Operating instructions and Spare parts list

System control
iONcontrol

Translation of the original operating instructions

Gema

Documentation iONcontrol

For the latest information about Gema products, visit **www.gemapowdercoating.com**.

For information regarding patents, see **www.gemapowdercoating.com/patents** or **www.gemapowdercoating.us/patents**.

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About these instructions

General information

This operating manual contains all the important information that is needed to operate the iONcontrol. It will safely guide you through the start-up process and give you references and tips for the optimal use when working with your powder coating system.

Information about the functional mode of the individual system components should be referenced in the respective enclosed documents.

Keeping the Manual

Please keep this Manual ready for later use or if there should be any queries.

Safety symbols (pictograms)

The following warnings with their meanings can be found in the Gema instructions. The general safety precautions must also be followed as well as the regulations in the relevant instructions.

⚠ DANGER

Indicates a hazardous situation, which, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

⚠ CAUTION

Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

ATTENTION

Indicates a potentially harmful situation. If not avoided, the equipment or something in its surrounding may be damaged.

ENVIRONMENT

Indicates a potentially harmful situation, which, if not avoided, may have harmful consequences for the environment.

!

MANDATORY NOTE

Information that must be observed.

▶

NOTICE

Useful information, tips, etc.

Structure of Safety Notes

Every note consists of 4 elements:

– Signal word

– Nature and source of the danger

– Possible consequences of the danger

– Prevention of the danger

⚠ **SIGNAL WORD**

Nature and source of the hazard!

Possible consequences of the danger

▶ Prevention of the danger

Software version

This document describes the operation of the product iONcontrol with software version starting from 2.00.

▶

Starting with software version 3.34, it is possible to reset to the factory settings.

Presentation of the contents

Figure references in the text

Figure references are used as cross references in the descriptive text.

Example:

*"The high voltage (**H**) created in the gun cascade is guided through the center electrode."*

Safety

Basic safety instructions

    – This product is built to the latest specification and conforms to the recognized technical safety regulations and is designed for the normal application of powder coating.

    – Any other use is considered non-compliant. The manufacturer shall not be liable for damage resulting from such use; the user bears sole responsibility for such actions. If this product is to be used for other purposes or other substances outside of our guidelines then Gema Switzerland GmbH should be consulted.

    – Start-up (i.e. the execution of intended operational tasks) is forbidden until it has been established that this product has been set up and wired according to the guidelines for machinery. The standard "Machine safety" must also be observed.

    – Unauthorized modifications to the product exempt the manufacturer from any liability from resulting damage.

    – The relevant accident prevention regulations, as well as other generally recognized safety regulations, occupational health and structural regulations are to be observed.

    – Furthermore, the country-specific safety regulations also must be observed.

Product specific security regulations

    – This product is a constituent part of the equipment and is therefore integrated in the system's safety concept.

    – If it is to be used in a manner outside the scope of the safety concept, then corresponding measures must be taken.

    – The installation work to be done by the customer must be carried out according to local regulations.

    – It must be ensured, that all components are earthed according to the local regulations before start-up.

▶ **For further security information, see the more detailed Gema safety regulations!**

⚠ **WARNING**

Working without instructions

Working without instructions or with individual pages from the instructions may result in damage to property and personal injury if relevant safety information is not observed.

- ► Before working with the device, organize the required documents and read the section "Safety regulations".
- ► Work should only be carried out in accordance with the instructions of the relevant documents.
- ► Always work with the complete original document.

Product description

Intended use

This plant control unit is designed exclusively for monitoring, operating and controlling dust extraction and/or charging and discharging systems and associated components (see also the chapter entitled "Technical Data").

Fig. 1

Observance of the operating, service and maintenance instructions specified by the manufacturer is also part of the intended use. This product should only be used, maintained and started up by trained personnel, who are informed about and are familiar with the possible hazards involved.

Any other use is not considered as intended use. The manufacturer is not responsible for any incorrect use and the risks associated with such actions are assumed by the user alone!

For a better understanding of the interrelationships in powder coating, it is recommended that the operating instructions for all other components be read as well, so as to be familiar with their functions too.

A summary of the directives and standards

This product was built according to the current state of the art. The product is subject to the European directives and complies with the following standards.

The product is suitable for the intended purpose and can be used in the appropriate areas.

▶ **For further information, also refer to the enclosed Declaration of Conformity.**

European directives RL

EG-RL 2006/42/EU	Machinery
EG-RL 2014/30/EU	Electromagnetic compatibility

EN European standards

IEC/EN 60950	Safety of information technology equipment
UL 61010-2-201	Industrial controls, section "Requirements for the place of installation"
DIN EN 60529	Degrees of protection provided by enclosures (IP Code)
NEMA 250-2003	Enclosures for electrical equipment (1000 Volts maximum)
DIN EN 60898-1:2006-03	Electrical accessories – Circuit-breakers for overcurrent protection for household and similar installations
EN 50178	Electronic equipment for use in power installations
IEC/EN 61131-2	Programmable controllers, Equipment requirements and tests

Reasonably foreseeable misuse

– Operation without the proper training

– Use in connection with unauthorized devices or components

Process

The process is monitored by the control system.

