

UK Type Examination Certificate CML 21UKEX1072X Issue 0

United Kingdom Conformity Assessment

- 1 Product or Protective System Indented for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1
- 2 Equipment **SCH55 Series Connection Head/Junction Box**
- 3 Manufacturer **Status Instruments Ltd.**
- 4 Address Status Business Park,
Gannaway Lane,
Tewkesbury,
Glos GL20 8FD, UK
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended by UKSI 2019:696), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

BS EN IEC 60079-0:2018

BS EN 60079-1:2014

BS EN 60079-31:2014

BS EN 60079-11:2012

- 10 The equipment shall be marked with the following:



II 2 G D

Ex db IIC T* Gb

Ex tb IIIC T**°C Db

T6 - Ta = -40°C to +65°C

T5 - Ta = -40°C to +80°C

T4 - Ta = -40°C to +85°C



II 1 G D

Ex ia IIC T4 Ga

Ex ia IIIC T135°C Da

Ta = -40°C to +85°C



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11 Description

The SCH55 Series Connection Head/Junction Box is a general purpose flameproof and dust protected enclosure intended for use as a standalone junction box or for use with temperature or level sensors such as RTDs, Thermocouples, Thermistors, Temperature Fuses/Switches and Level Float Switches.

The SCH55 Series housing is a cylindrical ADC 12 Aluminium or 316 Stainless Steel enclosure and threaded cover that may include an optional silicone cemented toughened soda lime glass window. The threaded cover is secured with a M5 grub screw and has a nitrile O-ring. The enclosure incorporates two M20 x 1.5 user entries and one 1/2" BSPP probe entry. The base has both internal and external M5 x 8mm earth connection points as well as two protruded through holes as an option for fixing the enclosure in place.

The sensing elements used for the direct immersion, surface and air sensors are manufactured using fabricated metallic sheaths and filled with either magnesium oxide or fused alumina powder which is then sealed with epoxy resin and connected directly to the enclosure using a threaded fitting or via a flexible cable and gland arrangement.

Internally the enclosure can be fitted with either terminal blocks, temperature transmitters or temperature indicators or a combination thereof.

Additionally, the enclosure options may be fitted with separately certified intrinsically safe devices or terminals and marked for 'Ex ia' applications. These applications are to be supplied by a separately certified barrier.

Electrical ratings:

Flameproof applications:

- Terminals - Maximum of 3W (combined total)
- Transmitter or indicator module – Input parameters as per device fitted, up to a maximum of 3W.

Intrinsically safe applications:

Maximum Entity Parameters			
Single thermocouple circuit		2 or more thermocouple circuit (per circuit), combined total of 3W Max.	
Ui =	30Vdc	Ui =	30 Vdc
Ii =	100mA	Ii =	100 mA
Pi =	900mW	Pi =	900mW
Ci =	2 nF/m x length of sensor	Ci =	2 nF/m x length of sensor
Li =	20 μ H/m x length of sensor	Li =	20 μ H/m x length of sensor
Uo =	1.2 V	Uo =	1.2 V
Io =	50 mA	Io =	50 mA



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Po =	25 mW	Po =	25 mW
The capacitance and inductance or inductance/resistance ratio (L/R) of the hazardous area cables shall not exceed the values calculated from the C, L and L/R values permitted by the barrier, minus any Ci and Li of the sensor wiring.			

Maximum Entity Parameters			
Terminals/RTD's (per circuit), combined total of 3W Max.		Transmitter / Indicator (Max inputs as per certificate), 3W Max.	
Ui =	30V	Ui =	As per transmitter/indicator certificate
Ii =	100mA	Ii =	As per transmitter/indicator certificate
Pi =	900mW	Pi =	As per transmitter/indicator certificate
Ci =	2 nF/m x length of sensor	Ci =	As per transmitter/indicator certificate
Li =	20 µH/m x length of sensor	Li =	As per transmitter/indicator certificate
The capacitance and inductance or inductance/resistance ratio (L/R) of the hazardous area cables shall not exceed the values calculated from the C, L and L/R values permitted by the barrier, minus any Ci and Li of the transmitter and/or sensor wiring.			

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	15/03/2021	R13145A/00	Issue of prime certificate

Note: Drawings that describe the equipment are listed in the CML 20ATEX1110X Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

General (All applications)

- Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate. A copy of the separately certified transmitter/indicator certificate and instructions shall be provided with/make available for the equipment (if fitted).
- A copy of the instructions shall be supplied with the equipment.



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Intrinsically Safe Applications

- iii. The sensor circuit shall undergo an electric strength test at 500Vac test to earth for 1 minute in accordance with BS EN 60079-11, clause 6.3.13. Not applicable when galvanic isolation is used.

Flameproof Applications

- iv. A routine overpressure test at a minimum pressure of 18 bar shall be carried out on each cemented window/welded probe arrangement for at least 10 s in accordance with BS EN 60079-1:2014, clause 15.2.3. No damage or deformation of the enclosure shall be observed, and no leakage from the welded or cemented joints shall be observed.

Note: These tests are not applicable for the solid cover, non-welded probe assemblies or welded probe assemblies which are primarily secured by other means, as these have met the exemption overpressure requirements.

14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

General (All applications)

- i. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate. A copy of the separately certified transmitter/indicator certificate and instructions shall be provided with/make available for the equipment (if fitted).
- ii. Although the probe sensor may be installed in a location outside the ambient temperature range, the installer/user shall ensure the enclosure is located in an area within the marked ambient temperature range.

Cable entries and branching temperatures may reach 15°C above the ambient temperature, cable and entry devices shall be suitable for these temperatures. Cable glands shall be suitable for the application, e.g., Flameproof / Dust protected and have a minimum IP rating of IP64.
- iii.
- iv. For dust applications, under certain extreme circumstances, the non-metallic paint incorporated on the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. This is particularly important if the equipment is installed in a Zone 20 location. In addition, the equipment shall only be cleaned with a damp cloth.



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Intrinsically Safe Applications

- v. When equipment is provided with an aluminium enclosure and installed in a Zone 0, the equipment shall be installed such that the risk of impact or abrasion of the aluminium enclosure is avoided. The user shall check for damage to the exterior paint finish and replace should signs of damage be observed.
- vi. When marked for intrinsically safe applications, the capacitance and inductance or inductance/resistance ratio (L/R) of the hazardous area cables shall not exceed the values calculated from the C, L and L/R values permitted by the barrier, minus any C_i and L_i of the transmitter and/or sensor wiring. Longer probe arrangements may incorporate a combination of the sensors and cable, when this is the case, the sensor C_i and L_i shall be calculated as follows:
- $C_i = 2\text{nF/m} \times \text{length of sensor} + 200\text{pF/m} \times \text{length of wire}$
 - $L_i = 20 \mu\text{H/m} \times \text{length of sensor} + 1\mu\text{H/m} \times \text{length of wire}$

Flameproof Applications

- vi When supplied as an empty enclosure for user connections, the internal layout and free volume shall comply with BS EN 60079-1, Annex D for the IIC applications (40% of each cross-sectional area remains free).

Certificate Annex

Certificate Number CML 21UKEX107X
Equipment SCH55 Series Connection Head/Junction Box
Manufacturer Status Instruments Ltd.



The following documents describe the equipment defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
S5363-01-01	1 of 1	-	15 Mar 2020	SCH55 Ex d Label
S5364-01-01	1 of 1	-	15 Mar 2020	SCH55 Ex ia Label