

Translation

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

TÜV NORD



(2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 94/9/EC**

(3) **Certificate Number** TÜV 08 ATEX 554060

(4) for the equipment: Level limit switch
type ExSRA-100-U_

(5) of the manufacturer: ACS CONTROL SYSTEM GmbH

(6) Address: Lauterbachstraße 57
84307 Eggenfelden

Order number: 80000554060

Date of issue: 2008-09-18

- (7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 08 203 554060.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN 60079-0:2006 EN 60079-11:2007
EN 61241-11:2006
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- (11) This EC-type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment or protective system must include the following:

 II (1) G [Ex ia] IIC/IIB bzw. II (1) D [Ex iaD]

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the certification body


Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Fon +49 (0)511 986 1455, Fax +49 (0)511 986 1590

This certificate may only be reproduced without any change, schedule included.
Excerpts or changes shall be allowed by the TÜV NORD CERT GmbH

(13) **SCHEDULE**

(14) **EC-Type Examination Certificate No. TÜV 08 ATEX 554060**

(15) Description of equipment

The level limit switch type ExSRA-100-U_ is used for the evaluation of filling levels / limit levels of electrically conductive liquids as well as for the safe galvanic separation of the intrinsically safe output circuits from the non intrinsically safe circuits.

The maximum permissible ambient temperature is 60°C.

Electrical data

Supply circuit (Connections 15 and 16)	U = 20 ... 253 V a. c., 48 ... 62 Hz resp. U = 20 ... 125 V d. c. S ca. 3.5 VA P ca. 1.3 W U _m = 253 V a. c. resp. 125 V d. c.
Relay circuits (Connections 9, 10, 11; 12, 13, 14)	Maximum values: U = 250 V a. c., I = 5 A, S = 100 VA, cosφ ≥ 0,7 U = 30 V d. c., I = 5 A, P = 100 W, ohmic load U = 110 V d. c., I = 0.3 A, P = 33 W, ohmic load U = 300 V d. c., I = 0.12 A, P = 26,4 W, ohmic load
Output circuit, channel 1 (connections 1, 3)	in type of protection Intrinsic Safety Ex ia IIC/IIB resp. iaD Maximum values: U _o = 12.9 V I _o = 8.9 mA P _o = 65 mW R = 3200 Ω Characteristic line: trapezoidal Effective internal capacitance: 4 nF The effective internal inductance is negligibly small.
Output circuit, channel 2 (connections 1, 2)	in type of protection Intrinsic Safety Ex ia IIC/IIB resp. iaD Maximum values: U _o = 12.9 V I _o = 5.9 mA P _o = 43 mW R = 4800 Ω Characteristic line: trapezoidal Effective internal capacitance: 4 nF The effective internal inductance is negligibly small.
Output circuits, channel 1 and channel 2 parallel (connections 1, 2)	in type of protection Intrinsic Safety Ex ia IIC/IIB resp. iaD Maximum values: U _o = 12.9 V I _o = 14.8 mA P _o = 109 mW R = 1920 Ω Characteristic line: trapezoidal Effective internal capacitance: 8 nF The effective internal inductance is negligibly small.

Schedule EC-Type Examination Certificate No. TÜV 08 ATEX 554060

Table 1, channel 1 and channel 2 connected in parallel

Ex ia resp. iaD	IIC		
max. permissible external inductance	0,5 mH	1 mH	5 mH
max. permissible external capacitance	610 nF	520 nF	360 nF

Table 2, channel 1 and channel 2 connected in parallel

Ex ia resp. iaD	IIB		
max. permissible external inductance	1 mH	2 mH	5 mH
max. permissible external capacitance	2900 nF	2500 nF	2100 nF

The maximum values of the tables 1 and 2 are also allowed to be used as concentrated capacitances and as concentrated inductances.

Table 3, channel 1 and channel 2 connected in parallel

Ex ia resp. iaD	IIC	IIB
max. permissible external inductance	5 mH	32,5 mH
max. permissible external capacitance	1 μ F	6,5 μ F

The maximum values of the table 3 are only allowed to be used by a connected cable.

The intrinsically safe output circuits are galvanically connected with each other.

The intrinsically safe supply circuit is safely galvanically separated from the non intrinsically safe circuits up to the peak crest value of the voltage of 375 V.

(16) Test documents are listed in the test report No. 08 203 554060.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones