

ELECTRO-OPTICAL MEASURING SYSTEMS

ELEKTRO-OPTISCHE MESSSYSTEME

SYSTÈMES DE MESURE ÉLECTRO-OPTIQUES



Manufacturer, Sales, Service	Aquasant Messtechnik AG, Hauptstrasse 22, Postfach 107, CH-4416 Bubendorf
Communication	T +41 61 935 5000 info@aquasant-mt.com, aquasant.com
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Author	Thomas Inauen
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CERTIFICATE

Certificate no. 6972

aquasant 

Aquasant Messtechnik AG

Hauptstrasse 22
CH-4416 Bubendorf

QS ZÜRICH AG certifies that the management system of the above mentioned company and location(s) has been evaluated and meets the requirements established by the following rules:

ISO 9001: 2015

The management system includes:

**Development, manufacturing and
sales of measuring-, monitoring- and controlling-
equipment for the chemical industry, the biotechnology,
the food industry and the petrochemistry**

During the period of validity of this certificate, the management system of the company must always comply with the requirements of the certified standards.

For updated amendments within the scope
of certification of the present certificate,
please refer to
<http://www.quality-service.ch/>



First certification date:

01.03.1996

Date of issue:

07.06.2024

Expiration date:

01.07.2027

Subject to successful surveillance audit

QS ZÜRICH AG
P.O. Box 6335
CH-8050 Zürich
info@quality-service.ch




Management

CSA GROUP | Production/Product Quality Assurance Notifi



1 PRODUCTION/PRODUCT QUALITY ASSURANCE NOTIFICATION

2 Equipment and protective systems intended for use in potentially explosive atmospheres Directive 2014/34/EU

Conformity to Type based on Quality Assurance of the Production Process/Product Quality Assurance

3 Notification No. **KIWA 19ATEXQ1234**

4 Equipment, protective system or components as listed:

Controllers and sensors for Impedance measuring technique of parting, threshold, level;
Electro-optical fluid overfill protection;
Electro-optical turbidity measurement;
Threshold conductivity sensor technique;
Radar level measurement

Flameproof Enclosures (d)
Increased Safety (e)
Non-electrical equipment (h)
Intrinsic Safety (i)
Encapsulation (m)
Optical Radiation (op is)
Dust Ignition Protection by Enclosure (t)

5 Manufacturer or Authorised Representative:

Aquasant Messtechnik AG
Hauptstr. 22
4416 Bubendorf
Switzerland

6 Manufacturing locations: As above

7 CSA Group Netherlands B.V., notified body number 2813 in accordance with Article 17 of the Council Directive 2014/34/EU, notifies that the manufacturer has a quality system which complies with the requirements of Annexes IV & VII of Directive 2014/34/EU.

8 This notification is based upon Report No. 80135863 issued on 22 July 2022. This notification can be withdrawn if the manufacturer no longer satisfies the requirements of Annexes IV/VII. Results of periodical assessment of the quality system form part of this notification.

9 According to Article 16 [3] of Directive 2014/34/EU the CE marking shall be followed by the identification number 2813 of CSA Group Netherlands B.V., as the Notified Body involved in the production control stage.

Date of Initial Certification: 06 November 2019

Date of Issue: 18 August 2022

Date of Expiry: 24 October 2025

Michelle Halliwell

On behalf of CSA Group Netherlands B.V.



Notification No. **KIWA 19ATEXQ1234**

This certificate remains valid subject to the company maintaining its system to the required standards, which will be monitored by CSA.
The use of this certificate, marks and logos are subject to the Regulations Applicable to Holders of CSA Group Netherlands BV certificates
CSA Group Netherlands B.V. Utrechtseweg 310, Building B42, 6812AR, Netherlands

EU Declaration of Conformity SEV 16 | AF1IR

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EU DECLARATION OF CONFORMITY ^{en}

Manufacturer: Aquasant Messtechnik AG, Hauptstrasse 22, 4416 Bubendorf, Switzerland
Brand: aquasant®
Notified body: N° 2813, CSA Group Netherlands B.V.
Description: Electro-optical liquid sensors for filling safety devices with electronics in the sensor sleeve for connection to a AFS60.

