

GENERAL SPECIFICATION

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|--|---|
| Displays | Large 0.56" 4 digit High Efficiency Red 7 segment led display of measured temperature, 0.32" 4 digit High Efficiency Red 7 segment led display of setpoint and other variables Alarm Status Red leds. Heat Output Red led. Cool Output Green led. |
| Switches | Touch with Tactile Feedback. |
| Facia | Polyester, dustproof resistant to most liquids. |
| Case | Coated sheet steel case with plastic bezel |
| Terminals | Screw terminal blocks, incorporating 20 Amp thyristor protection fuse |
| Dimensions | Overall 96 x 96 x 165 mm behind panel depth Cut out 92 x 92 mm +0-0.8 mm to DIN 43700. |
| Weight | 950 grams approx. |
| Inputs (Fully configurable) | Thermocouple, type B, J, K, N, R, S, T, Resistance Thermometer (Pt100), 3 wire. Automatic lead compensation Linear Volts, 0 - 5V, 0 - 10V, Linear mA, 0-20 mA, 4-20 mA, (burden resistor of 3R3 mounted on rear terminals) Calibration overall 0.2% (For 10-50°C ambient) Including automatic CJC for thermocouple inputs Sampling rate 25 readings per second. |
| Sensor Failure | Thermocouple Open circuit detection, heat output off (Fail safe), Resistance thermometer Short circuit and open circuit detection. 4 - 20 mA Out of range detection. |
| Control | Three Term (P+I+D) fully adjustable : Proportional (Heat) 0.1 - 100.0% Proportional (Cool) 0.1 - 100.0% Integral 0 - 100.0 mins. Derivative 0 - 10.00 mins. Overshoot inhibition Adjustable for fast and slow response loads Heat/Cool Crossover + / - 99°C |
| Outputs | Channel 1 Heat output : Relay 2A/264V, Fast cycle logic, Volts and mA Channel 2 (Optional) Alarm Relay 2A/264V (changeover). Cool Logic; Relay 2A/264V (changeover). Channel 3 (Optional) Alarm Relay 2A/264V. |
| Serial Communications | Optional RS 232, RS 485. |
| Supply | 85 - 264 Volts 50 / 60 Hz |
| Power | 5VA Max. |
| Operating temperature | 0 - 50°C |

ECO 9630 High performance 1/4 din (96 x 96 mm) high reliability processor based PID temperature controller available with a wide range of outputs



- ▶ Ideal replacement for analogue 96 x 96 controllers
- ▶ Dual Bright LED Displays of process variable and setpoint
- ▶ Thermocouple & Pt 100 Inputs (fully configurable)
- ▶ Microprocessor based / surface mount technology
- ▶ Proven, sophisticated, P I D control algorithm
- ▶ Tough coated steel case construction
- ▶ 165 mm deep, behind panel
- ▶ Outputs include: Relay, Logic, mA and Volts
- ▶ Optional fully configurable alarms
- ▶ Designed and made in Great Britain
- ▶ Optional serial communications RS 232, RS 485 (early 2003)
- ▶ Configurable ramp to setpoint facility
- ▶ Two year parts and labour warranty

The ECO 9630 1/4 DIN Controller is a quality temperature Controller available with a wide range of outputs including Time proportional relay, fast cycle logic, isolated analogue Volts & mA

Features of the ECO 9630 thyristor controller include :

- Dual display giving continuous indication of both measured value and setpoint.
- Large finger size pushbuttons with positive tactile feel for ease of use.
- State of the art 16 bit CISC MCU.
- High resolution multi channel Analogue to Digital converter
- Surface mount technology.
- Universal input, thermocouple, RTD, linear DC.
- Universal 85 / 264 Volt power supply.
- Built in a 165 mm deep coated steel case.
- Sophisticated control algorithm, which adjusts the approach rate to setpoint thus minimising overshoot.
- Controllers may be supplied configured to incorporate an adjustable setpoint ramp, which limits the rate of setpoint change whenever the setpoint is adjusted.
- The 96 x 96 mm ¼ DIN size makes it ideal for replacement of obsolete analogue controllers.
- It is designed and manufactured to provide features, performance, stability and long reliable life associated with modern microprocessor based temperature controllers.
- Optional cool with 2 Amp time proportional relay output may be specified.
- Optional fully configurable alarms with 2 Amp relay outputs may be specified.
- Optional serial communications RS 232, RS 485.

