Level switch for tank installation

NT M...-Atex

Installation and Operation Instructions

Original instructions
Read this instruction carefully prior to installation and/or use. Pay attention particularly to all advises and safety instructions to prevent injuries. Bühler Technologies can not be held responsible for misusing the product or unreliable function due to unauthorised modifications.

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1 Introduction

1.1 Intended Use

The level switches are used to monitor levels and temperatures inside a tank. The measuring tube is inside the tank during the process.

According to EN 60079-11, NT M...-Atex series level switches are simple electrical apparatuses without separate voltage source intended for tank top installation.

When used in explosive areas these types may only be operated on intrinsically-safe circuits. With intrinsically safe connection they may be installed in Zone 2 explosive areas.

Never use the level switches in highly flammable or corrosive liquids. The medium must not contain particles, particularly metallic particles, to prevent deposits on the float or between the float and switching tube.

Before installing the level switches, verify the listed technical data meet the application parameters. Also observe the applicable requirements of EN 60079-14.

Further verify all contents are complete.

Please note the specific values of the level switches when connecting and the correct version when ordering spare parts.

1.2 Layout and Functionality

The height adjustable level contacts ( bistable reed contacts ) and temperature contacts ( bimetal disc thermostat ) are located inside the measuring tube. The level contacts are activated by a magnet inside the level switch float.

The temperature is monitored via thermal element mounted to the end of the rail. Choose from temperature contacts with fixed increments or a resistance thermometer (Pt100).

It installs to the tank via the female thread on the level switch.

1.3 Scope of Delivery

- Level switch
- Elastic profile gasket (NBR) M27x2 (G 3/4)
- Product Documentation

1.4 Type plate

Example:

Manufacturer and address
---
Bühler Technologies GmbH
Harkortstr. 29
D-40880 Ratingen

Model designation
---
Nivotemp M-0-Atex-MS-M3/var

Order no.+item no.+Metre
---
1006299A KW: 7-2018 001

Controller values
---
Ui=30V, li= 50mA , Pi=100mW

Temperature specifications
---
T Medium < 80°C , -20°C < Ta < 80°C

Pressure specifications
---
p max. = 1bar, SIMPLE APPARATUS

Year of manufacture
---
Read manual!       Year: 2018
1.5 Model Key

<table>
<thead>
<tr>
<th>Type designation</th>
<th>Version</th>
<th>MS = brass</th>
<th>VA = stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>G3/4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plug *</td>
<td>C7</td>
<td>M3</td>
<td>M12</td>
</tr>
<tr>
<td>Length</td>
<td>280</td>
<td>370</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>Variable (please specify)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of level contacts</td>
<td>1-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Options</th>
<th>OV = oval flange (for G3/4)</th>
<th>G1 = adapter G3/4 to G1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature contact</td>
<td>NC contact</td>
<td>NO contact</td>
</tr>
<tr>
<td>Pt100</td>
<td>TM50NC = 50 °C</td>
<td>TM50NO = 55 °C</td>
</tr>
<tr>
<td></td>
<td>TM60NC = 60 °C</td>
<td>TM60NO = 70 °C</td>
</tr>
<tr>
<td></td>
<td>TM70NC = 70 °C</td>
<td>TM80NO = 80 °C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact type</th>
<th>K8 NC/NO</th>
<th>W9 changeover contact (max. 2)</th>
</tr>
</thead>
</table>

* see "Plug Connection"
2 Safety instructions

2.1 Important advice

This unit may only be used if:

- The product is being used under the conditions described in the operating- and system instructions, used according to the nameplate and for applications for which it is intended. Any unauthorized modifications of the device will void the warranty provided by Bühler Technologies GmbH,
- The specifications and markings in the type plate are observed,
- The specified limits are observed,
- The equipment is operated on intrinsically-safe circuits, see chapter “Intrinsically-Safe Connection”,
- The protective element is installed outside the explosive area,
- No equipment functions exceed the limits,
- Monitoring equipment / protection devices are connected correctly,
- Service and repair work not described in these instructions are performed by Bühler Technologies GmbH,
- Genuine replacement parts are used.