The scope of the plant depends on the plant layout and configuration.

An overview of the effective scope is shown in the enclosed wiring diagram.

Fig. 2: Example of network operation

1	Discharging electrode	6	Network and 24 V distributor
2	Charging electrode	7	Gateway (Fieldbus interface)
3	E field meter (residual charge)	8	Touch display
4	Web cleaning		
5	Slitting dust removal		

Typical characteristics

- User administration and language management
- Configuration and parameter data management
- Alarm handling
- Diagnostic functions
- Operating data acquisition
- Storage of operating data on SD cards
- Data exchange with higher-level plant controls (option)
- 7.0" display with symbol elements
- TFT color screen with touch screen function
- CAN bus technology
- Multilingual version

Scope of delivery

- SD card
- Operating manual

Technical Data

System

MagicControl CM40	
Processor	ARM Cortex-A9 800 MHz
Internal memory	512 MB RAM, 1 GB SLC
Remanent memory	128 kB

Electrical data

MagicControl CM40	
Nominal voltage	24 VDC SELV, extra-low safety voltage
Voltage range	24 VDC acc. to DIN 19240 19.2 - 30.0 VDC effective
Reverse voltage protection	yes
Protection	yes (internal inaccessible melting fuse)
Electrical insulation	no
Current consumption	max. 21.6 W/24 VDC
Switch-on current max.	1 A^2s

Dimensions

Touch Panel	
Mechanical dimensions	196 x 135 x 51 mm
Window	183 x 122 mm

Display

Touch Panel	
Technology	Projected Capacitive Touch (PCT)
Screen diagonal	7.0"
Resolution	1024 x 600 pixels (WXGA)
Number of colors	≈ 16.7 million (color depth 24 Bit)
Display surface	154 x 90 mm
Operation	Multifinger touch
Front screen	Anti reflex coated, scratch-proof

Connections

MagicControl CM40	
Ethernet 1	RJ-45 socket, 8-pin, 2 LEDs (CAT5e/6), LAN1, 10/100 Mbps
Ethernet 2	RJ-45 socket, 8-pin, 2 LEDs (CAT5e/6), LAN1, 10/100 Mbps
USB host	USB 2.0, not galvanically isolated, plug type A, full power (500 mA)
USB device	USB 2.0, not galvanically isolated, plug type B
COM1	RS-232, not galvanically isolated, SUB-D connector 9-pin
COM2	RS-485, not galvanically isolated, SUB-D connector 9-pin
CAN	CAN1, not galvanically isolated, SUB-D connector 9-pin
SD card slot	SDSC or SDHC according to SDA specification 2.0

Environmental conditions

Touch Panel	
Climate	10-40 °C, 10-95% relative humidity, not condensing
Vibration / shock / drop test	Vibration – IEC 60068-2-6 Shock – IEC 60068-2-27 Drop test – IEC 60068-2-31

Rating plate

A rating place is attached to the back of the device for the purpose of identification. The rating place contains the following information:

– Type designation

– Version

– Required power supply

– Serial no.

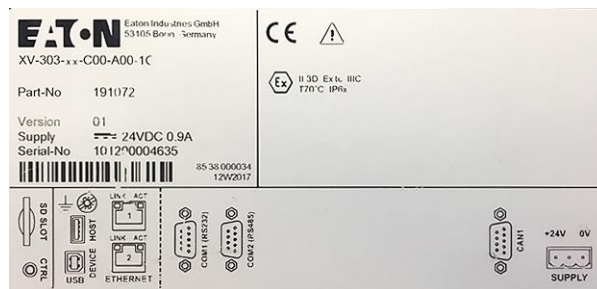– Arrangement of interfaces and operating elements

Fig. 3: Rating plate
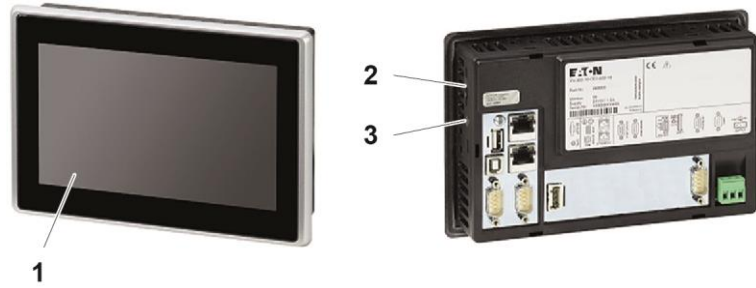
Design and function

