OPERATING MANUAL
COOLING CONTROLLER
CC-5052

cryo

Display Color:
White Or Red

TECHNICAL SPECIFICATION

INPUT SPECIFICATION :

Input	NTC Probe
Resolution	0.1 / 1°C
Accuracy	±1% of FSD (Full Scale Deflection)

SPECIFICATION FOR NTC SENSOR :

Thermistor Range	-40 to 90.0°C
Nominal Resistance	10 k ohms

DISPLAY AND KEYS :

Display	3 digit, 7 segment, 0.56"
LED Indication	2 Relay Output Status indication

DIMENSION :

Size	40 (H) x 83 (W) x 70 (D) mm
Panel Cutout	30 (H) x 71 (W) mm

OUTPUT SPECIFICATION :

Relay Output	
Relay	2 nos. (1st Relay for compressor 1 2nd Relay for compressor 2)
Relay Type	1st Relay 1 C/O (NO-C-NC) 2nd Relay (NO-C)
Rating	10A@ 230V AC/28V DC (Resis. load)

FUNCTIONAL SPECIFICATION :

Control Action	ON-OFF
Hysteresis	0.1 to 9.0°C
Offset Adjustment	-9.0 to 9.0°C
Relay Mode	Cool

AUXILIARY POWER SUPPLY :

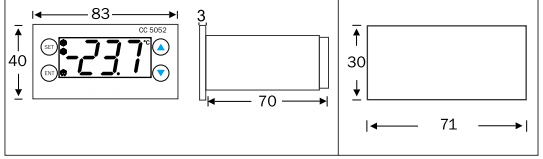
Supply voltage	230V AC, 50-60Hz
Power consumption (VA RATING)	3VA Max @ 230V AC

ENVIRONMENT CONDITION :

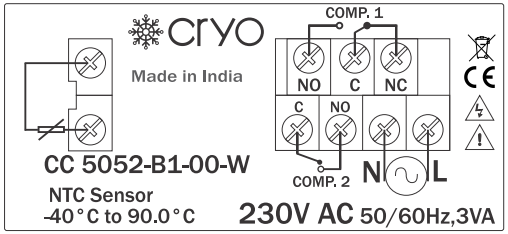
Operating Temp.	0°C to 55°C
Relative Humidity	UP to 95% RH (non-condensing)
Protection Level (As Per request)	IP-65 (Front side) As per IS/IEC 60529 : 2001

MECHANICAL INSTALLATION

Outline Dimension (mm)	Panel Cutout Dimension (mm)



TERMINAL CONNECTION



SAFETY PRECAUTION

All safety related codifications, symbols and instructions that appear in this operating manual or on the equipment must be strictly followed to ensure the safety of the operating personnel as well as the instrument.

If all the equipment is not handled in a manner specified by the manufacturer, it might impair the protection provided by the equipment.

Read complete instructions prior to installation and operation of the unit.

WARNING : Risk of electric shock.

WARNING GUIDELINES

WARNING : Risk of electric shock.

1. To prevent the risk of electric shock, power supply to the equipment must be kept OFF while doing the wiring arrangement. Do not touch the terminals while power is being supplied.
2. To reduce electro magnetic interference, use wire with adequate rating and twists of the same of equal size shall be made with shortest connection.
3. Cable used for connection to power source, must have a cross section of 1mm or greater. These wires should have insulations capacity made of at least 1.5kV.
4. When extending the thermocouple lead wires, always use thermocouple compensation wires for wiring for the RTD type, use a wiring material with a small lead resistance (5Ω max per line) and no resistance differentials among three wires should be present.
5. A better anti-noise effect can be expected by using standard power supply cable for the instrument.

INSTALLATION GUIDELINES

1. This equipment, being built-in-type, normally becomes a part of main control panel and in such case the terminals do not remain accessible to the end user after installation and internal wiring.
2. Do not allow pieces of metal, wire clippings, or fine metallic fillings from installation to enter the product or else it may lead to a safety hazard that may in turn endanger life or cause electrical shock to the operator.
3. Circuit breaker or mains switch must be installed between power source and supply terminal to facilitate power 'ON' or 'OFF' function. However this mains switch or circuit breaker must be installed at convenient place normally accessible to the operator.
4. Use and store the instrument within the specified ambient temperature and humidity ranges as mentioned in this manual.

MECHANICAL INSTALLATION GUIDELINES

1. Prepare the panel cutout with proper dimensions as shown above.
2. Fit the unit into the panel with the help of clamp given.
3. The equipment in its installed state must not come in close proximity to any heating source, caustic vapors, oil steam, or other unwanted process byproducts.
4. Use the specified size of crimp terminal (M3.5 screws) to wire the terminal block. Tightening the screws on the terminal block using the tightening torque of the range of 1.2 N.m.
5. Do not connect anything to unused terminals.

MAINTENANCE

1. The equipment should be cleaned regularly to avoid blockage of ventilating parts.
2. Clean the equipment with a clean soft cloth. Do not use isopropyl alcohol or any other cleaning agent.
3. Fusible resistor must not be replaced by operator.

cryo

Temperature & Humidity Controllers

Designed for Refrigeration & HVAC

A wide range of controllers for managing various refrigeration applications.