Regulations EN 60079-14 and EN 60079-17 must be observed when erecting electrical systems in explosive areas. Additional national regulations pertaining to initial operation, operation, maintenance, repairs and disposal must be observed. These operating instructions are a part of the equipment. The manufacturer reserves the right to change performance-, specification- or technical data without prior notice. Please keep these instructions for future reference.

Signal words for warnings

- **DANGER** Signal word for an imminent danger with high risk, resulting in severe injuries or death if not avoided.
- **WARNING** Signal word for a hazardous situation with medium risk, possibly resulting in severe injuries or death if not avoided.
- **CAUTION** Signal word for a hazardous situation with low risk, resulting in damaged to the device or the property or minor or medium injuries if not avoided.
- **NOTICE** Signal word for important information to the product.

Warning signs

These instructions use the following warning signs:

- **Warns of a general hazard** General information
- **Warns not to inhale toxic gasses** Wear respiratory equipment
- **Warns of corrosive liquids** Wear a safety mask
- **Warns of explosive areas** Wear gloves
2.2 General hazard warnings

The equipment must be installed by a professional familiar with the safety requirements and risks.

Be sure to observe the safety regulations and generally applicable rules of technology relevant for the installation site. Prevent malfunctions and avoid personal injuries and property damage.

The operator of the system must ensure:

– Safety notices and operating instructions are available and observed,
– The respective national accident prevention regulations are observed,
– The permissible data and operational conditions are maintained,
– Safety guards are used and mandatory maintenance is performed,
– Legal regulations are observed during disposal.

Maintenance, Repair

Please note during maintenance and repairs:

– Repairs to the unit must be performed by Bühler authorised personnel.
– Only perform conversion-, maintenance or installation work described in these operating and installation instructions.
– Always use genuine spare parts.

Always observe the applicable safety and operating regulations in the respective country of use when performing any type of maintenance.

The method for cleaning the devices must be adapted to the IP protection class of the devices. Do not use cleaners which could damage the device materials.

DANGER

Toxic, acidic gases/liquids

Protect yourself from toxic, corrosive gasses/liquids when performing any type of work. Wear appropriate protective equipment.
3 Transport and storage

Only transport the product inside the original packaging or a suitable alternative.

The equipment must be protected from moisture and heat when not in use. It must be stored in a covered, dry, dust-free room at room temperature.
4 Installation and connection

4.1 Installation

Please note before installing the level switch!

After transport and delivery of the level switch, the switching status of the bistable contacts may be different than required for proper operation.

Therefore slide the float for the level switch along the level switch tube from below immediately before installation.

This ensures all built-in bistable contacts have a clearly defined switching status (NC or NO).

The level switches (transmitters) come fully assembled and can be mounted to the tank via by screw-in thread and seal. Please be sure the float can move freely and to leave enough space between the tank wall and add-ons.

After removing the float, where applicable, be sure the magnet inside the float is above the fluid level. This can easily be verified with a piece of iron to determine the magnet position inside the float.

4.2 Electrical connections

Please refer to the tables in the appendix for the pin assignment and electrical data of your level switch.

Proceed as follows: Locate (as specified in your order) the plug type, the contact type (NC/NO or changeover contact, with or without temperature measurement) and the number of contacts.

Please note, every level switch must be connected to the earthed tank container using the existing external PA connection.

4.2.1 PA connection (potential equalisation)

**CAUTION**

**Electrostatic charge**

Level switch housings must be connected to the tank via external PA connection!

Ensure the level switch is adequately earthed (minimum conductor cross-section 4 mm²).

Please also particularly observe the requirements of EN 60079-14.

The level switch has an external PA connection. This is identified by the decal shown on the right. The connection uses an M4 thread. The PA cable for potential equalisation between the level switch and the tank is not included and must be supplied and installed by the customer.

