Base Load Power Hub (BLPH)

ULTRASONIC FLOWMETER

ATEX REGISTER - ULTRASONIC FLOWMETER

Document Number: 1724001317-IN-LIS-00015

Document Class: 2

03	13/10/2025	Accepted for Construction (AFC)	BH DC	Tom Griffin	Niall Townsend
02	14/04/2025	Accepted for Construction (AFC)	BH DC	Tom Griffin	Niall Townsend
01	06/03/2025	Accepted for Construction (AFC)	BH DC	Tom Griffin	Niall Townsend
00	14/10/2024	Issue for Review (IFR)	BH DC	Tom Griffin	Niall Townsend
Rev.	Date	Description	Prepared	Reviewed	Approved

Baker Hughes

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Table of Contents

SH.	DESCRIPTION	REVISIONS							
		00	01	02	03				
1	Cover	X	X	X	X				
2	Table of Contents	X	X	X	X				
3	Revision / Change Log / Hold List	X	X	X	X				
4	Atex Register - Ultrasonic Flowmeter			X	X				
5	Atex Certificates	X	X	X	X				

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Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Accepted for Construction (AFC)
02	Accepted for Construction (AFC)
03	Accepted for Construction (AFC)

HOLDS LIST

No.	Description
1.	
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4.	

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No.	Revision	Tag Number	Description	Location	Manufacturer	Model Type Catalogue Number	Serial Number	ATEX Certification Marking	Reference Document	ATEX Certificate Number	Installation Zone	Notes / Comments	P.O.	Vendor	Skid / Package	Barrier Calculation Ref.	Non-Electrical Equipment	Special Conditions of safe use Applicable
01	3	43-FT-001	Ultrasonic flowmeter	Upper Deck	Panametrics LLC	XGF868I-2-2-OI-H7-3-4-0-CC	XGFI-2588E	II 2 G Ex db IIC T6 Gb Ta = -40°C to +60°C	1724001317-IN-DS-00006	Sira 17ATEX1304X	Zone 2	N/A	1724001317 123A90A	Baker Hughes	N/A	N/A	N/A	Yes
02	3	43-FE-001A	Transducer	Upper Deck	Panametrics LLC	T5MAXS-18-10-33-NT-S6-2-2-4-2-0-PMI	3241654	II 2G Ex db IIC T6 Gb, Ta= -40°C to +60°C	1724001317-IN-DS-00006	Sira 20ATEX1001X	Zone 2	N/A	1724001317 123A90A	Baker Hughes	N/A	N/A	N/A	Yes
03	3	43-FE-001B	Transducer	Upper Deck	Panametrics LLC	T5MAXS-18-10-33-NT-S6-2-2-4-2-0-PMI	12246636	II 2G Ex db IIC T6 Gb, Ta= -40°C to +60°C	1724001317-IN-DS-00006	Sira 20ATEX1001X	Zone 2	N/A	1724001317 123A90A	Baker Hughes	N/A	N/A	N/A	Yes
04	3	N.A.	SS Cable Glands	Upper Deck	Peppers Cable Glands Limited	IECEx CML 19.0106X	N.A.	Ex db IIC Gb	1724001317-IN-LIS-00015	IECEx CML 19.0106X	Zone 2	N/A	1724001317 123A90A	Baker Hughes	N/A	N/A	N/A	Yes
05	3	N.A.	SS Reducer 3/4" NPT x M20	Upper Deck	Peppers Cable Glands Limited	IECEx SIR 09.0131X	N.A.	Ex d IIC Gb	1724001317-IN-LIS-00015	IECEx SIR 09.0131X	Zone 2	N/A	1724001317 123A90A	Baker Hughes	N/A	N/A	N/A	Yes
06	3	N.A.	SS Plug 3/4" NPT	Upper Deck	Peppers Cable Glands Limited	IECEx SIR 09.0131X	N.A.	Ex d IIC Gb	1724001317-IN-LIS-00015	IECEx SIR 09.0131X	Zone 2	N/A	1724001317 123A90A	Baker Hughes	N/A	N/A	N/A	Yes

Notes:
1. Total quantity of SS Cable Glands - 4 nos.
2. Total quantity of SS Reducer 3/4" NPT x M20 - 5 nos.
3. Total quantity of SS Plug 3/4" NPT - 4 nos.

