GREISINGER electronic

EN

Operating Manual
Water monitor

as of version 1.0   # GEWAS 300 FG/SP

CE

☞   Please carefully read these instructions before use!

☞   Please consider the safety instructions!

☞   Please keep for future reference!

Made in Germany

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1 General Note

Read this document carefully and get used to the operation of the device before you use it. Keep this document within easy reach near the device for consulting in case of doubt.

Mounting, start-up, operating, maintenance and removing from operation must be done by qualified, specially trained staff that have carefully read and understood this manual before starting any work.

The manufacturer will assume no liability or warranty in case of usage for other purpose than the intended one, ignoring this manual, operating by unqualified staff as well as unauthorized modifications to the device. The manufacturer is not liable for any costs or damages incurred at the user or third parties because of the usage or application of this device, in particular in case of improper use of the device, misuse or malfunction of the connection or of the device.
The manufacturer is not liable for misprints.

2 Safety

2.1 Safety signs and symbols

Warnings are labeled in this document with the followings signs:

Caution! This symbol warns of imminent danger, death, serious injuries and significant damage to property at non-observance.

DANGER

Attention! This symbol warns of possible dangers or dangerous situations which can provoke damage to the device or environment at non-observance.

Note! This symbol point out processes which can indirectly influence operation or provoke unforeseen reactions at non-observance.

2.2 Safety guidelines

This device has been designed and tested in accordance with the safety regulations for electronic devices. However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advises given in this manual will be adhered to when using the device.

1. Trouble-free operation and reliability of the device can only be guaranteed if the device is not subjected to any other climatic conditions than those stated under "Specification".
   If the device is transported from a cold to a warm environment condensation may cause in a failure of the function. In such a case make sure the device temperature has adjusted to the ambient temperature before trying a new start-up.

2. **DANGER**   If there is a risk whatsoever involved in running it, the device has to be switched off immediately and to be marked accordingly to avoid re-starting.
   Operator safety may be a risk if:
   - there is visible damage to the device
   - the device is not working as specified
   - the device has been stored under unsuitable conditions for a longer time.
   In case of doubt, please return device to manufacturer for repair or maintenance.

3. When connecting the device to other devices the connection has to be designed most thoroughly as internal connections in third-party devices (e.g. connection GND with protective earth) may lead to undesired voltage potentials that can lead to malfunctions or destroying of the GMH 5155 and the connected devices.

   DANGER   This device must not be run with a defective or damaged power supply unit.
   Danger to life due to electrical shock!

4. **DANGER**   Do not use these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury or material damage.
   Failure to comply with these instructions could result in death or serious injury and material damage.

5. **DANGER**   This device must not be used at potentially explosive areas! The usage of this device at potentially explosive areas increases danger of deflagration, explosion or fire due to sparking.

3   Product Specification

3.1 Intended use

Versatile alarm and protection device for DIN rail or surface mounting with universal input (screw-type terminals) for several external sensors. Sensors with switching threshold <100 kOhm can be connected (e.g. water probes, floating switches, level probes, magnetic contacts, etc). In case of an alarm the connected device (e.g. pump, machine) is switched of by a change-over contact. The GEWAS 300 FG additionally provides an alarm.

3.2 Scope of supply

The scope of supply includes:

- GEWAS 300 FG or GEWAS 300 SP
- Operating manual

3.3 Accessories (not included in scope of supply)

GSS-1:   Level sensor with 2m cable. Float switch for electrically conducting media.
GNS-1:   Level sensor 2-pole (stainless steel electrodes)
GSAS-1:   Self-adhesive magnetic contact

4 Initial operation and function description

4.1 Initial operation

Please consider the common rules and safety regulations for electrical systems and low and high voltage installations, especially the customary safety regulations (e.g. VDE 0100).

1. Connect sensor to GEWAS 300 .. (see chapter 5 "Terminal configuration")
2. Connect the device that should be controlled to the GEWAS 300 .. (see chapter 5 "Terminal configuration"). Please consider maximal switching power for this.
3. Place the sensor at the desired spot.
4. Connect an external reset button (if needed) to the device (see chapter 5).
5. Connect the battery completely to the battery clip and deposit it following the illustration below.
6. Connect the power supply to the GEWAS 300 .. (see chapter 5 "Terminal configuration").
7. Switch on the power supply. The LED "Power" lights up.

