Fluidcontrol

罐安装用液位开关

NT 61-Z0-Atex

安装及使用说明书

原版使用说明书

BC100028
07/2026

Bühler Technologies GmbH, Harkortstr. 29, 40880 Ratingen
Tel. +49 (0) 21 02 / 49 89-0
E-Mail: fluidcontrol@buehler-technologies.com
Internet: www.buehler-technologies.com

Bühler Technologies GmbH, Harkortstr. 29, 40880 Ratingen
Tel. +49 (0) 21 02 / 49 89-0
Internet: www.buehler-technologies.com
E-Mail: fluidcontrol@buehler-technologies.com

使用设备之前，请仔细阅读说明书。请特别注意警告及安全提示。否则可能导致人身伤害与财产损失。比勒科技有限公司不为不正当使用或擅自修改设备承担责任。　比勒科技有限公司不为不正当使用或擅自修改设备承担责任。

文档信息
文档号..... BC100028
版本 07/2026

目录

1 导言

1.1 合规应用

本液位开关用于监视水箱内的液位与温度。在此，测量管位于水箱内。

NT 61-Z0-Atex系列的液位开关是依IEC/EN 60079-11标准的无自身电源的简单电气设备，用于罐安装。

于防爆区域中，此型号应仅使用于本安型电路内。采用本安型连接时，可将其安装在易爆性危险区域1区，并对0区环境中的液位或温度进行监测与控制。本安型电源必须适合相应的易爆区域。必须严格遵守本操作手册中规定的各项限值。

本液位开关不得应用于高度易燃或腐蚀性液体中。为了避免在浮子上或浮子和开关管之间的沉积物，介质中不能包含颗粒，特别是金属颗粒。

在安装本液位开关之前，请检查给出的技术数据与应用程序参数是否相符。也请顾及IEC/EN 60079-14的适用规定。

您也应检查供货范围内的所有部件是否完备。

请在连接时留意液位开关的参数，在订购备件时留意正确的版本。

这些液位开关带有以下标识：

Ex II 1G Ex ia IIC T4 Ga

Ex II 1D Ex ia IIIC T135° C Da

由于空间狭小，防爆标识未标注在铭牌上。

关于液位开关的本安型接线标识及接线参数，请查阅技术数据。

1.2 工作原理

1.2.1 液位监测

测量管位于储罐中。液位触点（双稳态干簧触点）位于测量管内。它们是由一枚位于液位开关浮子中的磁铁驱动的。由此可以接通或断开电信号，以实现液位的显示。

触点已按订单指定的间距固定在导轨上，不可调节。

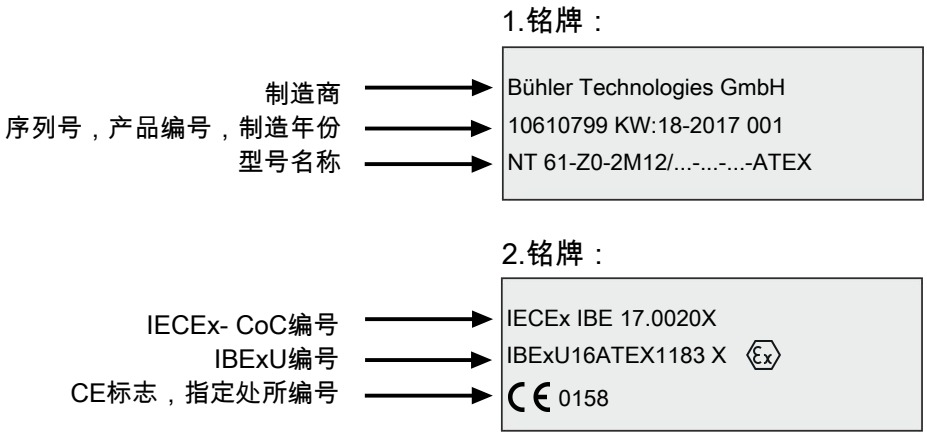
1.2.2 温度监测

通过安装在液位开关测量管内的双金属片温控器，对流体进行温度监测。当达到设定的目标温度时，温控器内的双金属片会被触发，从而接通或断开电气触点。也可选择使用Pt100温度传感器代替双金属温控器。

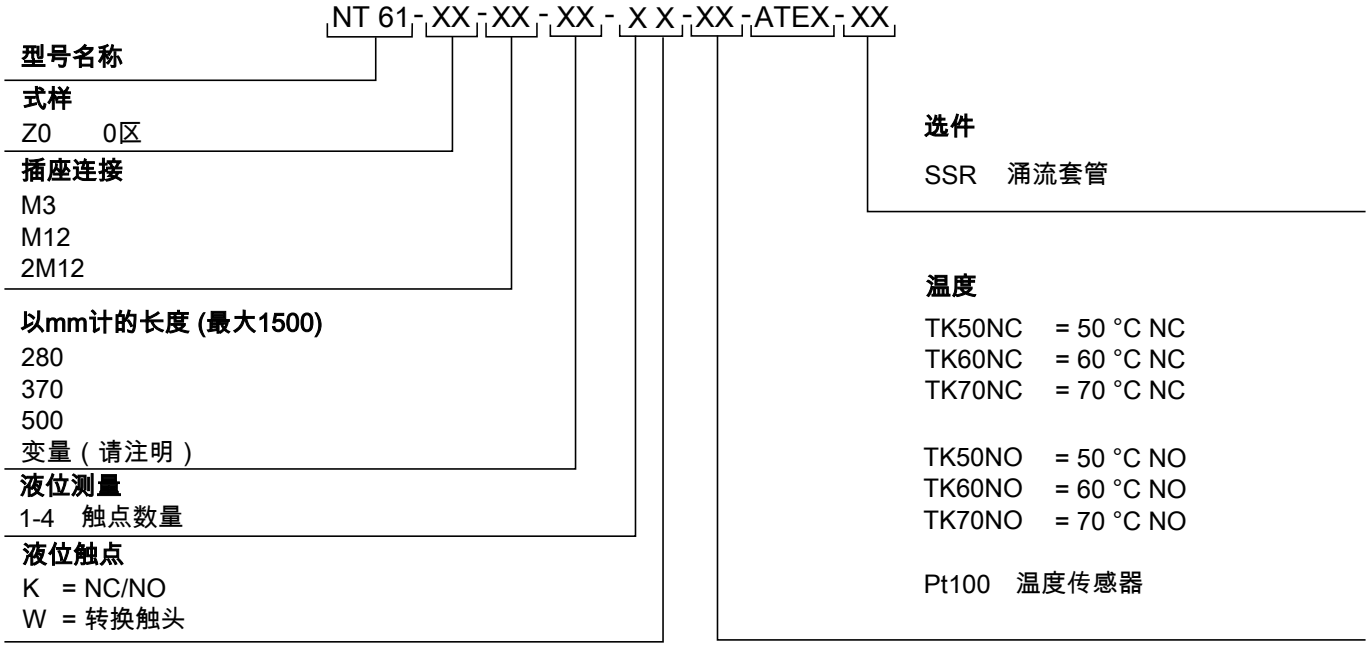
请注意附件中的技术数据。

1.3 铭牌

例如：



1.4 型号代码



1.5 供货范围

- 1 x 液位开关
- 1 x 橡胶软木密封件 D1=90 x D2=60x4，产品编号：9009113
- 6 x 外六角螺栓，产品编号：9011606
- 6 x 垫片 DIN125-A5,3，产品编号：9012234
- 产品文档