Baker Hughes Confidential

1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 17ATEX1304X** Issue: **3**

4 Equipment: **DigitalFlow 868i, 878 series Transmitters and Panaflow PF8x series Ultrasonic Gas Flowmeter**

5 Applicant: **Panametrics LLC.**

6 Address: 1100 Technology Park Drive
Billerica
Massachusetts 01821
USA

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 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.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 + AC:2020 EN 60079-1:2014 + AC:2018 EN 60079-11:2012

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

868i* and 878 series
II 2 G
Ex db IIC T6 Gb
Ta = -40°C to +60°C
IP66

PF8x series:
II 2 G
Ex db IIB+H2 T6…T3 Gb
Ta = -40°C to +60°C
IP66
Note: See Condition of Use 15.6 for Temperature Class disambiguation

*FOR FIELDBUS OPTION ONLY:
INSTALL PER DRAWING 752-326
FISCO FIELD DEVICE

Signed: Michelle Halliwell

Title: Director of Operations

PRODUCTS
RvA C 652

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 17ATEX1304X**
Issue 3

13 **DESCRIPTION OF EQUIPMENT**

The DigitalFlow 868i and 878 series of transmitters includes models XMT868i, XGF868i, XGN868i, XGM868i, XGS868i, IGM878A and IGM878N. The 868i and 878 series are fluid flow meters intended for permanent connection / mounting on a remote pedestal or a process flange, by means of the four threaded mounting holes or threaded mounting boss in the base. The 868i and 878 series deect and measure the flow rate of acoustically conductive fluids by means of ultrasonic (piezo electric) flow transducers, which can be either wetted process type or external clamp-on type.

The 868i and 878 series are available in either AC (100 to 240 Vac, 50/60 Hz) or DC (12 to 28 Vdc) versions. Communication boards are available for HART, MODBUS / TCP, and Foundation Fieldbus communication options. Option boards are available for digital signal processing (DSP), 4 to 20mA analog I/O, data logging, auxiliary output "alarm" contacts, or totalizer / frequency I/O. Either IR or magnetic HMI display is optional available, which is accessible through the threaded window cover.

The 868i and 878 series assembly consists of a cylindrical, single-compartment, painted cast aluminium or stainless steel enclosure with one threaded window cover and one threaded blind cover. The IGM878N (Dual Housing) model is comprised of two identical enclosures mounted to a steel bracket and interconnected by means of a mineral insulated cable. Field wiring connections for supply, communications, I/O and transducers are accommodated through threaded conduit entries. Each conduit entry is provided with a suitably rated blanking element. The overall physical dimensions of the 868i and 878 series enclosure are 16.8 x 14.0 x 20.8 cm or 21.34 x 14.91 x 16.21 cm (L x W x H).

The Panaflow PF8x series of ultrasonic flowmeters includes models PF8M-Z1G, PF8F-Z1G, PF8S-Z1G, PF8M-Z2G, PF8F-Z2G and PF8S-Z2G. The flange-connected flowmeter is designed for single or dual channel measurement of a wide range of acoustically conductive gases (e.g. steam, flare, etc.). The PF8x system uses the transit time measurement technique by sending ultrasonic signals back and forth across the pipe, where the difference in single arrival times is proportional to flowrate.

The PF8x Flowmeter assembly is comprised of the ZxG Meter Body (flowcell) pipeline flange with integral ultrasonic transducer sensors, the ZxG Adapter and the 868i series Transmitter, and is available as either the Remote Mount version or Local Mount version as well as the Standalone Remote Mount version.

The ZxG Meter Body is a single-interconnected-compartment, painted cast carbon steel, stainless steel or nickel base steel enclosure, with a flanged connection of either Remote or Local Mount Adapters. The 868i Transmitter is as described above. The overall physical dimensions for the smallest (2 inch) ZxG Meter Body are 50.8 x 48.7 x 24.1 cm, and for the largest (24 inch) ZxG Meter Body are 132.0 x 119.9 x 83.2 cm.

The optical radiation output of the apparatus with respect to explosion protection is covered in this certificate based on exception 5) to the scope of IEC 60079-28:2015.

The equipment has been separately tested against the requirements of IEC 60529 and meets IP66.

Note: Individual ultrasonic flow transducers are not assessed for compliance under this report.

DigitalFlow 868i and 878 series Transmitter model code:
XMT868i-b-c-d-e-f-g-h-i
XGa868i-c-d-e-0-g-h-i-j
XGF868i-c-d-k-m-3-j

