

XRPW500

FAN SPEED CONTROLLER

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1. GENERAL WARNING

1.1 Please read before using this manual

- This manual is part of the product and should be kept near the instrument for easy and quick reference.
- The instrument shall not be used for purposes different from those described hereunder. It cannot be used as a safety device.
- Check the application limits before proceeding.

1.2 Safety Precautions

- Check the supply voltage is correct before connecting the instrument.
- Do not expose to water or moisture: use the controller only within the operating limits avoiding sudden temperature changes with high atmospheric humidity to prevent formation of condensation
- Warning: disconnect all electrical connections before any kind of maintenance.
- The instrument must not be opened.

- In case of failure or faulty operation send the instrument back to the distributor or to "SAE s.r.l." (see address) with a detailed description of the fault.
- Consider the maximum current which can be applied to each relay (see Technical Data).
- Ensure that the wires for probes, loads and the power supply are separated and far enough from each other, without crossing or intertwining.

2. GENERAL DESCRIPTION

Models **XRPW500D**, din rail format, are speed controllers suitable for industrial and refrigeration applications in particular to control the air flow in condensing and evaporating processes. The input signal is 4/20mA coming from the XR or XT Dixell instruments provided with analog output. The load output is controlled by a TRIAC and it gives a maximum power of 500W.

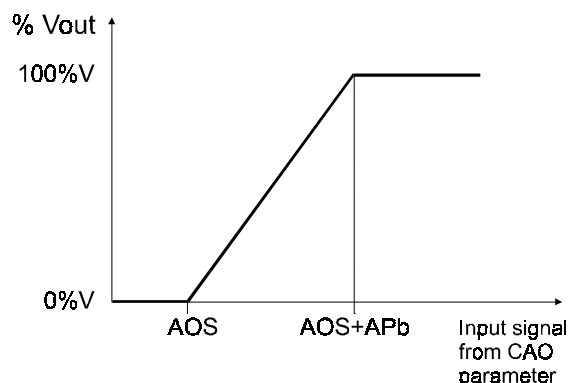
3. OPERATING

Example of functioning with a condensing unit controlled with an XR360C: the AOS parameter defines the set point while the Apb parameter defines the differential. If $AOS = 30^{\circ}\text{C}$ and $Apb = 10^{\circ}\text{C}$, when the signal is below 30°C the fan speed is 0, between 30 and 40 degrees the XRPW500 controls the speed and over 40°C the output is always the maximum.

To set the control for evaporating unit, the Apb parameter must be set at negative value.

4. DIRECT AND INVERSE ACTIONS

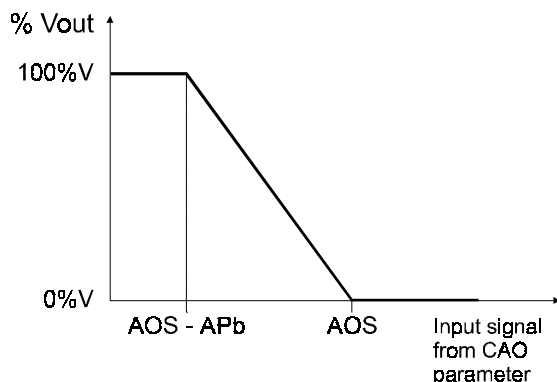
Direct action: if the input signal increases, the voltage output proportionally increases (condensing or cooling applications).



If the input signal is lower than the set point AOS,

the output signal is 0 Volt (fans are stopped). When the signal increases and enters the range between AOS and AOS+APb the output signal starts proportionally increasing and will reach the maximum value (230V) at AOS+APb.

Inverse action: if the input signal increases, the voltage output proportionally decreases (evaporating or heating applications).



If the input signal is higher than the set point AOS, the output signal is 0 Volt (fans are stopped). When the signal decreases and enters the range between AOS and AOS-APb the output signal starts proportionally increasing and will reach the maximum value (230V) at AOS-APb.

5. OTHER CONTROLS

The XRPW500 can also be connected with XT...R, XH...R or XP...R Dixell instruments provided with 4/20mA analog output. In this case the LCI parameter determines the temperature to have minimum voltage output from the XRPW500 and the UCI determines the temperature to have the maximum voltage output.

6. TRIGGER SIGNAL

To control loads having more than 500W an external power module can be connected at terminals 15 and 16.

7. INSTALLATION AND MOUNTING

The instrument shall be mounted on an omega DIN rail. The temperature range allowed for correct operation is 0 - 60 °C. Avoid places subject to strong vibrations, corrosive gases, excessive dirt or humidity. The same recommendations apply to probes. Let air circulate nearby the instrument.

8. ELECTRICAL CONNECTIONS

The instruments are provided with screw terminal block to connect cables with a cross section up to 2,5 mm². Before connecting cables make sure the power supply complies with the instrument's requirements. Separate the input signal cable from the power supply cables, from the outputs and the power connections. Do not exceed the maximum current allowed on the output terminals.

9. OUTPUT PROTECTION

Input open	0 Vac
Input short circuited	0 Vac

10. TECHNICAL DATA

Housing: self extinguishing ABS.

Case: 4 DIN modules 70x85 mm; depth 61mm.

Mounting: DIN RAIL mounted in a omega (3) din rail .

Frontal protection: IP50

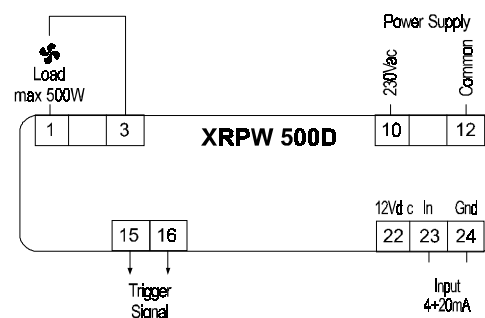
Connections: Screw terminal block $\leq 2,5 \text{ mm}^2$ wiring.

Power supply: 230Vac, $\pm 10\%$ 50/60Hz.

Power absorption: 1VA max.

Input: 4/20mA.

11. CONNECTIONS



12. DEFAULT VALUES

CODE	INPUT	ACTION
XRPW500	4÷20mA	from XR or XT

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