2 安全提示

2.1 重要提示

仅当符合以下条件时，才允许使用设备：

- 于安装使用说明书中所述的条件下使用，依铭牌且为规定的用途使用本产品。未经授权修改设备时，比勒科技有限公司不承担任何责任，
- 遵守铭牌上的说明和标记，
- 遵循规定的限值，
- 于本安电路中运行设备，见“本安型连接”章节，
- 控制器被安装于防爆区域外，
- 在对设备进行任何操作时，均不会超过规定的限值，
- 已正确连接了监控设备/保护装置，
- 未在本说明书中描述的维护和维修工作应由比勒科技有限公司进行，
- 使用原装配件。

在易爆区域中安装电气设备须遵守IEC/EN 60079-14和IEC/EN 60079-17的规定。

必须遵照有关调试、运行、维护和废弃处理的其他国家法规。

本操作说明书是设备的一部分。制造商保留更改性能、规格或设计数据的权利，恕不另行通知。请保管好本说明书以备后用。

各种安全警告的定义

危险	提示有紧急危险情况的标识，如不避免会引起重度身体损伤或者直接死亡。
警告	提示有中度风险的危险情况的标识，如不避免可能会引起重度身体损伤或者死亡。
注意	提示有低风险的危险情况的标识，如不避免可能会引起设备损伤或轻微至中度的身体损伤。
提示	提示设备或仪器重要信息的标识。

警告标志

在本手册中，使用以下警告标志：

	常规性警告标志		常规性提示标志
	电压警告		请拔出电源插头
	吸入有毒气体危险警告		请使用呼吸保护器
	腐蚀性物质警告		请使用面部防护装置
	由爆炸导致的危险警告		请使用手套

2.2 常规性危险提示

本设备只能由熟悉安全要求和相关风险的合格专业人员进行安装。此外，他们还通过专业培训掌握了相关标准和规定的知识。务必遵守与安装地点相关的安全规定以及通用的技术规范。请预防故障发生，避免人身伤害和财产损失。

设备操作员必须确保：

- 安全提示和操作说明书可供翻阅并予以遵守，
- 遵守国家有关事故预防条例，
- 不得超过允许的数据并遵循适用条件，
- 使用保护装置和进行规定的维护工作，
- 在处理废弃物时遵守法律规定，
- 遵守有效的国家安装规范。

维护和修理

进行维护和修理工作时，须注意以下几点：

- 必须由比勒授权的人员进行设备维修工作。
- 仅进行在操作和安装说明书中描述的改造、维护与安装工作。
- 仅使用原装备件。
- 请勿安装已损坏的或有缺陷的备件。如有必要，请在安装前进行目视检查，以检查备件是否有明显损坏。

在进行任何类型的维护工作时，必须遵守使用国家相关的操作规程和安全指令。

设备的清洁类型必须与设备的IP保护等级相匹配。不得使用可腐蚀所用的材料的清洁剂。

危险	**有毒和腐蚀性气体/液体**
	在有毒、有腐蚀性气体/液体处作业时，请保护自己。请穿戴适当的防护设备。

3 运输和储存

只应在原包装或合适的替代包装中运输产品。

在不使用时，应对设备加以保护，防止其受潮受热。须将其储存于常温下的封顶的、干燥且无尘的室内。

4 安装和连接

4.1 安装

安装液位开关之前请注意！

可能发生的是，在运输和交付液位开关之后，双稳态触点具有与合规运行所规定的不同的开关状态。

因此，请在安装前，每次一次在液位开关管上将液位开关的浮子从底部移开。

通过此措施，所有内置双稳态触点具有一明确定义的开关状态（NC或NO）。

液位开关被完全组装，可以借助螺纹和密封件将其固定到储罐上。同时须确保浮子能自由移动，并且须保持罐壁和配件之间足够的距离。

若拆卸浮子后，须确保浮子中的磁体高于液位。借助一块铁能轻易地加以检测，铁块用于确定磁体在浮子中的位置。

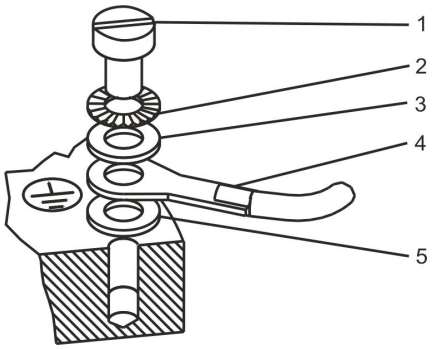
4.2 电气连接

4.2.1 PA接线端子（电位均衡）

注意	静电荷
EX	液位开关外壳和防溢流管必须与储罐上的外部等电位连接端子相连！ 为液位开关进行足够接地（导体截面至少4 mm²）。 请尤其确定满IEC/EN 60079-14的要求。

该液位开关带有一个外部PA接线端子。该端子在左侧的标签上有标示。通过M5螺纹进行连接。在此版本中，用于液位开关或涌流套管（见图B）与储罐之间等电位连接的PA电缆不包含在供货范围内，须由客户自行准备并安装。

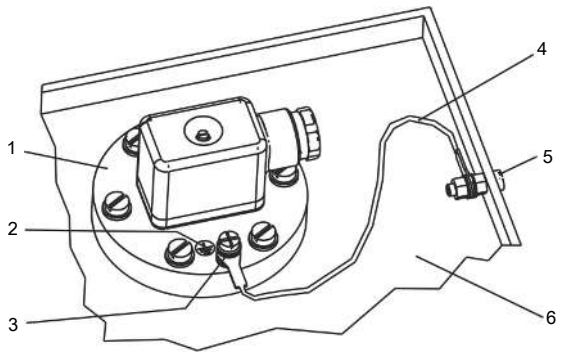
PA接线端子的安装结构：



1	螺杆	4	PA电缆（需由客户自行安装）
2	星型垫圈	5	平垫圈
3	平垫圈		

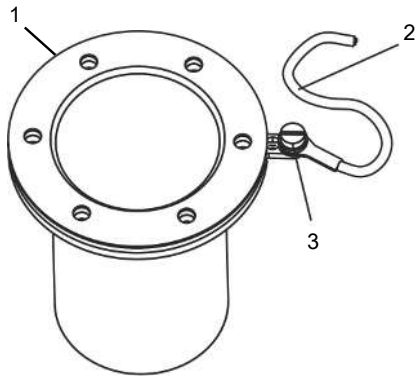
PA接线端子示例：

示意图A



1	液位开关	4	PA电缆
2	PA标签	5	储罐上的PA接口
3	液位开关上的PA接口	6	储罐

示意图B



1	涌流套管	3	PA接口
2	PA电缆		

4.2.2 本安型连接

用于液位和温度监控的组件属于符合IEC/EN 60079-11标准的简单电气设备，应被视为纯电阻电路。它们只能由一个经型式检验的具有本安型电路的控制器运行。

注意

因不被允许的电气连接值而导致爆炸危险

不被允许的电气连接值可能导致爆炸性气体混合物点燃。
在气体爆炸性环境中只能使用本安型电源运行该液位开关。电源必须适合相应的易爆区域。必须遵守这些操作说明中给出的限值，即使对于带有两个独立的本安型电源的版本，也不得超过这些限值。
必须确保即使在出现错误的情况下，例如在意外串联或并联的情况下，不会超出限值。
在安装和操作本安型设备时，请遵守相关的安全要求，例如 IEC/EN 60079-11和IEC/EN 60079-14。

有关本安运行的技术参数及允许极限值（U_i，I_i，C_i，L_i,P_i），请参见下表：

	U_i	I_i	C_i	L_i	P_i
液位触点	30 V	50 mA	可忽略不计	可忽略不计	100 mW
温度触点	30 V	50 mA	可忽略不计	可忽略不计	100 mW
温度传感器Pt100	30 V	50 mA	可忽略不计	可忽略不计	100 mW

