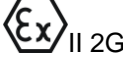




EU Type Examination Certificate

Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

Manufacturer	Daily Thermetrics Corporation
Address	5700 Hartsdale Drive Houston, Texas 77036 USA
Equipment Markings	Industrial Sensor Assembly 360HZ Series  Ex db eb IIC T6 ... T4 Gb, IP66 Ta= -40 °C to +80 °C Umax = 30 V dc SELV or PELV
Description	The complete model nomenclature and description are given in ANNEX below
Conditions of manufacture	The following conditions are required of the manufacturing process for compliance with the certification. 1. 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.
Special Conditions for Safe Use (Conditions of Certification)	The following conditions relate to safe installation and/or use of the equipment. 1. Grounded junctions are not capable of withstanding the 500 V rms between the measurement circuit and ground. This must be taken into account during installation. 2. Industrial Sensor Assembly 360HZ Series must be either connected to a SELV or PELV system, or directly connected to an apparatus compliant with IEC 60950 series, IEC 610101-1, or equivalent. 3. The assembly is tagged with design pressure and temperature. These values shall not be exceeded. Specifically, during normal operation, the maximum operating temperatures of any component of the sensor assembly must not exceed the designed temperature indicated on the product. The probe must not be exposed to a pressure higher than indicated on the product. 4. The cable glands as well as the supply cables must be properly selected to suit the final application of the assembly and/or to maintain the protection method marked thereon. 5. For an ambient conditions over 70 °C and up to 80 °C, a cable with thermostability of its insulation of minimum 80 °C / 90 °C shall be used. Special attention shall be given to the source of heating the equipment is intended to be attached to, because it can contribute



Certificate Number
QPS 20ATEX1003X

such to elevate the local ambient temperature for the cable. The end user shall read and follow the User Manual where this concern is given them to attention.

- 6. If there is a risk of impact at the installation site, the assembly must be either additionally guarded or located so that it is out of reach of personnel and free-falling objects.

Certificate Issue # 00
Certificate History Initial release
Associated Report ATX35603-6

The equipment is specified in the description of this certificate and the documents to which it refers.

QPS Europe BV, Berg en Dalseweg 122, 6522BW Nijmegen, Notified Body Number 2876, The Netherlands,, 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 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 Annex II to the Directive.

If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use

This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacturer of the equipment or component and are separately certified.

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:

Standard	Edition
EN IEC 60079-0	2018
EN 60079-1	2014
EN IEC 60079-7	2015/ A1:2018

The following documents describe the equipment or component defined in this certificate:
Issue 00

Drawing No	Sheets	Rev	date	Title
DTC-360HZ	8	0	4/7/2020	MODELS 360HZ SCHEDULE DRAWINGS
DTC-IOM-360HZ-HAZLOC	27	A	May 20, 2020	Installation and Operating Manual in Accordance with Hazardous Area Sensor and Surface Temperature Measurement Product Lines Models: 360HZ

Issued By: Rob Kohuch

Signature: *Rob Kohuch*

Date: January 29, 2021



ANNEX

Industrial Sensor Assembly 360HZ Series is an assembly of all already approved components and parts. It consists of one TC or RTD probe fitted together with one connection box by using preapproved cable gland suitable for such application. The cable glands used are either of potted type or with a rubber compression element. In the case of cable glands providing flameproof protection using a rubber compression element, the Base Probe (Ex e Ex Component) is modified so that the flexible conduit with TC or RTD wires is terminated using a sufficiently long part of a metal tube of exactly the same construction as the Base Probe construction. This, so called, Transition Housing provides a flameproof and an environmental seal at the entrance into the connection box. TC or RTD wires enter and pass through the mineral insulation of this housing and exit at its opposite end which is now securely located inside the Ex d enclosure (connection box). Both ends of the Transition Housing are protected with an epoxy plug.

Model nomenclature for the Industrial Sensor Assembly 360HZ Series is as follows:

A - **B C D E** - **F G H** - **I J K L** - **M** - **N** - **O P Q R S T U V** - **W**

where

A	Model
360HZ	360HZ

F	Type of lead wire
1	Solid – 24 AWG
2	Solid – 20 AWG
3	Solid – 18 AWG
4	Stranded – 24 AWG
5	Stranded – 22 AWG
6	Stranded – 20 AWG

P	Sensor type
1	Single thermocouple
2	Duplex thermocouple
3	Triplex thermocouple
A	2-wire RTD - single
B	3-wire RTD - single
C	4-wire RTD - single
D	2-wire RTD - duplex
E	3-wire RTD - duplex
F	4-wire RTD - duplex



B	Connection Enclosure
1	Pushna International Inc., Housing, model 1010P, cast aluminium
2	Pushna International Inc., Housing, model 1014P, 304 stainless steel
3	Pushna International Inc., Housing, model 1016P, 316 stainless steel
4	Limatherm S.A., Connection head, model XD-AD, cast aluminium
5	International Metal Engineering 1080 low copper aluminium

