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EWPC 902

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 mm^2; 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 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 (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

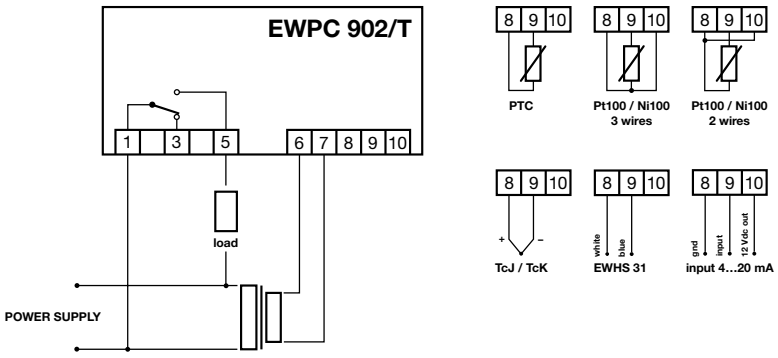
d1: setpoint differential.
The switching differential (hysteresis) can be set with positive value (make on rise) or with negative value (make on fall). See parameter “HC1”.
LS1: Lower Set.
This is the lower limit below which the user cannot change the setpoint; normally set at the lowest value recommended 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 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 = TcJ; Cr = TcK.
HC1: Heating / Cooling.

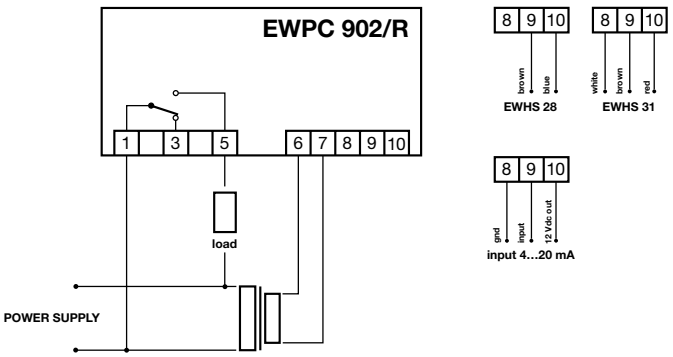


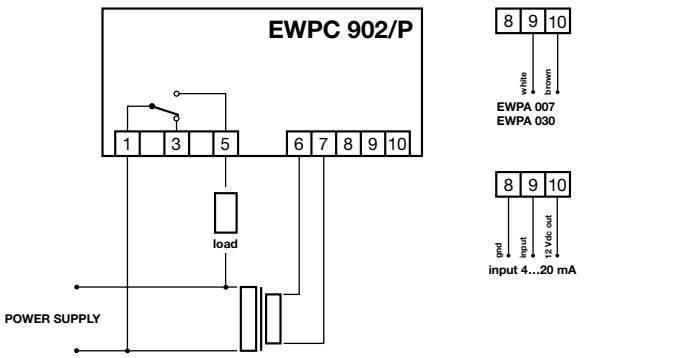
DEFAULT SETTINGS - STANDARD MODELS

Parameter	Description	Range	Default	Unit
d1	differential	min / max	1 (C) / –1 (H)	various
LS1	Lower Set	min / max	min	various
HS1	Higher Set	min / max	max	various
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	CALibration	min / max	0	various
PSE	Probe SElection	Ni / Pt / 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	on / oF	flag
hdd	half digit display	n / y	n	flag
tAb	tAble of parameters	/	/	/

CONNECTIONS







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;
in = 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 cutout; 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 mm^2 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%.

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.

ERROR ANNOUNCIATION

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 ovverrange or underrange of the system temperature.
It is recommended to doublecheck the sensor wiring before diagnosing a probe as defective.

TECHNICAL DATA

Housing: black ABS plastic, autoestinguish.
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 mm^2; 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.
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Accuracy: better than 0.5% of full scale.
Power supply (dep. on model): 12 Vac/dc ±15% or 24 Vac/dc ±15%.

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