A brand by MULTISPAN

www.multispanindia.com

Product improvement and upgrade is a constant procedure. So for more updated operating information and support, Please contact our helpline : +91-9978991474 /9978991476/9978991482 or Email at service@multispanindia.com Ver: 2109

PARAMETER DESERIPTION

T2 PARAMETER

→ This function is used to switch on 2nd comp. when 1st comp. can't achieve lower setpoint.
Example
if SP1=10°C & SP2= 12°C & T2=10 min.
→ In above condition, when com1 is not able to achieve 10°C for a period of 10 min then after 10 min 2nd comp will also start and both comp. will cutout at the lower setpoint 10°C.
→ If T2=0, this function will not active.
→ If T2≠0, then T2 Will always greater than Td1 & Td2 (Relay ON Delay Time)

T3 PARAMETER

→ It is a minimum time delay between two successive cutout of both comp.
Example
T3=10 sec.
→ For T3=10 sec when 1st compressor turn off then 2nd comp. will switch off after 10 sec.
→ If T3=0 this function will not active

T4 PARAMETER

→ This function is used to avoid overloading of any comp. working at over period of time. this function will interchange each other parameter (hysteresis, setpoint & relay delay time).
Example
T4= 4 hour
For T4= 4 hour, setpoint, hysteresis & relay delay time will interchange after 4 hours
→ Time calculation will start at power on.
→ This function will help by not overloading any one compressor for long hours and increases compressor life.
→ If T4= 0 hours, then this feature will not activate.

SET LOW LIMIT (SLL) PARAMETER

→ Set low limit (range : -40°C to SHL) SLL indicate setpoint lower limit it is lock at some specific value. setpoint can not be set lower than this value.
→ If temperature reached down to this value, then display show " Lo⊔ "
→ If message for 1 sec. and present value display for 2 sec.

SET HIGH LIMIT (SHL) PARAMETER

→ Set high limit (range : SLL to 90°C) SHL indicate setpoint higher limit it is lock at some specific value. setpoint can not be set higher than this value.
→ If temperature reached higher to this value, then display show " HIG "
→ If message for 1 sec. and present value display for 2 sec.

OPN

→ Sensor open or break
→ Sensor is not connected
→ Temperature value goes down to -40 or goes up to 99.9

In password menu "39" parameter "OPN" have three selection of "ON","OFF","CYL".

ON = In case of sensor break, then both the relays will stay continuously ON after initial start up ON delay of 2 min.
OFF = In case of sensor break, then relay will continuously OFF.
CYL = In case of sensor break, relay operatein cycle of 10 min ON and 4 min OFF.

LP PARAMETER

→ If LP(Lock parameter) is ON, then all the parameter can viewed only, not modify.

Td1 & Td2 PARAMETER

→ Relay 1 & 2 ON Delay Time

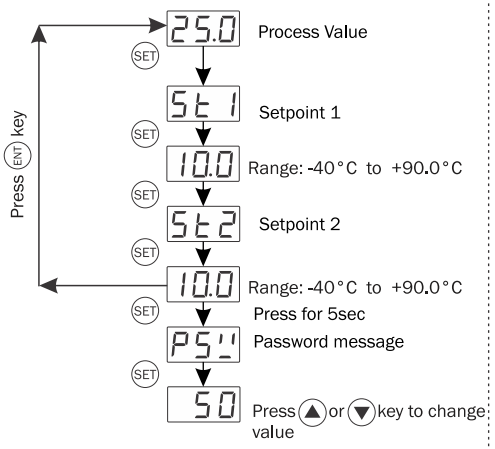
FACTORY SETTING

FACTORY SETTING		
SR.	PARAMETER	VALUES
1	SHL	99.0°C
2	SLL	-40°C
3	Hysteresis 1 & 2	2°C
4	Offset	0°C
5	Td 1 & Td 2	3 min
6	T2	0 min
7	T3	5 sec
8	T4	0 hour
9	Sensor Open(OPN)	Cyclic

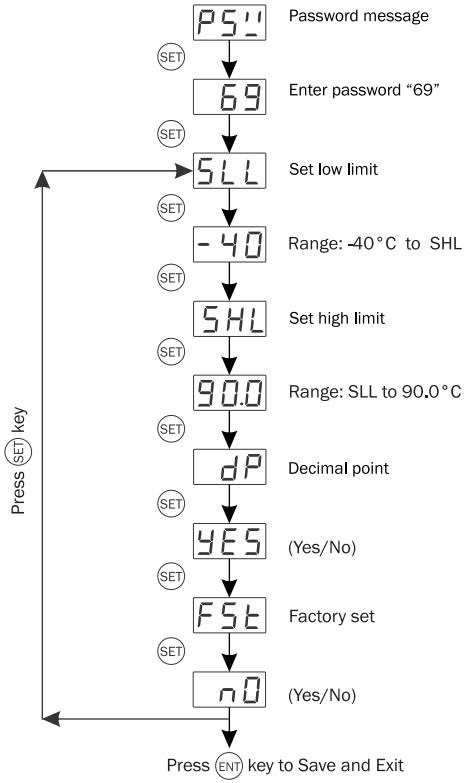
PARAMETER RANGE

PARAMETER RANGE		
SR.	PARAMETER	Range
1	Offset	-9.0 to +9.0°C
2	Hysteresis 1 & 2	-0.1 to 9.0°C
3	Time delay 1 & 2	0 to 20 min
4	T2	0 to 30 min
5	T3	0 to 15 sec
6	T4	0 to 12 hours

Set Point Setting



To ENTER IN BASIC CONFIGURATION SETTING, ENTER PASSWORD "69"



ENTER PASSWORD "39"