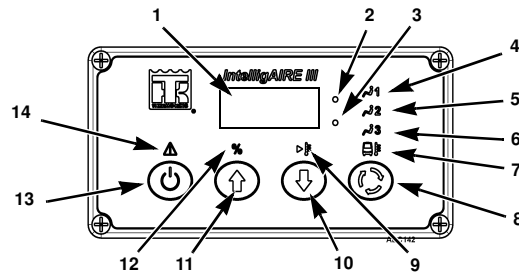


## DRIVER'S DISPLAY MODULE



Item	Description
1.	3-Digit Display
2.	Red LED Indicator - HEAT Mode
3.	Blue LED Indicator - COOL Mode
4.	Zone 1 Indicator
5.	Zone 2 Indicator
6.	Zone 3 Indicator
7.	Ambient Air Temperature Indicator
8.	Zone Select Key
9.	Setpoint Indicator
10.	Down Arrow Key
11.	Up Arrow Key
12.	Percent Indicator
13.	On/Off Key
14.	Alarm Indicator - Red or Yellow

## SYSTEM SETUP MODE

**NOTE:** Not all features may be available due to system configuration or customer specifications.

**NOTE:** Setup Mode is disabled if the lockout bit is set in the configuration file.

1. Press and hold and for 3 seconds.

Digital Display	Settings	Description	Default
dEg	F or C	Unit of Temperature (Fahrenheit or Celsius)	F
PSI	A or g	Pressure Scale (absolute or gauge)	g
CC	rh or Cy	Clutch Control (reheat or cycling)	rh
SPH	62-82 F or 17-28 C	High Setpoint Limit	82
SPL	62-82 F or 17-28 C	Low Setpoint Limit	62

2. Press or to change settings.

3. Press to scroll through menu selections.

4. Press to return to normal operation.

## TEMPERATURE READOUT MODE

1. Press and hold for 3 seconds.

The LED display will show 'rtS' for 1 second then will display the actual return air temperature sensor reading for 2 seconds. The cycle will repeat continuously.

Digital Display	Temperature Readout
rtS	Return Air Temperature
ctS	Evaporator Coil Temperature
dtS	Discharge Air Temperature
cdS	Compressor Discharge Temperature
atS	Ambient Air Temperature
bcS	Battery Cooler Coil Temperature
utS	Water Temperature

2. Press or to read additional sensors.

3. Press to view sensors in another zone.

## PRESSURE READOUT MODE

1. Press and hold for 3 seconds.

The LED display will show 'SP1' for 1 second then will display the actual suction pressure transducer 1 reading for 2 seconds. The cycle will repeat continuously.

Digital Display	Pressure Readout
SP1	Suction Pressure 1
DP1	Discharge Pressure 1
SP2	Suction Pressure 2
DP2	Discharge Pressure 2

2. Press or to read additional transducers.

3. Press to view transducers in another zone.

4. Press to return to normal operation.

## SERVICE TEST MODE

**NOTE:** Service Test Mode is disabled if the lockout bit is set in the configuration file.

1. Press and hold and for 3 seconds.

2. Press to scroll through menu selections.

3. Press or once to start a test.

4. Press to return to normal operation.

Display	Service Test
rt	Relay Test - manually energizes each output.
EF	Evaporator Fan Test - manually control evaporator fan speed 0 to 100%.
CF	Condenser Fan Test - manually control condenser fan speed 0 to 100%.
CU	Coolant Valve Test - manually control coolant valve position 0 to 100%.
dP	Damper Test - manually control damper position 0 to 100%.
Ft	Functional Test - forces unit to operate in Cool, Heat or Vent mode.
Pt	Pre-Trip Test - automatically energizes each output.

**Relay Test** - To start a relay test, select "rt" from the Service Test menu and press Up or Down key. The display will show "r00" (all relays off). Press the Up arrow key to advance to the next relay. Press the Down arrow key to back up to previous relay.

