Absolute humidity control

# Damp rooms
# **belong to the past.**

# Optimal room humidity with method: automatic, flexible, easy.

Damp areas – often rooms in the cellar or other underground rooms – are a big problem and not easy to get a handle on. Regular ventilation by opening windows is not always the best solution. Especially not in the summer when warm air condenses on cold walls. This means the risk of mould increases even further, room objects can be damaged by excessive moisture and health risks increase.

The intelligent control system decides whether it is useful to ventilate or not.
The inside and outside temperature and humidity are continuously measured for this purpose. Ventilation is only active when the outside humidity is lower than the inside humidity.

The **Helios absolute humidity control system (FDR)** offers the optimal solution for permanently dry rooms for all sizes and applications.

# Automatic

The extract air fan is automatically controlled through continuous measurements and intelligent calculations and this reliably decreases the room humidity.

# Flexible

Whether it is simple and compact for single family houses or flexible and individual with unlimited options for residential, commercial and industrial buildings – we have the right solution for your application.

→ Page 4 **Compact solution for smaller air flow rates**
→ Page 6 **Flexible solution also for larger air flow rates**

# Easy

The Helios absolute humidity control is preconfigured and immediately operational. Individual adjustments can be made in a quick and self-explanatory way via the smart-phone App.

# Compact solution
# for smaller air flow rates.

With the FDR sets Helios offers two complete packages for smaller rooms such as cellars in single family houses. The internal sensor is housed directly in the controller while the external sensor is integrated in the external grille. Both sensors measure temperature and air humidity. The intelligent controller then decides whether appropriate conditions exist for ventilation. A number of parameters can be adjusted to the individual requirements via the corresponding App.

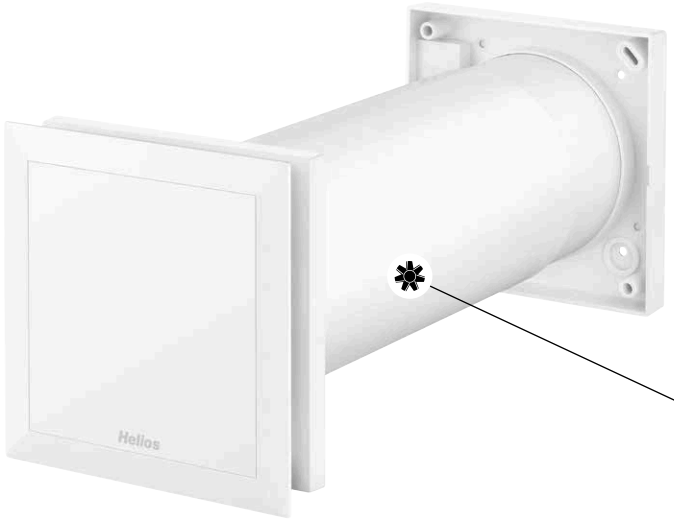
**Highlights:**

- Your advantage: The practical FDR sets contain all necessary components and they are already preconfigured. This makes installation simple, fast and uncomplicated.
- The system is immediately operational with the existing factory settings. Changes can be made to the settings at any time via the App.
- Ventilation can be manually activated using standard switches.
- Precise rest periods can be programmed with the weekly programme.

**Possible areas of application:**


## THE SETS

- For smaller rooms: FDR set with M1/100
- For larger rooms: FDR set with M1/150
- Both sets contain all installation components: Small room fan MiniVent® M1, controller incl. internal sensor, telescopic wall sleeve, mounting flange, external grille with integrated external sensor




The MiniVent® M1 blends harmoniously into any surroundings with its award-winning design.