The device is now ready for operation.
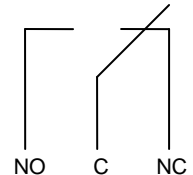

4.2 Operating mode

If a conducting medium (water, etc.) is detected, the LED "Sensor" lights up. The internal relay switches on and the LED "Relay" lights up. An additional acoustic signal is given for the GEWAS 300 FG only. As soon as the medium is not detected any more the LED "Sensor" goes off. The internal relay stays on and the LED "Relay" flashes. To delete a triggered alarm the reset button on front or connected externally has to be pressed. If alarms should be automatically reset, terminal "ext. reset" (..FG: 1, ..SP: 3) and terminal 2 "GND" have to be shortened. Additional information can be found in chapter 6.

GEWAS 300 FG: If the external power supply fails, the internal battery takes over. The battery state is displayed by the LED "Bat" in this case.

5   Terminal configuration

Pin	GEWAS 300 SP	Pin	GEWAS 300 FG
1	Sensor	1	Ext. reset button
2	GND	2	GND
3	Ext. reset button	3	GND
4	Not assigned	4	Sensor
5	Not assigned	5	Int. buzzer *)
6	Not assigned	6	Ext. buzzer
7	Relay: NC (normally close contact)	7	GND
8	Relay: NO (normally open contact)	8	Relay: NO (normally open contact)
9	Relay: C (input)	9	Relay: C (input)
10	Power supply	10	Relay: NC (normally close contact)
11	Not assigned	11	Power supply
12	Power supply	12	Power supply

*) If internal buzzer should be used, terminal 5 and 6 have to be shortened.

NO   C   NC

6   State description

GEWAS 300 SP:

State	Input / Output Sensor	Input / Output Ext. button	Relay	internal reset button	LEDs Power	LEDs Sensor	LEDs Relay	Note
Voltage switched on	not immersed	arbitrary	off	arbitrary	on after 2s	off	off	
Internal reference monitoring detects error	arbitrary	arbitrary	off	arbitrary	flashes, 1s cycle	off	off	Device defective, has to be sent to manufacturer
Normal state without media contact	not immersed	arbitrary	off	arbitrary	on	off	off	
Electrode 1 gets immersed, detection after 1s	immersed	open	on	not pressed	on	on	on	
Normal state with immersed electrode, alarm triggered	immersed	arbitrary	on	arbitrary	on	on	on	
Electrode 1 not immersed any more, detection after 1s	not immersed	open	on	not pressed	on	off	flashes, 1s cycle	
Alarm deletion via internal reset button	not immersed	open	off	pressed	on	off	off	
Alternatively: alarm deletion via external reset button	not immersed	closed	off	not pressed	on	off	off	
Alarm still on, electrode 1 gets immersed again	immersed	arbitrary	on	arbitrary	on	on	on	

GEWAS 300 FG:

State	Input / Output				internal Reset button	Internal components 9 V battery	Summer *)	LEDs				Note
	Sensor	ext. button	Relay	ext. buzzer				Power	Battery	Sensor	Relay	
Voltage switched on	not immersed	open	off	off	not pressed	inserted	off	on after 2s	off	off	off	
Internal reference monitoring detects error	arbitrary	arbitrary	off	off	arbitrary	inserted	off	flashes, 1s cycle	off	off	off	Device defective, has to be sent to manufacturer
Normal state without media contact	not immersed	arbitrary	off	off	arbitrary	inserted	off	on	off	off	off	
Electrode 1 gets immersed, detection after 1s	immersed	open	on	2 s on / 2 s off	not pressed	inserted	2 s on / 2 s off	on	off	on	on	
Normal state with immersed electrode, alarm triggered	immersed	open	on	2 s on / 2 s off	not pressed	inserted	2 s on / 2 s off	on	off	on	on	
Alarm deletion via internal reset button	immersed	open	on	off	pressed	inserted	off	on	off	on	on	If electrode is still immersed, only internal and/or external buzzer are switched off.
Alternatively: alarm deletion via external reset button	immersed	closed	off	off	not pressed	inserted	off	on	off	on	on	
Electrode 1 not immersed any more, detection after 1s. Alarm has been deleted before.	not immersed	open	off	off	not pressed	inserted	off	on	off	off	off	
Normal state with immersed electrode, alarm triggered	immersed	open	on	2 s on / 2 s off	not pressed	inserted	2 s on / 2 s off	on	off	on	on	
Electrode 1 not immersed any more, detection after 1s. Alarm has not been deleted before.	not immersed	open	on	2 s on / 2 s off	not pressed	inserted	2 s on / 2 s off	on	off	off	flashes, 1s cycle	
Alarm deletion via internal reset button	not immersed	open	off	off	pressed	inserted	off	on	off	off	off	
Alternatively: alarm deletion via external button	not immersed	closed	off	off	not pressed	inserted	off	on	off	off	off	
Alarm still on, electrode 1 gets immersed again	immersed	open	on	2 s on / 2 s off	not pressed	inserted	2 s on / 2 s off	on	off	on	on	
External power supply switched off	*	*	*	*	*	$U_B > 8.5\ V$	*	off	on	*	*	* : analog to states with external supply
	*	*	*	off	*	$8.5\ V > U_B > 8.0\ V$	off	off	0.9s on / 0.1s off	*	*	
	*	*	*	off	*	$8.0\ V > U_B > 7.75\ V$	off	off	0.7s on / 0.3s off	*	*	
	*	*	*	off	*	$7.75\ V > U_B > 7.5\ V$	off	off	0.5s on / 0.5s off	**	off	** : analog to states with external supply, but instead of "on": "flashes, 1s cycle"
	*	*	*	off	*	$7.5\ V > U_B > 7.25\ V$	off	off	0.3s on / 0.7s off	off	off	
	*	*	*	off	*	$7.25\ V > U_B > 7.0\ V$	off	off	0.1s on / 0.9s off	off	off	
	arbitrary	arbitrary	off	off	arbitrary	$7.5\ V > U_B$	off	off	off	off	off	

*) If internal buzzer should be used, terminal 5 and 6 have to be shortened.

7 Specifications

Housing

Housing type	: GEWAS 300 FG: field frame for wall mounting
	GEWAS 300 SP: snap-on housing for DIN rail mounting
Protection class	: GEWAS 300 FG: IP65
	GEWAS 300 SP: IP20
Display	: 2 LEDs for switching state and status (supply)

Ambient conditions

Working temperature	: -20..+60 °C
Storage temperature	: -40..+80 °C
Permitted humidity Feuchte	: < 75 % RH (non condensing)

Signal input

Number	: 1
Triggering level	: < 80 kΩ
Reaction time	: 2s
Alarm deletion	: reset button (internal or external)

Relay switching output

Number	: 1
Switching voltage	: ≤ 250 V AC
Switching current	: ≤ 5 A (ohmic load)

External buzzer (only GEWAS 300 FG)

Voltage	: 8V DC
Frequency	: 3 kHz
Switching current	: ≤ 5 mA (ohmic load)

Power supply

Permitted voltage	: 18..250 V AC/DC,
	for GEWAS 300 FG additionally: 9V block battery
Power consumption	: < 2 VA

EMC	: The device corresponds to the essential protection ratings established in the Regulations of the Council for the Approximation of Legislation for the member countries regarding electromagnetic compatibility (2004/108/EG).

8 Reshipment and Disposal

8.1 Reshipment

DANGER

All devices returned to the manufacturer have to be free of any residual of measuring media and/or other hazardous substances. Measuring residuals at housing or sensor may be a risk for persons or environment

Use a adequate transport package for reshipment, especially for fully functional devices. Please make sure that the device is protected in the package by enough packing materials.

8.2 Disposal instructions

Batteries must not be disposed in the regular domestic waste but at the designated collecting points.
The device must not be disposed in the unsorted municipal waste! Send the device directly to us (sufficiently stamped), if it should be disposed. We will dispose the device appropriate and environmentally sound.