



Diagnostic Microprocessor Control

Supplemental Owner's Manual
for Government Laundry Dryers



US HEADQUARTERS
831 SOUTH FIRST ST.
P.O. BOX 32270
LOUISVILLE, KY. 40232-2270

PHONE: (502) 587-1292
FAX: (502) 585-3625

DIAGNOSTIC MICROPROCESSOR CONTROL - FEATURES

Diagnostic Microprocessor Control (DMP)

1.0 General Operation

The Cissell Diagnostic Microprocessor Control (DMP) is designed to manage the drying and cooling cycles of the dryer. The controller is also programmed from the the factory with five different default programs as described below. The operator has the flexibility to select the time for the drying and cool down cycles and the drying temperature. The operator may also select either reversing or non-reversing basket action only if the dryer is equipped for reversing. The operator may also re-program the default programs. See paragraph 4.0.

Default Programs

Programs	Dry Time	Cool Time	Temp. Set Point	Reversing
1- 40 / High	40 Minutes	5 Minutes	180°F	Yes
2- 30 / High	30 Minutes	5 Minutes	180°F	Yes
3- 40 / Low	40 Minutes	5 Minutes	160°F	Yes
4- 30 / Low	30 Minutes	5 Minutes	160°F	Yes
5- Fluff	15 Minutes	2 Minutes	130°F	Yes

Note: If an altered program is determined to be corrupted, the default program settings will be used.

2.0 Features

1. Drying time: 0-60 minutes
2. Cooling time: 2-60 minutes
3. LED display of cycle time, set temperature, and actual temperature
4. Thermistor controlled temperature
5. Safety tumble cycle
6. Buzzer for end of cycle, audible alarm
7. Reversing/Non-reversing selection
8. Five user programmable programs
9. RPM display - (when equipped with rotational sensor only)
10. Monitors the sail switch operation
11. Monitors the lint door switch operation
12. Monitors the thermistor for operation

The minimum drying time is 0 minutes, and the minimum cooling time is 2 minutes. The maximum drying or cooling time is 60 minutes. The drying temperature may be set from 100°F (38°C) to 185/195°F (85/91°C). The drying time, cooling time, or temperature may be modified during an operating cycle.

If it is necessary to reset the drying and cooling times for the current cycle, press STOP once to stop the dryer. Press STOP again to cancel the cycle.

If it is necessary to change programs during a current cycle, press STOP once to stop the dryer and press STOP again to cancel the current cycle

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3.0 DIP Switch Settings

The DMP has an 8-position DIP switch bank that is accessible from the back of the control board. By switching these DIP switches, it is possible for the operator to customize the display and some of the operating features of the dryer.

Switch #	Function	Factory Settings	
1	Dryer Type	OFF	(OPL=Off; (Always set to off).
2	Temperature Units	OFF	(°F=Off; °C=On)
3	Local / Remote Reversing	ON	(Local=On; Remote=Off)
4	Sail Switch	OFF	(Enable=Off; Disable=On)
5	Lint Door Switch	OFF	(Enable=Off; Disable=On)
6	Buzzer Timer	ON	(5 Sec=Off; Continuous=On)
7	Safety Tumble	ON	(Enable = On; Disable = Off)
8	Programming	OFF	(Disable=Off; Enable=On)

Dip Switch Functions Explained

- #1 Dryer Type: This DIP switch selects the type of dryer, i.e. OPL or Coin.
- #2 Temperature Units: Selects °F or °C for the temperature display. Factory setting is for °F.
- #3 Local/Remote Reversing: Preset at the factory; usually for local reversing. Remote reversing for use with Cissell part # TU12874, Reversing Timer Board only.
- #4 Sail Switch: Preset at the factory; usually set for the sail switch to be monitored.
- #5 Lint Door Switch: Preset at the factory; usually set for the lint door switch to be monitored.
- #6 Buzzer Timer: This DIP switch determines the length of time that the end of cycle buzzer will remain on. "OFF" indicates that the buzzer will sound for 5 seconds when the drying cycle is completed. "ON" indicates that the buzzer will sound continuously until the "STOP" button is pressed, or the loading door is opened.
- #7 Safety Tumble, DIP switch #7 in the "ON" position enables the safety tumble.
- #8 Programming: This switch enables or disables the programming feature and should normally be in the "OFF" position.

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4.0 Programming

- 4.1 Set Dip Switch #8 to the "ON" position.
- 4.2 Select the desired program number to change. The LED should be flashing.
- 4.3 Select DRY TIME. Set the time with the UP/DOWN arrows.
- 4.4 Select COOL TIME. Set the time with the UP/DOWN arrows.
- 4.5 Select TEMPERATURE. Set the temperature with the UP/DOWN arrows.
- 4.6 Select reversing REV (illuminated) or non-reversing REV (not illuminated). To change basket direction and dwell time, see section 6.0 *Reversing Operation*.
- 4.7 Press and hold the PROGRAM select button about 3 seconds until the LED stops flashing. The selected program number is now programmed. If the PROGRAM button is pressed for less than 3 seconds, the controller will cancel the program and display the next program's settings. If not programmed correctly, the display will flash "E2F" for 4 seconds, and the default settings will be used. Follow steps 4.2 through 4.7 to re-program any program number. When finished, set DIP Switch #8 to "OFF." The programs are now stored.
- 4.8 During the program mode, if the UP/DOWN arrows, REV, or DISPLAY button is not pressed within 10 seconds the default program settings will be used.

