User control options for our comfort ventilation system

FOR INDIVIDUAL AND FLEXIBLE CONTROL

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Meltem ®
VENTILATION & HEAT RECOVERY

You have been depending on us for ventilation solutions for over 40 years, relying on our rigorous use of the latest electronics and high-quality components. The result is individual ventilation solutions for a wide range of construction projects. The "Made in Germany" quality of our comfort ventilation units is demonstrated by various approvals and essential eligibility for funding.

MOISTURE PROTECTION

- **Protection against moisture damage**
- **Prevention of mould growth**
- **Securing the structure**

NOISE PROTECTION

- **Ventilation without outside noise**
- **High level of sound insulation**
- **Virtually noiseless operation (so ideal for bedrooms)**

HEALTHY LIVING

- **Wellness through clean and pre-heated fresh air**
- **Hypoallergenic due to high-performance air filters**
- **No draughts**

ENERGY CONSERVATION

- **Save on heating costs and reduce CO_2 emissions**
- **Extremely low power consumption**
- **Low-energy home (efficient home as defined by KfW) can be achieved at a low cost**

NEW FEATURE: CONVENIENT
APP-BASED CONTROL

APP-BASED CONTROL
FOR OUR COMFORT VENTILATION

The new Meltem app can be used to control, program and read the ventilation units from the M-WRG-II and M-WRG series decentrally, centrally on site or online from anywhere in the world. It allows timer programs to be stored for different controllers to suit the unit configuration. And, of course, the user can also program various unit functions and sensors. Top priority for data protection! Your data is fully encrypted and can only be released by the user. Naturally all Meltem ventilation units can also be controlled without the app. You will find further information in our operating and installation instructions.

BENEFITS OF THE MELTEM APP
AT A GLANCE

- Increased comfort – from anywhere in the world
- Link units to the app quickly and simply
- Customized ventilation and timer programs
- Remote maintenance possible online
- Multiple buildings can be linked into the app
- Easy to retrofit
- Connect up to 15 units to each gateway
- Can be used with pre-2020 units.
  Contact us for further details.

YOU WILL NEED:

- The Meltem app
- Meltem gateway with cable and mains plug
- Ventilation units from the M-WRG-II and M-WRG series constructed 2020 or later
- Router with Internet access
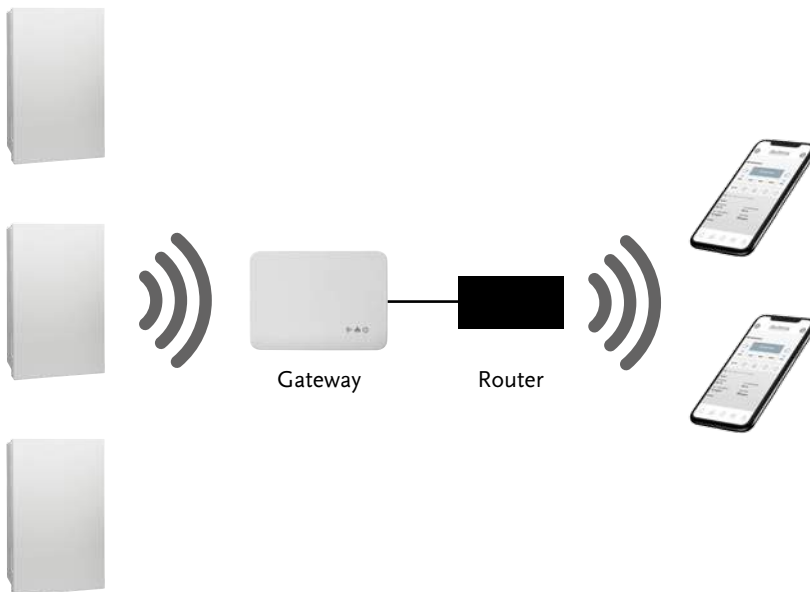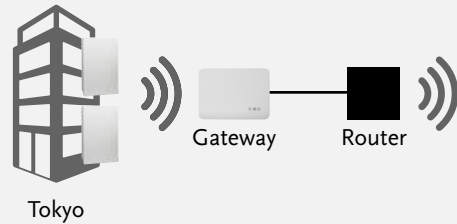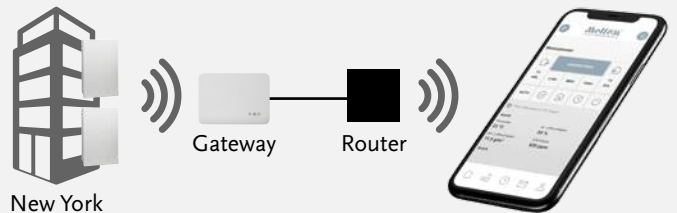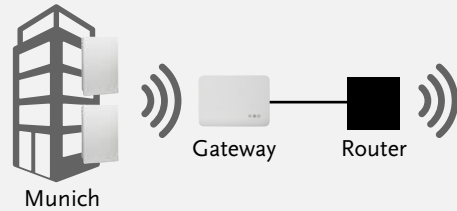- Smartphone or tablet, iOS or Android operating system