We hereby declare under our sole responsibility that the products:

Product	Liquid sensors (Filling protection) AF1 IR *
Inspection certificate number	SEV 16 ATEX 0151 X
Notified body	N° 1258 Electrosuisse

comply with the following European guidelines under the harmonised standards or normative documents:

ATEX RL 2014/34/EU	EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-26:2015 EN 60079-28:2015
Low Voltage Directive 2014/35/EU	—
EMV RL 2014/30/EU	EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2019 EN 61000-6-2:2005 EN 61000-6-4:2007 +A1:2011
RoHS RL 2011/65/EU	EN IEC 63000:2018

SVTI	KVU 302.001	
Water protection suitability according to KVU CCE CCA		

The standards listed may deviate from those in the type examination certificate. In this case Aquasant Messtechnik AG declares that the product complies with the updated standards and that the basic safety and health requirements are met.

Bubendorf, 01.04.2023

Roger Inauen
Head Manufacturing

VxZ-EU-KONFORMITÄT-CONFORMITY_SEV16_AF1IR

EU Declaration of Conformity SEV 16 | AF1SL

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EU DECLARATION OF CONFORMITY ^{en}

Manufacturer: Aquasant Messtechnik AG, Hauptstrasse 22, 4416 Bubendorf, Switzerland

Brand: aquasant®

Notified body: N° 2813, CSA Group Netherlands B.V.

Description: For general monitoring of non-aggressive and non-corrosive liquids such as oils, gasolines, kerosene and waste water etc. for connection to AS*/AN* aquasant® control units.
Materials in contact with media: Cabelec® and DURAN glass.

We hereby declare under our sole responsibility that the products:

Product	Liquid sensors AF1 SL *
Inspection certificate number	SEV 16 ATEX 0151 X
Notified body	N° 1258 Electrosuisse

comply with the following European guidelines under the harmonised standards or normative documents:

ATEX RL 2014/34/EU	EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-26:2015 EN 60079-28:2015
Low Voltage Directive 2014/35/EU	--
EMV RL 2014/30/EU	EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2019 EN 61000-6-2:2005 EN 61000-6-4:2007 +A1:2011
RoHS RL 2011/65/EU	EN IEC 63000:2018

SVTI	KVU 302.004	Special filling fuse
Water protection suitability according to KVU CCE CCA	KVU 321.003	Leakage monitoring

The standards listed may deviate from those in the type examination certificate. In this case Aquasant Messtechnik AG declares that the product complies with the updated standards and that the basic safety and health requirements are met.

Bubendorf, 01.04.2023


Roger Inauen
Head Manufacturing

VxZ-EU-KONFORMITÄT-CONFORMITY_SEV16_AFSL



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T: +41 61 935 50 00 | info@aquasant-mt.com | www.aquasant.com

EU Declaration of Conformity SEV 16 | AF*

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EU DECLARATION OF CONFORMITY ^{en}

Manufacturer: Aquasant Messtechnik AG, Hauptstrasse 22, 4416 Bubendorf, Switzerland
Brand: aquasant®
Notified body: N° 2813, CSA Group Netherlands B.V.
Description: For application-related monitoring of liquids for connection to an AS*/AN* aquasant® control unit.

We hereby declare under our sole responsibility that the products:

Product	Liquid sensors AF21* AF23* AF26* AF33* AF42*
Inspection certificate number	SEV 16 ATEX 0151 X
Notified body	N° 1258 Electrosuisse

comply with the following European guidelines under the harmonised standards or normative documents:

ATEX RL 2014/34/EU	EN 60079-0:2018 EN 60079-11:2012 EN 60079-26:2015 EN 60079-28:2015	
Low Voltage Directive 2014/35/EU	--	
EMV RL 2014/30/EU	EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2019 EN 61000-6-2:2005 EN 61000-6-4:2007 +A1:2011	
RoHS RL 2011/65/EU	EN IEC 63000:2018	
SVTI	KVU 302.004	
Water protection suitability according to KVU CCE CCA	KVU 321.003	

The standards listed may deviate from those in the type examination certificate. In this case Aquasant Messtechnik AG declares that the product complies with the updated standards and that the basic safety and health requirements are met.

