

# Climate & Irrigation Controllers

2022



# Greenhouse Automation



#### GreenClimate

Munters GreenClimate controller helps to achieve a higher climate uniformity and the desired indoor conditions, managing parameters like:

- Temperature (cooling, heating)
- Relative humidity (ventilation, air circulation, heating)
- Climate uniformity (air circulation)

GreenClimate can manage up to 4 independent zones:

- Weather station information is shared between all climate zones
- A network of interconnected controllers is able to control up to 50 zones

Note: communication cards sold separately, must be added when ordering the controller

| Text | Description    |
|------|----------------|
| GRH  | Greenhouse     |
| EN   | English        |
| DO   | Digital Output |
| DI   | Digital Input  |
| Al   | Analog Input   |
| Z    | Zone           |
| DD   | Double Door    |

| GREEN CLIMATE - GRH-EN-MUR-230V-DO16-8DI-11AI-1Z 960-01-0000    | 1 |
|---|---|
|   |   |
| GREEN CLIMATE - GRH-EN-MUR-230V-DO16-8DI-11AI-1Z-DD 960-01-0000 | 2 |
| GREEN CLIMATE - GRH-EN-MUR-115V-DO16-8DI-11AI-1Z 960-01-0000    | 3 |
| GREEN CLIMATE - GRH-EN-MUR-115V-DO16-8DI-11AI-1Z-DD 960-01-0000 | 4 |
| GREEN CLIMATE - GRH-EN-MUR-230V-DO16-8DI-11AI-2Z 960-01-0000    | 5 |
| GREEN CLIMATE - GRH-EN-MUR-230V-DO16-8DI-11AI-2Z-DD 960-01-0000 | 6 |
| GREEN CLIMATE - GRH-EN-MUR-115V-DO16-8DI-11AI-2Z 960-01-0000    | 7 |
| GREEN CLIMATE - GRH-EN-MUR-115V-DO16-8DI-11AI-2Z-DD 960-01-0000 | 8 |
| GREEN CLIMATE - GRH-EN-MUR-230V-DO16-8DI-11AI-3Z 960-01-0000    | 9 |
| GREEN CLIMATE - GRH-EN-MUR-230V-DO16-8DI-11AI-3Z-DD 960-01-0001 | 0 |
| GREEN CLIMATE - GRH-EN-MUR-115V-DO16-8DI-11AI-3Z 960-01-0001    | 1 |
| GREEN CLIMATE - GRH-EN-MUR-115V-DO16-8DI-11AI-3Z-DD 960-01-0001 | 2 |
| GREEN CLIMATE - GRH-EN-MUR-230V-DO16-8DI-11AI-4Z 960-01-0001    | 3 |
| GREEN CLIMATE - GRH-EN-MUR-230V-DO16-8DI-11AI-4Z-DD 960-01-0001 | 4 |
| GREEN CLIMATE - GRH-EN-MUR-115V-DO16-8DI-11AI-4Z 960-01-0001    | 5 |
| GREEN CLIMATE -GRH-EN-MUR-115V-DO16-8DI-11AI-4Z-DD 960-01-0001  | 6 |

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## Accessories





- Water and dust tight
- Indoor use only
- Each controller can support up to 3 expansion boxes
- Adds up to 64 relays
- Maximum of 256 relays in a network
- Cards not included, sold separately

| Product description                  | Code         |
|--------------------------------------|--------------|
| GREEN CLIMATE EXP-L -GRH-EN-MUR-230V | 960-02-00001 |
| GREEN CLIMATE EXP-L -GRH-EN-MUR-115V | 960-02-00002 |



#### Weather Station

Provides data on outdoor conditions:

- Temperature
- Humidity
- Wind speed

- Wind direction
- Rain detection
- Radiation

| Product description               | Code         |
|-----------------------------------|--------------|
| GREEN W.STATION-WD-WS-SR-MUR-230V | 960-07-00001 |
| GREEN W.STATION-WD-WS-SR-MUR-115V | 960-07-00002 |



#### CO<sub>2</sub> Sensor

Measures CO<sub>2</sub> and sends data to GreenClimate to increase ventilation, needed to add CO<sub>2</sub>, or to manage CO<sub>2</sub> injection through tanks or direct heaters.

- Range: 0 5000 PPM
- Accuracy: +/- 3%
- Data transmitted using a 4 20 mA output

| Product description | Code         |
|---------------------|--------------|
| CO2-GRH-MUR         | 960-14-10007 |

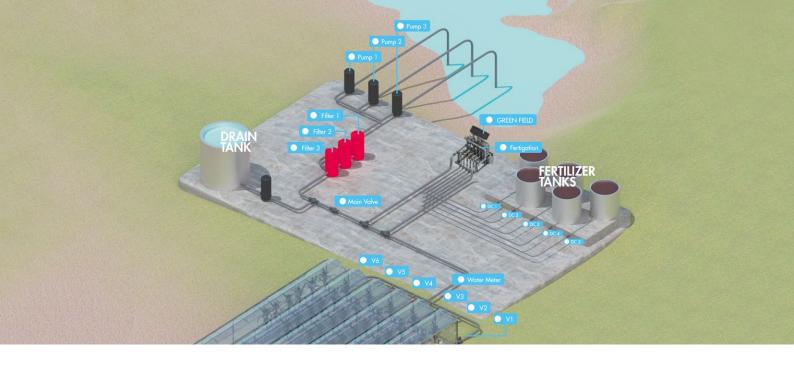


#### GreenBox T+H

Unit includes a temperature and a humidity sensor and sends data to GreenClimate to initiate dehumidification, heating or cooling processes.