OPERATORS AND MANAGERS

- Selecting and setting various program functions
- Operating status indicator
- Variable program settings for specific uses
- Optimum ventilation guaranteed even when building is unoccupied
- Online support possible via remote maintenance
- Fault messages and filter change indicator

IN THE HOME

- In every room, the units are equipped and can be operated with a simple controller
- The manager has access to the app and so can make basic settings and forward fault messages to himself at a central location. If users request changes to the settings, the manager can again implement these centrally

Munich — Gateway — Router

New York — Gateway — Router

Tokyo — Gateway — Router
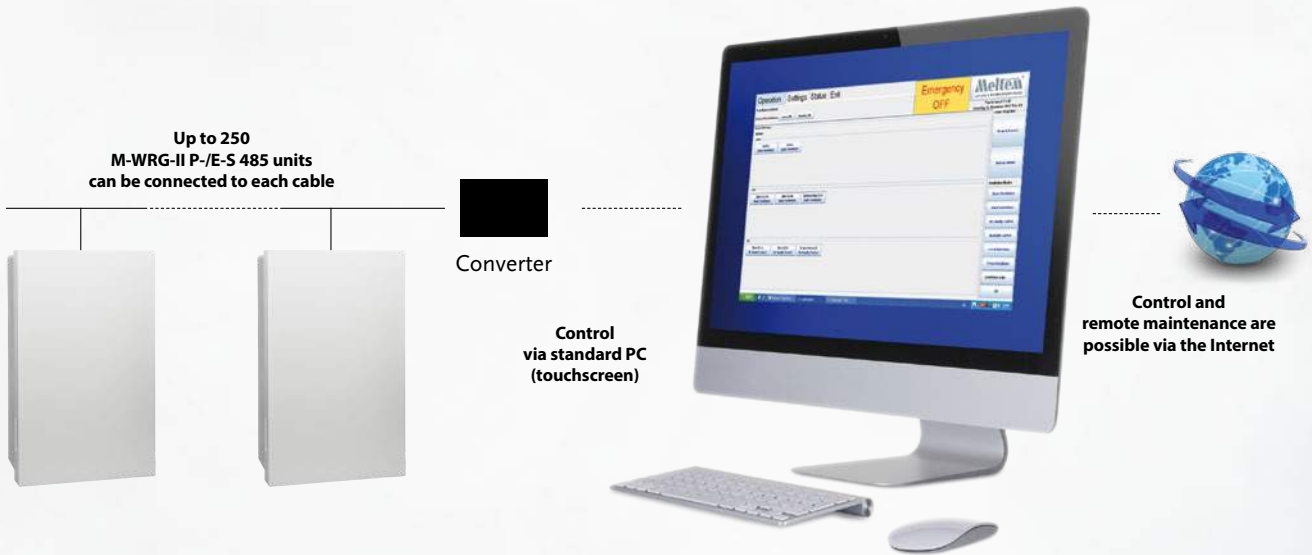
USER/TENANT

- Selecting and setting various program functions
- Operating status indicator
- Variable program settings for specific uses
- Optimum ventilation guaranteed even when building is unoccupied
- Online support possible via remote maintenance
- Fault messages and filter change indicator
- Can be controlled via iOS or Android

Gateway   Router

Up to 15 units per gateway

MASSIVE
PERFORMANCE & FLEXIBILITY

**Up to 250
M-WRG-II P-/E-S 485 units
can be connected to each cable**

Converter

**Control
via standard PC
(touchscreen)**

**Control and
remote maintenance are
possible via the Internet**

A CENTRALISED CONTROL UNIT OFFERS UNSURPASSED EASE OF USE

Meltem bus solutions are the first choice for buildings with multiple ventilation units.
Up to 250 M-WRG-II P/E-S 485 or M-WRG-S 485 units per cable can be controlled centrally via a computer using the RS-485 network solution. Its clear graphical user interface (touchscreen) visualises all the relevant data in the building and offers simple user input. The control system tailors the ventilation to each individual room. It is also possible to control the ventilation as needed based on the humidity or CO_2 content of the ambient air, and the timer programs can be set as required, e.g. for operation during the summer, winter, holiday periods or at weekends.

- Individual options for controlling individual units, groups of units or the entire ventilation system

- 230 V external control input on the M-WRG-II P/E-S 485 or M-WRG-S 485* ventilation unit to which a switch, time switch, motion detector or similar may be connected.
The input is equipped with a switch-on delay and time-delay relay. The control input can be programmed using the optional wireless remote control M-WRG-FBH.

- Up-to-date information notifications (operating status, temperature, frost protection, filter change, etc.)

- Clear graphical display for visualising the operating statuses and allowing simple input of control commands using predefined input boxes on the touchscreen

* constructed from 2018 onwards

FRESH AIR FOR SENSITIVE AREAS

There is virtually no area that cannot be professionally ventilated. Meltem ventilation units provide draught-free, fresh air with low energy and operating costs even in sensitive public buildings:

Uses:

- **Residential buildings**
- **Retirement homes**
- **Halls of residence**
- **Hotels / boarding houses**
- **Daycare centres / schools**
- **Communal facilities**
- **Office buildings**
- **Doctor's surgeries**

No one would disagree that **schools and daycare centres** have different needs to private homes with respect to ventilation. For example, Meltem comfort ventilation units installed in the Markt Indersdorf primary and secondary school supply fresh air and thus create a healthy atmosphere for learning.

