GREGORY TECHNOLOGY GMBH

flowtronic Systems

Safety Instructions



Contents

1. General Information ____ 3

1.1. Legal Notice ... 3
1.2. Copyright Notice ... 3
1.3. Contact ... 3
1.4. Language Support ... 4
1.5. Notation ... 4
1.6. Warranty ... 6
1.7. Service ... 6

2. Safety Instructions ____ 7

2.1. Electric cable mounting and electrical connections ... 12
2.2. Mounting to the Wheel ... 13
2.3. Suction Mounts ... 14
2.4. Magnetic Mounts ... 15
2.5. Warning Notes ... 15

1. General Information

1.1. Legal Notice

Information furnished is believed to be accurate and reliable. However, GREGORY Technology GmbH assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No licence is granted by implication or otherwise under any patent or patent rights of GREGORY Technology GmbH.

Specifications mentioned in this publication are subject to change without notice and do not represent a commitment on the part of GREGORY Technology GmbH.

All illustrations, descriptions and technical data are without commitment and are based on the information at hand from the manufacturers. Changes as well as technical improvements are subject to change without prior notice.Pictures may show sample components and not ready for use products.

This publication supersedes and replaces all information previously supplied.

All brand names are trademarks of their respective holders.

The different devices of GREGORY Technology GmbH have been designed for different applications specified in the respective descriptions. The named limits and the recommendations are subject to the experience of GREGORY Technology GmbH. The user has to be aware all times, that technical changes of vehicle producers on the fuel supply system may require a measurement system with different characteristic data. Therefore GREGORY Technology GmbH can not warrant, that a recommended device will not fail at a certain vehicle. In such cases please ask for support from GREGORY Technology GmbH.

1.2. Copyright Notice

© Copyright GREGORY Technology GmbH

1.3. Contact

GREGORY Technology GmbH
Mombacher Str. 56
55122 Mainz
Germany

Phone +49 (6131) 60309-0
Fax +49 (6131) 60309-99

E-Mail info@gregory.de
Internet www.gregory.de
www.flowtronic.de

1.4. Language Support

GREGORY Technology GmbH provides any service and publishes in English or German language. Translations to other languages by third parties may be possible, but GREGORY Technology GmbH can not guarantee for the quality of the translation. Each dealer has to provide his customer with the original German or English operation manual.

1.5. Notation

Instructions to be executed by the user are marked with a screw wrench. Paragraphs with a screw wrench are especially found in the chapter „Operation instructions".

Example:

The user reads the safety instructions.

Keys, operational elements or connectors, which are correspondingly marked, are given in bold letters.

Example:

The user switches the data acquisition's **ON**/**OFF** switch in the **ON**-position.

or

The user switches the data acquisition **ON**.

The result of an instruction is written in a grey box in italic letters and marked with an arrow (➡).

Example:

The user switches the data acquisition **ON**.

➡ *The data acquisition receives the pulses from the sensor and displays the flow information.*

Note:
Additional information is given as a note.
Notes are not important for the first use – but the advanced user will profit from these notes.

ATTENTION:
Important advices are marked additionally.

WARNING!
Warnings are designated this way.

1.6. Warranty

A careful and accurate treatment of the devices is presumed.

This includes:

- Use only for the described applications, no abuse of the device
- Check functions before each use
- Regular care and cleaning
- Safe transport and adequate storage

Warranty is granted for one year on material and functions.

We warrant a faultless product.

All information given about application and accuracy are not binding and are based on application experiences.

These do not free the user to make checks himself.

There will be no warranty for damages or resulting costs, caused by inappropriate application of the product. Product liability and guarantee claims are null and void, if a device has not been used in accordance with the instructions in this manual or on the device itself!

1.7. Service

All devices were manufactured and tested with greatest care and according to the latest technical standards.

If you, however, find reason to complain using the devices, we kindly ask not to try to solve the problem on your own.

