



## Operating Manual

EN

RS MH 3161-002 - ex  
RS MH 3161-13 - ex

RS Stock number: 205-1446

RS Stock number: 205-1444



*device without case*



*device in leather case  
(ready for use in Ex-Zone)*



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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 Intended Use

The safety requirements (see below) have to be observed.

The device must be used only according to its intended purpose and under suitable conditions.

Use the device carefully and according to its technical data (do not throw it, strike it, ...)

Protect the device from dirt.

### 2.2 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.



#### Caution!

This symbol indicates a potentially dangerous situation in explosion-prone areas that can result in death or severe injuries if not avoided.



#### 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.








## 2.3 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.  Consider the operating instructions and the regulations referring the use of electrical equipment for hazardous areas (e.g. VDE0165)
2.  **The operation in Ex-Zone is only allowed in the accompanying leather case!**
3.  Only the usage of approved batteries is allowed!  
**Battery exchange must only be made outside of the hazardous area!**

Approved batteries are:

Battery type	Manufacturer	Battery name
6F22	GP	GREENCELL , 9V (1604G)
6LF22	GP	SUPER Alkaline, 9V (1604A)
or 6LR61	Duracell	DURACELL PLUS, Alkaline, 9V
or 6LP3146	Varta	<b>powerone</b> alkaline, 9V (No. 4122)
	Varta	INDUSTRIAL, Alkaline, 9V (No. 4022)

4.  Mains operation: only use power supply's of the type GNG 10/3000!  
**The operation with external power supply is not allowed in ex Protection-Zone!**
5.  Only use interface converters of the type GRS 3100, USB 3100, USB 3100 N and GRS 3105!  
**The operation of serial interface is not allowed in Ex Protection-Zone.**
6.  Potential equalisation:  
All components (pressure sensor, power supply unit, interface, etc.) connected to the device must be on the same potentials! If this is not guaranteed, you have to connect them for a potential equalisation.
7.  Ambient conditions:  
Take care that the device is not exposed to environments that make the intrusion of humidity, water, conducting liquids or dust possible.
8.  **DANGER** 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.
9.  **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.
10.  **DANGER** 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 device and the connected devices.

11.  **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.
12.  **DANGER** This device is not constructed for use in medical applications.
13. Non intrinsically safe use:  
The devices can also be used as non intrinsically safe device for connection of non intrinsically safe devices (i.e. power supply unit, interface converter, etc.).  
***Only approved accessories must be used at this operation mode, too!***  
Before the device is used as intrinsically safe device again, you have to check for visible damages and control functionality before you put it to the leather bag!
14.  Any changes or repair of the device is not allowed.  
Please return device to manufacturer for repair or maintenance.

## 3 Product Specification

### 3.1 Scope of supply

The scope of supply includes:

- Measuring device with 9V battery
- Operation manual
- Leather case

### 3.2 Operation and maintenance advice

#### 1. Battery operation:

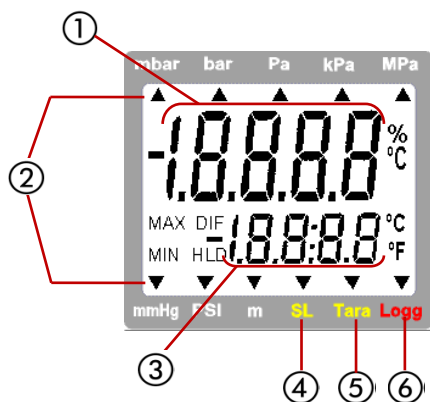
If 'bAt' is shown in the lower display the battery has been used up and needs to be replaced. However, the device will operate correctly for a certain time. If 'bAt' is shown in the upper display the voltage is too low to operate the device; the battery has been completely used up.



The battery has to be taken out, when storing device above 50 °C.  
We recommend taking out battery if device is not used for a longer period of time.  
After recommissioning the real-time clock has to be set again.