**Layout of the PA connection:**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Screw</td>
</tr>
<tr>
<td>2</td>
<td>Serrated washer</td>
</tr>
<tr>
<td>3</td>
<td>Washer</td>
</tr>
<tr>
<td>4</td>
<td>PA cable (to be installed by the customer)</td>
</tr>
<tr>
<td>5</td>
<td>Washer</td>
</tr>
</tbody>
</table>
**4.2.2 Intrinsically-safe connection**

According to EN 60079-11 the components for level and temperature monitoring are simple electrical equipment and to be considered purely ohmic circuits. They may only be operated with an type-tested controller on an intrinsically-safe circuit.

**CAUTION**  
Explosion hazard due to prohibited electrical connection data

Prohibited electrical connection data can cause an explosive gas mixture to ignite. In areas with explosive gas atmospheres the level switch may only be operated with an intrinsically-safe power supply. The power supply must be suitable for the respective zone. The limits specified in these operating instructions must be observed and must not exceeded, even with two separate intrinsically-safe power supplies. Ensure the limits will not be exceeded, even in the event of a fault, e.g. accidental series or parallel connection.

Please observe the relevant safety requirements, e.g. EN 60079-11 and EN 60079-14, when installing and operating intrinsically-safe equipment.

Please refer to the chart below for the technical parameters and the approved limits (\(U_i\), \(I_i\), \(C_i\), \(L_i\), \(P_i\)) for intrinsically-safe operation:

<table>
<thead>
<tr>
<th></th>
<th>(U_i)</th>
<th>(I_i)</th>
<th>(C_i)</th>
<th>(L_i)</th>
<th>(P_i)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level contact</td>
<td>30 V</td>
<td>50 mA</td>
<td>negligible</td>
<td>negligible</td>
<td>100 mW</td>
</tr>
<tr>
<td>Temperature contact</td>
<td>30 V</td>
<td>50 mA</td>
<td>negligible</td>
<td>negligible</td>
<td>100 mW</td>
</tr>
<tr>
<td>Pt100 Temperature Sensor</td>
<td>30 V</td>
<td>50 mA</td>
<td>negligible</td>
<td>negligible</td>
<td>100 mW</td>
</tr>
</tbody>
</table>

**Remarks about the Pt100 connection**

Operate the Pt100 with the respective EX approved RTD converter or a separating barrier with RTD input, suitable for EX. The measuring current must be ≤ 1 mA to prevent excessive self-heating, which will cause measuring errors.
## 5 Operation and control

### DANGER  Toxic, acidic gases/liquids
Protect yourself from toxic, corrosive gasses/liquids when performing any type of work. Wear appropriate protective equipment.

### DANGER  Dangerous electrostatic charge (explosion hazard)
The equipment may only be used where normal operating conditions do not produce frequent flammable, electrostatic discharge.

**Sparking**
Incendive electrostatic charges may occur when cleaning plastic housing parts and decals (e.g. with a dry cloth or compressed air). The sparks this produces could ignite flammable, explosive atmospheres. Always clean plastic housing parts and decals with a damp cloth!

### DANGER  Impact
Strong blows to the housing can produce sparks, which can ignite an EX atmosphere. Protect the equipment from external impact. Damaged housing parts must be replaced immediately.

### CAUTION  Explosion hazard due to prohibited electrical connection data
Prohibited electrical connection data can cause an explosive gas mixture to ignite. In areas with explosive gas atmospheres the level switch may only be operated with an intrinsically-safe power supply. The power supply must be suitable for the respective zone. The limits specified in these operating instructions must be observed and must not exceeded, even with two separate intrinsically-safe power supplies.

Ensure the limits will not be exceeded, even in the event of a fault, e.g. accidental series or parallel connection.

Please observe the relevant safety requirements, e.g. EN 60079-11 and EN 60079-14, when installing and operating intrinsically-safe equipment.