Pt100接线说明

请通过相应的防爆型RTD温度变送器，或带有RTD输入的隔离栅来运行Pt100。测量电流必须 ≤ 1 mA，以避免因过度自热而导致测量误差。

5 运行和操作

危险

有毒和腐蚀性气体/液体

在有毒、有腐蚀性气体/液体处作业时，请保护自己。请穿戴适当的防护设备。

危险

危险的静电负荷（爆炸危险）

仅可将设备用于正常运行情况下不会导致频繁的可燃性、静电放电的场所。
产生火花
当清理塑料外壳部件和贴纸（如用干布或压缩空气）时，可能导致易燃的静电荷。导致的火花可能点燃易燃易爆的气体氛围。
仅使用湿布清洁塑料机壳组件和标贴。

危险

撞击效果

通过高强度地撞击外壳可能产生火花，由此可点燃爆炸性气体。
请保护好设备，免其受到撞击。必须立即更换破损的壳体部分。

注意

因不被允许的电气连接值而导致爆炸危险

不被允许的电气连接值可能导致爆炸性气体混合物点燃。
在气体爆炸性环境中只能使用本安型电源运行该液位开关。电源必须适合相应的易爆区域。必须遵守这些操作说明中给出的限值，即使对于带有两个独立的本安型电源的版本，也不得超过这些限值。
必须确保即使在出现错误的情况下，例如在意外串联或并联的情况下，不会超出限值。
在安装和操作本安型设备时，请遵守相关的安全要求，例如 IEC/EN 60079-11和IEC/EN 60079-14。

提示

禁止不合规操作或运行设备！

调试前请检查，

- 电气连接未被损坏，并已被正确安装，
- 液位开关已按本安型方式连接（例如，根据IEC/EN 60079-14标准提供本安证明），
- 没有拆除液位开关上的任何零件，
- 保护和监测设备已到位并发挥作用（如隔离放大器），
- 环境参数和技术规格（如：U_i, I_i）得以遵守，
- 电气连接是否被妥善拧紧和监控设备是否已被正确连接和调整，
- 是否执行了保护措施，
- 连接插头是否闭合，电缆进线口是否被妥善密封。
- 是否满足IEC/EN 60079-14的要求，
- 按规定且有效地接地。

液位显示：

在液位开关的浮子内部安装有一块磁铁，当浮子经过安装在导管上的液位触点（双稳态干簧管触点）时，会通过磁场触发这些触点。由此可以接通或断开电信号，以实现液位的显示。

请注意液位开关的技术规格以及说明书末尾的接线图。

6 维护和清洁

设备无需保养。

该设备的清洗类型必须匹配设备的接地保护类型。不得使用可腐蚀所用的材料的清洁剂。

7 服务和维修

若操作过程中发生错误，在此章节中，必要时您可找到就故障诊断和消除的提示或者请联系我们的服务。

必须由比勒授权的人员进行设备维修工作。

若您有任何疑问，请联系我们的客服：

电话：+49-(0)2102-498955 或您当地的销售代表。

关于我们个性化的维修、改造和调试服务的更多信息，请访问 https://www.buehler-technologies.com/service。

若在消除故障并接通电源后仍不能正常工作，须由制造商检查该设备。为此，请以合适的包装将设备发送至：

比勒科技有限公司 - BZL
Halle A1 - Aircompark
Halskestr. 24
40880 拉廷根
德国

请将填写并签署好的RMA去污声明附入包装。否则您的维修委托将不予处理。该表格位于本手册的附录中，但也可通过e-mail另行索取：

service@buehler-technologies.com

7.1 替换件与备件

产品编号	名称
9144050010	连接管线M12x1，4针，1.5 m，角连接器和直式连接器
9144050046	连接管线M12x1，4针，3.0 m，角连接器和直式连接器
9144050047	连接管线M12x1，4针，5.0 m，角连接器和钢绞线

8 报废

在废弃处理产品时，必须遵守适用的国家法律法规。请以对健康和环境不产生危害为原则进行废弃处理。

对于Bühler Technologies GmbH的产品，被划掉的带轮垃圾桶的符号指向欧盟 （EU） 内电气和电子产品的特殊废弃处理说明。

被划掉的垃圾桶的符号表示标有它的电器电子产品必须与生活垃圾分开处理。必须作为废弃的电气和电子设备妥善处理它们。

Bühler Technologies GmbH很乐意废弃处理带有此标签的设备。为此，请将设备寄送到以下地址。

[redacted]

我们在法律上有义务保护我们的员工免受受污染设备造成的危险。因此，我们恳请您理解，只有在设备不含任何刺激性、腐蚀性或其他对健康或环境有害的物料的情况下，我们才能废弃处理您的旧设备。 **对于每个废弃的电气和电子设备，必须填写“RMA——去污表格和声明”表格，它可在我们的网站上找到。填妥的表格必须贴于包装外部的明显位置。**

如需退回废弃电气和电子设备，请使用以下地址：

Bühler Technologies GmbH - BZL
WEEE
Halle A1 - Aircompark
Halskestr. 24
40880 Ratingen
Germany

另请注意数据保护规则，您自己有责任确保您退回的旧设备上没有个人数据。因此，请确保在归还之前从旧设备中删除您的个人数据。

9 附录

9.1 技术规格

NT 61-Z0-Atex	
工作压力：	最高1 bar
工作温度：	-20 ° C 至 +70 ° C
环境温度：	-20 ° C 至 +70 ° C
最小密度液体：	0.85 kg/dm³
重量，当 L = 280 mm时：	约 950 g
每100 mm附加费：	约50 g

材质

浮子：	1.4571
浸管：	1.4571
法兰 (DIN 24557)：	1.4571

供货范围包括
安装螺丝（6个）和橡胶软木密封件。

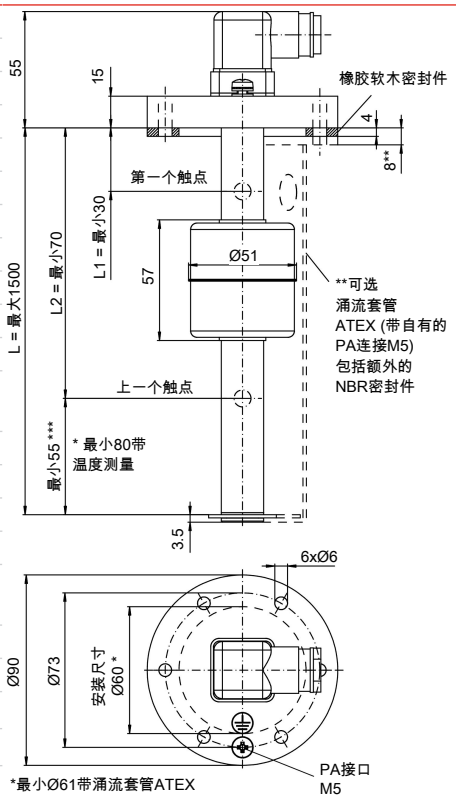
选件

涌流套管 (SSR)	1.4571/NBR

设备根据：	IEC 60079-0 (Ed.7.0)； IEC 60079-11 (Ed.6.0)； EN IEC 60079-0:2018； EN 60079-11:2012
IECEx证书号：	IECEx IBE 17.0020X
EG类型审核证书编号：	IBExU16ATEX1183 X
标记ATEX/IECEx：	Ex II 1G Ex ia IIC T4 Ga
	Ex II 1D Ex ia IIIC T135° C Da

仅允许于本安电路中运行液位开关!