## 4 Handling

### 4.1 Display



- |   |  |
|---|--|
| 1 | <b>Main display:</b> shows actual value  |
| 2 | Arrow points to the chosen measuring <b>unit</b>   |
| 3 | <b>Secondary display:</b> shows min./max. or hold value  |
| 4 | <b>SL:</b> appears if sea-level-correction is activated<br>(only at devices with absolute pressure sensor) |
| 5 | <b>Tara:</b> appears if tara-function is activated   |
| 6 | Not used   |

### 4.2 Basic Operation



**On / Off**



#### min/max measuring:

- press short: shows the min./max. value  
 press again: hides min./max. value  
 press 2 sec.: clears particular value



#### **Tara, zero-point adjustment:**

- press short: display will be set to 0  
 The following measuring will be relatively displayed to the set tara value  
 press 2 sec.: deactivates tara-function  
 press 5 sec.: Zero-Point Adjustment<sup>1)</sup>



#### **Set/Menu:**

- press short: invokes configuration menu



#### **Store/Quit:**

- press short: hold-function, the last measuring value will be held in the secondary display.  
 press again: hides the value

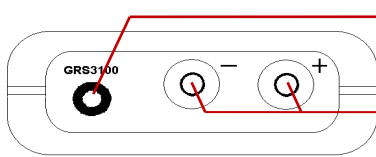
**Please Note: Activating/deactivating tara clears the max- & min-memories.**

- <sup>1)</sup> **Zero-Point Adjustment:** If there is no pressure or zero-pressure (absolute) applied to the pressure ports the device will display 0. If there is a permanent deviation (and device is operated under steady conditions), a permanent zero point adjustment can be carried out. To carry out the adjustment press button 3 for approx. 5 seconds (Auto Null will be displayed shortly). The adjustment is done via the OFFSET-value of the sensor (referring configuration menu).  
 To recall the manufacturer's calibration press button 3 for approx. 15 seconds.

*Please note: - A zero-point adjustment can only be carried out if the difference between the value on display is less than 500 digits!*

*- If a zero point adjustment was carried out the display shows "Corr" after a restart .*

## 4.3 Connections



**Interface:** Connection for el. Isolated interface adapter (please refer to chapter 8.1)

**Connection for pressure tubes:**

„+“ higher pressure

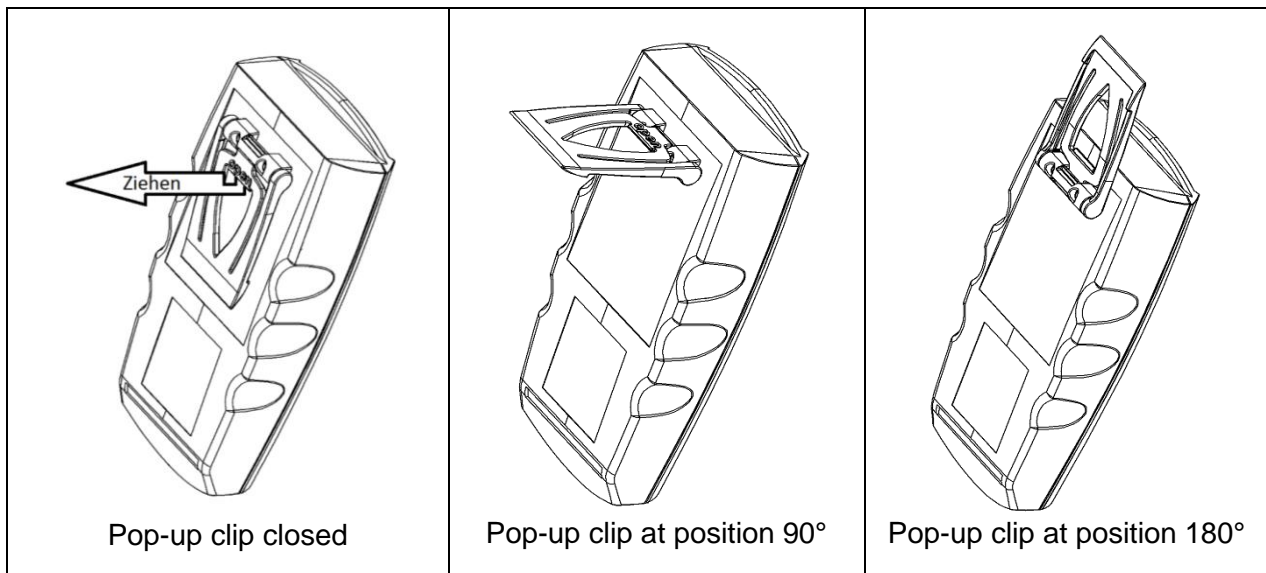
„-“ lower pressure

**Power supply:** the mains adapter socket is located at the left side of the device.

## 4.4 Pop-up clip

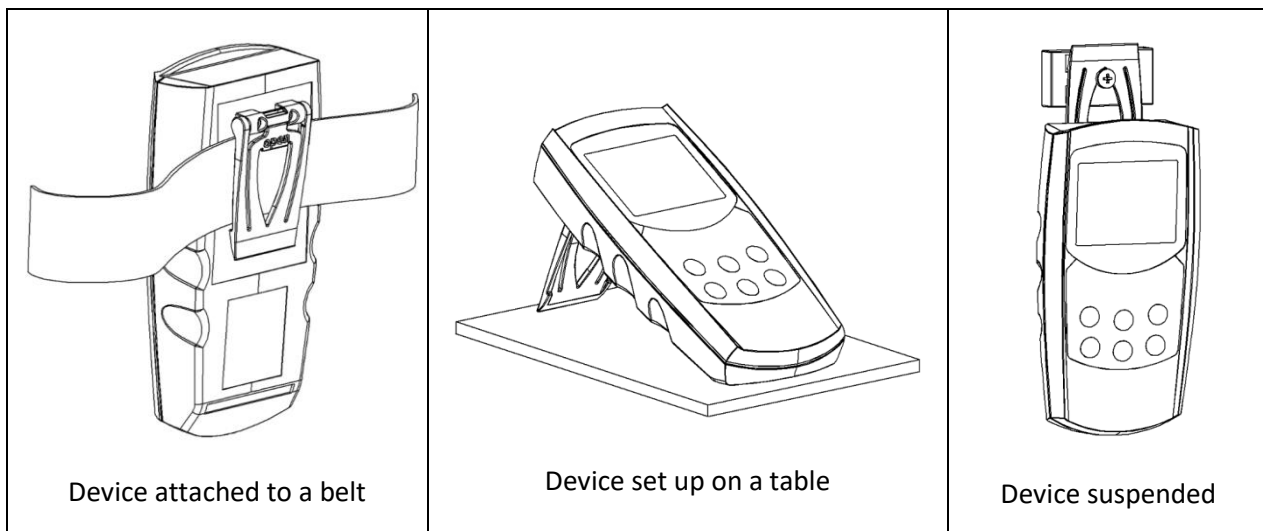
**Handling:**

- Pull at label “open” in order to swing open the pop-up clip.
- Pull at label “open” again to swing open the pop-up clip further.




**Function:**

- The device with a closed pop-up clip can be plainly laid onto a table or attached to a belt, etc.
- The device with pop-up clip at position 90° can be set up on a table, etc.
- The device with pop-up clip at position 180° can be suspended from a screw.





## 5 Start Operation

Connect sensor, turn on device via  key.



After segment test the device displays some configuration:

- If a **zero point adjustment** was carried out the display shows shortly „nuLL Corr“.

After that the device is ready for measuring.




## 6 Configuration

To change device settings, press **Menu** (key 4) for 2 seconds. This will call the configuration menu.

Pressing key **Menu** jumps between the parameters.

The parameters can be changed with ▲ (key 2) or ▼ (key 5).

