

# EWPC 800 rel. 11/99 ing

## temperature controller with round body

### WHAT IT IS

The EWPC 800 is a series of micro-processor based and fully programmable process controllers for single setpoint applications.

### HOW IT IS MADE

- **Dimensions:** front 72x72 mm (2.835x2.835"), housing Ø 60 mm (2.40")
- **Depth:** 98 mm (3.858")
- **Mounting:** flush panel mount with mounting bracket
- **Protection:** the instrument front-panel is waterproof IP65
- **Connections:** screw terminal block (2.5 mm<sup>2</sup>)
- **Display:** 12.5 mm LED (0.50")
- **Push buttons:** located on front panel
- **Output:** one (1) SPDT relay 8(3)A 250V AC
- **Inputs (depending on model):** PTC, Pt100, thermocouple J, K
- **Resolution:** 1 °C (°F) or 0.1 °C (°F). The right-most digit can also be set to read-out in 0 or 5 only, or in all 10 digits
- **Accuracy:** better than 0.5% of full scale
- **Power supply (depending on model):** 220, 110, 24 Vac, 50/60 Hz; 12 Vac/dc

### GENERAL DESCRIPTION

The EWPC 800 is a new series of micro-processor based and fully programmable process controllers for single setpoint applications. The front keypad of these controllers offers several alpha-numeric menu prompts to configure the controller for each specific application (see further).

### FRONT KEYPAD

**SET:** pushed once the setpoint value will be displayed for 3 seconds (Led "ON" blinks). The setpoint can be changed with the "UP" or "DOWN" button.

**UP:** used to increase the setpoint value, as well as the parameter when in programming. When held down for a few seconds, the change rate accelerates.

**DOWN:** same functions except to decrease a value.

**Led "ON":** status light of the output. Blinks when in setpoint display/change mode or during programming.

### PARAMETER PROGRAMMING

Programming is easily accessed by holding the "SET" button down for more than 4 seconds; the first parameter is displayed while the status light "ON" remains blinking during the programming period.

Other parameters are accessed with the "UP" and "DOWN" button. With the "SET" button, the actual setting of each parameter is displayed. To change a parameter setting, push the "SET" plus the "UP" (or "DOWN").

The system will automatically return to its normal operating mode a few seconds after the programming procedure is completed or interrupted.

### DESCRIPTION OF PARAMETERS

**d1:** setpoint differential.

The switching differential (hysteresis) can be set with positive value (make on rise) or with negative value (make on fall). See parameter "HC1".

**LS1:** Lower Set.

This is the lower limit below which the user cannot change the setpoint; normally set at the lowest value recommended for the sensor.

**HS1:** Higher Set.

Similar to "LS1", however setting an upper limit for the setpoint.

**od:** output delay.

This provides a delay selection for the outputs in applications where noise may cause brief erroneous signals from the sensor to the controller. Factory set at "0".

**CAL:** CALibration.

This offers an adjustment up or down of the read-out, if needed. Factory set at "0".

**PSE:** Probe SElection.

Input type (for Thermocouples only).

Tc models: Fe = TcJ; Cr = TcK.

**HC1:** Heating/Cooling.

Relay switch function.

H = heating;

C = cooling.

**rP1:** relay Protection 1.

Determines the status of the relay in case of sensor defect. Factory set at "ro".

ro = relay open;

rc = relay closed.

**LF1:** Led Function 1.

Determines whether the status light is ON or OFF in relation to output 1.

di = direct = light ON when output 1 is energized; in = reverse = light OFF when output 1 is energized.

