

Absolute humidity control

Damp rooms
belong to the past.



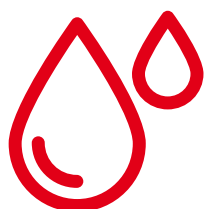
Optimal room
humidity with
method:
automatic,
flexible,
easy.



Damp rooms, such as basement and laundry rooms or garages, are a big problem and not so easy to get a handle on. Regular ventilation by opening the windows is not always the best solution. Especially not in the summer when even more moisture enters the building with the warm air, which subsequently condenses on cold walls. This means the risk of mould increases even further, room objects can be damaged by the excessive moisture and health risks increase.

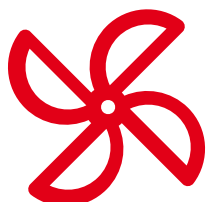
The **Helios differential humidity control system (FDR)**, which consists of an intelligent control system with integrated internal sensor and an external sensor, automatically ensures optimal room humidity and thus solves the problem sustainably. For this purpose, the temperature and humidity is continuously measured inside and outside – ventilation is only active when the external humidity is lower than the internal humidity.

FDR can be used with a wide variety of extract air fans from the Helios range and offers the optimal solution for every application for permanently drier rooms.



Automatic

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



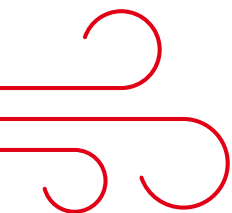
Flexible

Whether for residential, commercial or industrial use – combined with the extensive Helios range of AC and EC fans, FDR offers the right solution for every room size and type of use.



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.



Flexible solutions for any air volume.

Whether for smaller rooms, such as basements in single family houses, or for larger, more demanding solutions, such as in commerce or industry - Helios offers an entire system of components that can be individually combined for the respective area of application.

The centrepiece is the Helios differential humidity control system FDR, which consists of a controller with integrated internal sensor and an external sensor, combined with the optimally matching extract air fan. There is an extensive Helios range of AC and EC fans to choose from, which provides the optimal solution for every room size and type of use. In general, we recommend the additional installation of passive air flow elements or, in the case of larger air volumes or long air paths, the installation of active supply air fans through which the supply air can flow. Variants with an integrated heating element ensure a pleasant supply air temperature.

No matter which combination you choose, Helios FDR continuously measures the temperature and humidity in the room and outside the building. If there are suitable conditions for ventilation, the humid air is discharged to the outside. This is the case when the absolute humidity of the outdoor air is lower compared to the room condition.

A large number of parameters can be adjusted to individual needs via the associated App.



Highlights.

- Changes can be made to the settings at any time via the App.
- Precise rest periods can be programmed with the weekly programme.
- Adjustable interval ventilation for a minimum fresh air level.
- Ventilation can also be activated manually using standard switches.
- Optimized for use with particularly 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 compares the room data with that of the outdoor sensor and then decides whether the conditions are suitable and humid air should be discharged outside.

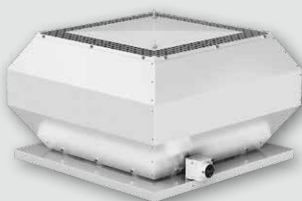


The external sensor permanently measures the air temperature and humidity outside the building.