**Quit** (key 6) finishes the configuration and returns to standard measuring operation.

Parameter	Value	Description
„Menu“	▲ or ▼	
	mbar, bar, ...	<b>Unit:</b> Unit of display
	1 ... 120	<b>Auto Power Off</b> time in minutes
	oFF	Auto Power Off deactivated
	01, 11 ... 91	Base <b>address</b> of interface
<b>OFFS</b>	<i>refer to list below</i>	The <b>offset of sensor</b> will be displaced by this value to compensate for deviations in the probe or in the measuring device.
	oFF	Zero displacement inactive (=0.00)
<b>SCAL</b>	-2.000 ... 2.000	The measuring <b>scale of sensor</b> will be changed by this factor [%] to compensate deviations of temperature probe or measuring device
	oFF	Scale correction factor inactive (=0.000)

Device type	adjustable offset
RS MH 3161-002 - ex	-50.0 ... 50.0 Pa
RS MH 3161-13 - ex	-500 ... 500 mbar

## 7 Remarks To Special Features

### 7.1 Power off Time

If there won't be pressed any key and no interface communication takes place for the time of the power off time setting (P.Off), the device will be switched off automatically to save battery power.

If P.oFF = oFF then the automatic switch off is deactivated.



## 8 Output

### 8.1 Serial Interface

By means of the serial interface and a suitable electrically isolated interface adapter (USB 3100, USB 3100 N, GRS 3100 or GRS 3105) the device can be connected to a computer for data transfer.

With the GRS 3105 up to 5 devices of the GMH3xxx- series can be connected to one interface (see also manual of GRS 3105). As a precondition the base addresses of all devices must not be identical, make sure to configure the base addresses accordingly (refer menu point "Adr." in chapter 6).

To avoid transmission errors, there are several security checks implemented e.g. CRC.

The following standard software packages are available:

- **GMHKonfig:** Software for a comfortable editing of the device (e.g. Material selection...)
- **EBS 20M / 60M:** 20-/60-channel software to display the measuring values

In case you want to develop your own software we offer a **development package** including:

- a universally applicable Windows functions library ('GMH3000.DLL') with documentation that can be used by the most programming languages. Suitable for Windows XP™, Windows Vista™, Windows 7™
- Programming examples Visual Basic 4.0™, Delphi 1.0™, Testpoint™

**Note:** *The measuring and display range values read back from the interface are always in the selected measurement unit (mbar, bar...)!*

Supported functions:

Code	Name/Function	Code	Name/Function
0	Read measurement value	200	Read min display range
3	Read system state	201	Read max display range
6	Read min memory	202	Read display range - unit
7	Read max memory	204	Read display range – decimal point
12	Read ID number	208	Read # of channels
174	Clear min memory	214	Read scale adjustment [%]
175	Clear max memory	216	Read offset adjustment
176	Read min measuring range	222	Read power off time (Conf-P.oFF)
177	Read max measuring range	223	Set power off time (Conf-P.oFF)
178	Read measuring range – measuring unit	240	Reset
179	Read measuring range – decimal point	254	Program version
180	Read kind of measuring of sensor		
199	Read kind of measuring of display		

## 9 Input Adjustment

### 9.1 Zero Displacement Sensor ('OFFS')

A zero displacement can be carried out for the measured value:

$$\text{value displayed} = \text{value measured} - \text{offset}$$

Standard setting: 'off' = 0.0°, i.e. no zero displacement will be carried out. Together with the scale correction (see below) this factor is mainly used to compensate for sensor deviations. Input is in the display unit.

### 9.2 Scale Correction Sensor ('SCAL')

The scale of the measuring can be influenced by this setting (factor is in %):

$$\text{displayed value} = \text{measured value} * (1 + \text{Scal}/100)$$

Standard setting: 'off' = 0.000, i.e. value is not corrected. Together with the zero displacement (see above) this factor is mainly used to compensate for sensor deviations.



## 10 Pressure Connection

2 universal pressure connector for 6 x 1 mm (4 mm tube inner diameter) or 8 x 1 mm (6 mm tube inner diameter ) plastic tubes.

### 10.1 Device type with relative pressure

- **For measurements of overpressure** (*refer to summary*):

Connect plastic tube to pressure port "+".

Port "-" will not be used!

- **For measurements of underpressure** (*refer to summary*):

Plug the tube to pressure port "-". The measuring range covers then up to max. overpressure range



**Note: All values are displayed now as positive values. No minus sign will be shown.**

Example: it is possible to measure under pressure down to -25.00 mbar, the display shows then the value 25.00 (no minus sign).



