

AoFrio

USER MANUAL

SCS controller - Other advanced parameters

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Introduction

All parameters in this appendix relate to advanced control functionality and are not visible as standard. Any parameter can individually be made visible on a per company basis on request.

Changing any of these parameters should only be done by a qualified person who fully understands the implications of the parameter change.

WARNING

Changing these parameters from their default can have serious effects on the operation of the SCS. AoFrio does not take responsibility for any adverse effect on the refrigeration system due to customers modifying of these parameters.

Door – Adv : Configuration

Sensorless Door Threshold

The sensitivity to a temperature change for determining a sensorless door opening.

Digital Display	Increments & Units	Parameter Range	Default
sdt	0.01 °C	0.10 to 1.00 or disabled	0.40 °C

Motion Detection Threshold

The sensitivity to detecting a motion. The lower the value, the greater the sensitivity.

Digital Display	Increments & Units	Parameter Range	Default
Adt	1 count	1 to 255	25 counts



Timers & Counters

Door Switch Fail Delay

The time after a door is seen as open before the system determines the door switch has failed. After this time, the system will ignore the door switch and run normally, until a door closed state is seen, which resets the timer.

Digital Display	Increments & Units	Parameter Range	Default
dFd	1 min	5 to 15	10 mins

Motion Sensor Trigger Count

The number of motion counts required before the cooler will change standby state (equivalent to a single door opening).

Digital Display	Increments & Units	Parameter Range	Default
AtC	1 count	1 to 4	3 counts

Compressor - Adv : Temperature

Return Air Under Temp Differential

The temperature below the normal mode setpoint at which all outputs will be turned off. This is to compensate for incorrect wiring, where the compressor may be wired to a different output, resulting in continuous compressor running, even though the controller thinks the compressor is off. Normal operation will resume once the setpoint + differential of the current mode is reached.

Digital Display	Increments & Units	Parameter Range	Default
rud	0.1 °C	0.1 to 20.0	3.0 °C

High Temperature Differential

The temperature below the Condenser High Temperature Limit (hCt), which will allow the Compressor to turn back on after a Condenser High Temperature Limit (hCt) event. The temperature must remain below this level for the time period defined in High Temperature Reset Delay (htr) before the Compressor will turn back on.

Digital Display	Increments & Units	Parameter Range	Default
htF	1 °C	10 to 100	20 °C



Compressor - Adv : Temperature continued

Minimum Compressor On Time

The minimum time that the Compressor will run, unless a protective control limit stops it. This function is used to reduce the number of Compressor starts per hour to improve efficiency.

Digital Display	Increments & Units	Parameter Range	Default
rnt	1 min	0 to 30	0 mins

Overpressure Timeout

The minimum time the compressor is forced off for after an overpressure trip is detected.

- disabled = An overpressure trip will not be detected, and the compressor output will remain on.

Digital Display	Increments & Units	Parameter Range	Default
OPt	1 min	1 to 240 or disabled	disabled

Overpressure Lockout Reset Time

The time after an over pressure trip before it clears the overpressure counter used by the "Overpressure Lockout Count" function.

The overpressure counter is incremented every time an overpressure trip occurs, but does not decrement, instead it is only cleared after this defined time without an overpressure trip.

Digital Display	Increments & Units	Parameter Range	Default
Ort	1 hour	1 to 72	24 hour



Alarms

Overpressure Lockout Count

The number of consecutive overpressure events that can occur within the “Overpressure Lockout Reset Time” of the previous overpressure trip before a system shutdown will occur.

- disabled = Allows indefinite overpressure trips without causing a system shutdown

This overpressure trip count is only cleared if no overpressure trips occur after “Overpressure Lockout Reset Time”.

Digital Display	Increments & Units	Parameter Range	Default
OLC	text	1 to 16 or disabled	6

Overpressure Timeout

The number of times that the Condenser can exceed the Condenser High Temperature Limit (hCt) in an 8hr period before it is locked out to prevent damage. Important.

Note: This protective function cannot be reset by power cycling the cabinet on and off; it can only be reset by an authorized Service Technician.

- disabled = Allows indefinite condenser high temp trips without causing a system shutdown

Digital Display	Increments & Units	Parameter Range	Default
htC	1 count	0 to 30 or disabled	disabled

Supply - Adv : Supply

Minimum Run Compressor Voltage

The minimum Voltage during which the Compressor is allowed to continue to run. This allows a lower run voltage than start voltage. If it is below this Voltage the Compressor cannot run and turns off. If the Voltage rises to an acceptable level then the Compressor can restart, but only after the Voltage has been maintained for a delay period. These events are logged in the SCS™ controller.

- disabled = Run Voltage equals Start Voltage.

Digital Display	Increments & Units	Parameter Range	Default
LrC	1 Vac	79 to 203 or disabled	disabled



Display - Adv : Display

Downwards Temperature Display Filter

The minimum time between display changes of 0.1degC when the temperature is trending downwards. This prevents misleading temperature spikes being shown. If this is disabled, there is no downward display filter.

Digital Display	Increments & Units	Parameter Range	Default
ddF	1 sec	0 to 30 or disabled	disabled

Configuration

Keypad Touch Threshold

Calibration level for the touchpad sensitivity.

Digital Display	Increments & Units	Parameter Range	Default
Ctt	integers	0 to 30	12

Hardware Set-up : Outputs

Uart Baud Rate

Selects the bit-rate used when using MODBUS communications on the AD4 channel

Digital Display	Increments & Units	Parameter Range	Default
-	text	57600,38400,19200 or 9600	57600

General Alarms Menu : Alarms

Terminal Alarm Config*

Selects which alarms can be reset by a power cycle

- 0 = Overpressure (AL29) can be reset by a power cycle
- 1 = Overpressure (AL29) CANNOT be reset by a power cycle

Digital Display	Increments & Units	Parameter Range	Default
tAC	integers	0 to 1	0

* FW version 4010 and above

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