Retirement homes and halls of residence should create a comfortable climate for residents. This includes providing fresh air in living and shared areas. Meltem comfort ventilation units are centrally controllable, individually adjustable and, if two rooms (living area and wet room) are connected for ventilation purposes, they are also extremely economical to use.

Markt Indersdorf primary and secondary school: installation of centrally-controlled M-WRG units in the course of renovation

Regensburg-Burgweinting retirement home: centralised control of the M-WRG units and use of the cost-effective 2-room solution

DEMAND-CONTROLLED
& INDIVIDUAL CONTROL

As the private or public building owner and operator, you not only benefit from the cost-effectiveness of decentralised (living) room ventilation; when combined with a centralised controller it also becomes unprecedentedly easy to use:
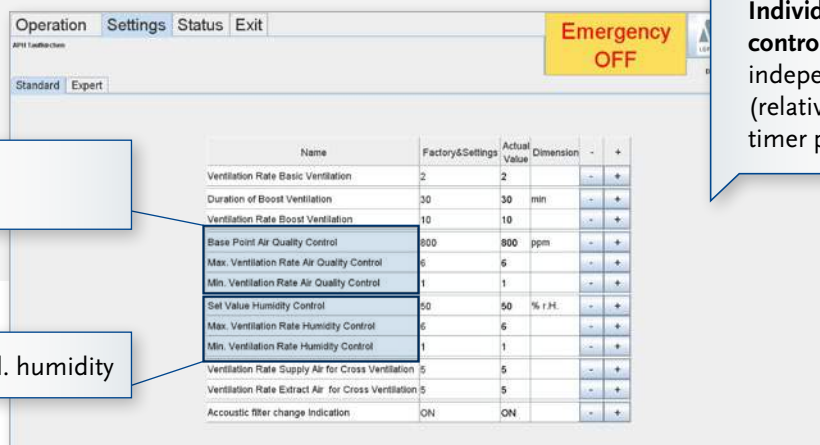
- Individual options for controlling the units using independent variables (relative humidity, air quality, timer programs)

- Up-to-date information notifications (operating status, temperature, frost protection, filter change, etc.) from the unit to the building management system

- Visualisation of operating statuses and notifications by graphical displays

- Straightforward remote maintenance by facility management

And of course extensive advice at the planning and implementation stages of your individual solution are givens for us. If you would like more information about the comfort ventilation system with heat recovery from Meltem, please do not hesitate to contact us.
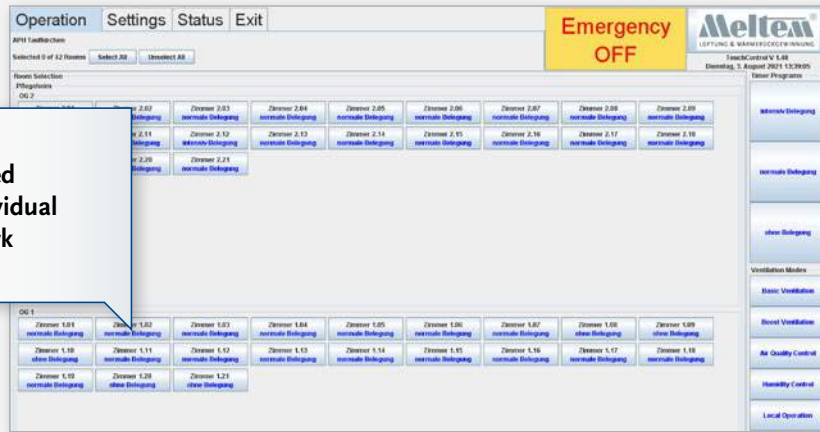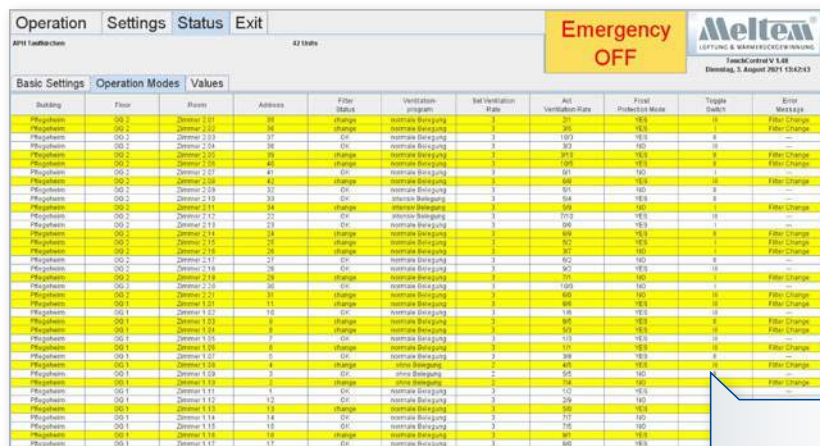
Individual centralised control of each individual room via the network

Individual options for controlling the units using independent variables (relative humidity, air quality, timer programs)

Control based on air quality (CO_2)

Control based on rel. humidity

Visualisation of the operating statuses and notifications by graphical displays

The Meltem Touch Control software can be quickly and easily adapted to various applications. Graphical representation of the room arrangement provides a clear overview and is easy to use.