Operating and display elements

Fig. 4: Front and back

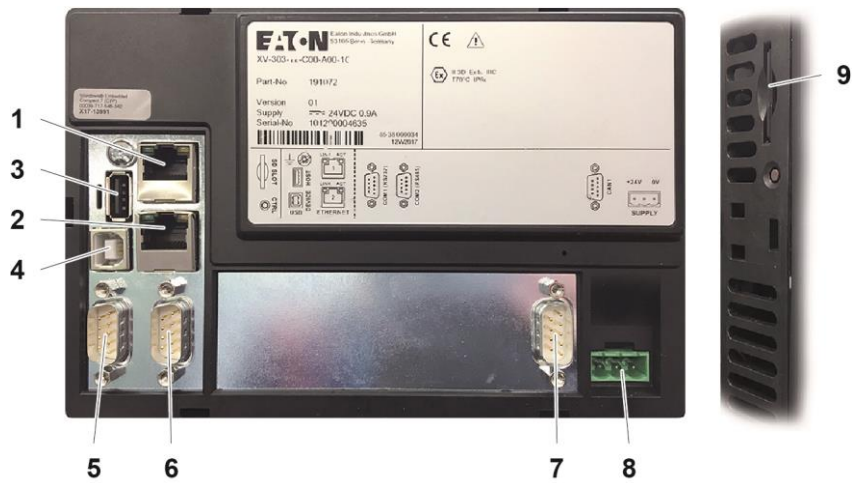|	**Designation**	**Description**
1	**Display, touch sensor**	Operating and display elements Acquisition of the actuation of the operating elements shown on the display. Operated by touch using fingers.
2	**SD card slot**	Slot for SD card
3	**CTRL button**	Exits the visualization program

Connections and interfaces

Fig. 5: Connections

	Connection	Description
1	Ethernet 1	RJ-45 socket, 8-pin, 2 LEDs (CAT5e/6), LAN1, 10/100 Mbps
2	Ethernet 2	RJ-45 socket, 8-pin, 2 LEDs (CAT5e/6), LAN1, 10/100 Mbps
3	USB host	USB 2.0, not galvanically isolated, plug type A, full power (500 mA)
4	USB device	USB 2.0, not galvanically isolated, plug type B
5	COM1	RS-232, not galvanically isolated, SUB-D connector 9-pin
6	COM2	RS-485, not galvanically isolated, SUB-D connector 9-pin
7	CAN	CAN1, not galvanically isolated, SUB-D connector 9-pin
8	Power supply	MSTB plug connector, 3-pin
9	SD card slot	SDSC or SDHC according to SDA specification 2.0

Symbols

Fig. 6

①	Navigation bar
②	Display bar
③	Login status bar

Function keys

ATTENTION

Sensitive touch surface.

Pointed or sharp objects can damage the screen.

► Do not use any pointed or sharp objects (e.g. knife).

► Only activate the touch panel with your finger or a stylus.

► When wearing gloves, ensure that these are clean. They must not be covered with abrasive dust or sharp particles.

The function keys are distributed on the user interface.

 START/STOP system   Main menu

Meaning of the colors

Orange background

= active state

Gray background

= present, but not active

Operating modes

The following operating modes are available:

–   **Display of status, operating values and alarm messages**

–   **configuration/settings**

These operating modes are described in detail in the following chapters.

The user interface of the control unit is designed with pictograms, so that only the really essential parameters are displayed, and the operator can can quickly find a solution.

After switching on or after a restart, the control is always in the display operating mode.

Display of status, operating values and alarm messages

This operating mode allows the display of status, operating values and alarm messages:
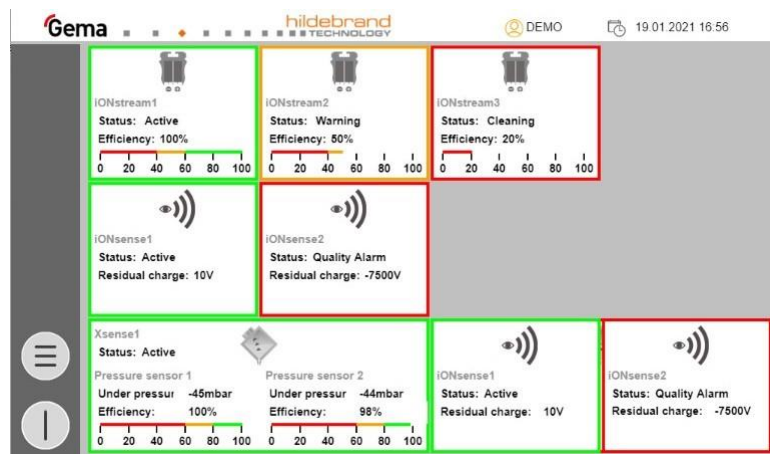

Fig. 7:

Border color = status

Border color	Status
orange	Warning
red	Alarm
green	Working normally
black	No communication available (not accessible on CAN bus)

Configuration

This operating mode allows logged in operators to make certain configurations and to change parameters.

Settings

This operating mode allows logged in operators to make certain settings on the control:

– Operator and system language

Assembly / Connection

Assembly guide

The control system is mainly installed in Hildebrand control cabinets. Please contact Gema for other installation possibilities.

Requirements for the place of installation

Fig. 8: Air circulation for cooling / installation clearance

– Provide sufficient volume for air exchange in the control cabinet etc.

The specified clearance around the panel is: a, b, c ≧ 30 mm (1.18")

– When installing the panels in complex systems together with other assemblies, overheating must be avoided by means of suitable ventilation (provided by the customer).

Ambient temperature with natural convection: ϑ 0 °C (32 °F) ≦ T ≦ 50 °C (122 °F). The heating calculation is the responsibility of the switchgear manufacturer.