尺寸



液位开关量输出

液位触点	K10	W11
功能	NC/NO*	转换触头
U_i	30 V	
l_i	50 mA	
L_i; C_i	可忽略不计	
P_i	100 mW	

*NC = 递增常闭/递减常开, NO = 递增常开/递减常闭

可选开关量输出 温度

温度触点	TKÖ	TKS
功能	NC**	NO**
U_i	30 V	
l_i	50 mA	
L_i; C_i	可忽略不计	
P_i	100 mW	

NC= 常闭触点 / NO = 常开触点

温度信号

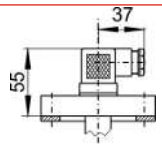
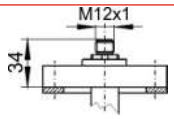
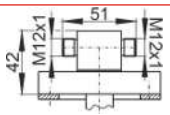
电阻温度计Pt100	
传感元件	Pt100 B级, DIN EN 60 751
容差:	±0.8 ° K
P_i	100 mW
U_i	30 V
l_i	50 mA
l_{Mess}（测量电流）	≤1 mA
L_i; C_i	可忽略不计

测量电阻Pt100的基本值

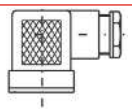
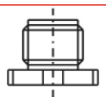
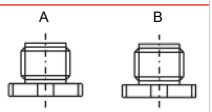
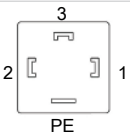
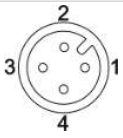
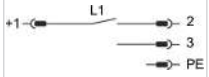
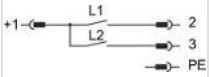
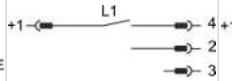
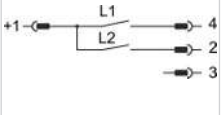
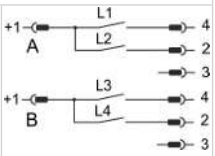
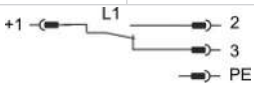
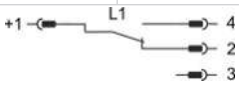
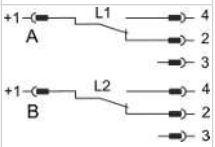
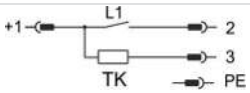
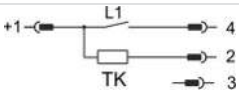
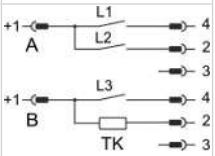
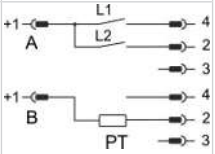
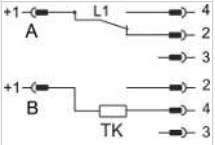
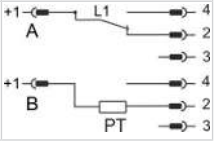
C°	0	10	20	30	40	50	60	70	80	90	100
Ohm	100.00	103.90	107.79	111.67	115.54	119.40	123.24	127.07	130.89	134.70	138.50

9.2 标准引脚分配

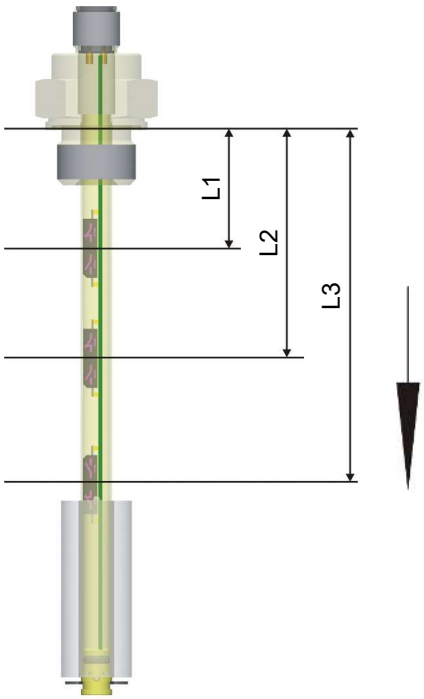
插座连接

	M3	M12	2 x M12
尺寸			
针数	3针 + PE	4针	4针 / 4针
DIN EN	175301-803	61076-2-101	61076-2-101
防护等级	IP65	IP67**	IP67**
电缆接头	PG 11		

*带附属的插头外壳

	M3	M12 (底座)	2 x M12 (底座)
			
接线图			
仅液位触点 型号K10 (NC/NO)	1 x K…  2 x K… 	1 x K…  2 x K… 	
仅液位触点 型号W11 (转换触点)			
液位触点 型号K10 加温度触点TK			
液位触点 型号K10 加温度传感器Pt100			
液位触点 型号W11 加温度触点TK			
液位触点 型号W11 加温度传感器Pt100			

9.3 定义



触点位置从上到下测量：

L1 = 1号触点

L2 = 2号触点

L3 = 3号触点

等...

提示：根据液位开关的型号不同，触点的数量
是受限的（请参见铭牌上的型号代码和技术数据）。

缩写：	注释
NO	液位上升时触点闭合 / 液位下降时触点断开
NC	液位上升时触点断开 / 液位下降时触点闭合
TK	温度触点
PT	温度传感器Pt100
SSR	涌流套管
L1, L2, L3, L4	液位触点
T1, T2, T3, T4	温度输出 / 温度触点

关于温度触点的说明：

根据订购的型号不同，温度触点（TK）可以是常开型温度触点（TKS）、常闭型温度触点（TKÖ），或者是Pt100温度传感器。

10 随附文档

- EU类型审核证书：IBExU16ATEX1183X
- IECEx证书：IECEx IBE 17.00020X
- 符合性声明：KX100032
- RMA -去污声明

[1] EU-TYPE EXAMINATION CERTIFICATE - Translation

[2] Equipment or protective systems
intended for use in potentially explosive atmospheres, Directive 2014/34/EU

[3] EU-type examination certificate number **IBExU16ATEX1183 X** | Issue 2

[4] Product: **Level-switches**
Types: **NT 61-Z0-ATEX** and
NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 /
NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ

[5] Manufacturer: Bühler Technologies GmbH

[6] Address: Harkortstr. 29
40880 Ratingen
GERMANY

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH, Notified Body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential test report IB-24-3-0051.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN IEC 60079-0:2018 EN 60079-11:2012
except in respect of those requirements listed at item [18] of the schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.

[11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 resp. **NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ**	**NT 61-Z0-ATEX**
II 1 G Ex ia IIC T4 Ga	**II 1 G Ex ia IIC T4 Ga**
II 1 D Ex ia IIIC T80 °C Da	**II 1 D Ex ia IIIC T135 °C Da**
-20 °C ≤ T_a ≤ +80 °C	-20 °C ≤ T_a ≤ +70 °C

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

Tel: + 49 (0) 37 31 / 38 05 0
Fax: + 49 (0) 37 31 / 38 05 10

By order

Dr.-Ing. P. Cimalla

Zertifizierungsstelle Explosionsschutz IBExU Institut für Sicherheitstechnik GmbH * 0637 *
- Seal -
(Notified Body number 0637)

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Freiberg, 2026-05-19

[13] **Schedule**

[14] **Certificate number IBExU16ATEX1183 X** | Issue 2

[15] **Description of product**

The level-switches are used as remote tank level indicator. A stainless steel pipe is containing reed-switches. The pipe is surrounded by a floater who is equipped with a permanent magnet. That magnet acts to reed-switches that allow a control of tank level.
Some types of the level-switches may contain temperature-switches or PT100 resistance thermometer for temperature measurement.