DECENTRALISED VENTILATION –
CENTRALISED CONTROL

M-WRG-II P/E-S 485

M-WRG-S 485

M-WRG-S 485-TFC

M-WRG-II P/E-S 485-FC

RS-485 (max. 250 units per cable)

Centralised control of M-WRG-II / M-WRG ventilation units in an RS-485 network

Converter

Meltem Touch Control software and PC

Internet

*Meltem maintenance, remote diagnostics*

With an RS-485 network you can control up to 250 M-WRG-II P/E-S 485 or M-WRG-S 485 units per cable from a central location. The following components will be needed to set up the network:

- M-WRG-II P/E-S 485 or M-WRG-S 485 ventilation units (To control humidity or air quality, these units are also available with humidity or CO_2 sensors: M-WRG-II P/E-S 485-F or -FC or M-WRG-S 485-TF or -TFC)

- M-WRG-SUM 3 converter from RS-485 to USB

- (Touchscreen) PC

The **Touch Control software** is used to control the units. This offers the following functions:

- Centralised control of individual units, groups of units or the entire ventilation system

- Demand-controlled ventilation based on the CO_2 content in the ambient air

- Freely-configurable timer programs (timer function) for operation during the summer, winter, holiday periods or at weekends, etc.

- Display of operating status, fault messages, filter change indicator

On the other hand, if local control is required, the ventilation unit can be operated using the membrane touch pad on the unit or the stepping switch. This can be disabled or enabled by the Touch Control software as required.

M-WRG-II P/E-M

M-WRG-S M

M-WRG-S M-FC

M-WRG-II P/E-M-FC

Modbus RTU (max. 250 units per cable)
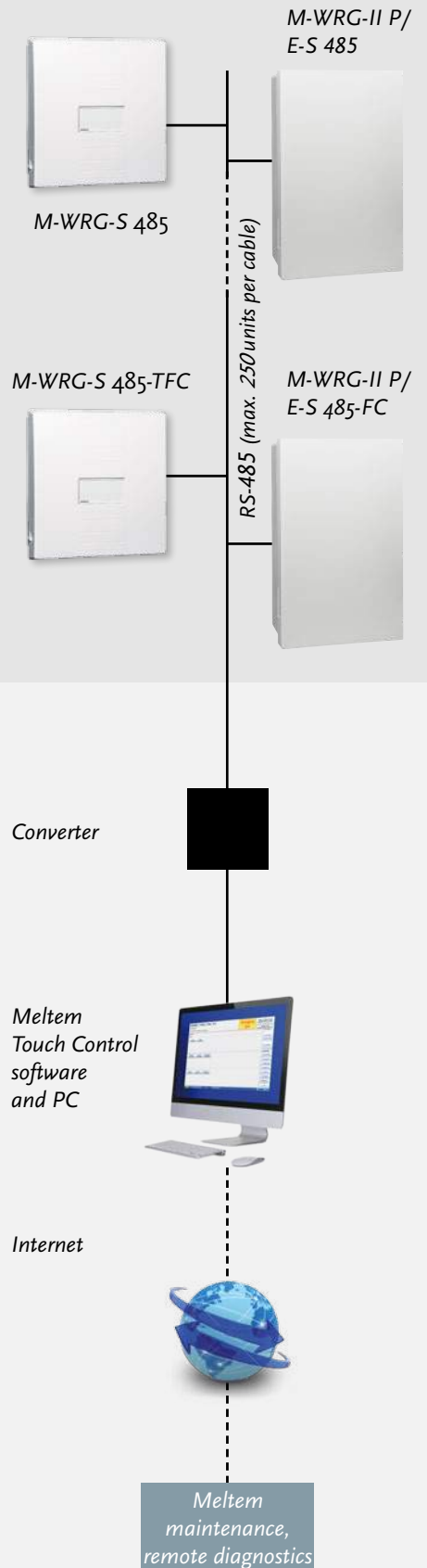
Centralised control of M-WRG-II / M-WRG ventilation units using Modbus RTU

Modbus RTU master, Modbus KNX gateway or Loxone Modbus extension (must be provided by the customer)