Bubendorf, 01.04.2023

Roger Inauen
Head Manufacturing

VxZ-EU-KONFORMITÄT-CONFORMITY_SEV16_AF

Electrosuisse | EU-Type Examination Certificate SEV16 | AF*



(1) EU-Type Examination Certificate

- (2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 2014/34/EU**
- (3) Certificate number: **SEV 16 ATEX 0151 X**
- (4) Product: Liquid detector Type AF1IR*, AF*
- (5) Manufacturer: Aquasant Messtechnik AG
- (6) Address: Hauptstrasse 22, 4416 Bubendorf, SWITZERLAND
- (7) The equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) Electrosuisse SEV, notified body No. 1258, 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 confidential report no 16-Ex-0082.01
- (9) Compliance with the essential health and safety requirements has been assured by compliance with:
**EN 60079-0:12 + A11:13 EN 60079-11:12 EN 60079-26:15
EN 60079-28:15**
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 subjected to special conditions for safe use specified in the schedule to this certificate.
- (11) This EU type examination certificate relates only to design and construction of the specified product. Further requirements of this 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:



**II 1 G Ex ia op is IIC T4 Ga
II 1/2 G Ex ia op is IIC T4 Ga/Gb**

**Electrosuisse
Notified Body ATEX**

Martin Plüss
Product Certification





(13)

Appendix

(14)

EU-Type Examination Certificate

(15) Description of product

AF1IR L for safety level switch for tank trucks (filling monitoring):

The liquid probe AF1IR is determined for home, basement and underground tanks as well as cisterns and external tanks monitoring. Combined with a level switch it is impossible to overflow the tanks. The AF1IR is almost insensitive to changes in temperature, dirt, foam, condensate etc. Compared to liquid probes with passive monitoring elements it is absolutely stable and reliable. Probe available in diverse versions.

AF1SL special level switch & leak detection system

For the general monitoring of non-aggressive and noncorrosive liquids as diverse oils, fuels, kerosene and waste waters etc. Materials in contact with the medium: Cabelec® and DURAN glass.

Applications: Drain channels, clarification plants, sewage processing plants, cable shafts, pools, weighing tanks, pipelines, filling devices, leakage monitoring. Probe available in diverse versions.

AF35SL special level switch

Version with fibre optics cable.

AF21

For the monitoring of aggressive, cold and hot liquids (-190...+350°C) such as oils, acids, bases and solvents etc. Materials in contact with the medium: 1.4404 and quartz glass. Inline-sterilization possible.

Can be applied in: All liquids as solvents, chemicals, acids, bases and petroleum products.

AF23 P1

For monitoring of diverse conductible chemicals. Stain-resistant, high durability against external influences (acids).

Materials in contact with the medium: Teflon PTFE, distance tube 1.4435; FEP coating.

AF26

For the monitoring of liquids in glass bottles via a fused in optical nose for aqueous or alcoholic solvents, diverse oils, acids, bases and solvents etc. Materials in contact with the medium: Quartz glass. For use in laboratories, mini plants and for sterile filling.

AF23 / AF 23 U748

Probe stainless steel 1.4404. Inline-sterilization possible. Durable in petroleum, cooking oils, petrol, kerosene, acids, bases and solvents etc. Can be applied in: petro chemistry, water supply facility, sewage processing plant, storage tanks, pool, tankers etc. Particularly suitable as safety level switch and leak warning protection.

AF33

Mechanical structure as AF23. Useable in: exposed zones as with petrol and solvents tanks. No electric connections. Signal transmission by fibre optics cable. Useable without lightning protection.



**AF33 P1**

For monitoring of diverse conductible chemicals. Stain-resistant, high durability against external influences (acids). Material in contact with the medium: Teflon PTFE, distance tube 1.4435; FEP coating. No electric connections. Signal transmission by fibre optics cable. Useable without lightning protection.

