



# QPS Evaluation Services Inc



## (1) EU-Type Examination Certificate

(2) **Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014**

(3) EU-Type Examination Certificate Number: **QPS 20ATEX0001U** Issue Number: 1

(4) Product: Base RTD and Thermocouple probe

(5) Manufacturer: Daily Thermetrics Corporation

(6) Address: 5700 Hartsdale Drive  
Houston, TX  
77036 USA

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

(8) QPS Evaluation Services Inc. 81 Kelfield St., Units 7-9, Toronto, ON M9W 5A3, Canada, Notified Body Number 2900, 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 equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number ATX1427-1A  
Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

(9)

**EN IEC 60079-0 : 2018**

**EN IEC 60079-1 : 2014**

**EN IEC 60079-7 : 2015**

except in respect of those requirements listed at item 18 of the Schedule.

(10) The sign "U" placed behind the certificate number indicates that this certificate should not be confused with certificates issued for equipment or protective systems. This partial certification may be used as a basis for certification of an equipment or protective systems. "Schedule of limitations" is listed under item 17 of this certificate

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive 2014/34/EU article 13 apply to the manufacturing process and supply of this product. These are separately certified and not covered by this certificate.

(12) The marking of the product shall include the following:



Model 210HZ  
II 2G  
Ex db IIC Gb, or Ex eb IIC Gb, IP66  
U<sub>max</sub>= 30 V dc

Model 220HZ and CT221HZ  
II 2G  
Ex db IIC Gb, or Ex eb IIC Gb, IP66  
U<sub>max</sub>= 30 V dc

Date of certification: 13 March 2023

Dave Adams  
Certification Manager  
QPS Evaluation Services Inc.



**EU-Type Examination Certificate without signature shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by QPS Evaluation Service Inc. The SCC Accreditation Symbol is an official symbol of the accreditation body and notifying authority, used under license.**

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www.qps.ca

(13) **SCHEDULE**(14) **to EU-Type Examination Certificate QPS 20ATEX0001U**

Issue No. 1

(15) **Description and Electrical data**

The base probe serves for the measurement of process fluid temperatures using TC's (Thermocouples) or RTD's (Resistance Temperature Detectors) encased in a metal sheath that is packed with MgO or MI insulation. The thermocouple or RTD wires pass through the MgO or MI insulation and, either exit out at an epoxy plug located at the end of the stainless steel tubular sheath where they are brazed to the extension/lead wires and insulated with a teflon insulation, or are brazed with the extension/lead wires inside a so called transition housing which is then potted with the epoxy. A flexible metal conduit is optional but when it is provided it is potted with the transition housing.

All models are designed to be able to have direct contact with pressures greater than atmospheric. Thermocouples and RTD's are passive sensors that do not generate heat by themselves, but can transfer heating or cooling from the process they are sensing.

(16) **Report Number:**(17) **Schedule of Limitations:**

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

1. The Epoxy plug should be periodically examined for degradation. If any degradation is observed, the base probe shall be replaced.
2. Metal sheath containing thermocouple and/or RTD wires and flexible metal conduit containing extension/lead wires must be protected against impact in final assembly.
3. Epoxy plug as well as the extension/lead wires shall be away from the process fluid per manufacturer's instructions. Care must be given to insure that heat and/or cooling transfer does not interfere with the temperature rating of the epoxy seal and/or extension/lead wire insulation.
4. When sensors are installed in direct contact with process fluid at pressure greater than atmospheric, the maximum allowable pressure shall be calculated on a case by case basis per manufacturer's instructions.
5. Grounded junctions are not isolated, so special considerations shall be given during installation.

(18) **Essential Health and Safety Requirements**

Met by compliance with the requirements mentioned in item 9.

(13) **SCHEDULE**(14) **to EU-Type Examination Certificate QPS 20ATEX0001U**

Issue No. 1

(19) **Remarks and additional information:**

The base probe models

- Model 210HZ: TC or RTD probe - Ex db or Ex eb component,
- Model 220HZ: TC or RTD probe with extension wire and optional conduit protection - Ex eb component, and
- Model CT221HZ: TC probe with mineral insulated (MI) cable, extension wire and optional conduit protection - Ex eb component

Service temperatures for the two non-metallic materials: I) epoxy seal, and II) extension/lead wire insulation, and their COT values are as follow:

## Extension/lead wires

Size	Insulation thickness	Insulation material	COT	Service temperature range
16-24 AWG	0.20 mm	Teflon	-200°C to +200°C	-40°C to +130°C

## Epoxy seal:

Model and Manufacturer	COT	Service temperature range
2651-40FR with Catalyst 9 by STYCAST	-40°C to +130°C	-40°C to +130°C
EP1340 by RESINLAB	-40°C to +150°C	-40°C to +130°C
EP1330 by RESINLAB	-40°C to +150°C	-40°C to +130°C
Duralco 4703 by COTRONICS Corp.	-40°C to +343°C	-40°C to +130°C
EP1390LC by RESINLAB	-40°C to +150°C	-40°C to +130°C

(20) **Certificate history**

Issue 0 - Initial certificate

Issue 1 - additional of sheath option, alternate epoxy