M-WRG-II P/E-M (F, FC) / M-WRG-S M (F, FC)
The ventilation unit has a Modbus board that allows it to be controlled centrally using the Modbus RTU protocol. The customer must have a Modbus RTU master in order to do this. Additional interfaces allow the units to be connected to other bus systems, such as KNX or Loxone.
Optionally with humidity or humidity and CO_2 control.
A Modbus gateway for KNX (Weinzierl 886 KNX-Modbus RTU) and Loxone (Loxone Modbus extension) must be provided by the customer.
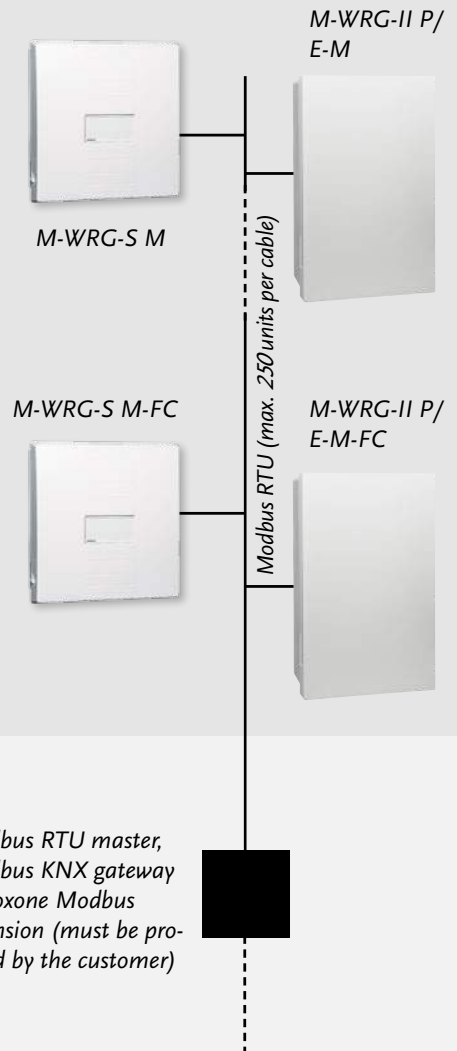
4-WAY WIRELESS
PUSHBUTTON SWITCH

Lots of functions – No additional wiring – Can be positioned anywhere in the room

The 4-way wireless pushbutton switch with LED feedback is a user-friendly way to operate ventilation units from the M-WRG-II and M-WRG series. You will need one wireless pushbutton switch for each unit. You can position the switch anywhere you like in the same room as the ventilation unit. It will always work! The switch can be simply glued to the wall or integrated into a switch box. You no longer need to wire the switch to the unit, saving you time and money. This is particularly useful when retrofitting the ventilation unit. The wireless pushbutton switch can also be retrofitted, allowing the unit to be operated from any point in the room or dwelling. It is thus ideal for barrier-free living.

The wireless pushbutton switch has 4 buttons which are assigned to the following ventilation levels by default:

	M-WRG-II	M-WRG
I Reduced ventilation:	10 m³/h	15 m³/h
II Normal ventilation:	30 m³/h	30 m³/h
III Increased ventilation:	50 m³/h	60 m³/h
⏱ Intensive ventilation:	100 m³/h for 15 min	

With the M-WRG-II O/LFS or O/MVS and M-WRG-O/LFS or -O/MVS options (for M-WRG units constructed 2020 or later), the assignment of buttons I, II, III is different: 20/40/60 m³/h.

LED feedback
You receive the following feedback from the LED in the middle of the switch. The LED feedback is shown every time a button is pressed (apart from "Green 2x").

Optional programs that can be assigned to the three buttons I, II, III (must be set at the factory on the ventilation unit when you purchase your unit and 4-way switch; some programs only possible on units with appropriate sensors), with sensors, button III is assigned as follows:

- Humidity control
- CO_2 control
- Automatic mode with humidity and CO_2 control

	M-WRG-II	M-WRG
- Supply air operation low:	50/0 m³/h	50/15 m³/h
- Supply air operation medium:	70/0 m³/h	70/15 m³/h
- Supply air operation high:	100/0 m³/h	100/15 m³/h
- Extract air operation low:	50/0 m³/h	50/15 m³/h
- Extract air operation medium:	70/0 m³/h	70/15 m³/h
- Extract air operation high:	100/0 m³/h	100/15 m³/h

LED colour	Flashing	Description
Green	1x	The ventilation unit has received and is carrying out the command
Green	2x	The wireless connection to the ventilation unit was established successfully
Orange	1x	The battery in the wireless pushbutton switch needs to be changed
Orange	2x	The air filters in the ventilation unit need to be changed
Red	1x	No wireless connection to the ventilation unit
Red	2x	Error message from the ventilation unit

Product data
Dimensions:	83 x 83 x 17 mm (W/H/D)
Weight:	approx. 52 g
Transmission frequency:	868.3 MHz, minimum output power 0 dBm. May only be used in Europe due to the HF frequency used.
Auxiliary voltage:	1x CR2032 battery, service life: 6 years, supplied as standard

Notes:
The optional M-WRG-FBH wireless remote control can be used to program the basic settings of the 4-way wireless pushbutton switch. The switch may be combined with other design lines (e.g. Gira System 55). You will need to test this on site on an individual basis.

The pushbutton switch may also be used together with the U² installation version and all M-WRG-II and M-WRG covers.

Compatibility: ventilation units from the M-WRG-II and M-WRG series constructed from July 2018 onwards and with device no. 11807xxxx or later (excluding RS-485 types); only one ventilation unit may be operated using the wireless pushbutton switch. On the other hand, up to 5 wireless pushbutton switches may be registered with one unit.