AF42

Execution in 1.4404. Self-monitoring in submerged status (FSL). Minimal-level monitoring. Useable in: Insulator oil of transformers, dry-running protection of large pumps, lubricant monitoring for the protection of machines and plants. Ensure the fuel and propellants supply.

Functional principle of the Aquasant liquid probes:

The optically active part of the liquid probe is designed as a 90° glass cone. According to the refraction law the infrared light beam striking on the boundary surface (glass / medium) will be totally reflected (Totalreflexion). This is given by the geometry of the probe's cone, as long as a gaseous medium surrounds the probe's cone. By means of the twice total reflection the infrared light beam will be conducted to the receiver (Empfänger). This signal will be interpreted as low-level indication.

When the probe's cone immerses into the liquid the infrared light beam will be broken on the boundary surface (glass / medium) and shines into the liquid. The infrared light beam will not reach the receiver. This signal will be interpreted as high-level indication.

Ratings:**Liquid detectors AF*****Sensor circuit**

with type of protection intrinsic safety Ex ia IIC
only for connection to a certified intrinsically safe circuit.

Maximum values:

$U_i \leq 7.2 \text{ V}$

$I_i \leq 96.0 \text{ mA}$

$P_i \leq 692 \text{ mW}$

$C_i = 0$

$L_i = 0$

Liquid detectors AF1IR***Sensor circuit A-C**

with type of protection intrinsic safety Ex ia IIC
only for connection to a certified intrinsically safe circuit.

Maximum values:

$U_i \leq 24.0 \text{ V}$

$P_i \leq 25 \text{ mW}$

$C_i = 0$

$L_i = 0$

Sensor circuit B-C

with type of protection intrinsic safety Ex ia IIC
only for connection to a certified intrinsically safe circuit.

Maximum values:

$U_i \leq 7.2 \text{ V}$

$I_i \leq 90 \text{ mA}$

$C_i = 0$

$L_i = 0$





Classification of installation and use: stationary
 Ingress protection: IP64
 Rated ambient temperature range (°C): -30 °C+70 °C

(16) **Report number** 16-Ex-0082.01

(17) **Specific conditions of use**

- The AF***Z***** Liquid detector with zirconium housing must be installed protected against impact and friction.
- For protection level Ga the AF*****BV****, AF*****AKK**** or AF*****AKS**** Liquid detector with aluminium head must be installed protected against impact and friction.
- The AF***P1*****, AF*****S**** AF*****BV****Liquid detector with housings consisting of Teflon, Polyamide or Polyester the electrostatic charge must be prevented. Warning of potential electrostatic charging hazard see instructions.

(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 report:

Clause	Subject
None	

(19) **Drawings and Documents**

See test report "Manufacturer's Documents"



EU Declaration of Conformity SEV 17 | VE*/LW*/LS*

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EU DECLARATION OF CONFORMITY ^{en}

Manufacturer: Aquasant Messtechnik AG, Hauptstrasse 22, 4416 Bubendorf, Switzerland

Brand: aquasant®

Notified body: N° 2813, CSA Group Netherlands B.V.

Description: On-site measuring electronics for 2-wire version of electro-optical liquid sensors or conductivity probes for liquid monitoring with mounted or remote connection housing for connection to an AS*/AN* aquasant® control unit.

We hereby declare under our sole responsibility that the products:

Product	on-site electronics conductivity probes VE9* LW9* LS*
Inspection certificate number	SEV 17 ATEX 00173
Notified body	N° 1258 Eurofins Electrosuisse

comply with the following European guidelines under the harmonised standards or normative documents:

ATEX RL 2014/34/EU	EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-26:2015	
Low Voltage Directive 2014/35/EU	---	
EMV RL 2014/30/EU	EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2019 EN 61000-6-2:2005 EN 61000-6-4:2007 +A1:2011	
RoHS RL 2011/65/EU	EN IEC 63000:2018	
SVTI	KVU 302.004	
Water protection suitability according to KVU CCE CCA	KVU 321.003	

The standards listed may deviate from those in the type examination certificate. In this case Aquasant Messtechnik AG declares that the product complies with the updated standards and that the basic safety and health requirements are met.