# Flexible solution
# **also for larger air flow rates.**

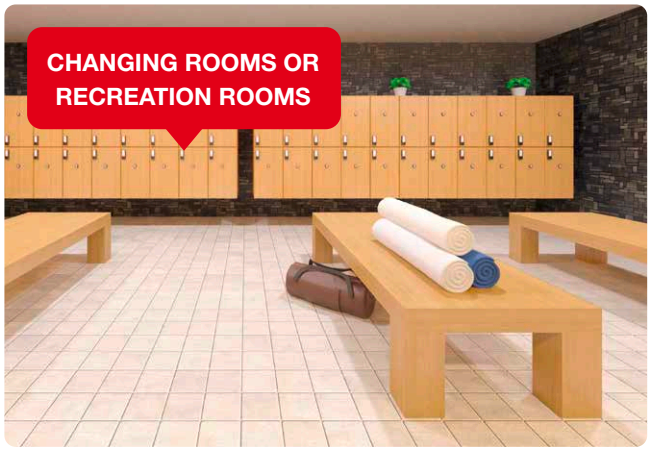
Helios offers a complete system of components which can be individually combined for the respective area of application for larger, more demanding solutions. The centre-pieces are the controller with integrated internal sensor and the external sensor. Helios also offers an unrivalled range when it comes to the selection of an optimal fan for practically all areas of application.

**Highlights:**

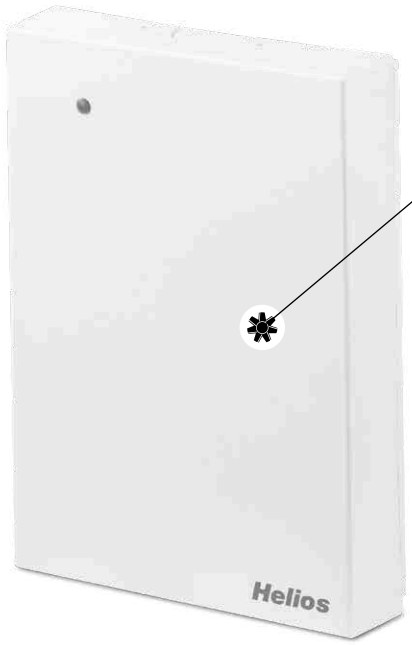
- Adjustable interval ventilation for a minimum fresh air level.
- Also with especially energy-saving EC fans.
- Select from many optional additional functions: Supply air, additional heater, additional dehumidifier or a building control system connection.

**Possible areas of application:**

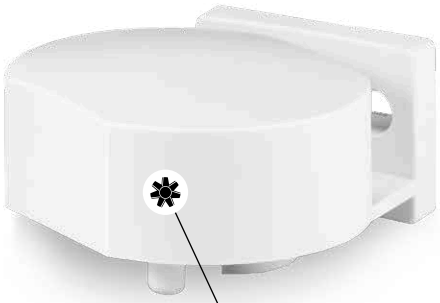





## SELECT FROM A LARGE NUMBER OF OUR AC AND EC FANS. WE WILL BE HAPPY TO ASSIST YOU!




**The controller with integrated internal sensor** permanently measures the inside temperature and humidity. The controller then decides whether the conditions are suitable and whether humid air should be discharged outside.



