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EWPC 902

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controllers with single output

WHAT IT IS

The EWPC 902 is a new series of microprocessor based and fully programmable process controllers for single setpoint applications. Three different versions of this controller are available: EWPC 902/T for Temperature, EWPC 902/R for Relative humidity and EWPC 902/P for Pressure control.

HOW IT IS MADE

- Dimensions: front 74x32 mm (2.913x1.260"), depth 67 mm (2.637")
- Mounting: flush panel mount with mounting bracket
- Protection: the instrument front-panel is waterproof IP65; an optional snap-on cover can be supplied to provide additional protection of the rear terminal block
- Connections: screw terminal block (2.5 mm²; one wire each terminal only, in compliance with VDE norms)
- Display: 12.5 mm LED (0.50")
- Push buttons: located on front panel
- Output: one (1) SPDT relay 8(3)A 250V AC
- Auxiliary output: 12 Vdc/60 mA (for transducer power supply, e.g. humidity sensor, pressure transducer, etc.)
- Inputs (depending on model): PTC / RTD (Ni100, Pt100) / TC (J, K) / 4...20 mA (RI = 41 Ω) for EWPC 902/T; EWHS 29/31 for EWPC 902/R and EWPA 007/030 for EWPC 902/P
- 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): 12 Vac/dc or 24 Vac/dc

GENERAL DESCRIPTION

The EWPC 902 (T, /R, /P) is a new series of microprocessor 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).

Three different versions of this controller are available: EWPC 902/T for Temperature, EWPC 902/R for Relative humidity and EWPC 902/P for Pressure control.

The EWPC 902 (T, /R, /P) is supplied in the popular "32x74" ELIWELL housing.

FRONT KEYPAD

SET: push to display the setpoint temperature. The setpoint can be changed within 5 seconds with the "UP" or "DOWN" button. The control will automatically switch back to normal operating mode within 5 seconds; the last entered setpoint will stay in memory.

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

Led "ON": status light of the output.

PARAMETER PROGRAMMING

Programming is easily accessed by holding the "SET" button down for more than 4 seconds.

The first parameter is displayed; 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 a brief erroneous signals from the sensor to the controller. Factory set at "0".

Lci: Lower current input (for EWPC 902/R, EWPC 902/P and EWPC 902/T with current input only).

Read-out corresponding to 4 mA input signal (factory set at 20 %R.H for EWPC 902/R).

Hci: Higher current input (for EWPC 902/R, EWPC 902/P and EWPC 902/T with current input only).

Read-out corresponding to 20 mA input signal (factory set at 100 %R.H for EWPC 902/R).

CAL: CALibration.

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

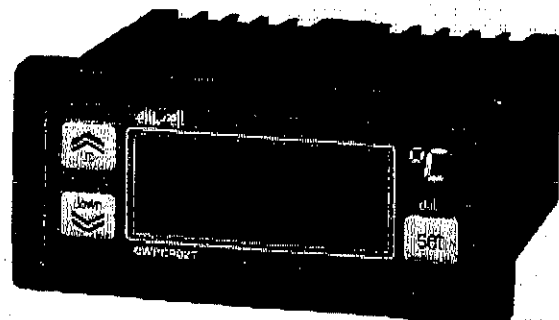
PSE: Probe Selection.

input type (for RTD or Thermocouples only).

RTD models : Ni = Ni100; Pt = Pt100.

T/C models : FE = TeJ; Cr = TeK.

HC1: Heating/Cooling.



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DEFAULT SETTINGS - STANDARD MODELS

Parameter	Description	Range	Default	Unit
d1	differential	min / max	1 (C) / -1 (F)	°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
Lci	Low current input	min / max	20 (%R.H.)	various
Hci	High current input	min / max	100 (%R.H.)	various
CAL ₁	CALibration	min / max	0	°C / °F
PSE	Probe SElection	Ni / Pt / Fe / Cr	/	/
HC1	Heating / Cooling	H / C	H / C	flag
rP1	relay Protection	ro / rc	ro	flag
LF1	Led Function	di / ln	di	flag
dP	decimal Point	on / oF	on / oF	flag
hdd	half digit display	n / y	n	flag
tAb	tAble of parameters	/	/	flag

Relay switch function.
 H = heating (humidification; reverse action);
 C = cooling (dehumidification; direct action).
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;
 ln = reverse = light OFF when output 1 is energized.
dP: decimal Point.
 Choose whether the resolution is required with or without decimal point.
 oF = without decimal point;
 on = with decimal point.

NOTES: (a) the decimal point of models with current or voltage input is shifted: the actual value of parameters "Lci" and "Hci" must be multiplied by 10; (b) 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; (c) the decimal point selection is not available on models for thermocouple input.