Technical data

Ambient-temperature / operating pressure:

NS 10/G2-2K-VA-ATEX-M12/xxx-SK221* resp. NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ	-20 °C to +80 °C	/ 10 bar
NT 61-Z0-ATEX	-20 °C to +70 °C	/ 1 bar

*xxx: indicates length of the immersion pipe in mm
*XK: indicates the number of temperature-switches (1K .. 2K)
*YYYY: length of immersion pipe in mm
*VZZ: indicates the variant-number (V1…V99)

Parameters of intrinsic safety:

Level-switch	Temperature-switch	Resistance thermometer PT100
type NS 10 and NT 61	type NT 61	type NT 61
U_i = 30 V	U_i = 30 V	U_i = 30 V
I_i = 50 mA	I_i = 50 mA	I_i = 50 mA
P_i = 100 mW	P_i = 100 mW	P_i = 100 mW
L_i negligible	L_i negligible	L_i negligible
C_i negligible	C_i negligible	C_i negligible

Depending on the configuration, both types NS 10 and NT 61 can contain up to two intrinsically safe circuits with linear characteristic.

Variations compared to issue 1 of this certificate:

- Modification of silicon-containing components for level-switches type NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 resp. NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ.
- The Level-switches comply with the requirements of EN IEC 60079-0:2018 and IEC 60079-11:2023.
- The max. ambient temperature of type NS 10 is +80 °C.
- The max. surface temperature of type NT 61 is T135 °C.

[16] **Test report**
The test results are recorded in the confidential test report IB-24-3-0051 of 2026-04-20.
The test documents are part of the test report and they are listed there.

Summary of the test results
The level switches NT 61-Z0-ATEX and NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 resp. NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ fulfil the requirements of explosion protection for electrical equipment of the Equipment Group II Category 1 G and 1 D in protection-type "ia" intrinsically save devices for explosion group IIC temperature class T4 and explosion group IIIC with surface-temperature T135 °C resp. T80 °C.

[17] **Specific conditions of use**
- The ambient temperature range is fixed from -20 °C to +70 °C (NT 61) or +80 °C (NS 10).
- See "Installation and Operating Instructions" for intrinsic safe values.

[18] **Essential health and safety requirements**
In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:
- The product also complies with requirements of the current international standard IEC 60079-11:2023, Ed. 7.

[19] **Drawings and Documents**
The documents are listed in the test report.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

By order

Dr.-Ing. P. Cimalla

Freiberg, 2026-05-19

IBExU Institut für Sicherheitstechnik GmbH

An-Institut der TU Bergakademie Freiberg

[1] EU-TYPE EXAMINATION CERTIFICATE - Translation

[2] Equipment or protective systems
intended for use in potentially explosive atmospheres, Directive 2014/34/EU

[3] EU-type examination certificate number **IBExU16ATEX1183 X** | Issue 1

[4] Product: **Level-switches**
Types: **NT 61-Z0-ATEX** and
NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 / NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ

[5] Manufacturer: Bühler Technologies GmbH

[6] Address: Harkortstr. 29
40880 Ratingen
GERMANY

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH, Notified Body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential test report IB-17-3-0202.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 EN 60079-11:2012
except in respect of those requirements listed at item [18] of the schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.

[11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

NS 10/G2-2K-VA-ATEX-M12/xxx-SK221
NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ
II 1G Ex ia IIC T4 Ga
II 1D Ex ia IIIC T100 °C Da
$-20\ °C \leq T_a \leq +100\ °C$

NT 61-Z0-ATEX

II 1G Ex ia IIC T4 Ga
II 1D Ex ia IIIC T70 °C Da
$-20\ °C \leq T_a \leq +70\ °C$

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

Tel: + 49 (0) 37 31 / 38 05 0
Fax: + 49 (0) 37 31 / 38 05 10

By order

(Dipl.-Ing. [FH] Henker)

- Seal -
(Notified Body number 0637)

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Freiberg, 2018-01-19

[13] **Schedule**

[14] **Certificate number IBExU16ATEX1183 X** | Issue 1

[15] **Description of product**

The level-switches are used as remote tank level indicator. A stainless steel pipe is containing reed-switches. The pipe is surrounded by a floater who is equipped with a permanent magnet. That magnet acts to reed-switches that allow a control of tank level.
Additionally the level-switches may contain temperature-switches or PT100 resistance thermometer for temperature measurement.

Technical data

Ambient-temperature / operating pressure:		
NS 10/G2-2K-VA-ATEX-M12/xxx-SK221* and NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ	-20 °C to +100 °C	/ 10 bar
NT 61-Z0-ATEX	-20 °C to +70 °C	/ 1 bar

*xxx: indicates length of the immersion pipe in mm
*XK: indicates the number of temperature-switches (1K .. 2K)
*YYYY: length of immersion pipe in mm
*VZZ: indicates the variant-number (V1…V99)

Parameters of intrinsic safety:

Level-switch:

Ui	30 V
Ii	50 mA
Pi	100 mW
Ci, Li	negligible

Temperature switch:

Ui	30 V
Ii	50 mA
Pi	100 mW
Ci, Li	negligible

Resistance thermometer PT100:

Ui	30 V
Ii	50 mA
Pi	100 mW
Ci, Li	negligible

Alternative marking for resistance-thermometer PT100

Ui	9 V
Ii	22 mA
Li	negligible
Ci	negligible

Changes compared to the previous approval IBExU16ATEX1183 X (NS-10 only):

- The type designation or type key has been changed and additional placeholders have been added: the length identifier was changed from three digits to four digits and new three-digit variant designation was implemented.
- One or two contacts can be used both as normally closed and normally open contacts in any combination.
- The protective earth conductor (PE) can be connected either via the plug connector or via the screws to the earthed metal container.
- The seal to the container may be provided by the user.

[16] **Test report**
The test results are recorded in the confidential test report IB-17-3-0202 of 2018-01-19.

The test documents are part of the test report and they are listed there.

Summary of the test results
The level switches NT 61-Z0-ATEX and NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 resp. NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ fulfil the requirements of explosion protection for electrical equipment of the Equipment Group II Category 1G and 1D in protection-type "ia" intrinsically save devices for explosion group IIC temperature class T4 and explosion group IIIC with surface-temperature 70 °C and 100 °C.

[17] **Specific conditions of use**
- The ambient temperature range is fixed from -20 °C to +70 °C (NT-61) or +100 °C (NS-10).
- See "Installation and Operating Instructions" for intrinsic safe values.

[18] **Essential health and safety requirements**
In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report: None

[19] **Drawings and Documents**
The documents are listed in the test report.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

By order

(Dipl.-Ing. [FH] Henker)

Freiberg, 2018-01-19

[1] EU-TYPE EXAMINATION CERTIFICATE - Translation

[2] Equipment or protective systems
intended for use in potentially explosive atmospheres, Directive 2014/34/EU

[3] EU-type examination certificate number **IBExU16ATEX1183 X** | Issue 0

[4] Product: **Level-switches**
Types: **NT 61-Z0-ATEX** and **NS 10/G2-2K-VA-ATEX-M12/xxx-SK221**

[5] Manufacturer: Bühler Technologies GmbH

[6] Address: Harkortstr. 29
40880 Ratingen
GERMANY

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH, Notified Body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential test report IB-16-3-170 of 2017-07-14.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 EN 60079-11:2012
except in respect of those requirements listed at item [18] of the schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.

