

1 **EU - TYPE EXAMINATION CERTIFICATE**

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres  
Directive 2014/34/EU**

3 EU - Type Examination Certificate Number: **SGS22ATEX0060X – Issue 1**

4 Product: **TEK 643, TEK 822, TEK 825 Cellular Data Loggers**

5 Manufacturer: **Rochester Sensors Europe Limited**

6 Address: **Unit 118 Shannon Industrial Estate, Shannon, Co Clare, Ireland**

7 This re-issued certificate extends EU Type Examination Certificate No. **SGS22ATEX0060X** to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Fimko Oy, Notified Body number 0598, 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. **See Certificate History**

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 :

 **See certificate schedule**

SGS Fimko Oy Customer Reference No. **7761**

Project File No. **24/0071**

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**SGS Fimko Oy**

Takomotie 8  
FI-00380 Helsinki, Finland  
Telephone +358 9 696 361

[www.sgs.com](http://www.sgs.com)

Business ID 0634247-4 Member of the SGS  
Group (SGS SA)



Mikko Välimäki  
SGS Fimko Oy

13

## Schedule

14

### Certificate Number SGS22ATEX0060X – Issue 1

#### 15 Description of Product

The TEK 643, TEK 822 and TEK 825 are data collection and logging devices for use in hazardous areas. They are self-contained, self-powered and are intended to operate autonomously for several years. They can be connected to a variety of suitably-certified remote sensing devices including:

- Pulse counting meters
- 4-20 mA sensors
- Pressure sensors
- Capacitive level sensors
- Hall Effect sensors
- Magnetostrictive level sensors
- Ultrasonic level sensors.
- Temperature sensors.

At pre-determined intervals, a transceiver activates and uploads the collected data to a remote server via the mobile communications network. The unit has glands for cable entry into the unit.

The differences between the models are limited to construction changes for specific application and software control.

#### Equipment Marking

The equipment has been assessed to a number of different markings. The equipment may be marked with not more than one of the following:

- ⊕ II 1 G Ex ia IIC T4 Ga (-30 °C ≤ Ta ≤ +50 °C)
- ⊕ II 1 G Ex ia IIC T4 Ga (-30 °C ≤ Ta ≤ +55 °C)
- ⊕ II 1 G Ex ia IIB T4 Ga (-30 °C ≤ Ta ≤ +50 °C)
- ⊕ II 1 G Ex ia IIB T4 Ga (-30 °C ≤ Ta ≤ +55 °C)

The differing ambient temperatures are dependent on the battery packs that are permitted to be fitted to the equipment. Refer to the specific conditions of use for further details.

#### Entity Parameters

Electrical ratings are dependent on the build specified by the applicant. The four construction dependent terminal parameters are as follows:

#### TEK 643 Original Build Terminal Parameters

<u>Group IIB Atmospheres</u>	<u>Group IIC Atmospheres</u>
U <sub>o</sub> = 7.20 V	U <sub>o</sub> = 7.20 V
I <sub>o</sub> = 1.44 A	I <sub>o</sub> = 1.44 A
P <sub>o</sub> = 655 mW	P <sub>o</sub> = 655 mW
C <sub>o</sub> = 200 μF	C <sub>o</sub> = 1.95 μF
L <sub>o</sub> = 68.39 μH	L <sub>o</sub> = 16.95 μH

**TEK 822 / TEK 825 Standard Build Terminal Parameters**

**Group IIB Atmospheres**

U<sub>o</sub> = 6.60 V  
I<sub>o</sub> = 185 mA  
P<sub>o</sub> = 404 mW  
C<sub>o</sub> = 490.40 μF  
L<sub>o</sub> = 2.36 mH

**Group IIC Atmospheres**

U<sub>o</sub> = 6.60 V  
I<sub>o</sub> = 185 mA  
P<sub>o</sub> = 404 mW  
C<sub>o</sub> = 10.45 μF  
L<sub>o</sub> = 591.86 μH