- **For measurements of pressure differences:**

Connect both plastic tubes to pressure port "+" and "-"; make sure to apply higher pressure to port "+".

Measure ranges:

device type	over- or under pressure	under pressure
RS MH 3161-002 - ex	- 500.0 ... 500.0 Pa	---
RS MH 3161-13 - ex	- 1000 ... 2000 mbar	- 2000 ... 0 mbar

## 11 Error And System Messages

Display	Meaning	What to do?
	Low battery power, device will only continue operation for a short period of time	Replace battery
	Battery empty	Replace battery
	Mains operation without battery: wrong voltage	Check power supply, replace it when necessary
No display or confused characters, device does not react on keypress	Battery empty	Replace battery
	Mains operation without battery: wrong voltage or polarity	Check power supply, replace it when necessary
	System error	Disconnect battery and power supplies, wait shortly, then reconnect
	Device defective	Return to manufacturer for repair
Err.1	Measured value above allowable range	Check: pressure above max. range? -> measuring value to high
	Sensor defective	Return to manufacturer for repair
Err.2	Measured value below allowable range	Check: pressure below min range? -> measuring value to low
	Sensor defective	Return to manufacturer for repair
Err.4	Value is too low to be displayed, tara is set	Check: display below -2000 (tara?)?
Err.9	Measured value far out of allowable range	Check: pressure not within sensor range?
Err.7	System error	Return to manufacturer for repair

## 12 Specification

	RS MH 3161-002 - ex	RS MH 3161-13 - ex
<b>Measuring ranges:</b> <sup>1)</sup>	-500.0 ... 500.0 Pa (-5.000 ... 5.000 mbar)	-1000 ... 2000 mbar
<b>Overload:</b> <sup>2)</sup> (max.)	max. 250 hPa (mbar)	max. 4 bar
<b>Resolution:</b>	0.1 Pa (0.001 mbar)	1 mbar
<b>Accuracy:</b> (typ.)		
Hysteresis and linearity	±0.3 % FS	±0.2 % FS
temp. depending 0 - 50 °C	±0.4 % FS	±0.4 % FS
<b>Available units:</b>	mbar, Pa, kPa, mmHg, PSI, m H <sub>2</sub> O	mbar, bar, kPa, MPa, mmHg, PSI, m H <sub>2</sub> O

1) underpressure measurement up to the overpressure measuring range suitable (refer chapter 10.1)

2) without destruction or recalibration of sensor being necessary

Pressure units: selectable

Measuring rate: 4 meas./sec.

Nominal temperature: 25°C

**Sensor:** Piezo-resistive relative pressure sensor integrated in device.  
Suitable for air and non-corrosive and non-ionizing gases and liquids.  
(Not suitable for water – use air buffering)

Connection: 2 metal pressure ports for connection to 6 x 1 mm (4 mm inner tube Ø) or  
8 x 1 mm (6 mm inner tube Ø) tubes at the top of device

**Display:** 2 four digit LCDs (12.4 mm high and 7 mm high) for measuring values, and for min/  
max memories, hold function, etc. as well as additional functional arrows.

**Pushbuttons:** 6 membrane keys

**Output:** 3.5 mm audio plug, stereo

Interface: Serial interface (3.5mm jack) can be connected to USB or RS232 interface of a PC  
via electrically isolated interface adapter USB 3100, USB 3100 N, GRS 3100 or  
GRS 3105 (see accessories).

