# UNIVERSAL
# DISPLAY CABINET CONTROLLER LCIC
## FOR MECHANICAL AND ELECTRONIC EXPANSION VALVES

Type LCIC is a unit suitable for the **control** of refrigerated display cabinets with all types of defrost. The unit controls the cabinet temperature by measuring 2 air temperatures and operating a pulsed expansion valve, liquid solenoid valve or condensing unit.

The pulsed expansion valve is controlled using a pressure transducer and suction temperature sensor.

The unit can be set for terminating or **controlling the defrost**. Defrost can be detected by a sensor mounted on the suction line, by JTL Network communications, by a voltage free contact closure or by a real time clock within the unit. Up to 12 defrosts per day can be achieved by setting a schedule of defrost start times and durations in the unit.

The defrost is terminated when the temperature of the air leaving the evaporator or the evaporator temperature exceeds an adjustable **defrost termination** value, or when an adjustable time is reached. Evaporator **fans** or an **auxiliary heaters** can be controlled during defrost.

The unit detects and **alarms high temperatures**. The alarm level and its response time are adjustable. High temperature alarms are cancelled during defrost.

Cabinet temperature together with a simple alarm and defrost mode messages can be indicated locally by using a JTL **display** unit.

Type LCIC provides a comprehensive alarm reporting, **data-logging** and **remote access** when connected to a JTL Communications Unit.

Type LCIC can be used with off cycle, electric, 2, 3 pipe or ring main gas defrost systems.

Cabinet lights and blinds can be operated by the LCIC on receipt of commands from the JTL network.

## FEATURES

- Suction pressure input
- Temperature measurement inputs
- Temperature display drive
- Relay outputs
- Maintenance unit socket
- JTL Network communications sockets
- Network initiated defrost option
- Network initiated lighting control
- Network initiated blind control
- Network initiated shutdown facility
- Defrost input contact
- Suction temperature defrost detection
- Up to 12 timed defrosts per day
- Blind and lighting override input contact
- Default data set-up switches
- Non-volatile set-up memory
- Watchdog to ensure reliable operation
- Battery supported data-logging memory
- Battery supported real time clock

## HARDWARE

- Temperature sensor inputs . . . . . 5
- Sensor types supported . . . . . JTL
- Temperature display drives . . . . . 1
- Voltage-free contact outputs . . . . . 5
- Optionally isolated high voltage inputs . . . . . 2 (240 V max)
- Data logging memory capacity . . . . . 1000 points on 3 channels

## TECHNICAL SPECIFICATION

Temperature sensor input 1 . . . . . Air On
Temperature sensor input 2 . . . . . Air Off
Temperature sensor input 3 . . . . . Evaporator
Temperature sensor input 4 . . . . . Suction Line
Temperature sensor input 5 . . . . . Energy saving or defrost termination

Suction pressure input . . . . . 4-20 mA
Refrigerant choice . . . . . R22, R502, R404A, R404B, R407, R507, R408

Input 1 . . . . . Lighting and Blind override
Input 2 . . . . . Defrost initiation

Output 1 . . . . . Blind closed/Lights off
Output 2 . . . . . Fan Control or heater Control
Output 3 . . . . . Liquid valve control (Normally closed valve)
Output 4 (changeover contact) . . . . . Defrost control
Output 5 . . . . . Pulsed expansion valve

Relay output rating . . . . . 2 A resistive (240 V max)

Communications port . . . . . RS485 2 wire
Communications data rate . . . . . 4800/38400 baud (auto detected)
Communications protocol . . . . . JTL zone protocol

Controller dimensions unboxed (L x W x H) . . . . . 208 x 167 x 43 mm
Controller weight unboxed . . . . . 0.52 kg

Controller dimensions boxed (L x W x H) . . . . . 248 x 176 x 56 mm
Controller weight boxed . . . . . 1.56kg

Power supply (Standard) . . . . . 230 V 48-62 Hz
(Optional) . . . . . 110 V

## ORDERING INFORMATION

LCIC . . . . . Controller
LCIC-B . . . . . Controller boxed

**Power Supply Options:**
For 110 V append - 110 to order code

CE This unit conforms with the relevant EU standards when fitted in accordance with its installation instructions.

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