Criteria for the installation position

The panel is designed for rear installation in control cabinets, control panels or control desks.

– The panel must be installed crossways.

– The angle of inclination α for vertical installation must not exceed $\pm \alpha \leqq 45°$ without forced ventilation.

– Housing material thickness between 2 mm (0.08") und 5 mm (0.2"),

– Installation window

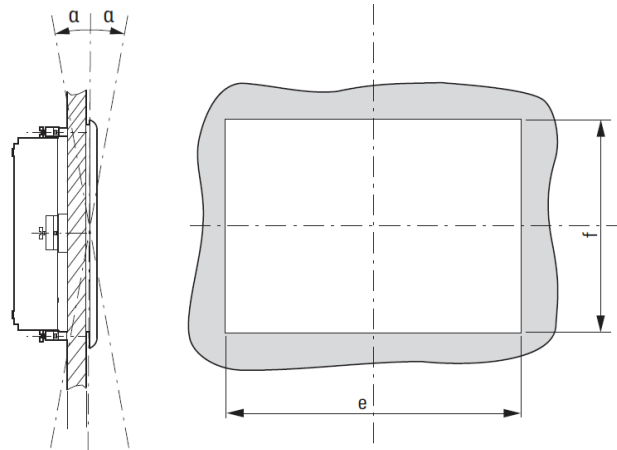e = 183 mm (7.20") $\pm$ 1 mm (0.04"), f = 122 mm (4.80") $\pm$ 1 mm (0.04")

Fig. 9: Assembly position

Inserting the SD card

The SD card contains the actual operating system and all important application information. In order for the operating panel to function properly, the SD card must be inserted before the plant is started.

The slot for inserting the SD card is located on the side of the operating panel.

ATTENTION

Data loss

A voltage drop or removal of the SD card while it is being written to can lead to data loss or destruction of the SD card.

► Only insert the SD card into the operating panel with the power switched off.

► Avoid writing data on to the SD card when there is also a drop in voltage.

► Only remove the SD card from the operating panel with the power switched off.

► Before switching off, make sure that no software is writing data on to the SD card.

Inserting SD card

SD cards are protected against incorrect insertion.

1.   Do not use force when inserting.

2.   Push the SD card into the slot until it clicks into place.

Removing SD card

1.   Push the SD card all the way into the SD card slot.

2.   Pull the SD card out of the SD card slot.

3.   Store the SD card in its packaging for protection.

Start-up

Preparation for start-up

Basic conditions

When starting up the plant control, the following general conditions impacting the results must be taken into consideration:

– all plant components correctly connected

– corresponding power supply (and extraction) available

General information

The plant control is pre-parameterized, configured and tested at the Gema factory. This allows faster commissioning, since fewer parameters need to be set on site.

The control can be subsequently adjusted and extended.

Depending on the access level of the user logged in (user, service, expert), parameters can be edited or only displayed. Some parameters are reserved exclusively for Gema Service (expert).

CAN bus

General

The plant control is a CAN master system. Together with CAN slave participants, it forms the network.

The wiring and topology of the CAN network is specified in the electrical diagram.

The following data can be accessed via the CAN network:

– All desired values (process data)

– All actual values (process data)

– All control values

– All system parameters (except Baud rate and CAN address)

– All error messages

– All other parameters such as software version, daily correction, powder output correction etc.

Configuration

1. Press the ☰ key

The following page is displayed:

Fig. 10:

2. Press the ✕ key

The following page is displayed:

Fig. 11:

3. Press one of the keys (for example •))))

The following page is displayed:

Fig. 12:

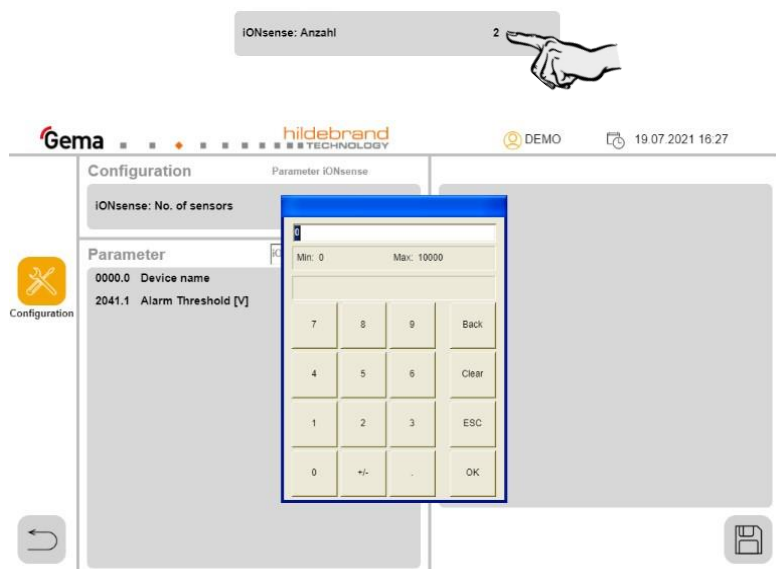4. If necessary, press the number to change the number of devices:

Fig. 13:
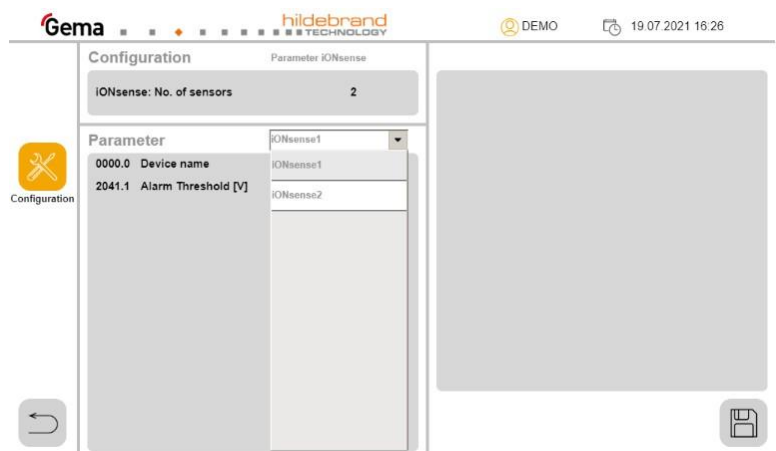
5. Select the desired user from the drop-down menu:

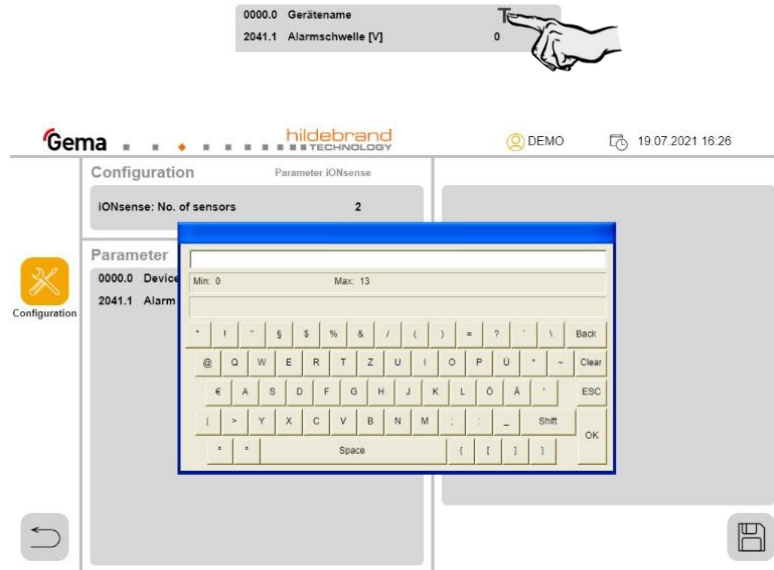*Fig. 14:*

6. Press the T-sign to change the device name:

Fig. 15:

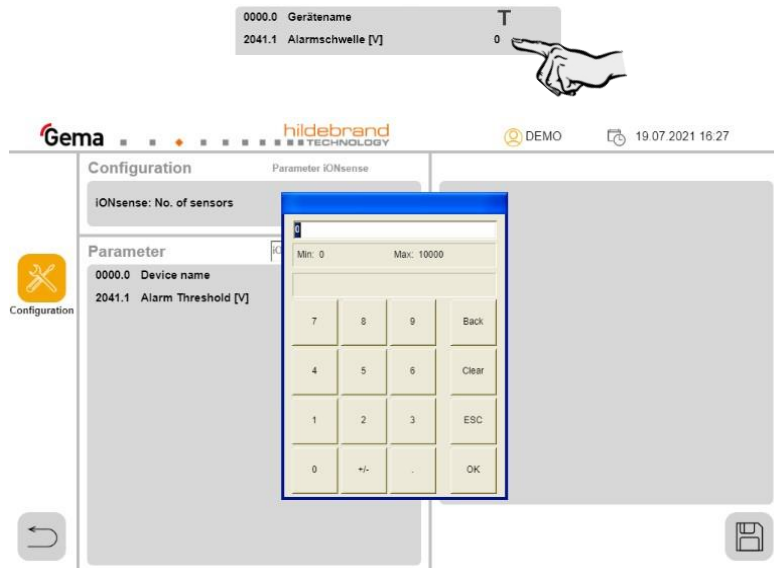7. **iONsense only:** Press the number to set the alarm threshold:

Fig. 16:

8. **In the iONstream tab only:** The user level service can be used to change the output voltage (203C.3) if it is an iONcharge.

Fig. 17:

9. Press the [↩] key to exit the current page

---

10.   Press the ☐ key

The following page is displayed:

Fig. 18:

orange	selected, active
gray	not selected, inactive
Starting via iONcontrol	If selected, the system is started/stopped by pressing the ☐ key in the navigation bar
Starting via external signal	If selected, the system is started/stopped via a potential-free contact (K15 on the iONnet board*)

*   Network and 24 V distributor

11.   Press the ↩ key to exit the current page

Operation

Operation

! **During the initial commissioning of the device, the functional check of all network participants must be checked!**

Starting the plant

1. Switch on the plant.

    – The control starts the operating system, the PLC control and the operating software to the start page.