5.0 Temporary Re-Programming of Current Programs (OPL only)

- 5.1 The Drying Time, Cooling Time, Temperature, and Reversing Mode of a program currently in use may be modified simply by adjusting any or all of the program parameters for that program, as needed. Once a modification has been made the current program LED will flash indicating that it has been modified.
- 5.2 Use the UP/DOWN arrows to adjust program time.
- 5.3 Use the Display Select button to choose between Drying Time, Cooling Time, and Temperature. Then use the UP/DOWN arrows to adjust the times and temperature.
- 5.4 Toggle between reversing REV (illuminated) or non-reversing REV (not illuminated). * Only for dryers with the reversing option.
- 5.5 To cancel this temporary programming mode push the "STOP" button once to stop the current cycle and once more to cancel the modified program settings. The program will revert back to its original settings.

6.0 Reversing Operation

- 6.1 When the LOCAL reversing operation is selected, the reversing times are stored in the EEPROM which is located on the controller board. If the values stored are determined to be invalid the clockwise and counter-clockwise times will default to 60 seconds, and the dwell time will default to 4 seconds.
- 6.2 The reversing time program has the following sequence: (1) clockwise time, (2) dwell time, and (3) counter-clockwise time.
- 6.3 To program new reversing times DIP switches #3 and #8 must be on.
- 6.4 Press and hold the reverse button (REV) for 3 seconds to display the clockwise time.
- 6.5 Use the UP/DOWN arrows to set the clockwise time within the range of 30-120 seconds.
- 6.6 Press REV to display the dwell time.
- 6.7 Use the UP/DOWN arrows to change the dwell time within the range of 3-10 seconds.
- 6.8 Press the REV button to display the counter-clockwise time.
- 6.9 Use the UP/DOWN arrows to change the counter-clockwise time within the range of 30-120 seconds.
- 6.10 Press the REV button to save these settings and leave DIP Switch #3 in the "ON" position and flip DIP Switch #8 to the "OFF" position.

When the DMP controller is retrofitted to an existing dryer with the reversing feature, off board reversing will be required and DIP Switch #3 on the DMP must be in the "OFF" position and the DMP must be connected to the Reversing Timer Board, Cissell part # TU12874 for proper operation. The DMP settings for clockwise, dwell, and counter-clockwise times are no longer valid when used with the Reversing Board. Instead these settings are made on the Reversing Timer Board.

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7.0 Rotation Sensor

The rotation sensor must “read” the key on the basket shaft. The sensor must be set approximately 1/4" from the key. Look for the light on the sensor to come on as the key passes the sensor; this is a correctly operating sensor. If no light appears either the sensor is out of range of the key or the sensor is bad. In addition, if the light stays on continuously then the sensor is too close to the shaft or the sensor is bad.

7.1 Safety Tumble/Anti-Wrinkle

At the end of the cooldown cycle, the dryer will stop and display “END.” The DMP control will automatically rotate the basket for 5 seconds every 2 minutes for a total of 20 minutes, until some function of the dryer is activated/deactivated by the user.

8.0 Operational Check for the Board Diagnostics

- 8.1 “dor” indicates that the loading door is open.
- 8.2 “ldr” indicates that the lint door is open.
- 8.3 Cycle the dryer to check if the buzzer activates.
- 8.4 “P-F” indicates that the thermistor is short circuited or open circuited.
- 8.5 Hold the sail switch shut for a few seconds during start up -- Display reads “FSS.” To clear the display, release the sail switch to normal operation, press STOP then press START.
- 8.6 Hold the sail switch open during operation for more than 3 seconds -- Display reads “FSS.” To clear the display, release the sail switch to normal operation, press STOP then press START.
- 8.7 “bbt” indicates a broken belt condition or a faulty rotation sensor. * Only available on dryers with the rotation sensor.
- 8.8 Hold the START button to display the drum RPM's; the display will read “r##” where ## are the RPM's. * Only available on dryers with the rotation sensor.
- 8.9 “cln” indicates that the lint door has not been opened within 10 hours of operation.
- 8.10 “cln” is displayed and the dryer will not start if the lint door has not been opened before 20 hours of operation.

9.0 Description of the OPL Control Panel *(See illustration on page 7)*

- 1. **START.** Starts or resumes the current program or cycle.
- 2. **STOP.** Temporarily halts the current cycle or cancels the current program.
- 3. **REVERSING/NON-REVERSING (REV).** Changes the selection between reversing and non-reversing dryer action.
- 3.1 **REVERSING LED.** Illuminated when set for reversing.
- 4. **UP/DOWN ARROWS.** Increases or decreases the value in the display. In conjunction with the DISPLAY button, these buttons are used to adjust the drying time, cooling time, temperature, clockwise time, dwell time, counter-clockwise time, and minutes per coin (COIN only).
- 4.1 **DISPLAY.** Displays the drying time, cooling time, drying temperature, and diagnostic codes.
- 5. **DISPLAY SELECT.** Toggles the display between the drying time, cooling time, and temperature settings. Pressing the DISPLAY button for 3 seconds allows the user to display the drying cycle temperature.
- 5.1 **DRYING LED.** Illuminated when in the drying cycle.

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(Description of OPL Control Panel Continued)

- 5.2 **COOLING LED.** Illuminated when in the cooling cycle, or when the display is currently showing the time for the cooling cycle.
- 5.3 **TEMPERATURE LED.** Illuminated when the display is showing the temperature setting.
- 6. **PROGRAM SELECT.** This button toggles through the five user programmable programs. Holding this button will save a program, as indicated in section 4.7.
- 6.1 **USER PROGRAM LEDS.** Illumination shows which user program is currently being displayed.

DIAGNOSTIC MICROPROCESSOR CONTROL - DETAILS OF OPL CONTROL BOARD