[11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

NS 10/G2-2K-VA-ATEX-M12/xxx-SK221
Ⓔx II 1G Ex ia IIC T4 Ga
Ⓔx II 1D Ex ia IIIC T100 °C Da
$-20\ °C \leq T_a \leq +100\ °C$

NT 61-Z0-ATEX
Ⓔx II 1G Ex ia IIC T4 Ga
Ⓔx II 1D Ex ia IIIC T70 °C Da
$-20\ °C \leq T_a \leq +70\ °C$

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

By order
A. Henker
(Dipl.-Ing. [FH] Henker)

Zertifizierungsstelle Explosionsschutz IBExU Institut für Sicherheitstechnik GmbH Kenn-Nr. 0637
- Seal -
(Notified Body number 0637)

Tel: + 49 (0) 37 31 / 38 05 0
Fax: + 49 (0) 37 31 / 38 05 10

Freiberg, 2017-07-14

[13] **Schedule**

[14] **Certificate number IBExU16ATEX1183 X** | Issue 0

[15] **Description of product**
The level-switches are used as remote tank level indicator. A stainless steel pipe is containing reed-switches. The pipe is surrounded by a floater who is equipped with a permanent magnet. That magnet acts to reed-switches that allow a control of tank level.
Additionally the level-switches may contain temperature-switches or PT100 resistance thermometer for temperature measurement.

Specifications

Ambient-temperature / operating pressure:

NS 10/G2-2K-VA-ATEX-M12/xxx-SK221*	-20 °C to +100 °C	/ 10 bar
NT 61-Z0-ATEX	-20 °C to +100 °C	/ 1 bar

*The 'xxx' notes the length of the pipe in mm.

Level-switch:

Ui	30 V
Ii	50 mA
Pi	100 mW
Ci, Li	negligible

Temperature switch:

Ui	30 V
Ii	50 mA
Pi	100 mW
Ci, Li	negligible

Resistance thermometer PT100:

Ui	30 V
Ii	50 mA
Pi	100 mW
Ci, Li	negligible

Alternative marking for resistance-thermometer PT100

Ui	9 V
Ii	22 mA
Li	negligible
Ci	negligible

[16] **Test report**
The test results are recorded in the confidential test report IB-16-3-170 of 2017-07-14.

The test documents are part of the test report and they are listed there.

Summary of the test results
The level switches Nivotemp NT 61-Z0-ATEX and NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 fulfil the requirements of explosion protection for electrical equipment of the Equipment Group II Category 1G and 1D in protection-type "ia" intrinsically save devices for explosion group IIC temperature class T4 and explosion group IIIC with surface-temperature 70 °C and 100 °C.

[17] **Specific conditions of use**
See "Installation and Operating Instructions" for intrinsic safe values.

[18] **Essential health and safety requirements**
In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report: None

[19] **Drawings and Documents**
The documents are listed in the test report.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

By order

(Dipl.-Ing. [FH] Henker)

Freiberg, 2017-07-14

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx IBE 17.0020X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2018-02-05) Issue 0 (2017-08-24)
Date of Issue:	2026-05-19		

Applicant: **Bühler Technologies GmbH**
Harkortstrasse 29
40880 Ratingen
Germany

Equipment: **Level-switches type NS 10/G2-2K-VA-ATEX-M12/xxx-SK221, NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ and NT 61-Z0-ATEX**

Optional accessory:

Type of Protection: **Intrinsic safety "ia"**

Marking:

NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 and NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ	Ex ia IIC T4 Ga Ex ia IIIC T80 °C Da -20 °C ≤ T_a ≤ +80 °C
NT 61-Z0-ATEX	Ex ia IIC T4 Ga Ex ia IIIC T135 °C Da -20 °C ≤ T_a ≤ +70 °C

Approved for issue on behalf of the IECEx Certification Body: **Dr.-Ing. Peter Cimalla**

Position: **Deputy Head of department Certification Body**

Signature:
(for printed version)

Date:
(for printed version)

2026-05-19

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg
Germany

IECEx Certificate of Conformity

Certificate No.:	**IECEx IBE 17.0020X**	Page 2 of 4
Date of issue:	2026-05-19	Issue No: 2

Manufacturer: **Bühler Technologies GmbH**
Harkortstrasse 29
40880 Ratingen
Germany

Manufacturing locations: **Bühler Technologies GmbH**
Harkortstrasse 29
40880 Ratingen
Germany

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2023 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:7.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

DE/IBE/ExTR16.0040/00 DE/IBE/ExTR16.0040/01 DE/IBE/ExTR16.0040/02

Quality Assessment Report:

DE/BVS/QAR16.0002/08

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The level-switches are used as remote tank level indicator. It works with a stainless steel pipe containing reed-switches. The pipe is surrounded by a floater who is equipped with a permanent magnet. That magnet acts to reed-switches that allow a control of tank level.

Some types of the level-switches may contain temperature-switches or PT100 resistance thermometer for temperature measurement.

Technical data

Ambient temperature / operating pressure:

NS 10/G2-2K-VA-ATEX-M12/xxx-SK221* resp.

NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ -20 °C to +80 °C / 10 bar

NT 61-Z0-ATEX -20 °C to +70 °C / 1 bar

*xxx: indicates length of the immersion pipe in mm

*XK: indicates the number of temperature-switches (1K .. 2K)

*YYYY: length of immersion pipe in mm

*VZZ: indicates the variant-number (V1...V99)

Parameters of intrinsic safety

Level-switch	Temperature-switch	Resistance-thermometer PT100
type NS 10 and NT 61	type NT 61	type NT 61
U_i = 30 V	U_i = 30 V	U_i = 30 V
I_i = 50 mA	I_i = 50 mA	I_i = 50 mA
P_i = 100 mW	P_i = 100 mW	P_i = 100 mW
L_i negligible	L_i negligible	L_i negligible
C_i negligible	C_i negligible	C_i negligible

Depending on the configuration, both types NS 10 and NT 61 can contain up to two intrinsically safe circuits with linear characteristic.

SPECIFIC CONDITIONS OF USE: YES as shown below:
The ambient temperature range is fixed from -20 °C to +70 °C (NT 61) or +80 °C (NS 10).

See "Installation and Operating Instructions" for intrinsic safe values.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Modification of silicon-containing components for level-switches type NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 resp. NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ.

The Level-switches comply with the requirements of IEC 60079-0, Ed. 7 and IEC 60079-11, Ed. 7.

The max. ambient temperature of type NS 10 is +80 °C.

The max. surface temperature of type NT 61 is T135 °C.

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx IBE 17.0020X	Issue No: 1	Certificate history:
Status:	**Current**		Issue No. 1 (2018-01-25)
		Page 1 of 5	Issue No. 0 (2017-08-24)
Date of Issue:	**2018-01-25**		

Applicant: **Bühler Technologies GmbH**
Harkortstrasse 29
40880 Ratingen
Germany

Equipment: **Level-switches type NS 10/G2-2K-VA-ATEX-M12/xxx-SK221, NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ and NT 61-Z0-ATEX**

Optional accessory:

Type of Protection: **Intrinsic safety**

Marking:

Ex ia IIC T4 Ga

Ex ia IIIC 100°C Da [NS 10/G2-2K-VA-ATEX-M12/xxx-SK221]

new variants: [NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ]

Ex ia IIIC 70°C Da [NT 61-Z0-ATEX]

Approved for issue on behalf of the IECEx Certification Body: Dipl.-Ing. Alexander Henker

Position: Deputy Head of Certification Body

Signature:
(for printed version)

Date: 2018-01-25

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Certification Body
Fuchsmühlenweg 7
09599 Freiberg
Germany

IECEx Certificate of Conformity

Certificate No:	IECEx IBE 17.0020X	Issue No: 1
Date of Issue:	**2018-01-25**	Page 2 of 5
Manufacturer:	**Bühler Technologies GmbH** Harkortstrasse 29 40880 Ratingen **Germany**	

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

DE/IBE/ExTR16.0040/00 DE/IBE/ExTR16.0040/01

Quality Assessment Report:

DE/BVS/QAR16.0002/01

IECEx Certificate of Conformity

Certificate No: IECEx IBE 17.0020X Issue No: 1

Date of Issue: **2018-01-25**

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Level-switches are used as remote tank level indicator. It works with a stainless steel pipe containing reed-switches. The pipe is surrounded by a floater who is equipped with a permanent magnet. That magnet acts to reed-switches that allow a control of tank level.