Fig. 19: Start page

2. Touch the screen

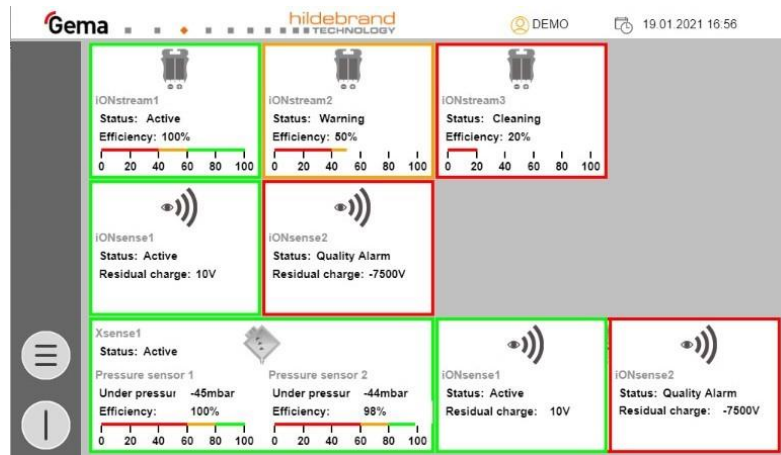   – The screen switches to the main page:

Fig. 20: Main page

3. Check status:

Border color	Status
orange	Warning
red	Alarm
green	Working normally
black	No communication available (not accessible on CAN bus)

4. Starting the plant

– Depending on the presetting, the plant can be started via a potential-free contact (K15 on the iONnet board) or using the

 key (see "Configuration").

▪ The key color changes

User language

The user language is part of the user profile and can be changed to one of the pre-installed languages if required.

The selected language is loaded each time you log in.

1. Press the key

2.   Press the ⚙ key

– The following page is displayed:

Fig. 21:

3.   Press the **LANGUAGE** key

– The following page is displayed:

Fig. 22:

4.   Select desired language

– The change takes place immediately

Maintenance / Repairs

General information

The product was designed for a maintenance-free operation.

Periodic checks

The periodic checks include examining all connecting cables.

The corresponding parts should be replaced immediately if any damage to cables is discovered.

All plugs must be properly tightened.

If an error message or maintenance message occurs, the causes must be examined and remedied promptly.

Cleaning and maintenance of the operating panel

The operating panel is maintenance-free. However, the following work may be necessary:

– Cleaning the screen if it becomes dirty.

– Recalibrating the capacitive screen if it no longer responds correctly to touch.

Touch-sensitive screen

If dirty:

ATTENTION

Pointed, sharp objects or corrosive liquids can damage the screen

Cleaning the screen
- ► Do not use any pointed or sharp objects (e.g. knife).
- ► Do not use any aggressive or abrasive cleaning agent or solvent.
- ► Ensure liquids do not enter the operating panel (risk of short circuit) and no damage is caused to the operating panel
- ► Clean the touch screen surface carefully with a clean, soft, damp cloth.

Battery

The built-in battery for buffering the real-time clock is maintenance-free and designed for a buffer time with the power switched off while maintaining the ambient conditions of typically 10 years at 25 °C (77 °F).

SD card – data backup

The contents of the SD card can be saved on another medium in order to be able to copy them back in case of card damage or data loss. Further information can be found in the SD card user manual.

▶ **Some operating systems do not display individual files. This is often the case with "autoexec.bat" files, for example.**
  – When copying the data, make sure that all data is visible and copied.
  – If in doubt, contact your IT department.

Inserting the SD card:

Repair work

In the event of malfunctions or faults, the product must be checked and repaired at an authorized Gema service location. The repairs must only be performed by an authorized specialist.

Improper interventions can result in serious danger for user or the equipment and may result in loss of warranty!

Diagnostics

1.   Press the ≡ key

The following page is displayed:

Fig. 23:

2. Press the ⊘ key

The following page is displayed:

Fig. 24:

3. Press the ⊞ key

The following page is displayed:

Fig. 25: iONnet

4. Press the ↩ key to exit the current page

5.   Press the ⬚ key

The following page is displayed:
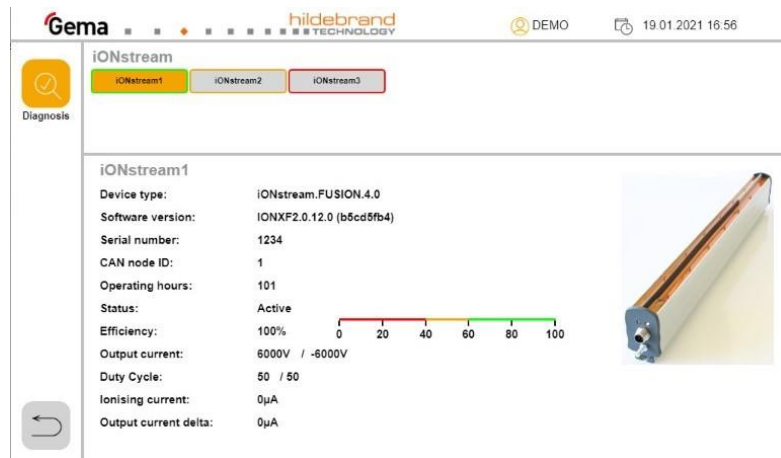
Fig. 26:

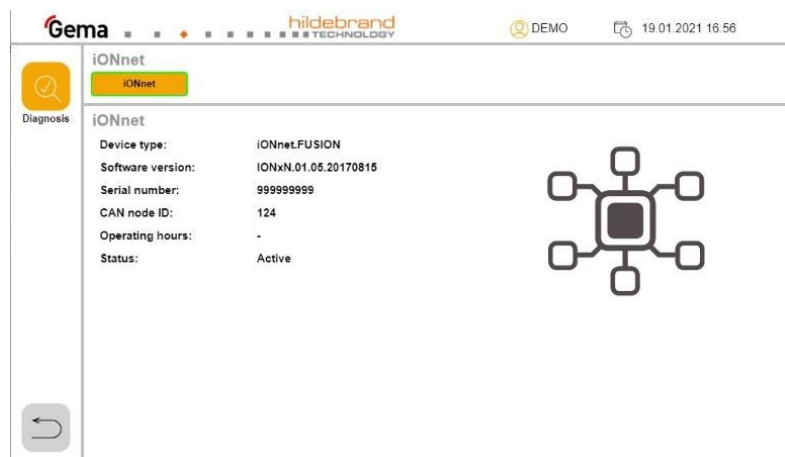Press the corresponding key to select and display the desired participant

6.   Press the ⬚ key to exit the current page

7.   Press the ⬚ key

The following page is displayed:

Fig. 27:

Press the corresponding key to select and display the desired participant

8.   Press the ⬚ key

The following page is displayed:

Fig. 28:

  Scaling of the time axis in the following steps:

10 m   10 minutes

1 h   1 hour

1 d   1 day

1 w   1 week

1 M   1 month

  Slider for moving the time axis

► **Each measured value of the residual charge is additionally saved in a .csv file on the SD card. This file can then be opened on a computer and analyzed.**

– Insert SD card into the card reader in your own computer
– Find the .csv file on the SD card, specify the path and copy the .csv file to the computer.
– Open the file e.g. with Excel

---

9. Press the key 2 times to return to the diagnosis page

10. Press the ⬦ key

The following page is displayed:

Fig. 29:

Xsense1 Xsense2 Press the corresponding key to select and display the desired participant

Filter green	Filter empty
Filter red	Filter full, must be emptied
Position sensor green	Module swiveled in
Position sensor red	Module swiveled out

11. Press the ⬑ key to exit the current page

12. Press the 🔗 key

The following page is displayed:
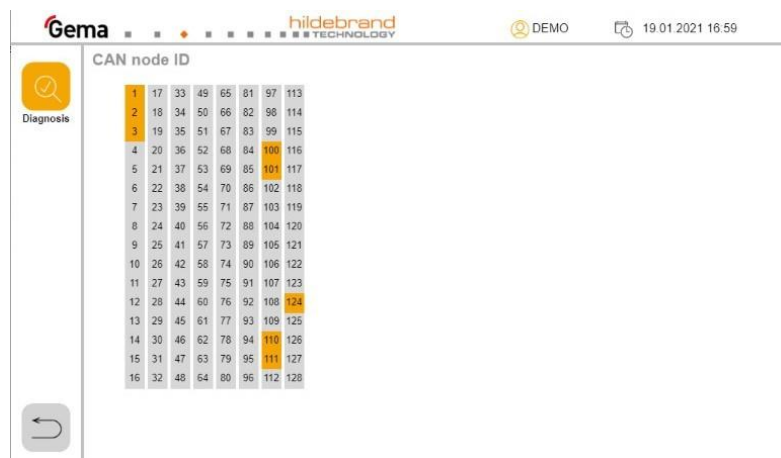
Fig. 30: CAN participant address

Orange   Participant available

Gray   Participant not configured, not available or not communicating

13. Press the ⤺ key to exit the current page

14. Press the 🕐 key

The following page is displayed:

Fig. 31:

Total running time per day   Select the desired day of the month

◄ or ►   Select the desired month

15. Press the ⤺ key to exit the current page

16. Press the 🖥 key

The iONcontrol diagnostic page is displayed.

– With the user level "Service", from software version 3.34 onwards, it is possible to reset to the factory setting:

Reset to factory settings:

Fault clearance

Display error

After changing the software version from 3.33 and older to 3.34 and later, display errors may occur.

These display errors can manifest themselves, **for example**, by:

– Text overlap

– Changed display of the set devices (iONstream, iONsense, Xsense, etc.)

– Changed device names

The display errors can be corrected by resetting to the factory settings. For further information, see chapter "Configuration", point 8 "In the iONstream tab only".

Error display

Errors are displayed in the respective product screen. The border color changes (orange or red) and the **Status** field displays the error message.