### NOTICE  The device must not be operated beyond its specifications.

### Before startup, check
- the electrical connections are undamaged and correctly installed,
- the level switch is connected intrinsically-safe (proof of intrinsic safety e.g. according to EN 60079-14),
- no parts have been removed from the level switches,
- protection and monitoring devices are installed and functional (e.g. switch amplifier),
- the ambient parameters and technical specifications (e.g. $U_i$, $I_i$) are met,
- electrical connections are securely connected and the monitoring devices are connected and set as prescribed.
- Precautions have been taken,
- the screws are installed with gaskets,
- the connectors are closed and the cable glands are properly sealed.
- The requirements of EN 60079-14 are met,
- the earth is proper and functional.
Level display:
Inside the float of a level switch is a magnet which is mounted in a way that exceeding the level contacts (bistable reed contacts) will trigger these magnetically. This can switch signals used to display the liquid level. When using several level contacts inside the level switch, signals are switched using a common root.

Temperature monitoring:
The temperature of a fluid is monitored via bimetal disc thermostat inside the level switch tube. When a set temperature is reached, a bimetal snap disk inside the thermostat is triggered, which opens or closes an electrical contact. A Pt100 temperature sensor can optionally be used in place of the bimetal thermostat.

Please note the technical specifications for the level switches and the connection diagrams at the end of this manual.
6 Cleaning and Maintenance

This device is maintenance-free.

The method for cleaning the devices must be adapted to the IP protection class of the devices. Do not use cleaners which could damage the device materials.
7 Service and repair

This chapter contains information on troubleshooting and correction should an error occur during operation.

Repairs to the unit must be performed by Bühler authorised personnel.

Please contact our Service Department with any questions:

Tel.: +49-(0)2102-498955 or your agent

If the equipment is not functioning properly after correcting any malfunctions and switching on the power, it must be inspected by the manufacturer. Please send the equipment inside suitable packaging to:

Bühler Technologies GmbH
- Reparatur/Service -
Harkortstraße 29
40880 Ratingen
Germany

Please also attach the completed and signed RMA decontamination statement to the packaging. We will otherwise be unable to process your repair order.

You will find the form in the appendix of these instructions, or simply request it by e-mail:

service@buehler-technologies.com.
8 Disposal

Dispose of parts so as not to endanger the health or environment. Follow the laws in the country of use for disposing of electronic components and devices during disposal.
9 Appendices

9.1 Technical Data

**NT M...-Atex**

**Dimensions**

- PA connection M4
- SW 36
- E Elastic seal NBR

**Operating pressure:** max. 1 bar

**Operating temperature:**
- max. +80 °C (C7 and M3 plug)
- max. +70 °C (M12 plug)

**Ambient temperature:**
- -20 to +80 °C (C7 and M3 plugs)
- -20 to +70 °C (M12 plugs)

**Fluid density:** min. 0.8 kg/dm³

### Material

- **Switching tube:** Brass 1.4571
- **Flange:** Brass 1.4571
- **Float SK 161:** NBR NBR

### Level contacts

- **Function**
  - NC/NO*
  - Changeover contact

- **Min. contact spacing**
  - 40 mm

### Temperature contacts

- **Switch-back difference:** 15 K ± 5 K

<table>
<thead>
<tr>
<th>Switching point</th>
<th>NC*</th>
<th>NO*</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 °C</td>
<td>TMÖ-50</td>
<td>-</td>
</tr>
<tr>
<td>55 °C</td>
<td>-</td>
<td>TMS-55</td>
</tr>
<tr>
<td>60 °C</td>
<td>TMÖ-60</td>
<td>TMS-60</td>
</tr>
<tr>
<td>70 °C</td>
<td>TMÖ-70</td>
<td>TMS-70</td>
</tr>
<tr>
<td>80 °C</td>
<td>TMÖ-80</td>
<td>TMS-80</td>
</tr>
</tbody>
</table>

**Other temperature available upon request**

*NC = NC contact/NO = NO contact All data for rising temperature

**PT100 Resistance Thermometer**

(Pt100 Class B DIN / IEC 751)

- **Tolerance:** ± 0.8 K
- **Measuring current** \(I_c\): ≤ 1 mA
- \(P_t\): 100 mW
- \(U_t\): 30 V
- \(I_t\): 50 mA
- \(L_t, C_t\): Negligible

### Accessories

- Connection cable M12x1 (5-pin) 3.0 m long, item no.: 9144050018
- Adapter G3/4 to G1, item no.: 1011000
- Adapter G3/4 to oval flange, item no.: 1012000

The device is suitable for use in ATEX category II 3 G Ex ic IIC T4 Gc.

**The level switches may only be operated on intrinsically-safe circuits!**

<table>
<thead>
<tr>
<th>Temperature contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>(P_t): 100 mW</td>
</tr>
<tr>
<td>(U_t): 30 V</td>
</tr>
<tr>
<td>(I_t): 50 mA</td>
</tr>
<tr>
<td>(L_t, C_t): Negligible</td>
</tr>
</tbody>
</table>
### 9.2 Standard pin assignment

#### Plug connection

<table>
<thead>
<tr>
<th></th>
<th>M3</th>
<th>M12 (base)</th>
<th>C7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of pins</td>
<td>3-pin + PE</td>
<td>4-pin + PE</td>
<td>7-pin + PE</td>
</tr>
<tr>
<td>DIN EN</td>
<td>175301-803</td>
<td>61076-2-101</td>
<td>175301-801</td>
</tr>
<tr>
<td>IP rating</td>
<td>IP65</td>
<td>IP67*</td>
<td>IP67**</td>
</tr>
<tr>
<td>Cable fitting</td>
<td>PG 11</td>
<td>PG 11</td>
<td>PG 11</td>
</tr>
<tr>
<td>Max. number of contacts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level/temperature contact</td>
<td>1 x K8/1 x TM</td>
<td>1 x K8/1 x TM</td>
<td>3 x K8/1 x TM</td>
</tr>
<tr>
<td>Level contact only</td>
<td>2 x K8</td>
<td>2 x K8</td>
<td>4 x K8</td>
</tr>
<tr>
<td></td>
<td>1 x W9</td>
<td>1 x W9</td>
<td>2 x W9</td>
</tr>
</tbody>
</table>

* with respective plug top.
** with gland.
<table>
<thead>
<tr>
<th>M3</th>
<th>M12 (base)</th>
<th>C7</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Connection schematic M3" /></td>
<td><img src="image2.png" alt="Connection schematic M12" /></td>
<td><img src="image3.png" alt="Connection schematic C7" /></td>
</tr>
</tbody>
</table>

**Level contact(s) only**
- **Type K8 (NC/NO)**
  - 1 x K8
  - 2 x K8
  - 3 x K8
  - 4 x K8

**Level contact(s)**
- **Type K8 (NC/NO)**
  - 1 x K8 + 1 x TK
  - 2 x K8 + 1 x TK
  - 3 x K8 + 1 x TK

**Level contact(s)**
- **Type K8 or K10 (NC/NO)**
  - 1 x K8 + 1 x TK
  - 1 x W9 + 1 x TK

**Level contact(s) only**
- **Type W9 (changeover contact)**
  - 1 x W9
  - 2 x W9

**Level contact(s) only**
- **Type W9 (changeover contact)**
  - 1 x W9 + 1 x TK
  - 2 x W9 + 1 x TK

**Type K8 (NC/NO)** plus temperature contact TK or Pt100

---

Connection schematic

Level contact(s) only Type K8 (NC/NO)

Level contact(s) Type K8 or K10 (NC/NO) plus temperature contact TK

Level contact(s) only Type W9 (changeover contact)

Level contact(s) only Type W9 (changeover contact) plus temperature contact TK or Pt100
9.3 Definitions

The contact positions are measured top to bottom:

- L1 = Contact no. 1
- L2 = Contact no. 2
- L3 = Contact no. 3
- , etc.

Note: The number of contacts may be limited depending on the level switch model (see model key in the type plate and technical data).

