



Nordson Corporation

OPERATOR'S CARD

P/N 1045825A

EcoDry™ Series Induction Dryer

Safety



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.



WARNING: The dryer contains high voltages that can be fatal. Keep the coil tray lid, enclosure doors, and rear access panel closed and locked while operating the dryer.



WARNING: Laser radiation. The motion sensor is a laser device. Do not look directly into the laser beam. Doing so could result in serious eye injury.

- follow the instructions in this operator's card and the referenced manuals.
- obtain and read the Material Safety Data Sheets for all materials used.

Startup

1. Turn the main disconnect switch to the ON position.

2. Make sure that the:

- coil tray lid is closed and locked
- enclosure doors are closed and locked
- rear access panel is fastened in place
- Emergency Stop switch is in the released position

3. Press the green POWER pushbutton.

The power indicator lights and the system runs a self test. The temperature controller displays the current temperature of the product in contact with the thermocouple, or the ambient air temperature in the exit hub.

When the self test is complete:

- If no faults are detected then the system is ready to operate.

- If a fault occurs during the test, the FAULT pushbutton/indicator and appropriate yellow fault LED is lit. Refer to *Troubleshooting* to correct the problem.

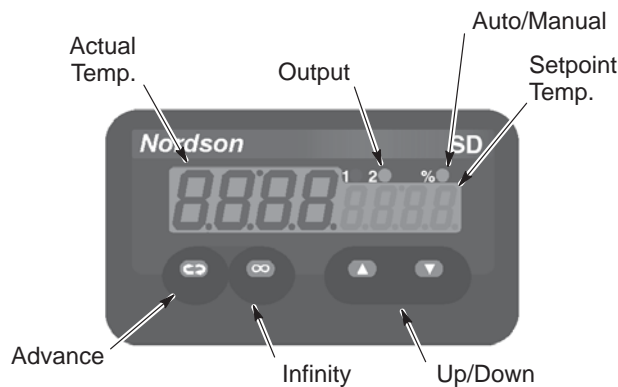
4. Start your production line and run can ends through the dryer.

The system powers the induction coil and heats the can ends whenever the motion sensor detects moving can ends. When the line stops, the dryer automatically stops heating the ends. It automatically resumes heating when the line restarts.

The dryer starts in Ramp Mode. After a pre-set period of time, as long as the line does not stop, temperature control will shift to PID control. The Ramp Mode LED turns off and the RF On/Run LED lights. If the line stops and then starts, the dryer will switch back to Ramp Mode and the process will repeat.

Temperature and Alarm Adjustments

Temperature Controller



Use the Temperature Controller to set the desired can end exit temperature and alarm high/low limits.

Temperature Controller Operator Interface

Actual Temp: Can end temperature at dryer exit, sensed by thermocouple in exit hub.

Output: Indicates output signal from controller to dryer PLC.

Setpoint Temperature: Desired can end temperature, set by operator.

Auto/Manual: When lit, controller is in Manual mode and PID temperature control is off. When not lit, controller is in Auto mode (normal operating mode).

Advance button: Press to change operator-configurable parameters. Each press toggles to next parameter. Parameter prompt appears in Setpoint display.

Infinity button: Press to return controller displays to normal operating mode.

Up/Down buttons: Press Up to increase setpoint temperature or operator-configurable parameters; Down to decrease.

Setpoint Temperature Adjustment

Press the **Up** (▲) or **Down** (▼) buttons to change the setpoint temperature. This can be done at any time, as long as the controller is in Auto mode (% indicator off). Typical setpoint is 65–70 °C.

Operator-Configurable Parameters

The following table contains the operator-configurable temperature controller parameters.

If you need to adjust these settings, press the **Advance** button until the desired prompt appears in the setpoint display, then use the **Up** and **Down** buttons to change the parameters.

Operator-Configurable Parameters		
Parameter	Prompt	Factory Setting
Power Output Level	(Live reading)	none
Operation Mode	A-P7	Auto
Calibration Offset	CAL	0
Heat Control Method	hEPT	PID (Proportional-Integral-Derivative)
Proportional Band Heat	Pbht	Customer specific: Refer to EcoDryer technical manual
Integral Heat	Ieht	Customer specific: Refer to EcoDryer technical manual
Derivative Heat	dEht	Customer specific: Refer to EcoDryer technical manual
Alarm 2 High Temperature	A2h.	20 (setpoint plus 20 degrees)
Alarm 2 Low Temperature	A2Lo	-10 (setpoint minus 10 degrees)
NOTE: Normally, these settings are made during the initial dryer setup and will not have to be changed.		

Run Status and Fault LEDs

Refer to *Troubleshooting* in your EcoDry Induction Dryer manual for corrections to problems indicated by the fault LEDs.

LED	Lights or flashes when:
RF ON/RUN	ramp mode is completed and PID control of heating begins.
MOTION	motion is detected at dryer entrance, flashes as can ends are detected.
AIR HEATERS ON	air heater is operating (should be lit continuously when dryer is running).
RAMP MODE	dryer is in ramp mode. Ramp mode is activated whenever power to the coil is turned on, at dryer startup or after an idle period. When ramp mode is complete, this LED turns off and the RF On/Run LED lights.
INTERLOCK FAULT	coil tray lid or control enclosure doors are opened.
AIR HEATER FAULT	air heater temperature too high or heater contactor fails.
COOLING BLOWER FAULT	air pressure in coil tray falls, indicating a blower or air flow problem (opening coil tray lid or enclosure doors during operation will cause this fault).
PRODUCT TEMP WARNING	product temperature at exit exceeds Alarm High setting or falls below Alarm Low setting. Temperature controller displays A2.Hi (High) or A2.Lo (Low). Dryer continues to operate for a pre-set time. If the temperature returns within the alarm limits before the timer expires, the LED turns off. If the alarm continues, the coil power shuts off, the LED lights continuously and the FAULT pushbutton/indicator lights.
OVER CURRENT	excessive current is detected in RF tank circuit.
TANK VOLTAGE FAULT	over or under voltage is detected in tank voltage.
OUT OF LOCK	the phase-lock loop fails to lock phase with the resonant tank frequency.
INVERTER TEMP FAULT	the inverter temperature exceeds the factory preset.
EXTERNAL INTERLOCK	a stop signal is received from the external customer interlock.

Shutdown

To shut down the dryer, press the OFF pushbutton on the operator panel.

Once the dryer has shut down, you can then turn off power at the dryer main disconnect.

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