**The external sensor** permanently measures the air temperature and humidity outside the building.

- **For smaller volumes of extract air**




ECgreen® Vent

- **For larger volumes of extract air**

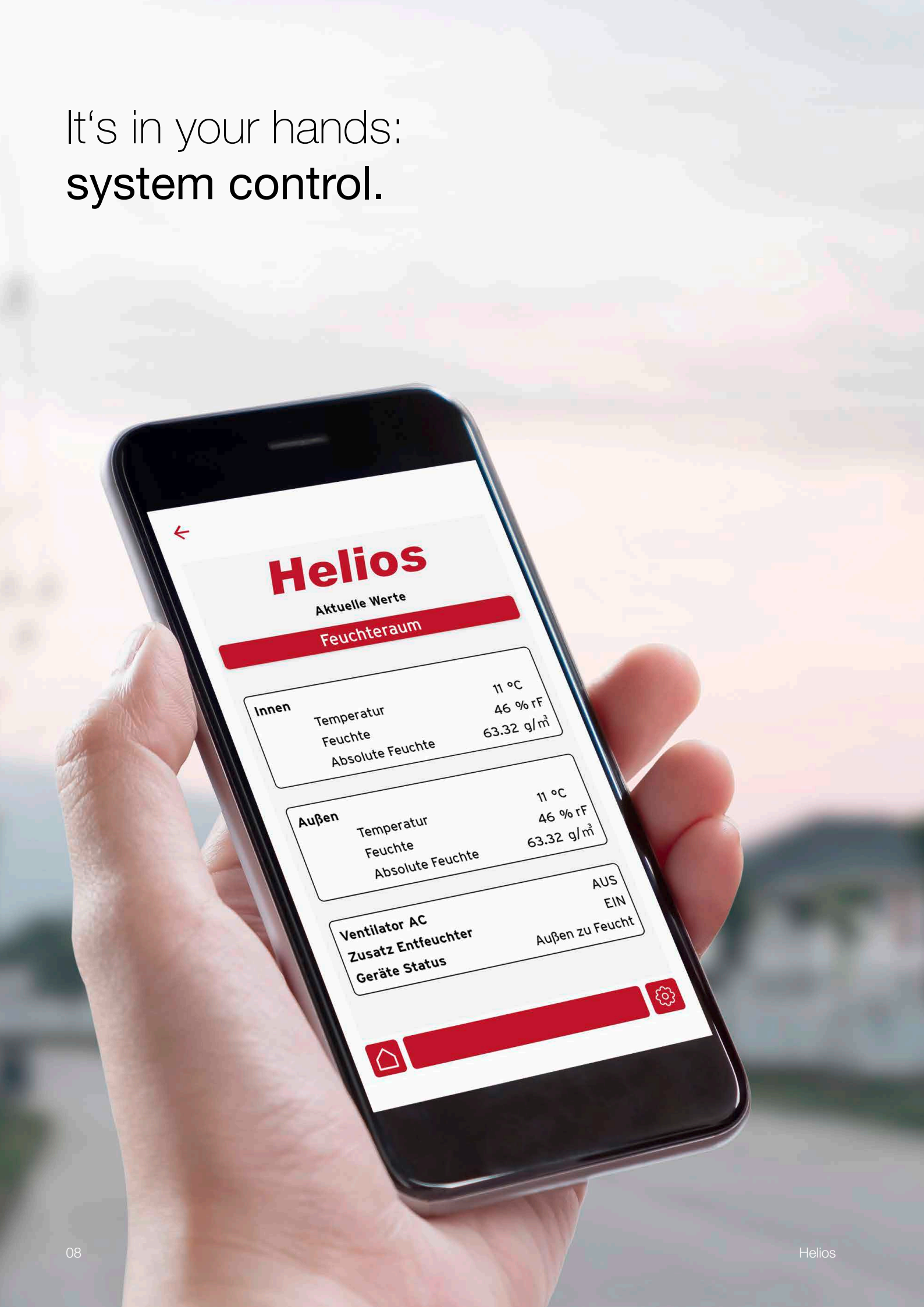



- **Passive air inflow elements, active supply air fans**




Discover our complete range in the main Helios catalogue or at **www.HeliosSelect.de**