**Power supply:** 9V battery (included in scope of supply)  
as well as additional d.c. connector (diameter of internal pin 1.9 mm) for external  
10.5-12V direct voltage supply.  $\ominus \text{---} \oplus$  (suitable power supply: GNG10/3000)

Power consumption: ~ 0.6 mA

Low battery warning: ' bAt '

Working conditions: -10 ... +50 °C, 0 ... 95 %RH (not condensing)

Storage temperature: -20 ... +70 °C

**Housing:** impact-resistant ABS, membrane keyboard, transparent panel, Front side IP65

Dimensions: 142 x 71 x 26 mm (L x W x D) + metal pressure ports 16 mm at top of device

Weight: approx. 165 g (incl. case)

**Directives / standards:** The instruments confirm to following European Directives:

2014/30/EU	EMC Directive
2014/34/EU	ATEX
2011/65/EU	RoHS



Applied harmonized standards:

EN 61326-1 : 2013      emissions level: class B  
emi immunity according to table 3 and A.1  
Additional fault: <1%  
EN IEC 60079-0 : 2018  
EN 60079-11 : 2012  
EN IEC 63000 : 2018

## 13 Reshipment and Disposal

### 13.1 Reshipment



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



Use an 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.

### 13.2 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.

WEEE-Reg.-Nr.: DE 93889386

## 14 Manufacturer address

### GHM Messtechnik GmbH


Standort Greisinger  
Hans-Sachs-Straße 26  
93128 Regenstauf  
Germany

## 15 Vendor contact address

### RS Components Limited


Birchington Road  
Corby  
Northamptonshire  
NN17 9RS

16 EC-Type Examination Certificate



BUREAU

VERITAS





EU - Type Examination Certificate

1)  
2)  
3)  
4)  
5)  
6)  
7)  
8)  
9)

Equipment and protective systems intended for use in potentially explosive atmospheres – Directive 2014/34/EU  
EU - Type Examination Certificate Number  
EPS 09 ATEX 1 227 X  
Equipment:  
Handheld pressure gauge  
GMH 3111 ... ex, GMH 3151 ... ex, GMH 3156 ... ex  
with sensor GMSD ... ex and GMSD ... ex  
and the devices GMH 3161 ... ex, GMH 3181 ... ex  
with device types RS MH 3161 ... ex and RS MH 3181 ... ex  
Manufacturer:  
GHM Messtechnik GmbH  
Address:  
GHM GROLUP - Greisinger  
GHM Messtechnik GmbH  
Hans-Sachs-Straße 26  
93128 Regensburg  
Germany  
This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.  
Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004, in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment has been found to comply with the essential health and safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 09TH0333.  
Compliance with the essential health and safety requirements has been assured by compliance with:  
EN IEC 60079-0:2018  
EN 60079-11:2012

(10)  
(11)  
(12)

If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the annex to this certificate.  
This EU - Type Examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.  
The marking of the equipment shall include the following:  
 II 2G Ex Ib IIC T4 Gb




CERTIFIZIERUNGSGESELLSCHAFT BUREAU VERITAS  
H. Schäfer  
1828

Certification department for explosion protection  
Hamburg, 2021-05-20

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www.bureauveritas.de/gps



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VERITAS



Annex

(13)  
(14)  
(15)

EU - Type Examination Certificate EPS 09 ATEX 1 227 X  
Description of equipment:  
The GMH 3111 ... ex, GMH 3151 ... ex, GMH 3156 ... ex, GMH 3161 ... ex and GMH 3181 ... ex is a pressure measurement device for gauge pressure, absolute pressure and differential pressure measurement with external or internal sensors. There are different type variations possible. The equipment is handheld with battery supply. All devices have a communication port. The equipment is only allowed for use with the communication devices GRS 3100, GRS 3105, USB 3100, and USB 3100 N outside of hazardous locations. For measurement the associated certified sensors GMSD ... ex, GMSD ... ex, and MSD ... ex can be attached.  
For reduction of electrostatic charge hazard the devices are only allowed for use in hazardous area together with the appropriate leather bag. The leather bag is also used as special fastener to secure the battery from falling out. The devices can be charged outside hazardous area with the associated power supply with not intrinsically safe circuit. When the device is used in hazardous area the intrinsically safe characteristics must not be tested again but a visible inspection for external damage and a functional test is required.  
The allowed ambient temperature range is from -10 °C to +50 °C.  
Electrical data:  
Battery supply:  
U<sub>batt,max</sub> = 10,38 V  
I<sub>K,max</sub> = 0,093 A  
P<sub>max</sub> = 0,24 W linear characteristic  
The device has either one internal sensor or one respectively two intrinsically safe output circuits for the connection of one or two certified sensors for pressure and differential pressure measurement with following maximum values:  
U<sub>0</sub> = 10,38 V, I<sub>0</sub> = 0,093 A, P<sub>0</sub> = 0,24 W, C<sub>0</sub> = 1240 nF, L<sub>0</sub> = 0 H  
The summation of internal capacities of the sensors and wiring shall not exceed C<sub>0</sub>. The presence of concentrated inductances is not allowed. It is recommended to use the sensor types stated in the manufacturer's datasheet.  
Reference number: 09TH0333  
Special conditions for safe use:  
In hazardous area the device is only allowed for use with the appropriate leather bag. Only batteries which are stated in the instruction's manual are allowed for use. The battery changes and the connection to external devices is only allowed outside hazardous locations. The environmental conditions in the instruction's manual are mandatory for safe use. Before use the equipment must be inspected for visible or functional damage.  
Essential health and safety requirements:  
Met by compliance with standards.