C	Terminal block
1	Phoenix Contact – gray 3248030
2	Phoenix Contact – blue 3248031
3	Weidmuller – gray 1753280000
4	Weidmuller – blue 1754170000
5	Industrial terminal block
6	Rosemount 248 transmitter
7	Rosemount 644 transmitter
8	PR Electronics 5337 transmitter

D	Conduit entry
1	¼" FNPT
2	½" FNPT
3	M20x1.5
4	2 x ¼" FNPT - Limatherm S.A. Connection head only
5	2 x ½" FNPT - Limatherm S.A. Connection head only
6	2 x M20x1.5 – Limatherm only

E	Cable gland
1	OSCG / EXBF
2	CMP / TMCX
3	CMP / TMC2X
4	OSCG / OS-A2F-U
5	OSCG / OS-A2F-UD
6	CMP / A2F

G	Flexible conduit length
FC36	36"
FCXX	Custom length (inches)

H	Transition housing type
1	Housing with adapter
2	Housing without adapter
3	Flush housing

I	Instrument connection type
1	Compression fitting
2	Spring loaded fitting – SS
3	Spring loaded fitting – INC
4	Spring loaded self fitting - SS
5	Spring loaded self fitting - INC
6	Spring loaded comp fitting - SS
W	Welded to process connection

J	Instrument connection material
1	304SS
2	316SS
3	BRASS
N	None / welded

K	Instrument connection size
1	3/8" NPT
2	1/2" NPT
3	3/4" NPT
N	None / welded

L	Vent hole for instrument connection
Y	Yes
N	No

M	M Dimension
M6	6"
M9	9"
MXX	Custom length (inches)

N	C Dimension
C6	6"
C9	9"
CXX	Custom length (inches)

O	Calibration type
K	Type K - thermocouple
J	Type J - thermocouple
E	Type E - thermocouple
T	Type T - thermocouple
S	Type S - thermocouple
R	Type R - thermocouple
B	Type B - thermocouple
N	Type N - thermocouple
H	100 Ω Alpha .00385 RTD

Q	Upgrade to premium line
Y	Yes
N	No

R	Measuring junction
1	Grounded
2	Ungrounded
N	N/A – RTD

T	Sensor sheath diameter
1	Ø 1/4" (6.3 mm)
2	Ø 5/16" (7.9 mm)
3	8.0 mm
4	Ø 3/8" (9.5 mm)

S	Accuracy
1	Standard limits - Thermocouple
2	Special limits - Thermocouple
A	Class A RTD
B	Class B RTD

U	Sensor sheath material
304	304SS
304L	304L SS
316	316SS
316L	316L SS
310	310SS
321	321SS
347	347SS
446	446SS
I600	Inconel 600
I800	Incoloy 800
HASTX	Hastelloy X

V	Calibration options
1	Report not required
2	212°F (100°C) with certificate
3	212°F (100°C) with report
4	3-point calibration with report
5	5-point calibration with report

- Variant 1
- Variant 2

Industrial Sensor Assembly of 360HZ Series must be either connected to a SELV or PELV system, or directly connected to an apparatus compliant with IEC 60950 series, IEC 610101-1, or equivalent.



While thermocouples and RTDs are passive sensors that do not generate heat, they may transfer heat from process-wetted areas. Rated components such as the epoxy seal or insulation must remain below maximum allowable temperatures.

Proper lagging extension is determined by using maximum operating conditions, shown in Table 4 of DTC-IOM-360HZ-HAZLOC. The user may verify proper lagging extension via temperature measurement after installation, while no hazardous gas is present.

Epoxy End Seal Model and Manufacturer	Continuous Operating Temperature (COT)	Service Temperature Range	Minimum Distance from Process Temp (Tp) -40°F<Tp<572 °F -40°C<Tp< 300°C	Minimum Distance from Process Temp (Tp) -273°F<Tp<-40°F or 572°F<Tp<2100°F -273°F<Tp<-40°C or 300°C<Tp<1149°C
2651-40FR with Catalyst 9 by STYCAST	-40°C to +130°C	-40°C to +110°C	3.0 inch [76.2mm]	10.0 inch [254.0mm]
EP1340 by RESINLAB	-40°C to +150°C	-40°C to +130°C	3.0 inch [76.2mm]	10.0 inch [254.0mm]
EP1330 by RESINLAB	-40°C to +150°C	-40°C to +130°C	3.0 inch [76.2mm]	10.0 inch [254.0mm]
Duralco 4703 by CONTRONICS Corp.	-40°C to +343°C	-40°C to +130°C	3.0 inch [76.2mm]	10.0 inch [254.0mm]

Table 4 - Temperature ratings for Epoxy End Seals

Extension/Lead Wire				
Size	Insulation Thickness	Insulation Material	COT	Service Temperature Range
16-24 AWG	.20 mm	Teflon	-200°C to +200°C	-40°C to 130°C

Table 5 - Temperature ratings for Non-Metallic Components