Parameters of intrinsic safety:

Level-switch	
Ui	30 V
Ii	50 mA
Pi	100 mW
Li	negligible
Ci	negligible
Temperature-switch	
Ui	30 V
Ii	50 mA
Pi	100 mW
Li	negligible
Ci	negligible
Resistance-thermometer PT100	
Ui	30 V
Ii	50 mA
Pi	100 mW
Li	negligible
Ci	negligible

IECEx Certificate of Conformity

Alternative marking for resistance-thermometer PT100	
Ui	9 V
Ii	22 mA
Li	negligible
Ci	negligible

SPECIFIC CONDITIONS OF USE: YES as shown below:

See "Installation and Operating Instructions" for intrinsic safe values and complete Ex-marking.

IECEx Certificate of Conformity

Certificate No: IECEx IBE 17.0020X Issue No: 1

Date of Issue: **2018-01-25** Page 5 of 5

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

NS-10 only:

- The type designation or type key has been changed and additional placeholders have been added: the length identifier was changed from three digits to four digits and new three-digit variant designation was implemented.
- One or two contacts can be used both as normally closed and normally open contacts in any combination.
- The protective earth conductor (PE) can be connected either via the plug connector or via the screws to the earthed metal container.
- The seal to the container may be provided by the user.

Example:

NS 10/G2-XK-VA-ATEX-M12/YYYY-VZZ

*xxx: indicates length of the immersion pipe in mm

*XK: indicates the number of temperature-switches (1K .. 2K)

*YYYY: length of immersion pipe in mm

*VZZ: indicates the variant-number (V1…V99)

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx IBE 17.0020X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2017-08-24

Applicant: **Buehler Technologies GmbH**
Harkortstrasse 29
40880 Ratingen
Germany

Equipment: **Level-switches type NS 10/G2-2K-VA-ATEX-M12/xxx-SK221 and NT 61-Z0-ATEX**

Optional accessory:

Type of Protection: **Intrinsic safety**

Marking: Ex ia IIC T4 Ga

Ex ia IIIC 100°C Da [NS 10/G2-2K-VA-ATEX-M12/xxx-SK221]

Ex ia IIIC 70°C Da [NT 61-Z0-ATEX]

Approved for issue on behalf of the IECEx Certification Body: **Dipl.-Ing. Alexander Henker**

Position: **Deputy Head of Certification Body**

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Certification Body
Fuchsmühlenweg 7
09599 Freiberg
Germany

IECEx Certificate of Conformity

Certificate No.: **IECEx IBE 17.0020X**

Date of issue: 2017-08-24 Issue No: 0

Manufacturer: **Buehler Technologies GmbH**
Harkortstrasse 29
40880 Ratingen
Germany

Manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/IBE/ExTR16.0040/00

Quality Assessment Report:

DE/BVS/QAR16.0002/01

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Level-switches are used as remote tank level indicator. It works with a stainless steel pipe containing reed-switches. The pipe is surrounded by a floater who is equipped with a permanent magnet. That magnet acts to reed-switches that allow a control of tank level.

Parameters of intrinsic safety:

Level-switch	
Ui	30 V
Ii	50 mA
Pi	100 mW
Li	negligible
Ci	negligible

Temperature-switch	
Ui	30 V
Ii	50 mA
Pi	100 mW
Li	negligible
Ci	negligible

Resistance-thermometer PT100	
Ui	30 V
Ii	50 mA
Pi	100 mW
Li	negligible
Ci	negligible

Alternative marking for resistance-thermometer PT100	
Ui	9 V
Ii	22 mA
Li	negligible
Ci	negligible

SPECIFIC CONDITIONS OF USE: YES as shown below:
See “Installation and Operating Instructions” for intrinsic safe values and complete Ex-marking.

EU-Konformitätserklärung
EU Declaration of Conformity

Hiermit erklärt Bühler Technologies GmbH, dass die nachfolgenden Produkte „Geräte" im Sinne der Richtlinie **2014/34/EU (ATEX)** in ihrer aktuellen Fassung sind.
*Bühler Technologies GmbH hereby declares that the following products are "equipment" according to Directive **2014/34/EU (ATEX)** in its current version.*

Produkt/*product*: Niveauschalter für Tankeinbau / *Level switches for tank installation*
Typ/*type*: NT 61-Z0-Atex

Die Produkte werden entsprechend der derzeitig gültigen ATEX-Richtlinie innerhalb der internen Fertigungskontrolle folgendermaßen gekennzeichnet:
The products are marked according to the currently valid ATEX directive during internal control of production:

Ex II 1G Ex ia IIC T4 Ga
Ex II 1D Ex ia IIIC T135°C Da

Zum Beurteilen der Konformität des Produkts wurden für die Baumusterprüfbescheinigung zum Zeitpunkt der Ausstellung folgende harmonisierte Normen herangezogen:
To assess the conformity of the product, the following harmonised standards were consulted for the examination certificate at the time of its issuance:

EN IEC 60079-0:2018
EN 60079-11:2012

Die Übereinstimmung mit der folgenden Norm wurde ebenfalls von der benannten Stelle bestätigt, die die EU-Baumusterprüfbescheinigung ausgestellt hat:
Compliance with the following standard has also been confirmed by the notified body that issued the EU-type examination certificate:

IEC 60079-11, Ed. 7

Baumusterprüfbescheinigungs-Nr. | *Type-examination certificate no.*:	IBExU16ATEX1183 X
Eingeschaltete notifizierte Stelle | *Engaged notified Body*:	IBExU, Fuchsmühlenweg 7 09599 Freiberg, Germany
Kennummer | *Identification Number*:	0637
Eingeschaltete benannte Stelle für das Qualitätssicherungssystem | *Engaged notified body for the quality assurance system*:	DEKRA Testing and Certification GmbH Dinnendahlstraße 9 44809 Bochum, Germany
Kennummer | *Identification Number*:	0158

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
The manufacturer bears sole responsibility for this Declaration of Conformity.