Meltem ®
VENTILATION & HEAT RECOVERY

INCONTROL
PUSHBUTTON SENSOR

Convenient buttons and ease of use – 6 ventilation levels/programs

The InControl pushbutton sensor can be used to control and operate 1 - 5 ventilation units in a room. 6 buttons are used to select 6 ventilation levels/programs.
At the touch of a button, switch to Summer mode (supply air operation) or set the ventilation for moisture protection (e.g. people absent). Fixed values are stored for the humidity and CO_2 control. LEDs integrated into the buttons provide continuous feedback on the current operating statuses or report a unit fault or pending maintenance (air filter change). As it is hard-wired, this user control option is ideal for new builds.

**For the M-WRG-II P/E-T (F, FC) or M-WRG-S/Z-T (F, FC) ventilation unit types,
the following ventilation levels/programs are available on the pushbutton sensor:**

	Ventilation programs	M-WRG-II	M-WRG	without sensors	with humidity sensors	with humidity and CO_2 sensors
	Reduced ventilation	10 m³/h	15 m³/h	x	x	x
	Normal ventilation	30 m³/h	30 m³/h	x	x	x
	Increased ventilation	50 m³/h	60 m³/h	x	x	x
	Intensive ventilation	100 m³/h for 15 min		x	x	x
	Supply air operation	50/0 m³/h	50/15 m³/h	x	x	
	Extract air operation	50/0 m³/h	50/15 m³/h	x		
	Humidity control	10 to 60 m³/h	15 to 60 m³/h		x	x
	CO_2 control (optional automatic mode)	10 to 60 m³/h	15 to 60 m³/h			x

With the M-WRG-II O/LFS or O/MVS and M-WRG-O/LFS or -O/MVS options (for M-WRG units constructed 2020 or later), the assignment of buttons I, II, III is different: 20 / 40 / 60 m³/h.

LED feedback via the buttons on the InControl pushbutton sensor

	Indicator	Description
	LED flashes	Unit fault (e.g. faulty sensor or motor)
	LED flashes	Air filter change required
	LED flashes	The humidity of the supply air is greater than that of the extract air, which means that dehumidification is not possible
	LED flashes	The VOC value of the supply air is greater than 1500 ppm for 10 minutes (factory setting, only for M-WRG-II units with the M-WRG-II O/VOC-AUL option)

Product data:
Dimensions (W/H/D):
80.8 x 80.8 x 9.3 mm
Material: thermoplastic (PC) or stainless steel
Colour: white or stainless steel

LED colour: red
IP code: IP20
Installation: Flush-mount installation in flush-mount switch box to be provided by customer

Notes:
Connection of InControl pushbutton sensor to the ventilation unit: via the data cable e.g. J-Y(St)Y 10 x 2 x 0.6 mm² or 10 x 2 x 0.8 mm²

Compatibility: M-WRG-II P-T (F, FC), M-WRG-II E-T (F, FC), M-WRG-S/Z-T (F, FC) ventilation units

WIRELESS REMOTE CONTROL
WITH DISPLAY

Increased functionality – no additional wiring – low investment and installation costs

The wireless remote control makes it so easy to customise and control Meltem ventilation units with heat recovery from the M-WRG-II and M-WRG series exactly to your requirements. There are various ventilation programs, displays and benefits to suit your specific unit features.

7 ventilation programs with flexible change of settings depending on the unit type:

- Continuous operation
- Intensive ventilation
- Supply air operation
- Extract air operation
- Humidity control
- CO_2 control
- Automatic mode with humidity and CO_2 control

Additional information on the display, such as

- Battery status for wireless remote control
- Current ventilation level
- Current air humidity and CO_2 levels in the extract air (only possible on units with the appropriate sensors)
- Frost protection mode
- Fault and filter change indicator

Benefits

- Simple and convenient to use
- Automatic monitoring of the air quality in sniffing mode – moisture protection when occupants are absent on vacation, for example, or for holiday homes
- Up to 6 ventilation units of the same type in one room can be controlled in parallel with one wireless remote control
- Operating hours display

The wireless remote control can also be used to program M-WRG-II and M-WRG units. Individual settings can be stored on the pushbutton sensor for each ventilation program.

The wireless pushbutton switch can also be used in conjunction with the U^2 installation version and all M-WRG-II and M-WRG covers.

EXTERNAL
WIRELESS CO$_2$ SENSOR

CO$_2$ controlled ventilation – Can be positioned anywhere in the room

In demand-controlled mode, ventilation units work extremely efficiently and save energy. In houses, offices and commercial premises or in public buildings such as schools and daycare centres, it is always a good idea to dissipate an excessively high CO$_2$ concentration. The external wireless CO$_2$ sensor is used to detect the CO$_2$ level in the room, and thus to monitor the air quality. The sensor may be used as an alternative to the ventilation unit's internal CO$_2$ sensor if, for example, a more flexible arrangement in the room is required (such as barrier-free living) or for retrofitting for units without sensors. 5 ventilation levels/programs, including automatic CO$_2$ control and temporary intensive ventilation can be selected at the push of a button. LEDs show the current operating status and any feedback. A 230 V connection is needed for the wireless CO$_2$ sensor.

The wireless sensor is assigned the following ventilation levels/programs by default:

		M-WRG-II	M-WRG
I	Reduced ventilation:	10 m³/h	15 m³/h
II	Normal ventilation:	30 m³/h	30 m³/h
III	Increased ventilation:	50 m³/h	60 m³/h
Auto	CO$_2$ control:	10 to 60 m³/h	15 to 60 m³/h
⏲	Intensive ventilation:	100 m³/h for 15 min	

With the M-WRG-II O/LFS or O/MVS and M-WRG-O/LFS or O/MVS options, the assignment of ventilation levels I, II, III is different: 20 / 40 / 60 m³/h.