For smaller volumes of extract air



For larger volumes of extract air



Passive air inflow elements, active supply air fans

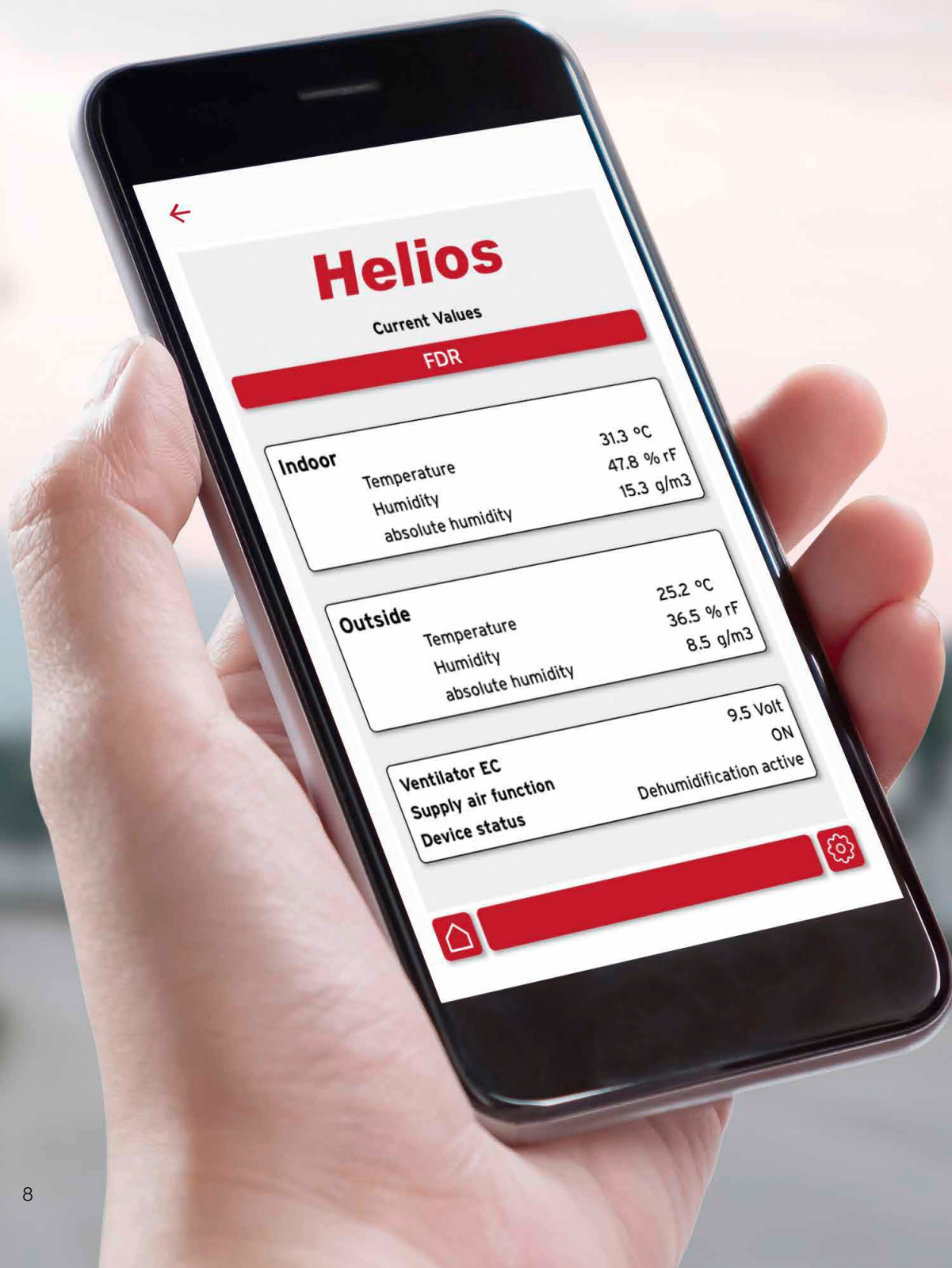


**OUR TIP FOR LARGER AIR VOLUMES:
HELIOS FRESH AIR BOX ALB EC.. WW.**

It offers the ideal system solution in combination with the
differential humidity control system and Helios extract air solutions.