In this case, please contact our company representation in your country, or directly contact our central service team under the following address:

GREGORY Technology GmbH
Mombacher Str. 56
55122 Mainz
Germany

Phone +49 (6131) 60309-0
Fax +49 (6131) 60309-99

E-Mail info@gregory.de
Internet www.gregory.de
www.flowtronic.de

2. Safety Instructions

Please read carefully before operating the device.

The device has left production as safe and faultless product. The user follows the advice given in notes and warning information to keep the safe condition of the device and to keep the condition of secure operation.

GREGORY Technology GmbH is not responsible for damage that may occur when this system is used in any way other than that for which it is intended.

GREGORY Technology GmbH provides this technical information with the best of intentions and it is correct to be best of our knowledge. Even so, this information should not be taken for granted, and you still have a responsibility to check that the products we supply are suitable for their intended application. Since we have no control over the way you use and process our products we cannot accept liability for damage or injury which may result from their use.

To assure safe and proper operation of the device, it must be carefully transported and stored, as well as professionally installed and operated. Furthermore, careful maintenance and usage in accordance with the operating instructions is imperative.

The device should be installed and operated only by qualified persons who are familiar with devices of this type.

Operating the device requires, that the local regulations on prevention of accidents are followed. This includes the country specific regulations for the place of operation (e.g. vehicle or test bench) and its usage itself. The user has to check on a regular basis, that the safety measurements are followed.

- **The user has to inform himself about danger:**
  - which can be produced by the engine and
  - which can be created by the media to be measured.

- **The user has to be aware of the risk of injury due to rotating engine parts. Especially in the engine compartment he has to care for e.g. fan wheels, V-belt, chains.**

- **The user has to be aware of the risk of injury due to rotating vehicle parts. Especially the mounting of devices from the outside to the wheel he has to care for all devices rotating with the wheel.**

- **The user has to be aware of the risk of injury and destruction due to fire or explosion of leaking media.**

- **The user has to be aware, that the media may be under pressure. Especially mounting and de-mounting the equipment may lead to leakage or spray of media.**

- **The user has to protect himself to get in contact with the media. The user should wear protective clothing (e.g. gloves, glasses, jacket, etc.).**

- **Local regulations may not permit the operation of motor vehicles on public roads while the device is mounted to the vehicle.**

- **The user has to follow all information, notes and especially the warning notes given in the manual for the device.**

- **The user should follow all information, notes and warning notes given with the equipment to be operated together with the device.**

- **Use the device only for the intended application. Misappropriate application is not allowed.**

- Do not modify or change the device or its accessories in any way.
- Use only the original components, which are included in the scope of supply.
- Do not use a defect or a damaged device.
- Do not use defect or damaged accessories.
- Replace all defect or damaged accessories with new devices.
- Opening of the device has only to be executed by the authorized dealer!
- The repair of defect or damaged devices has to be executed by the authorized dealer!
- Improper mounting of the device affects the security of the vehicle and/or the passengers.
- When mounting or operating the device it is compulsory, that vehicle and/or passenger safety is not affected.
- Assure that the device is mounted firmly and securely, in order to prevent the device from slipping or falling.
- The user has to take care during mounting the device, the fuel pipes, the signal cables and the power cables, that these will not be damaged during operation due to chafing at sharp edges.
- The user has to take care during mounting the device, the fuel pipes, the signal cables and the power cables, that these will not be damaged during operation due to rotating parts (e.g. V-belt, fan wheel).

The user has to take care during mounting the device, the fuel pipes, the signal cables and the power cables, that these will not be damaged during operation due to a heat source (e.g. exhaust).

The user has to take care during mounting the device, the fuel pipes, the signal cables and the power cables, that these will not be damaged during operation due to chafing on rough surfaces.

The user has to take care, that the device is not powered and switched on before all fuel pipes, power and signal cables are mounted. Otherwise there may be damages.

