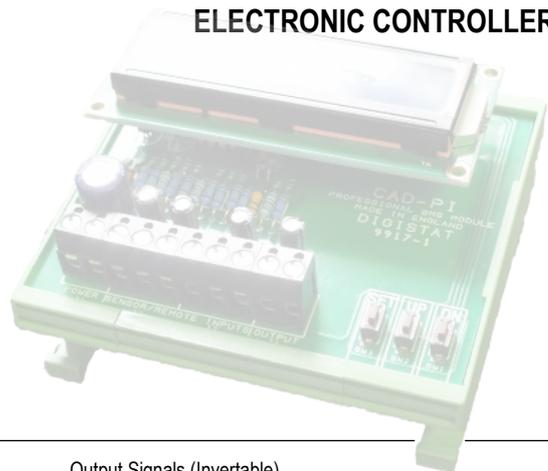


A versatile Din-rail Mounted electronic control module. Monitors air or liquid temperature, and controls a single Proportional 0-10v Analogue Channel.

SINGLE CHANNEL PROPORTIONAL ELECTRONIC CONTROLLER

Features

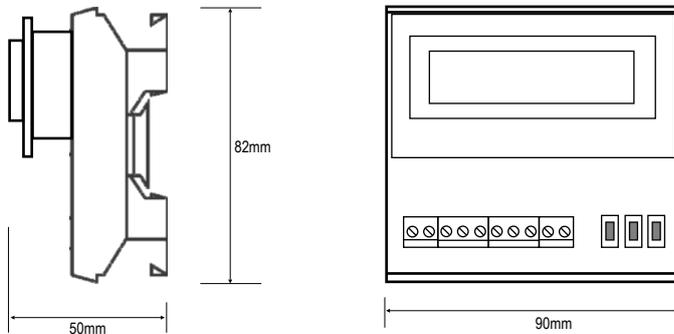
- Single Proportional Control Channel
- One unit covers entire -5°C to +95°C Range
- Separate Day, Night and Low-Level Set-Points
- Up to 0.25°C Accuracy
- 1-20°C Proportional Band (Span)
- 0-50°C Dead Band
- Heating or Cooling Function
- Digital Display with Temperature, Set-Point and Status
- 'Cool-Blue' Backlight for operation in zero light conditions
- Connections for External Temperature Controls
- DIN-Rail Mountable, small compact footprint



SPECIFICATIONS

Type 9917	Input Supply +/- 15% 24V AC/DC 75mA (max)	Sensor Type CAD...	Temp Range -5°C to +95°C -9°C to +99°C w/Ext Pot 1-20°C Span 0-50°C Adjust.	Output Signals (Invertable) 1 x 0-10v Proportional Channel	Mounting DIN Rail (included)	Enclosure IP00
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DIMENSIONS



DIAGNOSTIC CODES

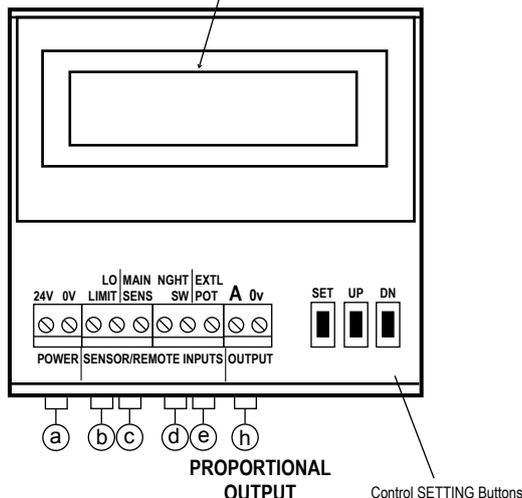
SENSOR ERROR. The Temperature Sensor readings are outside acceptable parameters. Check (a) that the Sensor is properly connected, or (b) that the Sensor or it's Cable is not Short-Circuit or Open-Circuit.