**Contrako Build Terminal Parameters (Type C)**

**Group IIB Atmospheres**

U<sub>o</sub> = 6.60 V  
I<sub>o</sub> = 25 mA  
P<sub>o</sub> = 141 mW  
C<sub>o</sub> = 490.40 μF  
L<sub>o</sub> = 19.65 mH

**Group IIC Atmospheres**

U<sub>o</sub> = 6.60 V  
I<sub>o</sub> = 25 mA  
P<sub>o</sub> = 141 mW  
C<sub>o</sub> = 10.45 μF  
L<sub>o</sub> = 4.90 mH

**TEK 825 Terminal Parameters (Pressure Sensor)**

**Group IIB Atmospheres**

U<sub>o</sub> = 6.60 V  
I<sub>o</sub> = 88.89 mA  
P<sub>o</sub> = 246 mW  
C<sub>o</sub> = 490.40 μF  
L<sub>o</sub> = 6.408 mH

**Group IIC Atmospheres**

U<sub>o</sub> = 6.60 V  
I<sub>o</sub> = 88.89 mA  
P<sub>o</sub> = 246 mW  
C<sub>o</sub> = 10.45 μF  
L<sub>o</sub> = 1.59 mH

The TEK 822 may be supplied as a standalone unit with the terminal parameters given previously. Where no specific construction is stated then terminal parameters shall take precedence in deciding the suitability of attached sensors.

**16 Report Number**

See Certificate History.

**17 Specific Conditions of Use**

1. The unit is not connected to any external or internal voltage source which will lead to the battery being charged in the event of a single fault or abnormal operation.
2. Servicing of the circuitry involving the batteries and replacement of the lithium batteries must be performed by a trained technician.
3. Only battery pack part numbers 4-5355, 4-5356 or 4-5430 are permitted when the ambient temperature range is  $-30\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq +55\text{ }^{\circ}\text{C}$ .
4. Only battery pack part numbers 4-5484, 4-5355, 4-5356 or 4-5430 are permitted when the ambient temperature range is  $-30\text{ }^{\circ}\text{C} \leq T_{\text{amb}} \leq +50\text{ }^{\circ}\text{C}$ .
5. Under certain extreme circumstances, exposed plastic and unearthed metal parts of the enclosure may store an ignition capable level of electrostatic charge. The equipment must not be installed in a fast flowing dust laden atmosphere and cleaned only with a damp cloth.

## 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
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
1.4.1	External effects
1.4.2	Aggressive substances, etc.

## 19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
9-6214	1 to 3	05	---	TEK 822_871_898 ATEX SGS "SAFT" Batch & Serial Number Label
9-6215	1 to 3	05	---	TEK 822_871_898 ATEX SGS "EVE" Batch & Serial Number Label
9-6223	1 to 3	05	---	TEK 825 ATEX SGS "SAFT" Batch & Serial Label Number
9-6224	1 to 3	05	---	TEK 825 ATEX SGS "EVE" Batch & Serial Number
9-6094	1 to 3	03	---	TEK 822 Type 'C' Installation Instruction

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
<b>TEK 643</b>				
3-5171	1 of 1	03	15/08/14	TEK 643 MCU - PCB
3-5171	1 of 1	03	19/08/2014	TEK 643 MCU - Schematic
3-5172	1 of 1	03	15/08/14	TEK 643 POWER - PCB
3-5172	1 of 1	03	19/10/2014	TEK 643 POWER - Schematic
3-5179	1 of 1	02	02/03/16	TEK 643 Extension Antenna pcb
4-5355	1 of 1	01	05/08/15	TEK 643 SAFT LS 26500 Battery C with harness and Plug
4-5356	1 of 1	01	05/08/15	TEK 643 SAFT LS 17500 Battery A with harness and Plug
9-5790	1 of 1	01	---	TEK 643 Limiting resistor Dimension
9-5943	1 of 1	01	15/11/2018	TEK 643 - TEK 822 Encapsulation Specification
16-5339	1 of 1	01	---	TEK 657 RF 868Mhz EU Board
16-5379	1 of 1	05	---	TEK 643 MCU PCBa (Short)
16-5380	1 of 1	07	---	TEK 643 POWER M10 2G ATEX
16-5389	1 of 1	05	---	TEK 643 POWER UC20G 3G ATEX
16-5489	1 of 1	01	---	TEK 643 MCU (Short) Button
17-5619	1 of 1	06	---	TEK 643 2G M10 ATEX, Short, SAFT C
17-5628	1 of 1	06	---	TEK 643 UC20G 3G ATEX, Short, SAFT C

