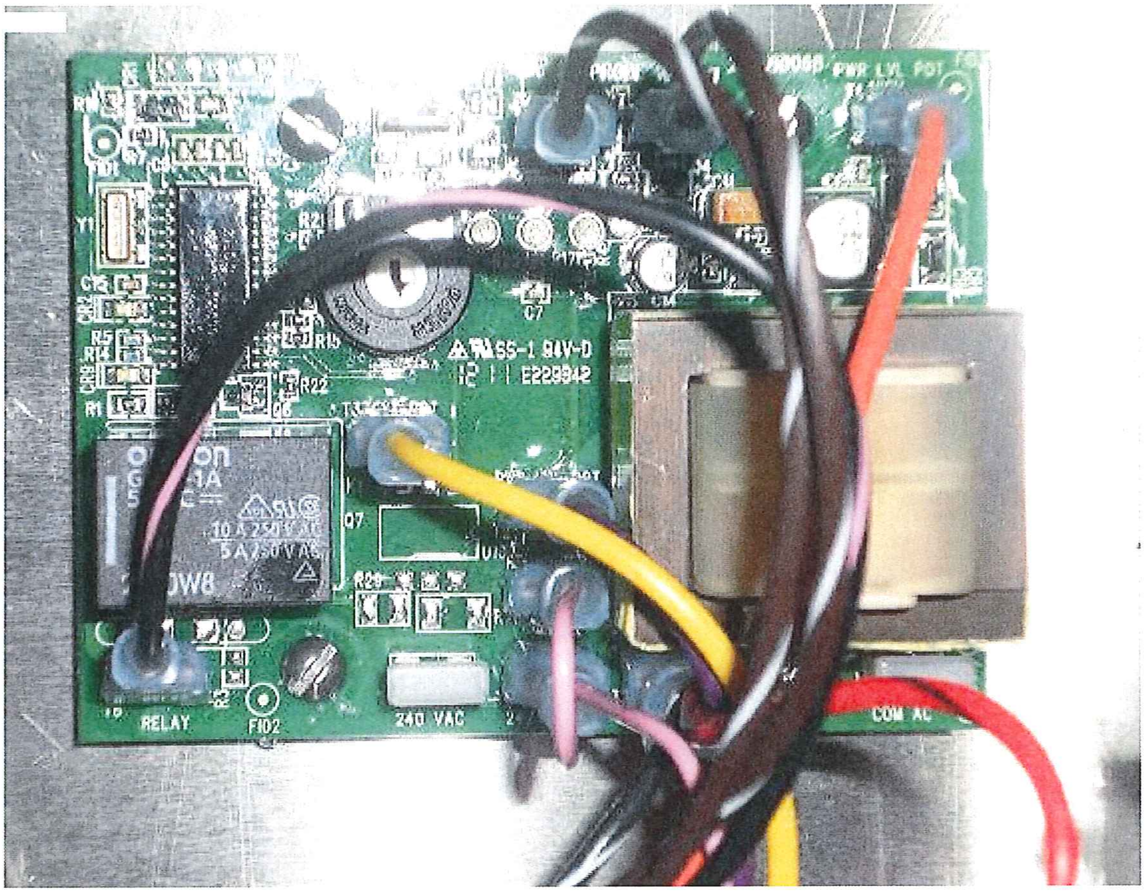
Ultrafryer
Systems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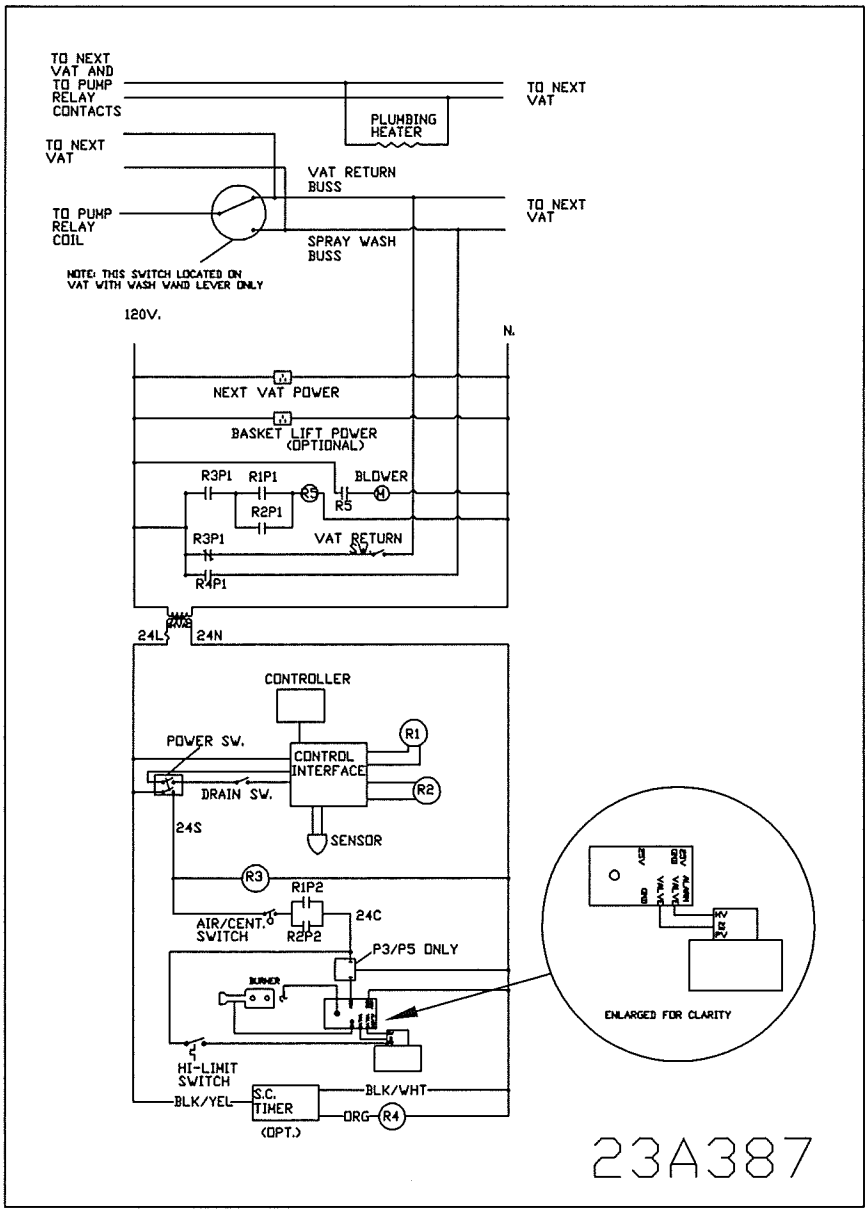
RELAY
FID2
240 VAC
COM AC


TO NEXT VAT AND TO PUMP RELAY CONTACTS
TO NEXT VAT
PLUMBING HEATER
TO NEXT VAT
VAT RETURN BUSS
TO PUMP RELAY COIL
TO NEXT VAT
SPRAY WASH BUSS
NOTE: THIS SWITCH LOCATED ON VAT WITH WASH WAND LEVER ONLY
120V.
N.
NEXT VAT POWER
BASKET LIFT POWER (OPTIONAL)
R3P1
R1P1
BLOWER
R2P1
R5
R3P1
VAT RETURN
R4P1
24L
24N
CONTROLLER
POWER SW.
CONTROL INTERFACE
R1
DRAIN SW.
R2
24S
SENSOR
R3
R1P2
AIR/CENT. SWITCH
R2P2
24C
P3/P5 ONLY
BURNER
HI-LIMIT SWITCH
BLK/YEL
S.C. TIMER
(OPT.)
BLK/WHT
ORG
R4
ENLARGED FOR CLARITY
23A387