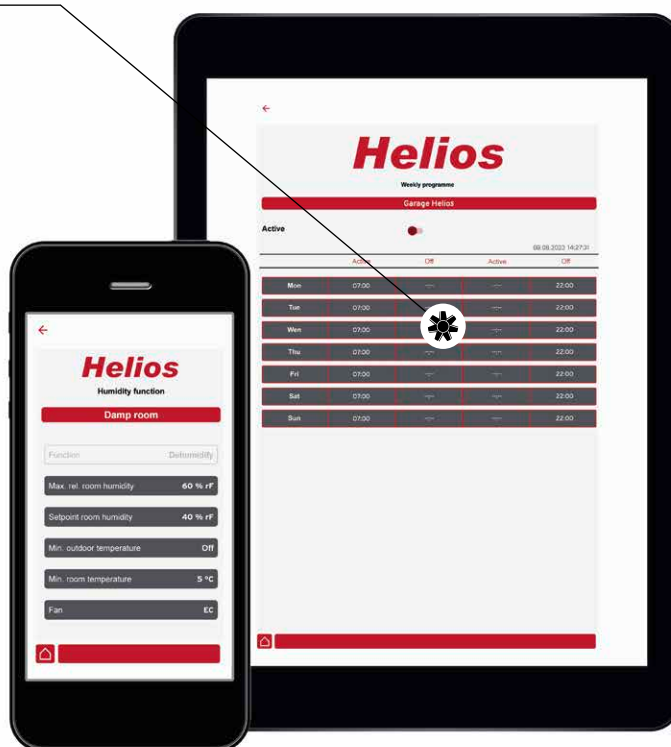


It's in your hands:
system control.



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.



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.

FDR



Differential 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.

■ Features

- Non-ventilation periods can be programmed with the integrated weekly timer.
- The integrated frost protection ensures that the ventilation process is temporarily suspended and thus no cold supply air actively flows in the building.
- 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 preset 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.

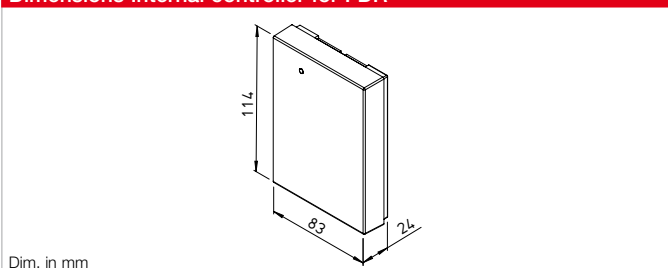
■ Control parameters FDR

- If the control parameter activation thresholds are exceeded, the room will be ventilated with the AC fan used in the room, which allows drier supply air to flow into 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.

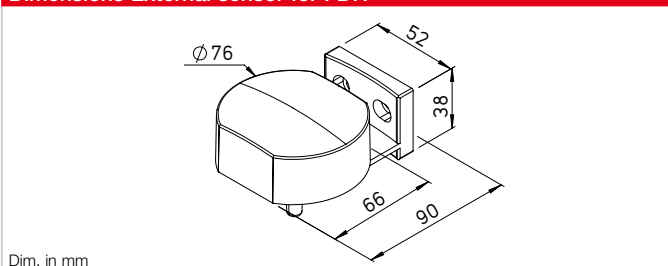
■ Control function

- Thanks to its basic factory settings, FDR is ready for operation in a very short time with only a few adjustments.
- All control parameters can be optimised in relation to the building using the free Helios FDR App.

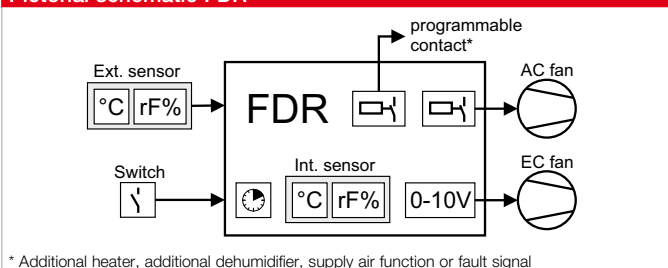
Dimensions Internal controller for FDR



Dimensions External sensor for FDR



Pictorial schematic FDR



■ 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.



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 inside 0 °C – 40 °C
IP external sensor	IP54
IP controller/internal sensor	IP20
Dimensions External sensor	(W x H x D) 76 x 40 x 90 mm
Dimensions Controller/internal sensor	(W x H x D) 83 x 114 x 24 mm
Wiring diagram no.	1381



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