Note regarding heat transformer units flowtronic 4703, 4703X, 4705 and HE8005:

Especially the fuel pipes connecting from the outlet of the fuel pump in the heat transformer unit (yellow) to the vehicle and connecting to the inlet of the fuel pump in the heat transformer unit (yellow-green) from the vehicle have to be. The fuel pipe lines have to be without resistance, so that the fuel can flow without hold up to the vehicle. Otherwise the pressure in the *flowtronic* 4703 (- 4703X,–4705) will increase and by that may lead to damage of the fuel pump.

Note regarding sensor units flowtronic 210 and 210X and S8005C

Especially the fuel pipe from the vehicle's fuel tank to the sensor unit and the fuel pipe from the sensor unit back to the vehicle's fuel tank have to be properly mounted. Otherwise the sensor unit may be damaged.

Note regarding the flowtronic calculation units 206 and 215

The signal cable from the *flowtronic* fuel flow sensor to the calculation unit has to be properly mounted. Otherwise the calculation unit may be damaged.

The standard power cable to the calculation unit has to be properly mounted. Otherwise the calculation unit or the power cable may be damaged.

Note regarding the flowtronic signal electronic SCU8005D and S8005AD-2

The signal cable from the *flowtronic* fuel flow sensor to the signal electronic has to be properly mounted. Otherwise the signal electronic may be damaged.

The standard power cable to the signal electronic has to be properly mounted. Otherwise the signal electronic or the power cable may be damaged.

The user has to be aware of the technical properties of the device and its accessories. This includes electrical values (e.g. supply voltage, supply power and signal voltage range) as also mechanical values (e.g. maximum media pressure range, minimum and maximum media temperature, fuel flow range, maximum rotational speed (RPM)).

The user has to be aware of the technical properties and data of the fuel pipes and fuel filters. This includes the mechanical values maximum operational pressure, working temperature range and resistance against fuel media.

The fuel filters have always to be mounted to protect the sensor unit and to protect the fuel pump from solid particles, which lead to destruction of the device.

The user has to be aware of contamination in fuel pipes and fuel fil Contamination may lead to a break down of the measurement system and may lead to permanent damage to the fuel system.

2.1. Electric cable mounting and electrical connections

Please take care for correct pin assignment and operating voltage when connecting the device to the power supply, data acquisition and evaluation systems and other applicable components.

The device has usually a nominal operating voltage of 12V DC or 24V DC. Usually the vehicle battery is used as source to supply the voltage.

ATTENTION!

flowtronic devices must not be connected to more than 30V DC! The flowtronic equipment should never be operated with AC voltage.

The user has to connect the most negative voltage level to the negative contact of the device supply cable. The user has to connect the 12 V DC or the 24 V DC voltage level to the positive contact of the device supply cable.

Please do not mount signal or power cables parallel to vehicle cables, which have a high current load or which transfer a high power with a fast changing voltage level. Example: Such cables are used for ignition or XENON lamps.

ATTENTION!

The products of the flowtronic series are electrostatic sensitive devices. The electrical connections should never be touched.

Do not hold the device in the areas where electrostatic discharges occur obviously.

You can damage the equipment, if you disregard the precautions related to the electrostatic security. This damage may lead to failure of the devices in your application during operation.

2.2. Mounting to the Wheel

- The user has to take care during mounting the device, that he uses only the wheel nut clamps of the new type provided with the delivery. Using the old type of wheel nut clamps with only one or two cuts in the inner clamping tube may lead to insufficient clamping forces.
- The user has to take care during mounting the device, that he uses only the same type of wheel nut clamps. The clamp height may otherwise be different, which leads to insufficient clamping forces and bad counter balance. This includes also the mixing of wheel nut clamps from different producers at the same wheel.

WARNING NOTE!