LED feedback
The Mode LED on the wireless sensor can provide the following feedback: indication that an air filter needs to be changed, error message from the ventilation unit.

Optional programs that can be assigned to ventilation levels I, II, III (must be set at the factory on the ventilation unit when you purchase the unit and wireless CO$_2$ sensor):

	M-WRG-II	M-WRG
- Supply air operation low:	50/0 m³/h	50/15 m³/h
- Supply air operation medium:	70/0 m³/h	70/15 m³/h
- Supply air operation high:	100/0 m³/h	100/15 m³/h
- Extract air operation low:	50/0 m³/h	50/15 m³/h
- Extract air operation medium:	70/0 m³/h	70/15 m³/h
- Extract air operation high:	100/0 m³/h	100/15 m³/h

Product data
Dimensions: 100 x 100 x 25 mm (W/H/D)
Weight: approx. 125 g
IP code: IP30
Measured value: 400 - 2,000 ppm
Operating voltage: 195 to 253 VAC / 50 Hz
Power consumption: max. 4 W
Transmission frequency: 868.3 MHz, minimum output power 0 dBm, may only be used in Europe due to the HF frequency used.

Notes:
The optional wireless remote control can be used to set and program the basic settings of the wireless CO$_2$ sensor for the various programs – such as the air flow – even in supply air and extract air operation.

The wireless sensor may also be used together with the U² installation version and all M-WRG-II and M-WRG covers.

Compatibility: Only one wireless CO$_2$ sensor may be linked to each ventilation unit. If the unit has an internal CO$_2$ sensor, the internal sensor value is replaced by the value from the wireless sensor. On units without a CO$_2$ sensor, the value from the external sensor is used. The wireless sensor can be registered and operated together with a 4-way wireless pushbutton switch, wireless remote control or wireless humidity sensor on the ventilation unit.

EXTERNAL
WIRELESS HUMIDITY SENSOR

Humidity-controlled ventilation – No additional wiring – Can be positioned anywhere in the room

In demand-controlled mode, ventilation units work extremely efficiently and save energy. In houses, offices and commercial premises or in public buildings such as schools and daycare centres, it is always a good idea to dissipate excessive humidity from the room. The external wireless humidity sensor is used to detect the level of humidity in the room, and thus to monitor the air quality. The sensor may be used as an alternative to the ventilation unit's internal humidity sensor if, for example, a more flexible arrangement in the room is required (such as barrier-free living) or for retrofitting for units without sensors.
5 ventilation levels/programs, including automatic humidity control and temporary intensive ventilation can be selected at the push of a button. LEDs show the current operating status and any feedback. The wireless humidity sensor is battery-operated.

The wireless sensor is assigned the following ventilation levels/programs by default:

		M-WRG-II	M-WRG
I	Reduced ventilation:	10 m³/h	15 m³/h
II	Normal ventilation:	30 m³/h	30 m³/h
III	Increased ventilation:	50 m³/h	60 m³/h
Auto	Humidity control:	10 to 60 m³/h	15 to 60 m³/h
⏲	Intensive ventilation:	100 m³/h for 15 min	

With the M-WRG-II O/LFS or O/MVS and M-WRG-O/LFS or O/MVS options, the assignment of ventilation levels I, II, III is different: 20 / 40 / 60 m³/h.

LED feedback
The Mode LED on the wireless sensor can provide the following feedback: battery change required, indication that an air filter change is needed, error message from the ventilation unit.

Optional programs that can be assigned to ventilation levels I, II, III
(must be set at the factory on the ventilation unit when you purchase the unit and wireless humidity sensor):

	M-WRG-II	M-WRG
- Supply air operation low:	50/0 m³/h	50/15 m³/h
- Supply air operation medium:	70/0 m³/h	70/15 m³/h
- Supply air operation high:	100/0 m³/h	100/15 m³/h
- Extract air operation low:	50/0 m³/h	50/15 m³/h
- Extract air operation medium:	70/0 m³/h	70/15 m³/h
- Extract air operation high:	100/0 m³/h	100/15 m³/h

Product data
Dimensions: 100 x 100 x 25 mm (W/H/D)
Weight: approx. 125 g
IP code: IP30
Measured value: 0 % to 100 % RH
Auxiliary voltage: 2x AA mignon battery, service life: roughly 2 years, supplied as standard
Transm. freq.: 868.3 MHz, min. output power 0 dBm May only be used in Europe due to the HF frequency used.

Notes:
The optional wireless remote control can be used to set and program the basic settings of the wireless humidity sensor for the various programs – such as the air flow – even in supply air and extract air operation.

The wireless sensor may also be used together with the U² installation version and all M-WRG-II and M-WRG covers.