Display	Relay Test
r00	All relays are de-energized.
r01	Clutch output 1 energized.
r02	Clutch output 2 energized.
r03	Evaporator high speed output energized.
r04	Evaporator medium speed output energized.
r05	Evaporator low speed output energized.
r06	Condenser high speed output energized.
r07	Condenser low speed output energized.
r08	Boost pump output energized.
r09	Coolant valve output energized.
r10	Liquid line valve output energized.
r11	Loading valve output 1 (bottom) energized.
r12	Loading valve output 2 (top) energized.

**Evaporator Fan Test** - To start the evaporator fan test, select "EF" from the Service Test menu and press Up or Down key. The display will show "EH" (evaporator high speed). Press the Up arrow key to increase the speed. Press the Down arrow key to decrease the speed.

Display	Evaporator Fan Test
EH	Evaporator High Speed
En	Evaporator Medium Speed
EL	Evaporator Low Speed

**Condenser Fan Test** - To start the condenser fan test, select "CF" from the Service Test menu and press Up or Down key. The display will show "CH" (condenser high speed). Press the Up arrow key to increase the speed. Press the Down arrow key to decrease the speed.

Display	Condenser Fan Test
CH	Condenser High Speed
CL	Condenser Low Speed

**Coolant Valve Test** - To start the coolant valve test, select "CU" from Service Test menu and press Up or Down key. Display will show 0% (coolant valve closed). Press Up arrow key to increase% open. Press Down arrow key to decrease% open.

**Damper Test** - To start the damper test, select "dp" from menu and press Up or Down key. Display will show 0% (damper closed). Press Up arrow key to increase% open. Press Down arrow key to decrease% open.

**Functional Test** - To start a functional test, select "Ft" from the Service Test menu and press Up or Down key. Display will show "CH" (Cool High Test). Unit will start operation in the selected mode. Press Up arrow to advance to next test. Press Down arrow key to return to previous test.

Display	Functional Test
CH	Cool High Test
Cn	Cool Medium Test
CL	Cool Low Test
HH	Heat High Test
Hn	Heat Medium Test
HL	Heat Low Test
UH	Vent High Test
Un	Vent Medium Test
UL	Vent Low Test

**Pre-Trip** - To start a pre-trip, select "Pt" from the Service Test menu and press Up or Down key. The display will show "Pt" flashing (Pre-trip in Process). Blue LED will illuminate during cooling portion of pre-trip test and Red LED will illuminate during the heating portion of the pre-trip test. At the end of the pre-trip test the display will show "PAS" if test was successful or "FAL" if test failed.


## ALARM READOUT MODE

1. Press and hold  for 3 seconds.

The LED display will show the first active alarm code. See Alarm Codes for more specific alarm information.

**NOTE: If there are no alarms currently active, the display will show "---**

2. Press  or  to read additional alarms.

3. Press  to return to normal operation.

## ALARM CODES

**NOTE: See Diagnostic Manual TK 54650-3-OD for alarm codes 00-199 ECM ID1 and 200-299 ECM ID2.**

**000-099 ECM ID0**

**Y= yellow check alarm R= red shutdown alarm 0= no alarm**

**CODE TYPE DESCRIPTION OF ALARM**

000		No Alarm
001	R	Clutch 1 output open circuit
002	R	Clutch 1 output short circuit
003	Y	Low pressure cut-out compressor 1
004	R	High pressure cut-out compressor 1
005	R	Low pressure cut-out compressor 1 cycled 5 times in 10 min.
006	R	Low pressure cut-out compressor 1 longer than 1 min.
007	Y	Return air temperature sensor failure - low value
008	Y	Return air temperature sensor failure - high value
009	Y	Evaporator coil temperature sensor failure - low value
010	Y	Evaporator coil temperature sensor failure - high value
011	Y	Ambient temperature Sensor failure - low value
012	Y	Ambient temperature Sensor failure - high value
013	Y	Battery cooler coil temperature sensor failure - low value
014	Y	Battery cooler coil temperature sensor failure - high value
015	Y	Discharge air temperature sensor failure - low value
016	Y	Discharge air temperature sensor failure - high value
017	Y	Water temperature sensor failure - low value
018	Y	Water temperature sensor failure - high value
019	Y	Compressor discharge temp. sensor failure - low value
020	Y	Compressor discharge temp. sensor failure - high value
021	R	Clutch 2 output open circuit
022	R	Clutch 2 output short circuit
023	Y	Low pressure cut-out compressor 2
024	R	High pressure cut-out compressor 2
025	R	Low pressure cut-out compressor 2 cycled 5 times in 10 min.
026	R	Low pressure cut-out compressor 2 longer than 1 min.
027	R	Clutch 1 cycling