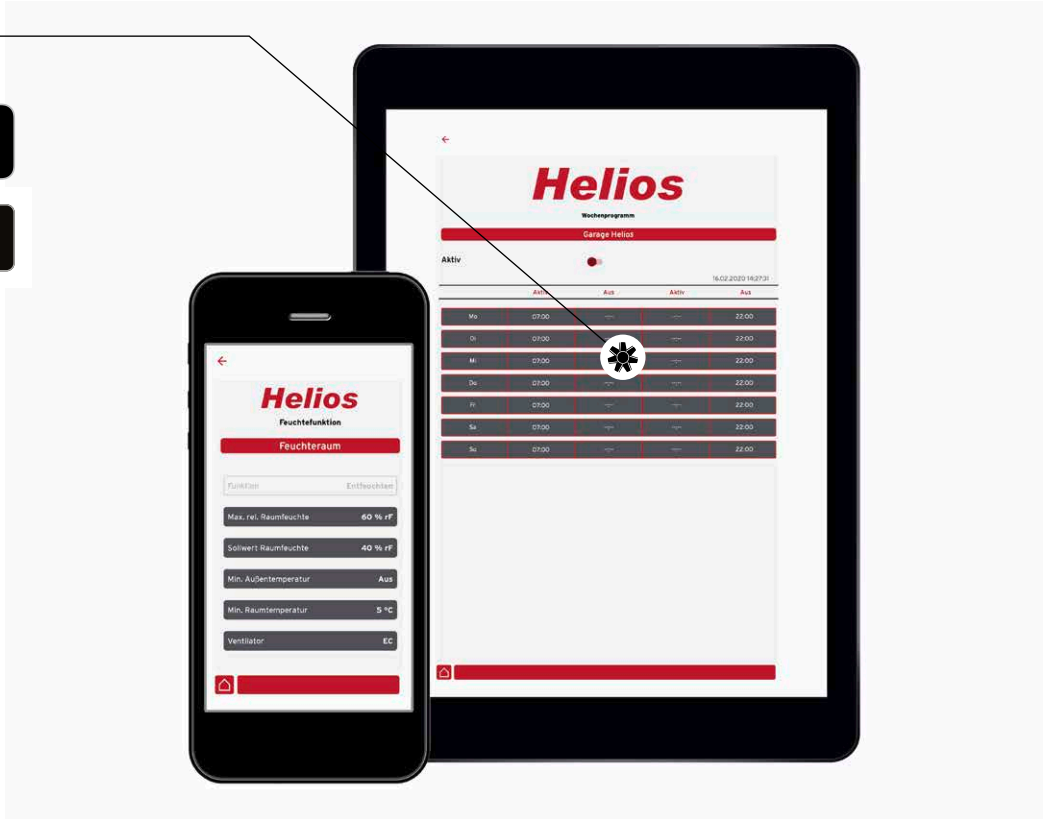
# It‘s in your hands:
# **system control.**



**It doesn‘t get more convenient than this:**
You can easily and reliably adjust the Helios absolute humidity control system using the App on your smartphone or tablet. Enjoy.

Download on the App Store

GET IT ON Google Play



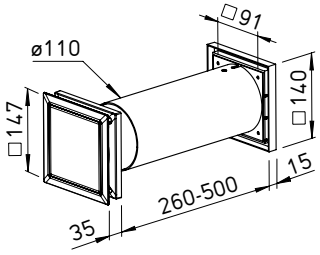

The Helios absolute humidity control system also takes your personal wishes into consideration. You have the choice between manual activation and deactivation or fully automated operation. The corresponding App “Helios FDR” also offers the following options:

- Adjust the limit value for the maximum relative humidity and the humidity setpoint.
- Define the turn-off delay time after activating the manual button.
- Configure the weekly programme to precisely define the rest times. Ideal for cellar apartments in which the ventilation is switched off at night.
- Defining the minimum room temperature ensures that the room is not cooled down too much depending on the intended use.
- The humidity curve and fan runtime for the past four weeks can be read out and sent.
- The most important features can be checked for correct functioning using the test function.
- You will be notified about available controller firmware updates in the App and you can install these directly.
- Particularly useful for facility managers: Any number of Helios absolute humidity control systems can be managed from one App.