Bubendorf, 01.04.2023


Roger Inauen
Head Manufacturing

VxZ-EU-KONFORMITÄT-CONFORMITY_SEV17_VE-LW-LS



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Eurofins | EU-Type Examination Certificate SEV 17 | VE*/LW*/LS*



Electrosuisse
Product Testing



EU-Type Examination Certificate

(1)

(2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 2014/34/EU**

(3) Certificate number:

SEV 17 ATEX 0173

(4) Product:

Periphery electronic, conductivity measurement
Type: LW9*, VE9*, LS*

(5) Manufacturer:

Aquasant Messtechnik AG

(6) Address:

Hauptstrasse 22, 4416 Bubendorf, SWITZERLAND

(7) The equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) Eurofins Electrosuisse Product Testing AG, notified body No. 1258, 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 confidential report no 17-Ex-0017.01

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN 60079-0:12 + A11:13

EN 60079-11:12

EN 60079-26:15

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 subjected to special conditions for safe use specified in the schedule to this certificate.

(11) This EU type examination certificate relates only to design and construction of the specified product. Further requirements of this 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:



See Appendix (20) Marking

Eurofins Electrosuisse Product Testing AG
ATEX Notified Body 1258

Jürg Rellstab
Product Certification





Electrosuisse
Product Testing

(13)

Appendix

(14)

EU-Type Examination Certificate no. SEV 17 ATEX 0173

(15) **Description of product**
LW9.*

The periphery electronic LW9. * G* is the connecting link between the Aquasant liquid detector by a two wire and a compatible Aquasant control device of the type AS9*, AN9 or AS9-E24. The conductance monitoring is used for control and monitoring of conductive liquids respective the detection of the conductive to the isolated condition.

The following probes can be connected to the periphery electronic:
Aquasant conductivity probes types LS*: LS11, LS12, LS13, LS21.

This combination allows the use and the control of the Aquasant® liquid probe by a two wire transmitter lead. The sensor circuit is self-regulating and intrinsically safe. The feeding of the periphery electronics occurs through the intrinsically safe circuit of the Aquasant control device of the type AS9*, AN 9 or AS9-E24.

VE9.*

The periphery electronic VE9. * G* is the connecting link between the Aquasant liquid detector by a two wire and a compatible Aquasant control device of the type AS9*, AN9 or AS9-E24.

The following probe types can be connected to the field device:
Aquasant glass fiber and IR liquid probe of the type AF*.

This combination allows the use and the control of the Aquasant® liquid probe by a two wire transmitter lead. The sensor circuit is self-regulating and intrinsically safe. The feeding of the field device occurs through the intrinsically safe circuit of the Aquasant control device of the type AS9*, AN 9 or AS9-E24.

LS*

The conductivity measurement is used for monitoring and control of conductive liquids. The Aquasant® conductivity probe is the part in the Aquasant® conductivity measuring loop that is in direct contact with the media.

The complete Aquasant® conductivity control loop consists of the conductivity probe LS*, its LW9* periphery electronics and the control unit AS9*, AN9 or AS9-E24.





Electrosuisse
Product Testing

Ratings:

VE9:

With type of protection intrinsic safety Ex ia IIC respective IIB only for connection to a certified intrinsically safe circuit.

Supply Input (+) (-)

Maximum input values:

$$U_i \leq 7.2 \text{ V}$$

$$I_i \leq 135 \text{ mA}$$

$$C_i = 1.2 \text{ }\mu\text{F}$$

$$L_i = 0 \text{ mH}$$

Probe circuit (A) (B) (C)

Maximum output values:

$$U_o \leq 7.2 \text{ V}$$

$$I_o \leq 89 \text{ mA}$$

$$P_o \leq 161 \text{ mW}$$

$$\text{Group: IIC} \quad \text{IIB}$$

$$C_o = 0.86 \text{ }\mu\text{F} \quad 6.1 \text{ }\mu\text{F}$$

$$L_o = 5.0 \text{ mH} \quad 20.0 \text{ mH}$$

LW9:

With type of protection intrinsic safety Ex ia IIC respective IIB only for connection to a certified intrinsically safe circuit.