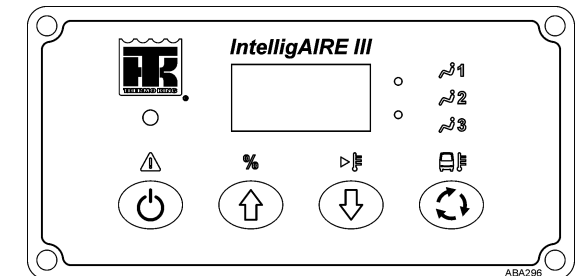
## ALARM CODES (continued)

028	R	Clutch 2 cycling
029	O	Evaporator coil 1 frozen
030	O	Evaporator coil 2 frozen
031	Y	Compressor discharge temperature warning
032	R	Compressor discharge temperature shutdown
033	Y	Fresh air servo 1 failed during initialization
034	Y	Fresh air servo 1 failure
035	Y	Fresh air servo 2 failed during initialization
036	Y	Fresh air servo 2 failure
037	Y	Coolant valve servo 1 failed during initialization
038	Y	Coolant valve servo 1 failure
039	Y	Coolant valve servo 2 failed during initialization
040	Y	Coolant valve servo 2 failure
047	Y	EEPROM error
048	Y	Configuration check sum error
050	Y	Evaporator fan low speed output open circuit or underload
051	Y	Evaporator fan low speed output short circuit or overload
052	Y	Evaporator fan med.speed output open circuit or underload
053	Y	Evaporator fan med. speed output short circuit or overload
054	Y	Evaporator fan high speed output open circuit or underload
055	Y	Evaporator fan high speed output short circuit or overload
056	Y	Condenser fan low speed output open circuit or underload
057	Y	Condenser fan low speed output short circuit or overload
058	Y	Condenser fan high speed output open circuit or underload
059	Y	Condenser fan high speed output short circuit or overload
060	Y	Loading valve 1 output open circuit or underload
061	Y	Loading valve 1 output short circuit or overload
062	Y	Loading valve 2 output open circuit or underload
063	Y	Loading valve 2 output short circuit or overload
064	Y	Boost pump relay output open circuit or underload
065	Y	Boost pump relay output short circuit or overload
066	Y	Liquid line valve output open or underload
067	Y	Liquid line valve output short circuit or overload
068	Y	Coolant valve output open circuit or underload
069	Y	Coolant valve output short circuit or overload
071	Y	Evaporator blower fault
072	Y	Condenser fan fault
073	Y	Discharge pressure transducer 1 out of range - low
074	Y	Discharge pressure transducer 1 out of range - high
075	Y	Discharge pressure transducer 2 out of range - low
076	Y	Discharge pressure transducer 2 out of range - high
077	Y	Suction pressure transducer 1 out of range - low
078	Y	Suction pressure transducer 1 out of range - high
079	Y	Suction pressure transducer 2 out of range - low
080	Y	Suction pressure transducer 2 out of range - high
093	Y	Low voltage on 2D circuit
095	Y	Low cooling capacity
096	Y	Low heating capacity
097	Y	Low coolant level
098	Y	Low voltage on 2A circuit
099	Y	Low voltage on 2B circuit

 **THERMO KING**

# IntelligAIRE III

## Diagnostic Procedures



**Using Driver's Display Module**

TK 54960-3-PC (Rev. 1, 01/13)

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