





OPERATING MANUAL 
 COOLING CONTROLLER



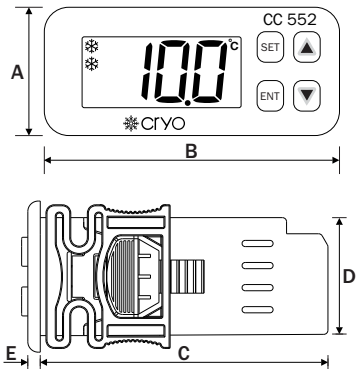
TECHNICAL SPECIFICATION

Model	CC-552
Display	3 Digit 0.62" 7 Segment RED / WHITE Display
Size (mm)	37 (H) x 78 (W) x 70 (D) mm
Panel Cutout	30 X 71 mm
Input	NTC Thermistor
Output	2 Relay, 1 C/O(NC-NC) 1st Relay For Compressor } 10A (Relative load) 2nd Relay For Compressor }
Range	-50.0 °C To 99.9 °C
Power Supply	230V AC,50/60Hz,Approx 3VA
Operating Temperature	0°C To 55°C
Relative Humidity	Up to 95% RH Non Condensing

Manual Mode

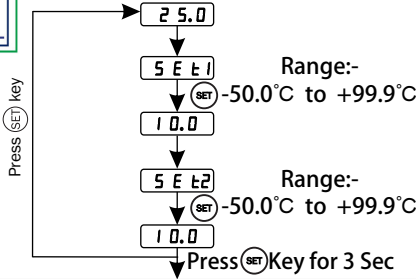
If  +  Key Pressed For 10 Sec, The Relay goes in manual Defrost mode and display Show "OFF" Message. Press and hold  +  Key To turn on relay.(When LP = 0)

MECHANICAL INSTALLATION







MODEL	DIMENSIONS
A	37mm
B	78mm
C	70mm
D	29mm
E	3mm

Process Value



F2	Set High Temperature (HT) Range : LT to 99.9°C DEFAULT SETTING : 99.9°C
F3	Set Low Temperature (LT) Range : -50.0°C to HT DEFAULT SETTING : -50.0°C
F4.1	Temperature Difference to restart compressor relay(Hysteresis-1) Range : 0.1 °C to 20.0°C DEFAULT SETTING : 2.0°C
F4.2	Temperature Difference to restart compressor relay(Hysteresis-2) Range : 0.1 °C to 20.0°C DEFAULT SETTING : 2.0°C
F5	Probe Calibration (Offset) Range : -9.0°C to 9.0 °C DEFAULT SETTING : 0.0°C
F6.1	Time Delay between Compressor Restart (Relay-1) Range : 0 to 20 Minute DEFAULT SETTING : 3 MINUTE
F6.2	Time Delay between Compressor Restart (Relay-2) Range : 0 to 20 Minute DEFAULT SETTING : 3 MINUTE
t2	To start second compressor if first compressor not reach at set point Range : 0 to 30 Minute DEFAULT SETTING : 0 MINUTE
t3	Minimum time delay between two successive cut out of both comp. Range : 0 to 15 Second DEFAULT SETTING : 5 Second
t4	To avoid over load Range : 0 to 12 Hours DEFAULT SETTING : 0 Hour
LP	To Lock Keypad 0 : Keypad unlocked , 1 : Keypad Lock DEFAULT SETTING : 0
E 1	Compressor Relay Status in case of probe failure Parameter : 0- Compressor OFF , 1- Compressor ON, After 2 min 2- Compressor Perform Duty Cycle [10 Min ON & 4 Min OFF] DEFAULT SETTING : 2
dP	To Set Decimal Point Yes / No DEFAULT SETTING : YES
tU	To Set Temperature Unit °C/°F DEFAULT SETTING : °C
F5t	To restore Factory set parameter Yes / No DEFAULT SETTING : NO
PSU	To set Password 0 : Disable, 1 : Enable DEFAULT SETTING : 0 If Select 1 then Password is 39 Password is Appear before programming menu

NOTE

- Press  Key for go into the parameter
- Press  &  to change the parameter
- Press  key for exit from the program
- If No key is Pressed, Menu will Automatically exit after 15 SEC. with saving.

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 activate.
- If T2≠0, then T2 Will always greater than Td1 & Td2 (Relay ON Delay Time)

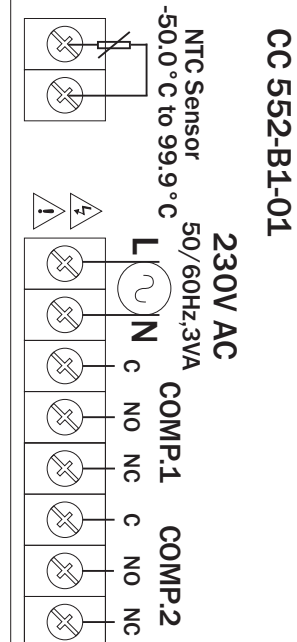
T3 PARAMETER

- 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 activate

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.

WIRING DIAGRAM



Installation Guidelines

- 1) This equipment, being built-in-type, normally becomes a part of main control panel and such in 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.

OPn

- Sensor open or Break
- Sensor is not connected
- Temperature value goes down to -50.0 or goes up to 99.9

"OPN" have three selection of "ON", "OFF", "CYL".

ON = In case of sensor break, then Relay1 will continuously ON.

OFF = In case of sensor break, then Relay1 will continuously OFF.

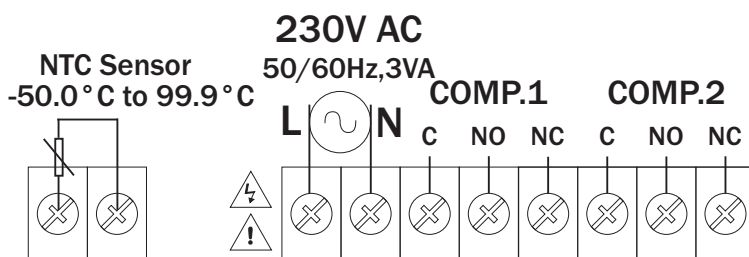
CYL = In case of sensor break, Relay 1 operate in cycle of 10 Mins ON and 4 Mins OFF.

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.

WIRING DIAGRAM

CC 552-B1-01



OPERATING MANUAL COOLING CONTROLLER

Factory Set Data		
Parameter	DP = Yes	DP = No
Hysteresis	2.0	2
Time Delay	3 min	3 min
T2	0 Min	0 Min
T3	5 Sec	5 Sec
T4	0 Hour	0 Hour
Set Lower Limit	-50.0 °C	-50 °C
Set Higher Limit	99.9 °C	99 °C
Offset	0.0 °C	0 °C
Open	Duty Cycle	Duty Cycle

- Setpoint, DP selection and Temperature will not change, When you restore the factory data.

Mechanical Installation Guideline

- 1) Prepare the panel cutout with proper dimensions as show 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, oils steam, or other unwanted process by products.
- 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.

Safety Precautions

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

- 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.

Manual Mode

If + key pressed for 3 sec, The relay goes in manual Defrost mode and display shows "OFF" message. Press and hold + key to turn on relay.



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