Supply Input (+) (-)

Maximum input values:

$$U_i \leq 7.2 \text{ V}$$

$$I_i \leq 135 \text{ mA}$$

$$C_i = 1.2 \text{ }\mu\text{F}$$

$$L_i = 0 \text{ mH}$$

Probe circuit (D) (E)

Maximum output values:

$$U_o \leq 14.7 \text{ V}$$

$$I_o \leq 18.5 \text{ mA}$$

$$P_o \leq 161 \text{ mW}$$

$$\text{Group: IIC} \quad \text{IIB}$$

$$C_o = 0.62 \text{ }\mu\text{F} \quad 3.0 \text{ }\mu\text{F}$$

$$L_o = 0.5 \text{ mH} \quad 5.0 \text{ mH}$$

LS:

With type of protection intrinsic safety Ex ia IIB only for connection to a certified intrinsically safe circuit.

Maximum input values:

$$U_i \leq 20 \text{ V}$$

$$I_i \leq 40 \text{ mA}$$

$$C_i = 0.5 \text{ }\mu\text{F}$$

$$L_i = 0 \text{ mH}$$

LS with integrated LW9:

With type of protection intrinsic safety Ex ia IIB only for connection to a certified intrinsically safe circuit.

Maximum input values:

$$U_i \leq 7.2 \text{ V}$$

$$I_i \leq 135 \text{ mA}$$

$$C_i = 1.2 \text{ }\mu\text{F}$$

$$L_i = 0 \text{ mH}$$





Electrosuisse
Product Testing

LW9 - Aquasant Peripheral Electronic
VE9 - Aquasant Peripheral Electronic

Example of type designation: LW 9.1 G
(1)(2)

(1) Application

- .1 - One LW9/VE9 board assembled
- .2 - Two LW9/VE9 boards assembled

(7) Ex - Version

- Gv - Stainless steel housing
- G - Aluminium housing

LS - Aquasant Conductance Sensor

Example of type designation: LS 21.1 A BV 600 SH Ex0
(1)(2)(3) (4) (5) (6) (7)

(1) Application

- 11 - Safety steel detector for hanging
- 12 - Safety steel detector for hanging
- 13 - Safety steel detector with R1" connection
- 21 - Surface oil detection

(2) Application

- .1 - LW9 peripheral electronic
- .2 - two LW9 peripheral electronics for second measure point

(3) Type

- A - Attached measuring electronic in junction box
- B - Cable version blue max. 5 m with ext. Junction box type: BVL
- C - Cable version with steel spiral cable ext. Junction box type: BV
- C1 - Cable version with steel spiral cable ext. Junction box type: BVL

(4) Connection head material

- BVV - stainless steel A4 with LW9 peripheral electronics on 2-wire [Zone 1]
- BvVL - stainless steel A4 with remote LW9 peripheral electronics on 2-wire
- BK - Conductive Polyester with terminals
- BV - Aluminium cast blue powder coated with LW9 peripheral electronics on 2-wire
- BVL - Remote, aluminium cast blue powder coated with LW9 peripheral electronics on 2-wire

(5) Spacer tube length

- 600 - 60 cm stroke of the float lever in stainless steel
- 1000 - 100 cm stroke of the float lever in stainless steel
- 1500 - 150 cm stroke of the float lever in stainless steel
- 2000 - 200 cm stroke of the float lever in stainless steel

(6) Options

- SH - (1 m) protection tube with Ex heater 32 W/m 230 V / Ex II 2 G Ex e II T6
- S - (1 m) protection tube without heater
- LT - Reed chain level measurement with 4-20 mA transmitter in V4 connection head
- G - Additional limit switch with reed contact, position freely selectable

