WIRING DIAGRAM OF CLC5R

W	R	W

PT-100 CASCADE

L	N	E	R	C1	N	C2	N

220V AC +/-15%

W	R	W

PT-100 CABINET

CLC5R
DIGITAL TEMPERATURE CONTROLLER

| SET | △ | ▽ | CAS/MUTE |

CAS HI

ALARM
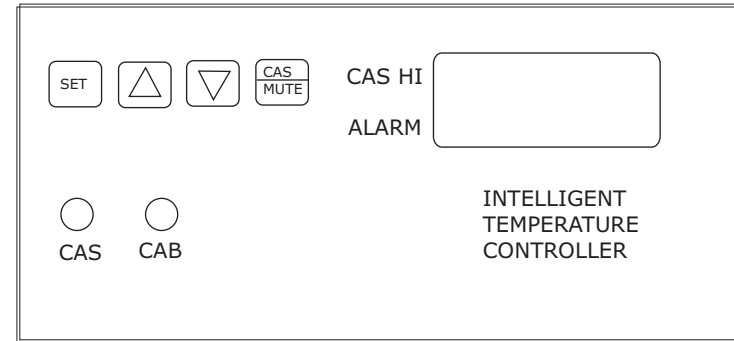
CAS   CAB

INTELLIGENT
TEMPERATURE
CONTROLLER

TERMINAL CONNECTION:

L : Live (supply)
N : Neutral (supply)
E : Earth
R : No Connection
C1 : Live of Cabinet Compressor
N : Neutral of Cabinet Compressor
C2 : Live of Cascade Compressor
N : Neutral of Cascade Compressor
W : White or Black wire of 3 wire PT-100 sensor of Cascade/Cabinet
R : Red wire of 3 wire PT-100 sensor of Cascade/ Cabinet
W : White or Black wire of 3 wire PT-100 sensor of Cascade/ Cabinet

If load is inductive,
connect snubber across load

CONNECTION FOR LOAD

L   **TC**   N

COM   NO   **LOAD**

→ SNUBBER

R   C
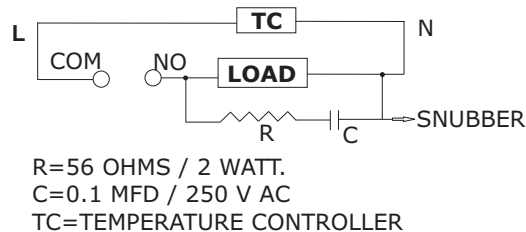
R=56 OHMS / 2 WATT.
C=0.1 MFD / 250 V AC
TC=TEMPERATURE CONTROLLER

FEATURES :

1) Set point adjustment through push switches on front panel.
2) Audio visual alarm
3) Led indication for relay on status.

SPECIFICATION :

1) Input Sensor   : PT-100 for Cabinet & PT-100 for Cascade
2) Control Range   : -40 to -85^{0}C ADJUSTABLE
3) Differential   : 5^{0}C ADJUSTABLE
4) CASCADE & CABINET DELAY ADJUSTABLE FROM 1 TO 255 SECS
5) ALARM LOW & HIGH, FOR CABINET IS ADJUSTABLE.
6) Resolution   : 1^{0}C
7) Size   : 96(H)x 192(W)x 165(D)
8) Cutout   : 92 x 188 mm.
9) Relay Output   : 5 Amp. Resistive load
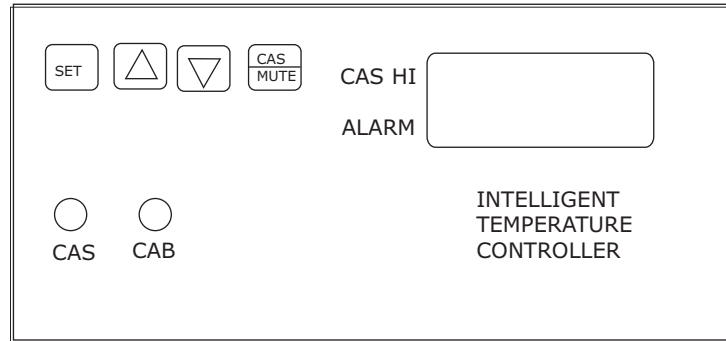10) Power consumption : 10 VA max.

