

PENDRED Humidification and Water Systems

Installation of humidistat control unit (DZR-43)

When it is not necessary or possible to hydrate produce and a humidity control system is required, our HU245 or HU85 fog generator can be connected from the din plug on the back of the unit to a humidity control system (Ref DZR-43).

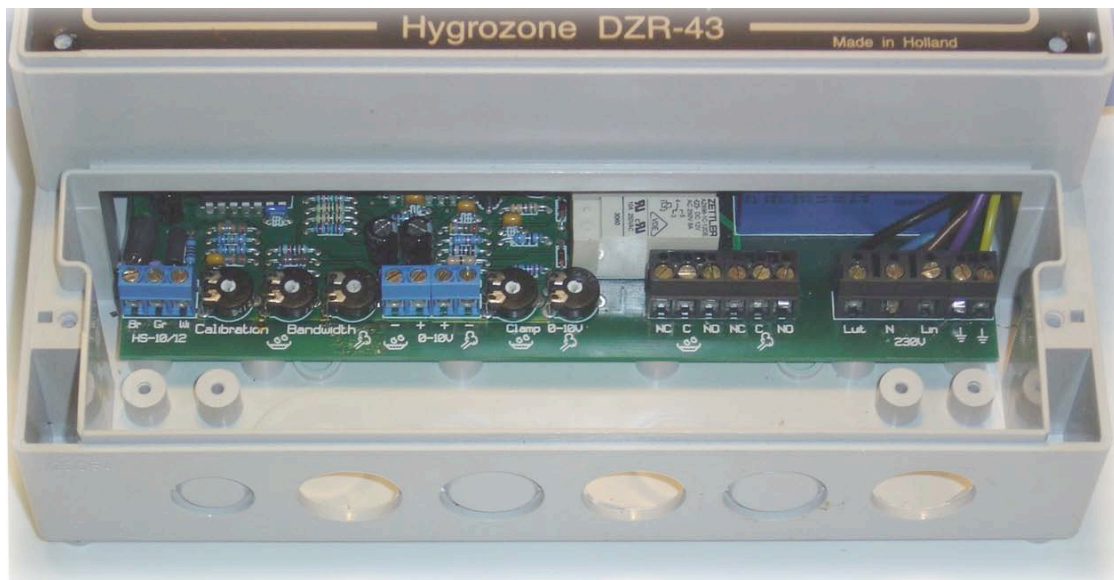


Fig I.

The humidity control unit requires its own individual power supply and can be either connected to the fog generator to control its output or alternatively simply used as an additional means of determining the level of humidity in the cold store.

Introduction. The DZR-43 is a dead zone hygrostat with which the humidity in a room can be controlled accurately.



- The DZR-43 is provided with:
- Main switch 230V
 - Digital readout of set point and Rh
 - Proportional control 0-10 Volt
 - Led bar readout of proportional control
 - Led indicators for humidification and de-humidification relay on
 - Bandwidth adjustment
 - Membrane keypad

humidistat control unit (DZR-43)

Control

The set point can be adjusted by pressing the keypads **SET** and **▲** or **SET** and **▼**

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Functional description of

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Simultaneously. The adjustment ranges from 0% to 100%, divided in 10 steps OF 10%. An accelerator speeds up the steps as long as the keypads are pushed. The bandwidth is adjustable (inside) between 1% and 100%. The relative humidity is measured by a sensor Ref HS-90, which has to be calibrated on the sensor.

Proportional and relay control. The DZR-43 has proportional controls. Humidification and de-humidification (if fitted) are then controlled by a 0 to 10 volt (see figure I). This means that if Rh = set point, both outputs are 0 Volt (humidification and de-humidification).

Humidity sensor (ref HS-90)

The HS-90 relative humidity sensor has a high degree of accuracy in a stainless steel body.

The capacitive measuring element is protected by a washable Teflon coated dust filter.

The sensors are pre-calibrated but when necessary it is possible to recalibrate easily on the sensor HS-90. The response time of the sensor is also adjustable on the sensor.



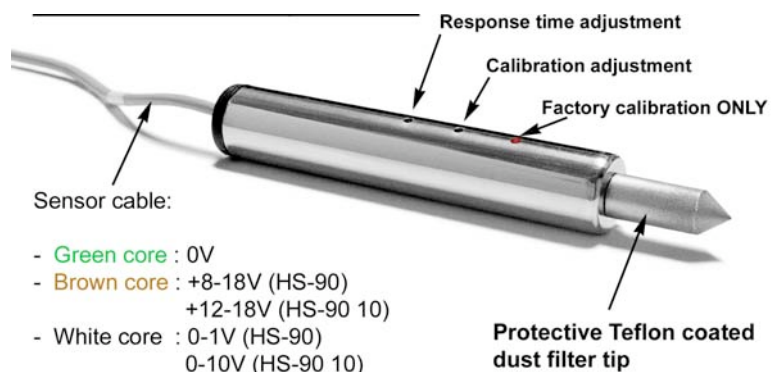
Connections and adjustments

HS-90 Response time adjustment..

The response time is factory set at minimum.

Adjusting the response time:

- Remove lower hollow head screw with socket head wrench
- Insert small screw driver (2mm)
- Adjust (turn clockwise for a longer response time)
- Replace hollow head screw for protection



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HS-90 Calibration adjustment

The sensor is factory calibrated. It may be necessary to recalibrate in course of time.

- Remove lower hollow head screw with socket head wrench
- Insert small screw driver (2mm)
- Adjust
- Replace hollow head screw for protection

WARNING

The calibration point closest to the sensor head is for factory calibration only and is sealed red. Adjusting this may lead to malfunctioning of the sensor.

HS-90 Sensor specifications

| | |
|----------------------------------|---|
| Range | 20-95%rH |
| Linearity | +/-2% relative humidity |
| Response time | Adjustable from 4 seconds to 2.5 minute |
| Temperature limit | 0-70°C |
| Type sensor | Capacitive |
| IP classification | IP65 |
| Power supply | HS-90 8-18 VDC |
| Output voltage | HS-90 0-1 V |
| Current consumption | 7 mA max |
| Output impedance | 470_ |
| Calibration | Pre-calibrated, adjustable |
| Housing | Stainless steel 316L |
| Filter | Washable filter |
| Measurements (Length & Diameter) | 155 x 22mm |
| Cable length | 200cm |