(16)  
(17)  
(18)

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## 17 EU-Declaration of conformity



### EU-KONFORMITÄTSERKLÄRUNG EU-DECLARATION OF CONFORMITY

GHM GROUP - Greisinger | GHM Messtechnik GmbH | Hans-Sachs-Str. 26 | 93128 Regenstauf | GERMANY

Dokument-Nr. / Monat.Jahr: **1006 / 08.2021**  
Document-No. / Month. Year:

Wir erklären hiermit unter alleiniger Verantwortung, dass die folgenden Produkte konform sind mit den Schutzzielen der Richtlinie des Europäischen Parlaments:  
*We declare herewith under our sole responsibility that the following products are in compliance with the protection requirements defined in the European Council directives:*

Produktbezeichnung: **GMH 3161-... - ex, GMH 3181-... - ex,**  
Product identifier: **RS MH 3161-... - ex, RS MH 3181-... - ex**

Produktbeschreibung: **Druck-Handmessgerät**  
Product description: **Pressure handheld instrument**

Die Produkte entsprechen den folgenden Europäischen Richtlinien:  
*The products conforms to following European Directives:*

Richtlinien / Directives	
2014/30/EU	EMV Richtlinie / <i>EMC Directive</i>
2014/34/EU	ATEX / <i>ATEX</i>
2011/65/EU	RoHS / <i>RoHS</i>

Angewandte harmonisierte Normen oder angeführte technische Normen:  
*Applied harmonized standards or mentioned technical specifications:*

Harmonisierte Normen / <i>harmonized standards</i>	
EN 61326-1 : 2013	Allgemeine EMV Anforderungen / <i>General EMC requirements</i>
EN IEC 60079-0 : 2018	Allgemeine ATEX Anforderungen / <i>General ATEX requirements</i>
EN 60079-11 : 2012	Geräteschutz durch Eigensicherheit „i“ / <i>Protection by intrinsic safety „i“</i>
EN IEC 63000 : 2018	Beschränkung der gefährlichen Stoffe / <i>Restriction of hazardous substances</i>

EG-Baumusterprüfbescheinigung / ausgestellt von: **EPS 09 ATEX 1 227 X** / Bureau Veritas Consumer Products Services Germany GmbH (Reg.No. 2004)  
*EC Type Examination Certificate / issued by:*

Qualitätssicherung / *quality assurance:* DEKRA Testing and Certification GmbH (Reg.No. 0158)

Diese Erklärung wird verantwortlich für den Hersteller abgegeben durch:  
*The manufacturer is responsible for the declaration released by:*

Roland Bäuml

Standortleiter  
*Site Director*

Regenstauf, 4. August 2021

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Harmonisierungsrechtsvorschriften, beinhaltet jedoch keine Zusicherung von Eigenschaften

*This declaration certifies the agreement with the harmonization legislation mentioned, contained however no warranty of characteristics.*

Members of GHM GROUP: **GREISINGER** | **HONSBURG** | **Martens** | **NettaGHM** | **VAL.CO**