L/L-SENSOR ERROR. The Low-Limit Temperature Sensor readings are outside acceptable parameters. Check (a) that the Low-Limit Sensor is properly connected, or (b) that the Low-Limit Sensor or it's Cable is not Short-Circuit or Open-Circuit.

CALL SERVICE - FAULT CODE = nn. This message is only displayed if an internal error is detected - Call for Assistance.

CONNECTION/SETUP

Digital accuracy LCD Displays Temperature, SetPoint and Proportional Channel Status as well as easy to read Set-Up parameters. 'Cool-blue' backlight display.



- (a) **24V AC/DC SUPPLY.** If DC is used, then connect the Negative rail to 0V, and Positive to 24V Terminal.
- (b) **LO LIMIT.** If used, connect Low-Limit Temperature Sensor between here and the Centre** Terminal.
- (c) **MAIN SENSE.** Connect the Main Temperature Sensor between here and the Centre** Terminal.
- (d) **NIGHT SWITCH.** This must be a Volt-Free contact. Connect between Centre** and Outer Terminal as marked. When Open, the DIG/STAT uses the DAY Set-Point. When closed, the NIGHT Set-Point is used.
- (e) **EXTL (EXTERNAL) POT.** Connect the POT between the Centre** and Outer Terminal. If fitted, allows the DAY Set-Point to be over-ridden by the POT setting. Ensure the correct RANGE for the attached Pot is programmed into the DIG/STAT Set-Up presets (see *overleaf*).

** Centre Terminal is connected to Common 0v.

NOTES

Min Sensor Cable 7/0.2mm. Keep away from Power Cables or sources of interference. Screened cable is recommended to eliminate electrical interference. Terminals 0.5-2.5mm² with wire clamps. Max cable length 100m. This module is designed for LOW VOLTAGE isolated supply connection. If connecting to DC supply, -ve supply to 0v, +ve supply to 24v. Ambient Temp -20°C/+50°C dry bulb.

For Technical Support in the first instance contact your distributor. Installation should be checked by qualified electrician before applying any voltage. Always ensure devices switches correctly at the desired temperature. If failure of device can cause damage, ensure a suitable safety backup is fitted. Observe all relevant safety precautions, regulations and electrical ratings. Observe all precautions for handling electrostatic sensitive devices. Specifications for guidance only and subject to change without notice. E&OE.

PROGRAMMING

The CAD-1PI DIGISTAT is factory shipped with the following defaults preset, each of which can be reprogrammed with new settings:-

Day Set-Point	22°C	adjustment Range -5°C to +95°C in 0.25°C steps
Night Set-Point	16°C	adjustment Range -5°C to +95°C in 0.25°C steps
Mode	STANDARD	Select between Standard, Integral, Low-Limit or Low-Limit+Integral operational modes
Cooling/Heating Mode	ALL HEATING	Select either Heating or Cooling
External Pot Range	LOW	Low Range covers -5°C to +45°C, High Range covers +25°C to +95°C, or +/- 4°C
Integral Timer	1 SECOND	select from 1-600 seconds
Low-Limit Temperature	12°C	adjustment Range -5°C to +95°C in 0.25°C steps
Low-Limit Band	3°C	adjustment Range 1°C to 20°C in 0.25°C steps
Prop Band	3°C	adjustment Range 1°C to 20°C in 0.25°C steps
Dead Band	2°C	adjustment Range 0°C to 50°C in 0.25°C steps
Invert Channel	No	Yes=Invert Channel Output, No=Normal Channel Output
LCD Contrast Level	20	select Levels 0 (darkest) to 25 (lightest)
Security PIN	Disabled (Spaces)	Any password up to 4 characters long using full alphanumeric alphabet



Depress and HOLD-DOWN the SET Button until the display blanks - (depending on what the DIGISTAT is doing this can take a few seconds). This will cause the DIGISTAT to jump into Menu Set-Up Mode. (Note: Whilst in the Menu Mode, Temperature sensing and the Output Proportional Channels will be switched OFF).