- Relative humidity range: 0 100%. User define RH set point to trigger dehumidification process
- Temperature range: -30° to +50° C
- Easy to maintain or repair in the unfortunate case of malfunction

| Product description       | Code         |
|---------------------------|--------------|
| GREEN BOX-GRH-EN-MUR-T    | 960-08-00004 |
| GREEN BOX-GRH-EN-MUR-T-RH | 960-08-00005 |



# Irrigation Automation



#### GreenField

Munters GreenField controller provides control and management over irrigation systems, maximizing the yield and the quality of the harvest while automating irrigation and fertigation processes. GreenField helps to boost plants growth and gives the exact amount of water and nutrients the plant needs, to reduce waste and environmental impact.

- Modular design allows scalability to grower's exact needs
- Precision operation with dynamic irrigation programs, responding to environmental inputs
- Punctual control over fertilizer supply and dosing programs
- Supports large amount of analog input/output devices, digital/pulse inputs, relays dry contacts, DC latch outputs
- Up to 64 outputs or 256 with expansion boxes

Note: communication cards sold separately, must be added when ordering the controller

| Text | Description    |
|------|----------------|
| GRH  | Greenhouse     |
| EN   | English        |
| DO   | Digital Output |
| DI   | Digital Input  |
| Al   | Analog Input   |
| Z    | Zone           |
| DD   | Double Door    |

| Product description                           | Code         |
|---|--------------|
| GREEN FIELD -GRH-EN-MUR-230V-DO16-8DI-11AI    | 960-03-00001 |
| GREEN FIELD -GRH-EN-MUR-230V-DO16-8DI-11AI-DD | 960-03-00002 |
| GREEN FIELD -GRH-EN-MUR-115V-DO16-8DI-11AI    | 960-03-00003 |
| GREEN FIELD -GRH-EN-MUR-115V-DO16-8DI-11AI-DD | 960-03-00004 |
| GREEN FIELD-GRH-EN-MUR-230V-DO0-8DI-11AI-PAN  | 960-03-00014 |
|   |              |

# Irrigation Automation



#### GreenField ECO

Munters GreenField ECO controller provides control and management over small to medium size irrigation systems, maximizing the yield and the quality of the harvest while automating irrigation and fertigation processes. A cost-effective, not scalable solution with a large range of functionalities.

- Advanced EC/pH control
- Irrigation according to quantity, time, external conditions
- Dynamic irrigation and dosing programs
- Up to 15 outputs
- No modular expansion capabilities
- Hardware package supports analog and digital inputs
- Program supports filter flushing, cooling, misting programs

Note: communication cards sold separately, must be added when ordering the controller

| Product description                              | Code         |
|--|--------------|
| GREEN FIELD ECO -GRH-EN-MUR-230V-DO15-6DI-5AI    | 960-04-00001 |
| GREEN FIELD ECO -GRH-EN-MUR-230V-DO15-6DI-5AI-DD | 960-04-00002 |
| GREEN FIELD ECO -GRH-EN-MUR-115V-DO15-6DI-5AI    | 960-04-00003 |
| GREEN FIELD ECO -GRH-EN-MUR-115V-DO15-6DI-5AI-DD | 960-04-00004 |



#### GreenJet

Munters GreenJet is a complete fertigation unit and includes pump, dosing channels and water loop.

Compatible with Munters GreenField, GreenField ECO and EC-pH, all sold separately.

## Accessories



# Text Description MT Metal Panel Mount D Dual Sensors Readings







#### Green EC-pH

This transmitter is designed to receive a signal from the EC and pH sensors that measure the water acidity (pH) and electrical conductivity (EC) and translate the signal into a  $4-20\,\text{mA}$  output to be read by GreenField or GreenField ECO or third party controller.