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO</td>
<td>rising NO contact/falling NC contact</td>
</tr>
<tr>
<td>NC</td>
<td>rising NC contact/falling NO contact</td>
</tr>
<tr>
<td>TK</td>
<td>Temperature contact</td>
</tr>
<tr>
<td>PT</td>
<td>Pt100 Temperature Sensor</td>
</tr>
<tr>
<td>L1, L2, L3, L4</td>
<td>Level contact</td>
</tr>
<tr>
<td>T1, T2, T3, T4</td>
<td>Temperature output/contact</td>
</tr>
</tbody>
</table>
10 Attached documents

- Manufacturer Declaration HX100001
- RMA - Decontamination Statement
Herstellererklärung
Manufacturer Declaration

der Firma Bühler Technologies GmbH nach EN 60079-11 Abschn. 5.7 „Einfache elektrische Betriebsmittel“.

by Bühler Technologies GmbH pursuant to EN 60079-11 Section 5.7 “Simple apparatus”.

Produkt / products: Niveauschalter für Tankeinbau / level switch for top tank installation
Typ / type: NT M-..-Atex

Zusätzliche Angaben/additional details:
Die Erklärung gilt für alle Exemplare, die nach den beim Hersteller hinterlegten Fertigungsunterlagen – die Bestandteil dieser Erklärung sind - hergestellt wurden.
Bei eigensicherem Anschluss kann das Betriebsmittel im explosionsgefährdeten Bereich der Zone 2 (Gruppe IIC) installiert werden. Eine vergleichbare ATEX-Kennzeichnung lautet: II 3G Ex ic IIC T4 Gc.
Die Betriebsmittel dürfen nur durch Fachpersonal installiert werden; die einschlägigen Sicherheitsvorschriften (z.B. EN 60079-14) sind zwingend zu beachten.
This declaration is valid for all devices manufactured according to the design and manufacturing specifications of the manufacturer. These specifications are part of this declaration.
According to EN 60079-11, the equipment is a simple electrical apparatus without innate ignition source intended for tank top installation. According to this standard this equipment is not subject to type approval and marking pursuant to directive 2014/34/EC (Atex).
In case of intrinsically safe connection they can be used in Zone 2 (group IIC) of Ex-areas. A comparable ATEX marking is: II 3G Ex ic IIC T4 Gc.
The equipment has to be installed by trained personnel. All safety regulations have to be fulfilled (e.g. EN 60079-14).

Beschaltungswerte der einfachen elektrischen Betriebsmittel/Parameters of the simple apparatuses:

\[
\begin{align*}
U_i &= 30 \text{ V} \\
I_i &= 50 \text{ mA} \\
C_i, L_i &\text{ vernachlässigbar/negligible} \\
\text{Messstrom/Measuring current (Pt100)} &\leq 1 \text{ mA}
\end{align*}
\]

Zur Beurteilung der Konformität gemäß Atex-Richtlinie wurden folgende harmonisierte Normen herangezogen:
For the assessment of conformity according to the Atex directive the following standards have been used:

EN 60079-11:2012
EN 60079-0:2012 + A11:2013

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Dokumentationsverantwortlicher für diese Konformitätserklärung ist Herr Stefan Eschweiler mit Anschrift am Firmensitz.
The person authorised to compile the technical file is Mr. Stefan Eschweiler located at the company’s address.

Ratingen, den 05.09.2018

Stefan Eschweiler
Geschäftsführer – Managing Director

Frank Pospiech
Geschäftsführer – Managing Director

HX 10 0001

Bühler Technologies GmbH, Harkortstr. 29, D-40880 Ratingen,
Tel. +49 (0) 21 02 / 49 89-0, Fax. +49 (0) 21 02 / 49 89-20
Internet: www.buehler-technologies.com
### RMA-Formular und Erklärung über Dekontaminierung

**RMA-Form and explanation for decontamination**

**RMA-Nr./ RMA-No.**


Zur diesem Rücksendeschein gehört eine Dekontaminierungsanleitung. Die gesetzlichen Vorschriften schreiben vor, dass Sie uns diese Dekontaminierungsanleitung ausgefüllt und unterschrieben zurücksenden müssen. Bitte füllen Sie auch diese im Sinne der Gesundheit unserer Mitarbeiter vollständig aus. This return form includes a decontamination statement. The law requires you to submit this completed and signed decontamination statement to us. Please complete the entire form, also in the interest of our employee health.

