



Controller Specifications

- Input Power: 240/230 VAC
- Input Power Range: 90 - 250 VAC
- Max. Output Power: 3600W (15 Amps)
- Frequency: 60 Hz / 50 Hz

Instructions for Installation

Control Modules can be installed in industry standard Portable Control (PC) Enclosures. Before installing individual Control Modules, make certain each Module will fit into the PC Enclosure correctly and securely. Contact INCOE for assistance if necessary.

Initial Start Up

Referencing the input power supply diagram on the PC Enclosure, connect the PC Enclosure to the appropriate plant power supply with suitable ground.

Inspect all wiring to and from the PC Enclosure.

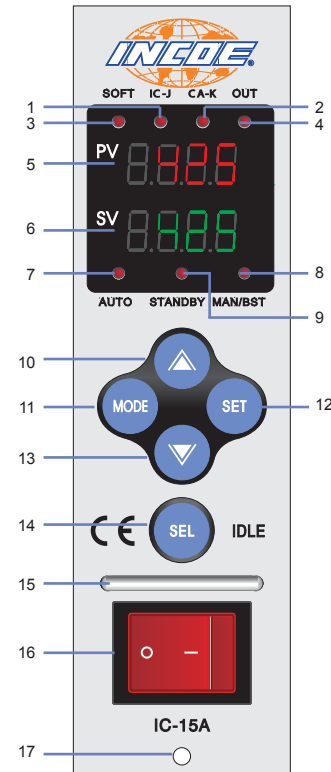
With the power **OFF**, install the individual Control Modules into the PC Enclosure. **Note:** To prevent electrical shock or damage to the I-Series Controller, power to the PC Enclosure **MUST** be turned off when installing or removing Control Modules.

Using the circuit breaker, turn on the PC Enclosure.

Turn on individual I-Series Control Modules using the power switch. Each Module will enter into an IDLE (IdL) state. Thermocouple temperature is shown on the PV display, and the Module will output 0% power.

To enter into Automatic Operation from the IDLE (IdL) state, press and hold the **SEL** button for one second. The Control Module will now operate with its stored parameters. To change these parameters, refer to the reference tables.

Module Interface



Interface Features		
1	IC-J LED	Type J TC indicator
2	CA-K LED	Type K TC indicator
3	SOFT LED	Indicates module in Soft Start phase
4	OUT LED	Indicates power output from module
5	PV Display	Displays Present Value (PV) of measured temperature (red four digit display)
6	SV Display	Displays Set Value (SV) for temperature (green four digit display)
7	AUTO LED	Indicates module in Automatic Operation
8	MAN/BST LED	Blink - Indicates module in Manual Operation ON - Indicates module utilizing Boost feature
9	STANDBY LED	Indicates module utilizing Standby feature
10	▲	Value increase button
11	MODE	MODE button
12	SET	SET button
13	▼	Value decrease button
14	SEL	SEL button
15	Handle	
16	On/Off Switch	
17	Lock Pin	

Operation

Basic Functions	
▲ / ▼	Adjust Set Value (SV)
SET	Select unit digit for ▲ and ▼
SEL + 1 sec.	Exit IDLE (IdL) after power on
SEL + 1 sec.	Change to next method of operation - Auto / Standby / Manual
MODE	Changes SV display - Set Temperature / Output % / Amps (Automatic Operation only)
MODE + SEL + 1 sec.	Initiate Boost Feature
MODE + 3 sec.	Access Settings Menu
MODE + SET + 5 sec.	Access Configuration Menu
MODE + SET	Save value - 5 seconds without a button push will also save

Menus

Settings Menu			
Setting	Description	Button	Range
AL-H	High Limit Temperature Alarm	▲ / ▼	0 - 99
AL-L	Low Limit Temperature Alarm	▲ / ▼	0 - -99
Stby t	Standby Time	▲ / ▼	Hour: 0 - 9 Min: 0 - 59
		SET	Convert between hour and minute
Stby P	Standby Temperature %	▲ / ▼	0 - 99%
Lock	Config. Menu Lock	SET	On / Off

Error Codes		
Error Code	Display	Description
1	FU-1	Fuse 1 Disconnection
2	FU-2	Fuse 2 Disconnection
3	tCoP	Thermocouple Disconnection
4	tCSt	Thermocouple Short-Circuit
5	tCrE	Thermocouple Polarity Reverse
6	AL-H	High Limit Temperature Alarm
7	AL-L	Low Limit Temperature Alarm
8	HtoP	Heater Disconnection (Low Current)
9	HtSt	Heater Short (High Current)
10	trSt	Triac Short

Configuration Menu			
Setting	Description	Button	Range
UnIt	Temperature Unit Display	SET	1.0 or 0.1
C--F	Temperature Scale	SET	°F (FdSP) °C (CdSP)
-In-	Thermocouple Type	SET	J (IC-J) K (CA-K)
SOft - t	Soft Start Time	▲ / ▼	0 - 30 min.
HC-H	High Limit Current Alarm	▲ / ▼	0 - 20.0 A
HC-L	Low Limit Current Alarm	▲ / ▼	0 - 20.0 A
-Er-	Error Code Saving Function	▲ / ▼	Search 1-20
HSCI	Power Output Method	SET	PWM (PuN) SSR (SSr)
tUnE	Auto Tuning On / Off	SET	On / Off
boSt - t	Boost Time	▲ / ▼	0 - 99 min.
boSt - P	Boost Power %	▲ / ▼	0 - 99.9%
SOft - P	Soft Start Power %	▲ / ▼	10 - 50%
ΠPId	NPID On / Off	SET	On / Off
IdLE *	Idle Feature On / Off *	SET	On / Off

Menu Navigation	
MODE	Next Menu option
▲ / ▼	Adjust numeric values
SET	Select unit digit for ▲ and ▼
SET	Change non-numeric values (e.g., °C or °F)
MODE + SET	Save value - 5 seconds without a button push will also save

* For safety, it is recommended that the Idle Feature remain in the ON position.