Ratingen, 06.07.2026

Frank Pospiech
Geschäftsführer - *Managing Director*

RMA-Formular und Erklärung über Dekontaminierung
RMA-去污表格和声明

RMA-Nr./ 商品退货 授权号码

Die RMA-Nr. bekommen Sie von Ihrem Ansprechpartner im Vertrieb oder Service. Bei Rücksendung eines Altgeräts zur Entsorgung tragen Sie bitte in das Feld der RMA-Nr. "WEEE" ein./ 从销售或服务处的联系人那里可获得商品退货授权（RMA）号码。 当寄还旧设备以废弃处理时，请于RMA号码栏中输入"WEEE"。

Zu diesem Rücksendeschein gehört eine Dekontaminierungserklärung. Die gesetzlichen Vorschriften schreiben vor, dass Sie uns diese Dekontaminierungserklärung ausgefüllt und unterschrieben zurücksenden müssen. Bitte füllen Sie auch diese im Sinne der Gesundheit unserer Mitarbeiter vollständig aus./ 请将退货单，去污声明和货运单一同装在透明套中，粘在包装外。否则您的维修委托将不予处理。

Firma/ 公司

Firma/ 公司
Straße/ 街道
PLZ, Ort/ 邮政编码，地点
Land/ 国家

Ansprechpartner/ 联系人

Name/ 姓名
Abt./ 部门
Tel./ 电话
E-Mail

Gerät/ 设备
Anzahl/ 数量
Auftragsnr./ 订单号码

Serien-Nr./ 序列号
Artikel-Nr./ 商品编号

Grund der Rücksendung/ 寄回原因

- ☐ Kalibrierung/ 校准
- ☐ Modifikation/ 修改
- ☐ Reklamation/投诉
- ☐ Reparatur/ 修复
- ☐ Elektroaltgerät/ 废旧电子设备 (WEEE)
- ☐ andere/ 其他的

bitte spezifizieren/ 请注明

Handelt es sich bei dem Gerät um ein sogenanntes Bühler O2-Ready Produkt (Artikelnummer endet mit „-O2“)?/ 设备是否是所谓的比勒O2-Ready产品（物品编号以“-O2”结尾）？

☐ Nein/ 否 ☐ Ja/ 是

Ist das Gerät möglicherweise kontaminiert?/ 设备是否具有污染性？

- ☐ Nein, da das Gerät nicht mit gesundheitsgefährdenden Stoffen betrieben wurde./ 否，因为该设备已被正确清洁和消毒。
- ☐ Nein, da das Gerät ordnungsgemäß gereinigt und dekontaminiert wurde./ 否，因为未以有损健康的物质运行该设备。
- ☐ Ja, kontaminiert mit:/ 是，污染物为:

☐ explosiv/ 易爆的	☐ entzündlich/ 易燃的	☐ brandfördernd/ 助燃的	☐ komprimierte Gase/ 压缩气体	☐ ätzend/ 腐蚀性的	☐ giftig, Lebensgefahr/ 有毒的，致命危险	☐ gesundheitsgefährdend/ 危害健康的	☐ gesundheitsschädlich/ 对人体有害的	☐ umweltgefährdend/ 对环境有害的

Bitte Sicherheitsdatenblatt beilegen!/ 请附上《安全数据表》！

Das Gerät wurde gespült mit:/ 该设备已被冲洗:

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

按法律规定寄回（已去污的）设备和组件

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

如果产品没有被清洁，即我们收到时受了污染，比勒公司保留委托一外部的服务提供者清理的权利并向您收取费用。

Firmenstempel/ 公司印章

Datum/ 日期

rechtsverbindliche Unterschrift/ 具法律约束力的签名

Bühler Technologies GmbH, Harkortstr. 29, 40880 Ratingen
Tel. +49 (0) 21 02 / 49 89-0
E-Mail: service@buehler-technologies.com
Internet: www.buehler-technologies.com

Vermeiden von Veränderung und Beschädigung der einzusendenden Baugruppe

Die Analyse defekter Baugruppen ist ein wesentlicher Bestandteil der Qualitätssicherung der Firma Bühler Technologies GmbH. 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.

Vermeidung von Kontaminationen bei Produkten für hochreine Sauerstoffapplikationen (O2-Ready)

Handelt es sich bei dem Gerät um ein sogenanntes Bühler O2-Ready Produkt (Artikelnummer endet mit „-O2“), so ist dafür zu sorgen, dass es vom Ausbau des Artikels bis zur Anlieferung bei Firma Bühler zu keiner Kontamination medienberührender Teile kommt. Verschließen Sie Öffnungen und verpacken Sie das Gerät in ein luftdichtes Behältnis. Kennzeichnen Sie die Ware deutlich, insbesondere durch Angabe der vollständigen Artikelnummer (……-O2) auf der ersten Seite dieses Formulars. Hierdurch wird sichergestellt, dass es auch unsererseits zu keiner unnötigen Kontamination kommt.

Umgang mit elektrostatisch sensiblen Baugruppen

Bei elektronischen Baugruppen kann es sich um elektrostatisch sensible Baugruppen handeln. Es ist darauf zu achten, diese Baugruppen ESD-gerecht zu behandeln. Nach Möglichkeit sollten die Baugruppen an einem ESD-gerechten Arbeitsplatz getauscht werden. Ist dies nicht möglich sollten ESD-gerechte Maßnahmen beim Austausch getroffen werden. Der Transport darf nur in ESD-gerechten Behältnissen durchgeführt werden. Die Verpackung der Baugruppen muss ESD-konform sein. Verwenden Sie nach Möglichkeit die Verpackung des Ersatzteils oder wählen Sie selber eine ESD-gerechte Verpackung.

Einbau von Ersatzteilen

Beachten Sie beim Einbau des Ersatzteils die gleichen Vorgaben wie oben beschrieben. Achten Sie auf die ordnungsgemäße Montage des Bauteils und aller Komponenten. Versetzen Sie vor der Inbetriebnahme die Verkabelung wieder in den ursprünglichen Zustand. Fragen Sie im Zweifel beim Hersteller nach weiteren Informationen.

Einsenden von Elektroaltgeräten zur Entsorgung

Wollen Sie ein von Bühler Technologies GmbH stammendes Elektroprodukt zur fachgerechten Entsorgung einsenden, dann tragen Sie bitte in das Feld der RMA-Nr. „WEEE“ ein. Legen Sie dem Altgerät die vollständig ausgefüllte Dekontaminierungserklärung für den Transport von außen sichtbar bei. Weitere Informationen zur Entsorgung von Elektroaltgeräten finden Sie auf der Webseite unseres Unternehmens.

避免修改和损坏要寄送的组件

对有缺陷的组件的分析是比勒科技有限公司的质量保证的一个重要组成部分。 为了确保分析有说服力，必须尽可能地保持原样来检查产品。不能发生任何改变或进一步的损害，这样可能会掩盖原因或阻碍分析。

避免高纯度氧气应用产品受到污染（O2-Ready）

如果设备是所谓的比勒O2-Ready产品（物品编号以“-O2”结尾），则必须确保从物品取出到交付给比勒的整个过程中，与介质接触的部件不会受到污染。密封所有开口，并将设备装入密闭容器中。清楚标明货物，特别是在本表第一页注明完整的物品编号(.....-O2)。这可以确保我们也不会造成不必要的污染。

处理静电敏感组件

若有电子组件，则可能是静电敏感组件。必须注意以符合ESD标准的方式处理这些组件。如果可能，应在符合ESD标准的工作场所更换组件。如果不可能，在更换过程中应采取符合ESD标准的措施。只能在符合ESD标准的容器中运输。组件的封装必须符合ESD标准。如果可能，请使用备件的包装或自选一符合ESD标准的包装。

安装替换件

在安装备件时，请遵守上述说明。确保配件和所有组件的正确组装。调试前将电缆移回原来状态。如有疑问，请询问制造商了解更多信息。

将废旧电子设备寄送废弃处理

如果您想寄送来自Bühler Technologies GmbH的电子产品以进行妥善废弃处理，请于RMA号码栏中输入"WEEE"。将完整填写的去污声明附于废旧设备上，以便运输时从外部即可见。有关废弃电气和电子设备废弃处理的更多信息，请访问我司的网站。

Bühler Technologies GmbH, Harkortstr. 29, 40880 Ratingen
Tel. +49 (0) 21 02 / 49 89-0
E-Mail: service@buehler-technologies.com
Internet: www.buehler-technologies.com