# Absolute humidity control
# Compact solution for smaller air flow rates

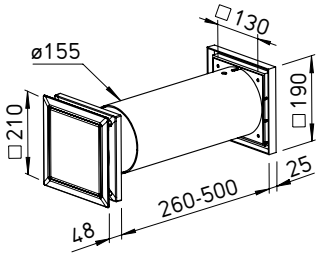
## FDR set

## FDR set M1/100




All dimensions in mm

## FDR set M1/150




All dimensions in mm

**FDR sets consist of:**
- Extract air fan M1/100 or M1/150.
- Absolute humidity controller incl. integrated sensor for inside humidity and temperature.
- Telescopic wall sleeve TWH 100 or TWH 150.
- External ventilation grille G 100 or G 160 incl. integrated sensor for outside humidity and temperature.
- Switching power supply.

**FDR set with M1/100 for smaller rooms with low to medium humidity levels.**

**FDR set with M1/150 for rooms with medium to high humidity levels.**

**Area of application**
- The FDR sets control the extract air fans depending on the absolute humidity difference between two measurement locations, e.g. inside the building and the outdoor environment using an internal sensor and external sensor for humidity and temperature.
- The internal sensor is housed directly in the electronic controller and the external sensor is located in the extract air grille.

**Control parameters FDR set**
- If the control parameter activation thresholds are exceeded, the room will be ventilated with the M1/100 or M1/150, whereby drier air will flow into the room.

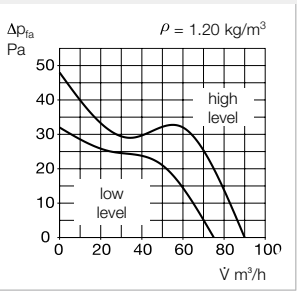
**Control function**
- The FDR is operational directly after installation due to its basic factory settings.
- All control parameters can be optimised in relation to the building using the free Helios FDR App.

**Helios FDR App**
- All parameters can be changed at any time via the Bluetooth interface by using the free App.
- Software updates can be loaded on the controller via the App.
- The setting parameters and function history from the past few days can be read out via the App.

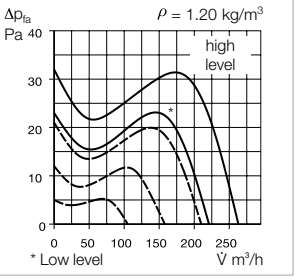
**Common features**
- Non-ventilation periods can be programmed with the integrated weekly timer.
- The integrated anti-icing protection ensures that the room to be ventilated remains frost-free.
- The extract air fan can be manually activated for a pre-set turn-off delay period using standard switches, regardless of humidity-dependent ventilation operation.
- If ventilation is not required or if useful ventilation is not possible due to the inside and outside climate conditions, the controller will switch the extract air fan to an interval mode so that the pre-set regular air exchange takes place.

**Additional switch output**
- Allows the enabling of an additional external heater so that the minimum room temperature does not fall below the pre-set value while the fan ventilates the room.
- Or it can be programmed to operate an additional active external dehumidifier.
- Alternatively, it can be used for building control system signalling.

## M1/100




## M1/150



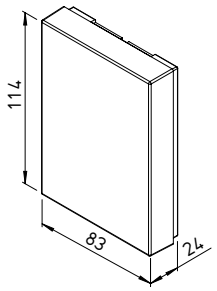

## Technical Data:

| Type | FDR set with M1/100 | FDR set with M1/150 |
|---|---|---|
| Ref. no. | 08158 | 08159 |
| **Technical data Fan** | **M1/100** | **M1/150** |
| Version | Standard model with two speed levels | Standard model with two speed levels |
| Internal shutter, removable | yes | yes |
| Flow volume free blowing m³/h | 90 / 75 | 260 / 220 |
| Impeller Ø mm | 92 | 137 |
| Speed min$^{-1}$ | 2650 / 2250 | 1900 / 1600 |
| Voltage / Frequency 50 Hz | 230 V | 230 V |
| Power consumption W | 9 / 5 | 8 / 4.5 |
| Rated current A | 0.06 / 0.04 | 0.08 / 0.06 |
| Sound pressure level dB(A) at 3 m[1)] | 30 / 25 | 39 / 35 |
| Wiring diagram no. | 915 | 1080 |
| Electrical supply line NYM-O in mm² | 3 x 1.5 | 3 x 1.5 |
| Protection class II, protection category | IP 45 | IP 45 |
| Max. air flow temperature | +40 °C | +40°C |
| Weight approx. kg | 0.80 | 1.20 |

[1)] Free field conditions.