Fig. 32: Error display

Status display

Status	Cause	Corrective action
active	System is switched on or active	
Charge	**iONstream / iONnet** System is in charging mode	
Check Installation	**iONstream** This status shows that the discharging electrode has been installed too close to a ground / machine ground.	Check installation positions and adjust if necessary
	Xsense This status shows that the module is not in the correct position.	Check position sensors
Cleaning	**iONstream** System efficiency has dropped from the original 100% to below 40%.	Clean iONstream with a brass brush
Cleaning Alarm	**Xsense (Xstream/SLITstream)** The pressure at one of the pressure sensors has dropped from the original 100% to below 60%.	
Cleaning Cycle	**Xense** Time-controlled filter cleaning is active.	If the message does not disappear after repeated filter cleaning, clean the filter manually and replace the filter medium if necessary.
Cleaning Warning	**Xsense (Xstream/SLITstream)** The pressure at one of the pressure sensors has dropped from the original 100% to below 80 %.	Cleaning of the filter is activated automatically. If the message does not disappear after repeated filter cleaning, clean the filter manually and replace the filter medium if necessary.
Container Full	**Xense** The dust container is full.	Empty the dust container
Discovery	This function is only active within a CANopen network using the iONmaster, iONgate or iONlink. In this mode, a participant can be found manually within the network	Enter the NODE ID on the master device. Discovery mode is automatically reset after 20 minutes.
Failure	The device is faulty and is no longer working.	Contact Hildebrand Service
Health Check	**iONstream** The cleaning condition of the electrodes is determined during a **Health check**	

Status	Cause	Corrective action
Pin Aged	**iONstream** This mode displays the emitter pin status. The pin sharpness has reached the set limit value for abrasion of the pins due to wear / age (factory setting = 80 %) The system efficiency has dropped from 100 % to below 80 % without contamination / after the bar has been cleaned.	
Quality Alarm	**iONsense** The residual charge is above the set limit.	Check status of iONstream Otherwise contact Hildebrand service
	Xsense (Xstream/SLITstream) The negative pressure has dropped from the original 100% to below 60%.	– Switch on the fan – Check filter – Otherwise contact Hildebrand service
Revision / Stopped	The status shows that the participant has been manually disabled by a master device.	
Standby	System is in idle mode or inactive	Switch on the system
Start-up	**iONstream / Xsense** CAN bus error	Contact Hildebrand Service
Timeout	**iONstream** CAN bus error	Contact Hildebrand Service
Un-configured	**iONstream / Xsense / iONsense** CAN bus error	Contact Hildebrand Service
Unknown	System not configured or no power supply connected.	Check the wiring or connect the power supply
Warning	**iONstream** System efficiency has dropped from the original 100% to below 60 %.	Clean iONstream 4.0 with a brass brush

Decommissioning / Storage

Storage conditions

Hazard notes

There is no danger to personnel or the environment if the unit is stored properly.

Type of storage

The product must be stored horizontally for safety reasons.

Storage duration

If the physical conditions are maintained, the unit can be stored indefinitely.

Space requirements

The space requirements correspond to the size of the product.

There are no special requirements concerning distance to neighboring equipment.

Physical requirements

Storage must be inside a dry building at a temperature between +5 and +50 °C. Do not expose to direct sunlight!

Maintenance during storage

Maintenance schedule

No maintenance schedule is necessary.

Maintenance works

During long-term storage, periodically perform a visual check.

Disposal

Introduction

Requirements on personnel carrying out the work

The disposal of the product is to be carried out by the owner or operator.

When disposing of components that are not manufactured by Gema, the instructions in the respective manufacturer's documentation must be observed.

Disposal regulations

!

The product must be disassembled and disposed of properly at the end of its service life.

► When disposing of the product, the applicable local and regional laws, directives and environmental regulations must be complied with!

Materials

The materials must be sorted according to material groups and taken to the appropriate collection points.

Disassembly of component groups

⚠ **WARNING**

Live components

Risk of fatal injury from electric shock if touched

► Only trained, authorized staff may open the electrical compartment

► Observe the safety symbols

1. Disconnect the mains supply and supply cables.

2. Remove all product covers.

The product is now prepared for disassembly.

Spare parts list

Ordering spare parts

When ordering spare parts for your product, please indicate the following specifications:

– Type and serial number of your product

– Order number, quantity and description of each spare part

Example:

– **Type** System control iONcontrol

Serial number 1234 5678

– **Order no.** 203 386, 1 piece, Clamp – Ø 18/15 mm

When ordering cable or hose material, the required length must also be given. The spare part numbers of this bulk stock is always marked with an *****.

The wearing parts are always marked with a **#**. marked.

All dimensions of plastic hoses are specified with the external and internal diameter:

Example:

Ø 8/6 mm, 8 mm outside diameter (o/d) / 6 mm inside diameter (i/d)

> **⚠ WARNING**
>
> **Use of non-original Gema spare parts**
>
> **Use of Non-Gema replacement spare parts may invalidate some or all approval certificates and crediations; and the user asumes all explosion risks associated with use of these parts. Use of these replacement spare parts may void any and all warranty claims.**
>
> ► Use only original Gema spare parts!

iONcontrol – complete

1	Micro Touch Panel MC 7" – complete (without pos. 2)	1015 525
2	SD card – 4 GB	on request

Fig. 33: iONcontrol

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