Very simple to operate

The controller can be locked, so that the operator can only adjust the set temperature within a restricted range and interrogate the control parameters and alarms, but not adjust them.

Fully configured

All controllers are supplied fully tested and configured to your requirements they are ready to install and work. They may be reconfigured to a different thermocouple and temperature range in the manufacturers link mode.

Warranty

All ECO 9630 controllers are covered by 2 years parts and labour warranty.

Applications

The high specification together with a wide choice of outputs make the ECO 9630 controller ideal for all applications where precise, reliable control of temperature is required such as: plastic extrusion machines, injection moulding machines, environmental chambers, ovens and heat treatment furnaces.



ORDERING INFORMATION

| ECO9630 | Sensor type | Minimum Range | Maximum Range | Heat Output | Option 1 | Option 2 | Option 3 Software config. |
|-----------------------------|-------------|---------------|---------------|-----------------|----------------|----------------|--|
| T.C Type K NiCr / NiAl | Range 1 | - 200 °C | 1300 °C | HR2 Heat relay | A1 Alarm relay | A2 Alarm relay | Sb Sensor break |
| T.C Type J Fe / Con | Range 2 | - 200 °C | 800 °C | HLF Heat logic | CR2 Cool relay | RS 232 Comms. | *Sb0 Standard* |
| T.C Type R Pt 13% Rh | Range 3 | 0 °C | 1700 °C | HAN H Analogue | 0 No option 1 | RS 485 Comms. | Sb1 Man power heat |
| T.C Type S Pt 13% Rh | Range 4 | 0 °C | 1700 °C | H0-5 Volts | | 0 No option 2 | Sb2 Man power cool |
| T.C Type N Nicrosil / Nisil | Range 5 | - 200 °C | 1300 °C | H0-10 Volts | | | Sb3 Auto power heat |
| T.C Type T Copper / Con | Range 6 | - 260 °C | 400 °C | H0-20 mA | | | Sb 4 Auto power cool |
| T.C Type K NiCr / NiAl | Range 7 | 0.0 °C | 999.9 °C | H1-5 Volts | | | Sd Sensor detect |
| T.C Type J Fe/Con | Range 8 | - 199.9 °C | 800 °C | H2-10 Volts | | | No auto recovery |
| T.C Type T Copper / Con | Range 9 | - 199.9 °C | 400.0 °C | H4-20 mA | | | *Yes auto recovery* |
| T.C Type B Pt6% 30% Rh | Range 10 | 40 °C | 1800 °C | H5-0 Volts | | | PU Power up/features |
| Pt 100 RTD | Range 16 | - 200 °C | 800 °C | H10-0 Volts | | | *Stan Standard* |
| Pt 100 RTD | Range 17 | - 199.9 °C | 800 °C | H20-0 mA | | | Hold use last output |
| 4 - 20 mA Linear | | | | H5-1 Volts | | | Full Full o/p for 15 sec plus then Hold option |
| 0 - 20 mA Linear | | 0 | 4000 | H10-2 Volts | | | Soft power 0-100% over defined time-600 S |
| 0 - 10 Volts Linear | | 0 | 4.000 | H20-4 mA | | | Rate setpoint ramp |
| 0 - 5 Volts Linear | | 0 | 40.00 | AR2 Alarm relay | | | |
| 1 - 5 Volts Linear | | 0 | 400.0 | | | | |
| 2 - 10 Volts Linear | | | | | | | |

*Factory default options

ORDER CODE EXAMPLES

| | | | | | | | |
|---------|-----------|-----|-------|----------------|----|--------------|-----------|
| ECO9630 | K Range 1 | 0 | 400 | HLF Heat logic | A1 | 0 | 0 Default |
| ECO9630 | R Range 3 | 0 | 1400 | H0-5 Volts | A1 | RS 485 Comms | Rate |
| ECO9630 | 4 - 20 mA | 0.0 | 232.0 | HR2 Heat relay | 0 | 0 | Sd No |

DIMENSIONAL DETAILS