Compatibility: Only one wireless humidity sensor may be linked to each ventilation unit. If the unit has an internal humidity/temperature sensor on the extract air side, the internal sensor value is replaced by the value from the wireless sensor. On units without a humidity sensor, the value from the external sensor is used. With this solution there is no comparison of the humidity on the extract air and supply air sides. The wireless sensor can be registered and operated together with a 4-way wireless pushbutton switch, wireless remote control or wireless CO_2 sensor on the ventilation unit.

HOTELS ▶

Conference and exhibition hotel Amadeus, Hannover
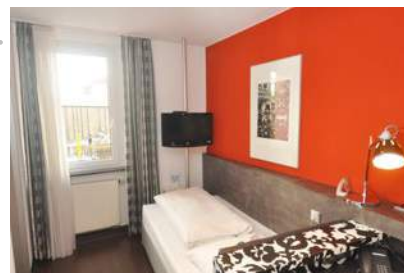
◀ **RETIREMENT HOMES**

"Haus Klara" retirement home Regensburg-Burgweinting

HALLS OF RESIDENCE ▶

Hall of residence Wuppertal

◀**SCHOOLS**

Primary and secondary school Markt Indersdorf

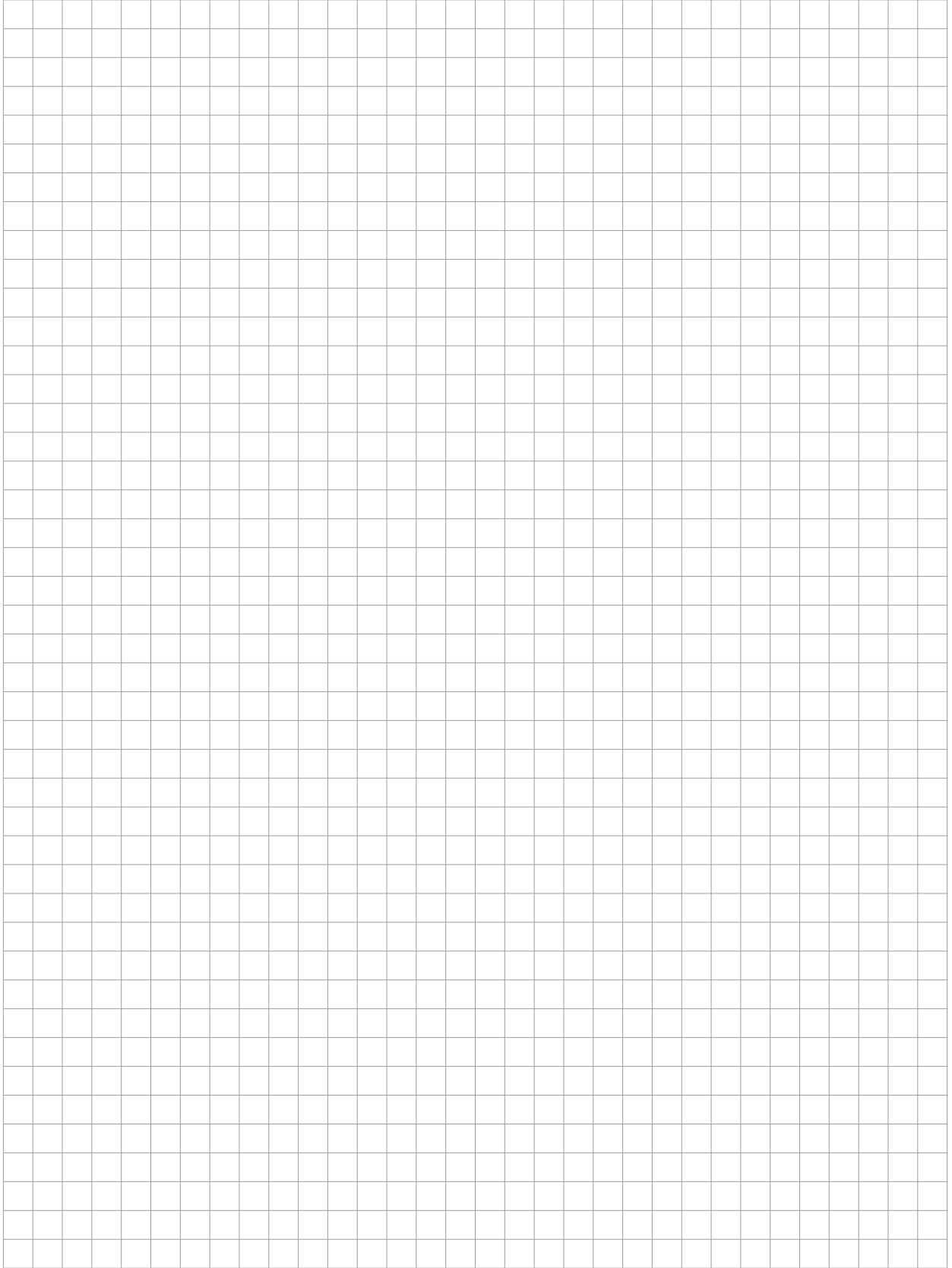**DAYCARE CENTRES** ▶

"Hermann Quack" daycare centre Wörth am Rhein

◀ **OFFICE BUILDINGS**

Kinshofer Holzhaus GmbH, Parsberg

SPACE FOR YOUR NOTES