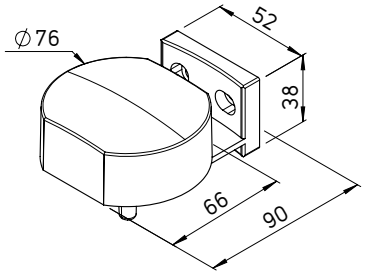
## FDR


## Internal controller for FDR



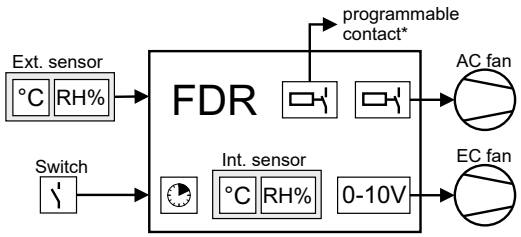

All dimensions in mm

## External sensor for FDR




All dimensions in mm

## Pictorial schematic FDR




* Additional heater, additional dehumidifier, supply air function or fault signal

**Absolute humidity controller incl. integrated sensor for inside humidity and temperature, external sensor for intake air humidity and temperature as well as the necessary switching power supply.**

### Area of application

- For controlling/regulating extract air fans depending on the absolute humidity difference between two measurement locations, e.g. inside the building and the outdoor environment using an internal sensor and external sensor for humidity and temperature.
- The internal sensor is housed directly in the electronic controller and the external sensor is housed in a casing for wall installation.

### Control parameters FDR

- If the control parameter activation thresholds are exceeded, the room will be ventilated with the AC fan used in the room.
- All single-phase Helios AC fans can be connected to the controller up to a max. current of 6 A.
- If fans with higher electrical outputs or three-phase current fans are required, a corresponding circuit breaker must be connected to the controller.
- If energy-saving EC extract air fans are used, the speed and thus the energy consumption will be reduced to a minimum depending on the absolute humidity difference.
- All Helios EC fans with a 0-10 V control input can be connected to the controller.

### Control function

- The FDR is operational directly after installation due to its basic factory settings.
- All control parameters can be optimised in relation to the building using the free Helios FDR App.

### Helios FDR App

- All parameters can be changed at any time via the Bluetooth interface by using the free App.
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### Additional switch output

- Allows the enabling of an additional external heater so that the minimum room temperature does not fall below the pre-set value while the fan ventilates the room.
- Or it can be programmed to operate an additional active external dehumidifier.
- Alternatively, it can be used for building control system signalling.

## Technical data:

| Type | FDR |
|---|---|
| Ref. no. | 08157 |
| Voltage | 230 V~, 50 Hz |
| Power supply unit Controller | 12 V DC |
| Switch output ON/OFF potential-free | max. 6 A, cos phi 0.95 |
| Controlled output voltage | 0–10 V / max. 2 mA / 0-100% |
| Max. temperature range | outside -30 °C – 55 °C<br>inside 0 °C – 40 °C |
| IP external sensor | IP 54 |
| IP controller/internal sensor | IP 20 |
| Dimensions external sensor | DA 90 mm, H 40 mm |
| Dimensions controller/internal sensor | 114x83x24 mm |
| Wiring diagram no. | 1381 |


**Helios Ventilatoren GmbH + Co KG** · Lupfenstraße 8 · 78056 Villingen-Schwenningen · Germany
Phone + 49 (0) 77 20 / 606 - 0 · Fax + 49 (0) 77 20 / 606 - 257 · export@heliosventilatoren.de · www.heliosventilatoren.de