ION ELECTRICALS
P R I V A T E   L I M I T E
आयन् इलेक्ट्रिकल्स प्रा. लि.

CLC5R
DIGITAL TEMPERATURE CONTROLLER

```
[SET] [△] [▽] [CAS/MUTE]    CAS HI  ┌──────────┐
                            ALARM   │          │
                                    └──────────┘
  ◯      ◯                  INTELLIGENT
 CAS    CAB                 TEMPERATURE
                            CONTROLLER
```

KEYBOARD FUNCTION:

KEYS		FUNCTION
SET	:	To see Temperature Set point
△	:	Increments the flashing number
▽	:	Decrements the flashing number
MUTE/CAS	:	To see Cascade Temperature & To Mute Alarm sound
CAS ◯	:	These LED lamps glows, when the
CAB ◯		respective relay is energized

How to logic mode

Push "up & down" keys together for 40 secs. "PdL" will be displayed. This is cascade delay in seconds. Set it by up or down key to desired value. Push "set" key to save it. Now display will show "cdL". This is cabinet delay in seconds. Set it by up or down key. Push set key to save it & go to next mode. Now display will show "cHy". This is cabinet differential. Set it by up or down key. Push set key to save it. Now display will show "ALL". This is alarm low for cabinet set. Set it by up or down key. Push set key to save it. Now display will show "ALH". This is alarm high for cabinet set. Set it by up or down key. Push set key to save it. Now display will show "StL". This is set low for cascade. Set it by up or down key. Push set key to save it. Now display will show "Sth". This is set high for cascade. Set it by up or down key. Push set key to save it. Now display will show "rGL". This is set lower side set range lock for cabinet. Set it by up or down key. Push set key to save it. Now display will show "rGH". This is set higher side set range lock for cabinet. Set it by up or down key.

OPERATING INSTRUCTION :
Check all connections & switch on the mains supply

A} SETTING:-

Check all the connections & switch on the mains supply.
During "power on", display will show "CAS" for 2 secs.
If both sensors are not connected then display will show "Err1" / "Err2".
If sensors are connected properly then (in normal mode) display will show Cabinet Temperature. One can see Cascade temperature by pushing CAS/MUTE Key.
Push "SET" key & hold it, Display will show set value. Then set desired Set value by using increment / decrement keys on front panel.
{For Ex: -70 ^{o}C}
Cabinet Relay will ON if Cascade temperature reaches to -30 ^{o}C & it will Cutoff if Cascade temperature goes below -10 ^{o}C.
It also cuts off if Cabinet temperature reaches to Set point (say "-85").
It will restart after differential.(if the differential is 5 ^{o}C then it will restart above -80 deg).
Alarm will start sounding if Cabinet temperature goes 20 ^{o}C (if "ALH" is set to 20)   above set Temperature or 10 deg (if "ALL" is 10 deg) below set temperature & "- (alarm)" will flash on display to show Alarm indication.
Audio alarm can be muted by pressing CAS/MUTE switch.
"CAS HI" segment will glow if the cascade temperature goes above "StH".

PC INTERFACING:
First of all install the software ("setup.exe" file) to your pc with the cd supplied by us. Your pc should have one "com" port free.
Connect female part of the communication cable (supplied by us) to your pc com port & male part to "clc5r" (back side "D-connector").
After finishing installation you will find "unilogger" in program menu. Just move the cursor on that. Now you will find another sub folder as "unilogger". click on that.
Data monitor screen will appear on the display. Click on connect. If the connection of com port & cable is proper then you will find the name "clc5r" ahead of connected device. "Log" is desabled so click to buffer. Set the logging time on "stop" window & click on "get data". Pc will start logging. To save perticular file, click on "save data". One can save logged readings in simple text format. To clear it, click on "clear log"

TROUBLE SHOOTING:-

1. Sensor open indication: Display shows "Err1" for cabinet & "Err2" for cascade
2. Sensor reverse: If the RTD is not connected as per connection diagram then it will show erratic temperature.
3. Not showing proper temp.: Loose connection on terminal or calibration Problem.
4. Problem in relay operation: Check connection as per wiring diagram given.