- Accurate EC data for an exact supply of fertilizer
- pH measurement to prevent nutrient deficiencies or toxicity
- Available in plastic box (single unit) or metal box (single or double unit)

| Product description          | Code         |
|------------------------------|--------------|
| GREEN EC-PH -GRH-EN-MUR      | 960-05-00001 |
| GREEN EC-PH -GRH-EN-MUR-MT   | 960-05-00002 |
| GREEN EC-PH -GRH-EN-MUR-D-MT | 960-05-00003 |

| Product description      | Code         |
|--------------------------|--------------|
| EC ELECTRODE PT100 12 MM | 960-99-00043 |

| Product description          | Code         |
|------------------------------|--------------|
| PH GLASS 12 MM BNC CONNECTOR | 960-99-00044 |

#### **Expansion Box**

- Water and dust tight
- Indoor use only
- Each controller can support up to 3 expansion boxes
- Adds up to 64 relays
- Maximum of 256 relays in a network
- Cards not included, sold separately

| Product description               | Code         |
|-----------------------------------|--------------|
| GREEN FIELD EXP-L-GRH-EN-MUR-230V | 960-15-10001 |
| GREEN FIELD EXP-L-GRH-EN-MUR-115V | 960-15-10002 |

#### Weather Station

Provides data on outdoor conditions:

- Temperature
- Humidity
- Wind speed

- Wind direction
- Rain detection
- Radiation

| Product description               | Code         |
|-----------------------------------|--------------|
| GREEN W.STATION-WD-WS-SR-MUR-230V | 960-07-00001 |
| GREEN W.STATION-WD-WS-SR-MUR-115V | 960-07-00002 |

## Communication



#### GreenField App

Munters GreenField App, an advanced app used to connect to GreenField or GreenField ECO controllers, enables full management over the irrigation and fertigation operations anywhere, anytime.

- 24/7 access to irrigation controllers
- Simple and enhanced user experience
- · Web, Cloud, and cellular connectivity
- Push notifications
- Multiple user privileges
- Irrigation controllers analytics
- Multi language support

Compatible with Munters GreenField or GreenField ECO and available for iOS and Android by downloading the application RotemNet Web. For networks with Munters GreenClimate controller, Munters GreenNet is the only viable option.



#### GreenNet

GreenNet communication and management PC software can manage an entire line of controllers (climate or irrigation and climate). This software allows the farmer to collect and view data, displayed in tables or graphs, and to change settings remotely using the TeamViewer platform.

- User friendly Graphic User Interface
- Remote control over configuration and management
- Analytics of each controller's performance
- Available with climate controller or irrigation and climate (combined) controllers



#### CommBox

Munters CommBox enables remote access to Munters climate, irrigation and fertigation controllers (GreenClimate, GreenField and GreenField ECO) from any computer, tablet or smartphone. Once the connection to the system is set, CommBox allows controllers management through Munters GreenField App or Munters GreenNet.

| Product Description   | Compatible with | Code         |
|---|-----------------|--------------|
| COMMBOX-GRH-EN-MUR-JB485-WEB  | GreenField App  | 960-13-10001 |
| COMMBOX-GRH-EN-MUR-CMGB-JB485-WEB*  | GreenField App  | 960-13-10029 |
| COMMBOX-GRH-EN-MUR-JB485  | GreenNet        | 960-13-10019 |
| COMMBOX-GRH-EN-MUR-CMGB-JB485*  | GreenNet        | 960-13-10027 |
| CommBox retrofit kit for GreenField App MSATA SSD 32GB COMMBOX GREENFIELD APP | GreenField App  | 960-99-00114 |

<sup>\*</sup>With global modem





#### Communication Card

The communication card RS485 is required to connect the controller to CommBox. Suitable for GreenClimate and GreenField.

| Product description                       | Code         |
|---|--------------|
| GREENHOUSE CONT. COMMUNICATION RS485 CARD | 960-99-00006 |



#### Digital Outputs Card (24V and dry contact)

The digital outputs cards are needed to add up to 8 digital outputs to the controller (or to the expansion box).

- Up to 5 cards 24V can be installed in the controller (or in the expansion box)
- Up to 3 dry contact cards can be installed in the controller (or in the expansion box)

| Product description                  | Code         |
|--------------------------------------|--------------|
| 24V digital outputs (8) card         | 960-99-00002 |
| Dry contact digital outputs (8) card | 960-99-00003 |



#### Digital Inputs Card

The digital inputs card is needed to add up to 8 digital inputs to the controller.

• Up to 3 dry contact cards can be installed in the controller (or in the expansion box)

| Product description                 | Code         |
|-------------------------------------|--------------|
| Dry contact digital inputs (8) card | 960-99-00004 |



#### Analog Outputs Card\*

The analog outputs card is needed to add up to 4 (4-20 mA) analog outputs to the controller. The card includes surge and lightening protection circuits (external protection not required).

• Up to 2 cards can be installed in the controller

| Product description     | Code         |
|-------------------------|--------------|
| Analog outputs (4) card | 960-99-00037 |

<sup>\*</sup>Compatible only with Munters GreenField controller (dosing channel control)



#### **Analog Inputs Card**

The analog inputs card is needed to add up to 11 (4-20 mA / 0-5 V) analog outputs to the controller (or to the expansion box). The card includes surge and lightening protection circuits (external protection not required).

• Up to 4 cards can be installed in the controller (or in the expansion box)

| Product description     | Code         |
|-------------------------|--------------|
| Analog inputs (11) card | 960-99-00005 |



For more information, visit: munters.com/greenhouse/