Pressing SET after any Set-Up entry causes that entry to be saved and the user advanced to the next item. After saving the last item, (PIN Code), the DIGISTAT will return to Normal Operation. Note: If at any time the DIGISTAT is left in Menu Mode for more than 20 seconds without any Buttons being pressed, it will revert automatically to Normal Operation WITHOUT SAVING the current entry being edited.

Enter PIN:

If PIN (Password) protection has been set, you will need to enter a valid PIN to gain access to the SET-UP's. Use the Up/Down Buttons to scroll through selecting the individual character for each of the four possible characters making up the PIN. Press the SET button to advance from one character to the next. For security purposes, your previous character will change to a '*' for your protection. A successful PIN entry (pressing SET after the fourth character) will gain you access to the SET-UP's, otherwise you will be greeted with "INVALID PIN". If you have forgotten or lost your PIN, call your master distributor for assistance - a charge may be made for this service.

Pressing and holding the set button will revert back to the previous menu item.

Set-Point Day

Allows setting of the DAY SET-POINT. Use the UP and DN (Down) Buttons to change the value to your desired setting. Once complete, press SET. This will SAVE the value and advance to the next item.

Set-Point Night

Allows setting of the NIGHT SET-POINT.

Mode

Permits changing the OPERATIONAL MODE.

Cooling|Heating

Select between the cooling or the heating options.

External Pot

Allows selection of the scale of the External Pot that is connected (if any). If no External Pot is connected, then this setting is not relevant.

Integral Timer

Allows entry of an INTEGRAL TIMER which will act on the SPAN of any Proportional Channel. If control action is sluggish, reduce the individual channel proportional Span, or the Integral Time. If control action is hunting, then increase these settings. If Integral is not selected within the Operational MODE, this option will not be displayed.

**Low-Limit Temp
Low-Limit Band**

Allows the setting of the Low-Limit Temperature Set-Point, along with the Low-Limit operating BAND (Span). During Low-Limit, only HEATING Output Signals are produced, and any COOLING channels are switched OFF. The Low-Limit Heating Output over-rides the first available HEATING Channel. Normal operation resumes once the temperature rises above the Low-Limit setting. If Low-Limit is not selected within the Operational MODE (see above), these options will not be displayed.

Prop Band

This is the Proportional Band (Span) for each individual CHANNEL. The channel produces a 0-10v output signal proportional across it's BAND.

Dead-Band

Selects the DEAD-BAND (offset) between the current Set-Point and the start of the Proportional Band.

Invert Channel

Inverts the voltage Output of that channel (ie 0v becomes 10v, 10v becomes 0v).

LCD Contrast

Changes the CONTRAST Setting of the LCD (as you make the adjustment). Press the SET button to make the setting permanent.

PIN Code:

Allows the setting of a User PIN (Password). Up to four characters can be entered which need not be numeric. The PIN is case sensitive, so 'abcd' is NOT the same as 'ABCD'. Do NOT forget any PIN that you set. A setting of 'all spaces' (blanks), disables the PIN.

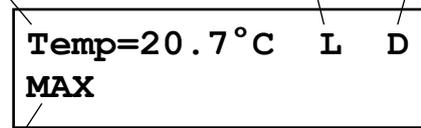
DIGISTAT Limitations

Display: Please note that although the DIGISTAT has a quarter Celcius (0.25°C) resolution, this is displayed to only one significant decimal place. For example 17.25°C would be displayed as 17.2°C, and 17.75°C would be displayed as 17.7°C accordingly.

If Low-Limit mode is selected, and the Low-Limit temperature is reached, the display reflects the status with an 'L' accordingly.

Display Toggles between the Main Sensor Temperature (Temp), the current Set-Point (SetP) and the Low-Limit Sensor Temperature (L/L) if set.

Display indicates 'D' for Day and 'N' for Night.



Proportional Channel Status:

The status of the Proportional Channel is represented on the bottom line of the LCD Display. The above example shows the Channel operating at Maximum

Figure 1. Example of DIGISTAT's LCD Display.

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