<table>
<thead>
<tr>
<th><strong>Firma/ Company</strong></th>
<th><strong>Anspruchspartner/ Person in charge</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Firma/ Company</td>
<td>Name/ Name</td>
</tr>
<tr>
<td>Straße/ Street</td>
<td>Abt./ Dept.</td>
</tr>
<tr>
<td>PLZ, Ort/ Zip, City</td>
<td>Tel./ Phone</td>
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<tr>
<td>Land/ Country</td>
<td>E-Mail</td>
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<tr>
<td>Gerät/ Device</td>
<td>Serien-Nr./ Serial No.</td>
</tr>
<tr>
<td>Anzahl/ Quantity</td>
<td>Artikel-Nr./ Item No.</td>
</tr>
<tr>
<td>Auftragsnr./ Order No.</td>
<td>bitte spezifizieren/ please specify</td>
</tr>
</tbody>
</table>

**Grund der Rücksendung/ Reason for return**

- [ ] Kalibrierung/ Calibration  
- [ ] Modifikation/ Modification  
- [ ] Reklamation/ Claim  
- [ ] Reparatur/ Repair  
- [ ] andere/ Other

**Ist das Gerät möglicherweise kontaminiert?/ Could the equipment be contaminated?**

- [ ] Nein, da das Gerät nicht mit gesundheitsgefährdenden Stoffen betrieben wurde./ No, because the device was not operated with hazardous substances.
- [ ] Nein, da das Gerät ordnungsgemäß gereinigt und dekontaminiert wurde./ No, because the device has been properly cleaned and decontaminated.
- [ ] Ja, kontaminiert mit/ Yes, contaminated with: [ ]

**Bitte Sicherheitsdatenblatt beiliegen/ Please enclose safety data sheet**

Das Gerät wurde gespült mit/ The equipment was purged with:

- [ ] explosive/ explosive  
- [ ] entzündlich/ flammable  
- [ ] brandfördernd/ oxidizing  
- [ ] komprimierte Gase/ compressed gases  
- [ ] ätzend/ caustic  
- [ ] giftig/ Lebensgefahr/ poisonous/ risk of death  
- [ ] gesundheitsgefährdend/ harmful to health  
- [ ] gesundheitsschädlich/ health hazard  
- [ ] umweltgefährdend/ environmental hazard

Dieser Erklärung wurde korrekt und vollständig ausgefüllt und von einer dazu beaufsichtigten Person unterschrieben. Der Versand der (dekontaminierten) Geräte und Komponenten erfolgt gemäß den gesetzlichen Bestimmungen.

Falls die Ware nicht gereinigt, also kontaminiert bei uns eintrifft, muss die Firma Bühler sich vorhalten, diese durch einen externe Dienstleister reinigen zu lassen und Ihnen dies in Rechnung zu stellen.

Firmenstempel/ Company Sign

Datum/ Date

rechtverschreibliche Unterschrift/ Legally binding signature
Die Analyse defekter Baugruppen ist ein wesentlicher Bestandteil der Qualitätssicherung der Firma Bühler Technologies.

Um eine aussagekräftige Analyse zu gewährleisten muss die Ware möglichst unverändert untersucht werden. Es dürfen keine Veränderungen oder weitere Beschädigungen auftreten, die Ursachen verdecken oder eine Analyse unmöglich machen.


Analysing defective assemblies is an essential part of quality assurance at Bühler Technologies.

To ensure conclusive analysis the goods must be inspected unaltered, if possible. Modifications or other damages which may hide the cause or render it impossible to analyse are prohibited.

Electronic assemblies may be sensitive to static electricity. Be sure to handle these assemblies in an ESD-safe manner. Where possible, the assemblies should be replaced in an ESD-safe location. If unable to do so, take ESD-safe precautions when replacing these. Must be transported in ESD-safe containers. The packaging of the assemblies must be ESD-safe. If possible, use the packaging of the spare part or use ESD-safe packaging.

Observe the above specifications when installing the spare part. Ensure the part and all components are properly installed. Return the cables to the original state before putting into service. When in doubt, contact the manufacturer for additional information.