Number	Sheet	Issue	Date	Description
17-5649	1 of 1	05	---	TEK 643 2G M10 ATEX, Short, SAFT A
17-5650	1 of 1	05	---	TEK 643 UC20G 3G ATEX, Short, SAFT A
17-5738	1 of 1	01	09/05/19	TEK 643 UC20G 3G, Short, SAFT C Button
TD-5645	1 to 2	02	11/09/13	TEK 657 Radio Schematic
<b>TEK 822</b>				
3-5212	1 of 1	01	24/05/18	Power LPG Sensor - PCB
3-5212	1 of 1	01	19/10/2014	Power LPG Sensor - Schematic
3-5216	1 of 1	01	28/05/18	MCU LPG Sensor - PCB
3-5216	1 of 1	01	04/04/2018	MCU LPG Sensor - Schematic
4-5430	1 of 1	01	14/12/18	TEK 822 SAFT 1S2P LS17500 Battery Double A Harness and Plug Assy
9-5943	1 of 1	01	15/11/2018	TEK 643 - TEK 822 Encapsulation Specification
16-5444	1 of 1	01	---	TEK 822 Power BG96 LTE
16-5445	1 of 1	02	31/01/2019	TEK 822 MCU (Short) LTE - 4 way
16-5488	1 of 1	01	09/05/2019	TEK 822 MCU (Short) LTE Button - 10 way
16-5513	1 of 1	01	---	TEK 822 MCU LTE Ver2 type 'C'
16-5519	1 of 1	01	---	TEK 822 MCU LTE Ver2 type 'S' - 10 way
16-5526	1 of 1	01	---	TEK 822 MCU LTE Ver2 type 'S' - 4 way
16-5528	1 of 1	01	---	TEK 822 Power BG96 LTE Ver2
16-5541	1 of 1	01	---	TEK 822 MCU LTE Ver3 type 'S' - 10 way
16-5543	1 of 1	01	---	TEK 822 MCU LTE Ver3 type 'S' - 4 way
17-xxxx	1 to 2	---	---	TEK 822 Logger 4G NB-IoT CAT- M1 Ver 2 type 'C'
17-xxxx	1 to 2	---	---	TEK 822 Logger 4G NB-IoT CAT- M1 Ver 2 type 'S'
<b>TEK 825</b>				
3-5251	1 of 1	02	02/12/20	TEK 825 MCU PCB Ver 2 - Manufacturing Info
3-5251	1 to 2	---	---	TEK 825 MCU PCB Ver 2 - SMD Assembly
16-5498	1 of 1	---	07/08/2019	TEK 825 MCU LTE
16-5512	1 of 1	---	---	TEK 825 MCU LTE Ver2
17-5757	1 of 1	01	07/08/2019	TEK 825 Logger 4G NB-IoT CAT-M1
17-xxxx	1 of 1	---	07/08/2019	TEK 825 Logger 4G NB-IoT CAT-M1 Ver2
16-5521-xx	1 to 2	---	---	TEK 825 MCU LTE Ver2 Type TE pressure AST4510

**20 Certificate History**

Certificate No.	Date	Comments
SGS22ATEX0060X	27 January 2023	The release of the prime certificate. The associated test and assessment against the requirements of EN 60079-0: 2018 and EN 60079-11: 2012 is documented in IECEx ExTR GB/BAS/ExTR22.0209/00 and held with project 21/0485.
SGS22ATEX0060X Issue 1	25 March 2025	To permit a change in name to the manufacturer and the use of an alternative manufacturing facility as detailed in Report Number GB/SGS/ExTR25.0005/00 held with Project Number 24/0071.

For drawings applicable to each issue, see original of that issue.