



GUARDIAN

SKD-9

Serial Keyswitch Display Unit

The GUARDIAN SKD-9 Serial Keyswitch Display Unit is used in conjunction with 1287, RCU, RCC, HVAC and CMC Refrigeration Control units and RGU, RMU Refrigeration Monitor units to provide local panel display of :-

- Temperature, gas level and pressure values
- High or Low alarm states and settings
- Probe open or short circuit failures
- Digital trip & alarm states and settings
- Refrigeration Control status

After entry of the correct passcode, the keypad pushbuttons may be used to change:-

- High or Low alarm and trip settings
- Digital alarm and trip settings
- Refrigeration Control setpoints and timers
- Refrigeration Control status
- Refrigeration Control strategy

MECHANICAL The GUARDIAN SKD-9 Serial Keypad Display Unit comprises a plastic enclosure containing a 4-digit, 7-segment LED display PCB, a keypad with four membrane pushbuttons and a 2-position keyswitch for OFF/FANS/AUTO selection required for supermarket case cleaning.

The serial display panel is connected to all controllers and monitors by a 1.2 metre, 6-core telephone cable and jack plug. Optional 20 metre cables are available if required. The plastic enclosure has perimeter dimensions

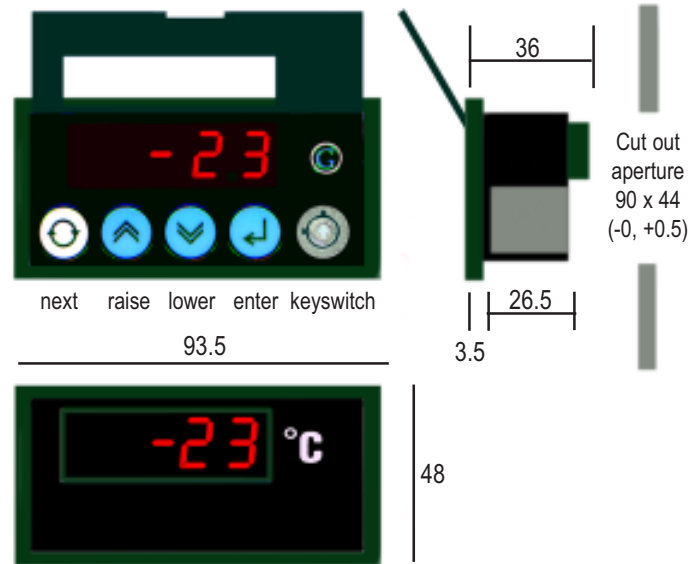
93.5 x 48.5 x 31.25 mm

and clips into the 90 x 44 mm mounting aperture in the case fascia or control cubicle. The enclosure has a top-hinged flap which covers the pushbuttons whilst providing a transparent window for the 4 LED displays.

NORMAL OPERATION The measured values, status, alarm indications and setpoints actually displayed on the 4 digit LED displays depends on the hardware unit and its control strategy selection.

On all units and models, measured temperatures, pressures, amps etc may be displayed in sequence by pressing the 'next' pushbutton. Channel identification of displayed values is indicated either as an alternating 4-digit message such as 'DIS', 'Ret', 'Suct' or as a single digit such as **d,r,c,4,5,6** on the first LED display.

If no buttons have been pressed for 3 minutes, the unit reverts to its default display value of case/room temperature, suction pressure, motor amps etc. dependent on unit model.



SETUP 'Raise' or 'lower' and 'enter' buttons are used to change control settings and limits after passcode entry to SETUP mode. Menus and sub-menus are selected using 'next' and 'enter' buttons.

ALARMS & TRIPS If an alarm or trip is present the measured values alternate with flashing messages:-

-Hi-, -Lo-, trip, FAIL, OC, SC, where

Hi = measured value exceeds high limit for longer than preset guardtime.

Lo = measured value is below low limit for longer than preset guardtime.

trip = measured value exceeds trip limit or compressor trip input detected.

OC = open circuit probe

SC = short circuit probe

Alarms are not displayed during Setup or Defrost operation. All alarms are reset automatically when the fault has disappeared or the value has returned within limits.

Blown fuse Alarms are identified as :-

f = fan fail, **h** = heater fail, **d** = door open

Fan fails are inhibited for coldstores when fans are off during defrost.

CONTROL STATUS Control status messages replace the default display with:-

dEF - from beginning of a defrost cycle until the end of draindown time after defrost is complete.

-FAn - if unit is selected for Fans Only prior to case cleaning.

-OFF - if unit selected OFF for cleaning

Pd - Pulldown from end of defrost until temperature within alarm limits.