This safety instruction relates especially to the producers DATRON-Messtechnik and CORRSYS – also after the fusion of both producers to form the company CORRSYS-DATRON Sensorsysteme GmbH and also to the sensors of the Kistler Instrumente AG.

- In case of defect or missing parts (screws or nuts) they are to be replaces by exact the same type regarding screw length and characteristic features.
- Wheel nut clamps can not be mounted on wheel rim locks. Locks have to be removed and have to be replaced with original wheel nuts or wheel screws.
- The user has to take care, that the adapter plate is mounted centred and that the wheel nut clamps fit tight. The user has to verify this regularly during the operation period.
- The user has to take care, that there is enough free space for the wheel to move. This is especially important at the steered front wheel, as there is not only up and down movement but also additional rotation and big forward and backward movement. The user has to take care, that the signal cable will be able to follow all wheel movements without extensive stress.
- The user has to verify the tight fit of the device before each start and especially after each break (e.g. over night).

2.3. Suction Mounts

- The user mounts suction mounts only to even or only slightly bent surfaces, which allow the secure suction for a longer period of time.
- The user has to take care, that the secure fit of the suction mount will not be disturbed due to strong sun radiation, which heats up the suction mount and reduces the vacuum between the rubber plate and the surface. The same applies to mounting the suction mount to heated surfaces, e.g. engine hood.
- The user has to take care, that he does not give to much load on the suction mount. The maximum carrying load of the suction mount has not to be exceeded.
- The user has to take care, that the rubber plates are not damaged during transportation and storage. Even storing the rubber plate on a sharp edge may damage the suction mount, as the rubber plate will keep the defect due to the sharp edge and the suction mount is not able to keep or to create the necessary vacuum. Never place the suction mount with the rubber plate on a rough surface, e.g. on the road.
- The user verifies each time before mounting, that the rubber plate of the suction mount is smooth, clean, without defect and without fissures.
- The user cleans the rubber surface with spirit or similar, less aggressive cleaning agent. The user has to verify, that the cleaning agent does not damage the surface the suction mount will be mounted to.
- The user verifies, that the surface the suction mount will be mounted to is gas tight. The surface needs to be clean, fat-free and oil-free. Otherwise the suction mount will not fit tight.
- The user closes the lever and feels the creation of the vacuum as mechanical resistance.
- The user takes care, that he is not using a sharp tool when taking off the suction mount.
- The user has to check regular the tight fit of all suction mounts used with the measurement set up, especially after a longer break (e. g. after a night).
- Suction mounts may be provided with a security rope. The user has to use the security rope to prevent the suction mount from falling and to prevent further damage.
- The user has to take care, that suction mounts with integrated manual vacuum pump are able to damage glass windows.
- The suction mount has to be removed daily. Intense sun radiation will glue the rubber to the surface. In this case the rubber plate can only be removed mechanically, which damages the surface.
- The user has only to use original replacement parts – please forward any request to your dealer.

2.4. Magnetic Mounts

- The user has to place magnetic mounts on surfaces only, which are even enough to allow full size connection. The surface has to be of an iron type, so that the magnetic mount can hold. The user has to avoid round surfaces.
- The magnetic mount has not to be mounted on the engine hood. The heat of the engine may damage the plastic cover of the magnets.
- The holding force of the magnetic mount will decease after five years – a replacement will be necessary.

2.5. Warning Notes

The user has to be aware of

- Dangers caused by the engine
- Dangers caused by the measured medium
- Explosion or fire hazard by leaking fuel
- Dangers due to defects of the pump
- Risk of injury by rotating engine parts
- Risk of personal injury

The user has to care for

- The safety and accident prevention procedures
- Regular checks, that all precautionary measures are kept to

> ***Please note:***
> The measurement equipment may be damaged, if it is not properly connected and/or operated.

Should the information provided by this manual not be sufficient or if you need additional information, please call the GREGORY Technology GmbH hotline +49 (6131) 60309-0 or e-mail to info@GREGORY.de.