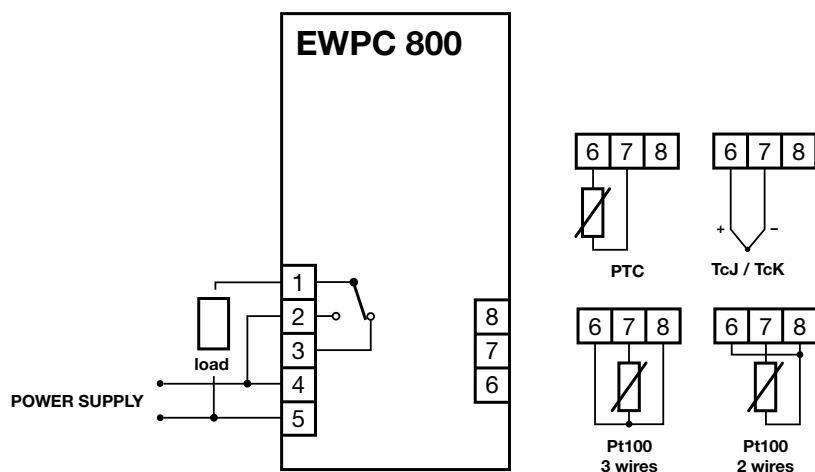


## DEFAULT SETTINGS - STANDARD MODELS

| Parameter | Description         | Range     | Default        | Unit    |
|-----------|---------------------|-----------|----------------|---------|
| d1        | differential        | min / max | 1 (C) / -1 (H) | °C / °F |
| LS1       | Lower Set           | min / max | min            | °C / °F |
| HS1       | Higher Set          | min / max | max            | °C / °F |
| od        | output delay        | min / max | 0              | seconds |
| CAL       | CALibration         | min / max | 0              | °C / °F |
| PSE *     | Probe SElection     | Fe / Cr   | Fe / Cr        | flag    |
| HC1       | Heating / Cooling   | H / C     | H / C          | flag    |
| rP1       | relay Protection    | ro / rc   | ro             | flag    |
| LF1       | Led Function        | di / in   | di             | flag    |
| dP        | decimal point       | on / oF   | oF             | flag    |
| hdd       | half digit display  | n / y     | n              | flag    |
| tAb       | tAble of parameters | /         | /              | /       |

\* Only for Thermocouples

## CONNECTIONS



**dP:** decimal Point.

Choose whether the resolution is required with or without decimal point.

oF = without decimal point;  
on = with decimal point.

NOTE: on all versions, if a unit is changed from without decimal point to with decimal point, all parameter values expressed in degrees will automatically be divided by 10, including the setpoint !

**hdd:** half digit display.

The right-most digit can be set to read-out in 0 or 5 only, or in all 10 digits.

hdd = n : e.g. 070, 071, 072 etc. (if without decimal point) or 70,0, 70,1, 70,2 etc. (if with decimal point);

hdd = y : e.g. 070, 075, 080, etc. (if without decimal point) or 70,0, 70,5, 71,0, etc. (if with decimal point).

**tAb:** tAble of parameters.

This shows the configuration of the parameters as set in the factory; can not be modified (for factory identification and diagnostic purposes only).

## INSTALLATION

The instrument is designed for flush panel mount. Prepare a diam. 60 mm panel cut-out; insert the instrument through the front and fasten with the bracket supplied with the unit. The ambient temperature around the instrument should be kept between -5 and 65 °C (23...149 °F).

Select a location which will not be subject to high humidity or condensation and allow some ventilation to provide cooling to the instrument.

## ELECTRICAL WIRING

Two quick-disconnect terminals are provided for easy and convenient wiring, even before the instrument is actually installed; wiresize 2.5 mm<sup>2</sup>.

Make sure that the power supply corresponds with the rating shown on the instrument. Refer to the instrument label for the applicable terminals to be used for the sensor cable. Separate the wiring of the input signals from those of the power supply and switched output wiring.

The relay output contacts are voltage free

and independent; do not exceed the resistive rating of 8 Amp at 250 Vac. For larger loads, please use an external contactor or relay.

## ERROR ANNOUNCEMENT

Any sensor input defect will be displayed as follows: "- - -" in case of shorted sensor; "EEE" in case of sensor break, or sensor absence. The "EEE" error message also appears in the event of overrange or under-range of the system temperature.

It is recommended to doublecheck the sensor wiring before diagnosing a probe as defective.

## TECHNICAL DATA

**Housing:** black ABS plastic, autoextinguish.

**Dimensions:** front 72x72 mm (2.835x2.835"), housing Ø 60 mm (2.40").

**Depth:** 98 mm (3.858").

**Mounting:** flush panel mount with mounting bracket.

**Protection:** the instrument frontpanel is waterproof IP65.

**Connections:** screw terminal block (2.5 mm<sup>2</sup>).

**Display:** 12.5 mm LED (0.50").

**Push buttons:** located on front panel.

**Data storage:** non-volatile EEPROM memory.

**Operating temperature:** -5...65 °C (23...149 °F).

**Storage temperature:** -30...75 °C (-22...167 °F).

**Output:** one (1) SPDT relay 8(3)A 250 V AC.

**Inputs** (depending on model): PTC, Pt100, thermocouple (J, K).

**Resolution:** 1 °C (°F) or 0.1 °C (°F). The right-most digit can also be set to read-out in 0 or 5 only, or in all 10 digits.

**Accuracy:** better than 0.5% of full scale.

**Power supply** (depending on model): 220, 110, 24 Vac ±10%, 50/60 Hz; 12 Vac/dc ±15%. Others on request.

## Siebe Climate Controls Italia s.p.a.

via dell'Artigianato, 65  
Zona Industriale Paludi  
32010 Pieve d'Alpago (BL)  
Italy

Telephone +39 0437 986111

Facsimile +39 0437 989066

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