(7) Ex - Version

- Ex0 - Ex II 1/2 G Ex ia IIB T4 Ga/Gb
- Ex1 - Ex II 2 G Ex ia IIB T4 Gb
- NEx - Not intended for use in potential explosive area





Electrosuisse
Product Testing

(16) **Report number** 17-Ex-0017.01

(17) **Specific conditions of use**
None

(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 report:

Clause	Subject
None	

(19) **Drawings and Documents**
See test report "Manufacturer's Documents"

(20) **Marking**

For VE9 and LW9:		II 2(1) G Ex ia [ia Ga] IIC T4 Gb
For LS*		II 2 G Ex ia IIB T4 Gb respective
		II 1/2 G Ex ia IIB T4 Ga/Gb



EU Declaration of Conformity | Control Unit AS2.*-D24

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EU DECLARATION OF CONFORMITY ^{en}

Manufacturer: Aquasant Messtechnik AG, Hauptstrasse 22, 4416 Bubendorf, Switzerland

Brand: aquasant®

Notified body: N° 2813, CSA Group Netherlands B.V.

Description: The safety liquid switch AS2.* 024 is a single channel limit switch. This device is designed to use with electro-optical liquid sensors, conductance detectors and namur sensors.

We hereby declare under our sole responsibility that the products:

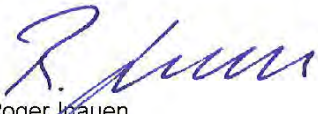
Product	Control units AS2.* D24
Inspection certificate number	SEV 21 ATEX 0523
Notified body	N° 1258 Eurofins E&E

comply with the following European guidelines under the harmonised standards or normative documents:

ATEX RL 2014/34/EU	EN IEC 60079-0:2018 EN 60079-11:2012	
Low Voltage Directive 2014/35/EU	--	
EMV RL 2014/30/EU	EN IEC 61000-6-2:2019 EN IEC 61000-6-4:2019 EN 61000-6-2:2005 EN 61000-6-4:2007+A1:2011	
RoHS RL 2011/65/EU	EN IEC 63000:2018	
SVTI	KVU 301.001	Filling safety devices
Water protection suitability according to KVU CCE CCA	KVU 302.004	Special filling fuse
	KVU 321.003	Leakage monitoring

The standards listed may deviate from those in the type examination certificate. In this case Aquasant Messtechnik AG declares that the product complies with the updated standards and that the basic safety and health requirements are met.

Bubendorf, 01.04.2023


Roger Inauen
Head Manufacturing

VxZ-EU-KONFORMITÄT-CONFORMITY_SEV21_AS2x-D24



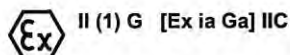
©2023 Aquasant Messtechnik AG | Postfach 107 | Hauptstrasse 22 | 4416 Bubendorf | Switzerland
T: +41 61 935 50 00 | info@aquasant-mt.com | www.aquasant.com

Eurofins | EU-Type Examination Certificate SEV 21 | AS2.*-D24



(1) **EU-Type Examination Certificate**

- (2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 2014/34/EU**
- (3) Certificate number: **SEV 21 ATEX 0523**
- (4) Product: Safety Liquid Switch
Type AS2* D24*
- (5) Manufacturer: Aquasant Messtechnik AG
- (6) Address: Hauptstrasse 22, 4416 Bubendorf, Switzerland
- (7) The equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) Eurofins, notified body No. 1258, 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 confidential report no 20CH-01803.X01
- (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 subjected to special conditions for safe use specified in the schedule to this certificate. The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.
- (11) This EU type examination certificate relates only to design and construction of the specified product. Further requirements of this 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:



Eurofins Electric & Electronic Product Testing AG
Notified Body ATEX

Martin Plüss
Product Certification



www.eurofins.ch

Fehraltorf, 2021-03-25

Issue: 0

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T8a_V01



(13)

Appendix

(14)

EU-Type Examination Certificate no. SEV 21 ATEX 0523

(15) Description of product

The safety liquid switch AS2* D24 is a single channel limit switch. This device is designed to use with electro-optical liquid sensors, conductance detectors and namur sensors.