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, 80.0, etc. (if with decimal point).

Useful when measuring values varying rapidly (e.g. %R.H.).
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 29x71 mm panel cut-out; insert the instrument through the front and fasten with the U-bracket supplied with the unit.

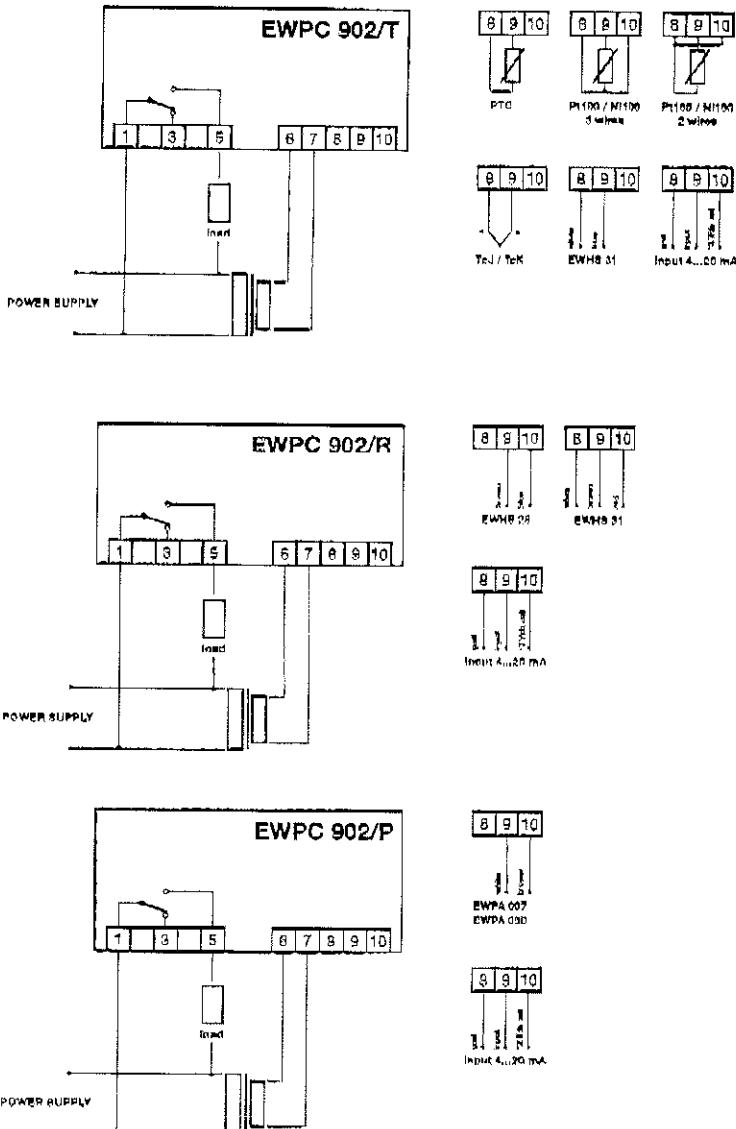
The ambient temperature around the instrument should be kept between -5 and 65 °C (23...149 °F).

ELECTRICAL WIRING

The instrument is equipped with an internal screw terminal block suitable for ≤2.5 mm² wiring (one wire each terminal only, in compliance with VDE norms).

Make sure that the power supply corresponds with the rating shown on the instrument, i.e. 12 Vac/dc ±15% (EWPC 902/T and EWPC 902/R in this version are recognized according to VDE and UL) or 24 Vac/dc ±15%.

CONNECTIONS



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Refer to the instrument label for the applicable terminals to be used for the sensor cable. If an ELIWELL humidity or pressure sensor is used (EWPC 902/R or EWPC 902/P) keep in mind that it can be powered by the controller.

Separate the wiring of the input signals from those of the power supply and switched output wiring.

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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 74x32 mm (2.913x1.260"), depth 67 mm (2.637").

Mounting: flush panel mount with mounting bracket.

Protection: the instrument frontpanel is waterproof IP65; an optional snap-on cover can be supplied to provide additional protection of the rear terminal block.

Connections: screw terminal block (2,5 mm²; one wire each terminal only, in compliance with VDE norms).

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 250V AC.

Auxiliary output: 12 Vdc/60 mA (for transducer power supply, e.g. humidity sensor, pressure transducer, etc.).

Inputs (depending on model): PTC / RTD (Ni100, Pt100) / TC (J, K) / 4...20 mA (Ri = 41 Ω) for EWPC 902/T; EWHS 28/31 for EWPC 902/R and EWPA 007/030 for EWPC 902/P.

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 (dep. on model): 12 Vac/dc ±15% or 24 Vac/dc ±15%.