Application area:

Almost any liquid can be monitored by using the control unit if the appropriate material for the liquid sensor is selected. The sensor circuit can be used in explosion-hazard areas. The liquid levels of petrol, mineral oils, acids, caustic solutions, solvents and other chemicals, as well as all types of liquids, can be monitored. It can also be used for most liquids in the food industry without any problems. Application possibilities: containers, tanks, oil tankers, drainage shafts, effluent treatment plants, sewage treatment plants, storage basins and pools, weighing tanks, pipelines, filling equipment, water supply plants, water overflows, oil traps, leakage monitoring of collecting tanks, space monitoring, dry-run protection for pumps etc..

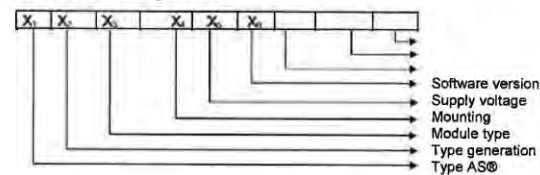
Functionality:

The AS2* is a self-monitoring control unit with an intrinsically safe sensor circuit. The base operation mode depending on connected probe. Depending on the selected mode, the controlling unit starts to operate as needed. The base functionality is the relay that represents a fail-safe sensor state. An integrated buzzer and an additional relay signalize a sensor state change or device error. This notification can be acknowledged to mute the buzzer and reset the additional relay-state.

Classification of installation and use: stationary
 Ingress protection: IP20
 Rated ambient temperature range (°C): -20 °C to +60 °C

Type designation:

AS* - Type designation



X₁ AS = aquasant® Steuergerät
 X₂ 1 = 1. Generation / 230 V 2 = 2. Generation / 24 V
 X₃ .0 = Standard module .1 = AD3-Module .2 = Mess-Module (narrow light version)
 X₄ D = DIN Rail
 X₅ 24 = Rated voltage 24 V 230 = Rated voltage 230 V
 X₆ - = standard software 1 = first extension of standard software
 Ex Ex = with explosion protection according to II (1)G [Ex ia Ga] IIC
 NEx NEx = without explosion protection on measuring module

Rating:Nominal values: U_m : 28.8 V DC

Type of protection Intrinsic Safety Ex ia IIC.

Sensor circuit A-C:	Maximum output voltage	U_o =	7.2 V
	Maximum output current	I_o =	13.3 mA
	Maximum output power	P_o =	23.8 mW
	Internal Capacitance	C_i =	0
	Internal Inductance	L_i =	0
	Trapezoidal characteristic		
	Maximum Capacitance	C_o =	1.3 μ F
	Maximum Inductance	L_o =	5 mH
Sensor circuit B-C:	Maximum output voltage	U_o =	7.2 V
	Maximum output current	I_o =	41.8 mA
	Maximum output power	P_o =	75.3 mW
	Internal Capacitance	C_i =	0
	Internal Inductance	L_i =	0
	Trapezoidal characteristic		
	Maximum Capacitance	C_o =	1.5 μ F
	Maximum Inductance	L_o =	1 mH
Sensor circuit D-C:	Maximum output voltage	U_o =	10.2 V
	Maximum output current	I_o =	13.3 mA
	Maximum output power	P_o =	33.8 mW
	Internal Capacitance	C_i =	0
	Internal Inductance	L_i =	0
	Trapezoidal characteristic		
	Maximum Capacitance	C_o =	0.71 μ F
	Maximum Inductance	L_o =	2 mH

(16) Specific conditions of use

None

(17) 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 report:

Clause	Subject
None	

(18) Drawings and Documents

See test report "Manufacturer's Documents"

Application electro-optical overflow prevention systems overview type AF*

Overflow prevention devices:

Liquid level sensors for all types of liquids, from organic to aqueous media. Can be used according to customer specifications from storage tanks to sterile filling of active ingredients

Filling safety device:

Level limit indicator for organic to aqueous liquids, against overflowing during truck refuelling

Leakage:

Monitoring of tank systems, double-jacket collecting basins

Benefit from our many years of experience and request a quote.