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 17ATEX1304X**
Issue 3

IGM878#-c-l-j-p-q

# = Housing:	A = Single housing N = Dual housing
a = Model:	M = Multipurpose S = Steam N = Natural Gas F = Flare Gas
b = Channels:	1 = Single 2 = Dual
c = Power:	1 = 100 to 240 Vac 2 = 12 to 28 Vdc
d = Package:	1 = Epoxy coated aluminium 2 = 316 stainless steel
e = I/O:	OO = None TO = 2 totalizer outputs TA = 2 totalizer outputs and 2 standard alarms TH = 2 totalizer outputs and 2 hermetically sealed alarms OI = 2 Analog inputs TI = 2 Analog inputs and 2 totalizer / frequency outputs AI = 2 standard alarms and 2 Analog inputs HI = 2 hermetically sealed alarms and 2 Analog inputs AA = 4 standard alarms HH = 4 hermetically sealed alarms TT = 4 totalizer outputs CT = 2 isolated 4 to 20 mA outputs and 4 totalizer / frequency outputs CO = 2 isolated 4 to 20 mA outputs CA = 2 isolated 4 to 20 mA outputs and 2 standard alarms CH = 2 isolated 4 to 20 mA outputs and 2 hermetically sealed alarms CF = 2 isolated 4 to 20 mA outputs and 2 frequency outputs II = 4 Analog outputs IR = 2 current input, 2 RTD input FR = 2 temperature inputs and 2 frequency outputs OR = 2 temperature inputs TR = 2 temperature inputs and 2 totalizer / frequency outputs AR = 2 temperature inputs and 2 standard alarms HR = 2 temperature inputs and 2 hermetically sealed alarms RR = 4 temperature inputs FF = 4 frequency outputs FO = 2 frequency outputs FA = 2 frequency outputs and 2 standard alarms FH = 2 frequency outputs and 2 hermetically sealed alarms

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	FT = 2 frequency outputs and 2 totalizer outputs FI = 2 current inputs and 2 frequency outputs RI = 2 temperature inputs and 2 Analog inputs CI = 2 isolated 4 to 20 mA inputs and 2 Analog inputs CR = 2 isolated 4 to 20 mA outputs and 2 Analog inputs CIR = 2 isolated 4 to 20 mA outputs or 1 Analog input and 1 temperature input AO = Dual standard Alarms
f = DSP Coprocessor:	0 = None 1 = fast response
g = Logging:	0 = None 1 = 1 MB memory 2 = Extended memory 3 = HART 4 = MODBUS 5 = MODBUS TCP 6 = Ethernet 7 = Foundation Fieldbus
h = Display:	0 = None 1 = 16 x 2 LCD
l = Communications:	1 = RS232 2 = RS485 5 = RS232 serial communication port with ATEX certification for Hazardous locations 6 = RS485 multi-user communication port with ATEX certification for Hazardous locations 7 = RS232 serial communication port with IECEX certification for Ex d IIC T6 Gb IP66 Ta= -20°C to +60°C hazardous location installations 8 = RS485 serial communication port with IECEX certification for Ex d IIC T6 Gb IP66 Ta= -20°C to +60°C hazardous location installations
j = Transducer Frequency (Gas only):	1 = 25 kHz 2 = 33 kHz 3 = 50 kHz 4 = 100 kHz 5 = 200 kHz 6 = 500 kHz
k = Input/output	OI = Two 4-20 mA outputs, two 4-20 mA inputs ORI = Two 4-20 mA outputs, one 4-20 mA input, and one RTD input FI = Two 4-20 mA outputs, Two 4-20 mA inputs, and two frequency outputs

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	FRI = Two 4-20 mA outputs, one 4-20 mA input, one RTD input and two frequency outputs
m = Digital Communications	H = HART M = ModBus digital output MTCP = ModBus TCP digital output for MODBUS via Ethernet E = Ethernet card. F = Foundation Fieldbus
p = AGA 8 calculation	0 = none 1 = included
q = Option Card	1 = 1 hermetic alarm, 1 frequency, 2 Analog input 2 = Redundant frequency output with 2 hermetic alarms programmable

Panaflow PF8x Ultrasonic Gas Flowmeter (standalone and local mount and remote mount versions)
Model code: a-b-c-d-e-f-g-h-i-j-k-l-m-n-o-p-q-r-s-t-z

a = Model	PF8M = Panaflow gas ultrasonic Flowmeter system PF8F = Panaflow flare ultrasonic Flowmeter system PF8S = Panaflow steam ultrasonic Flowmeter system
b = Path	Z1G = Single path meter body Z2G = Dual path meter body
c = Meter Body (flowcell) Size	02 = 02 inch meter body 03 = 03 inch meter body 04 = 04 inch meter body 06 = 06 inch meter body 08 = 08 inch meter body 10 = 10 inch meter body 12 = 12 inch meter body 14 = 14 inch meter body 16 = 16 inch meter body 18 = 18 inch meter body 20 = 20 inch meter body 24 = 24 inch meter body
d = Meter Body (flowcell) Flange Rating	00 = None, weld-in 1 = ASME 150# WNRF, B16.5 2 = ASME 300# WNRF, B16.5 3 = ASME 600# WNRF, B16.5 1R = ANSI 150# WN RTJ, B16.5 2R = ANSI 300# WN RTJ, B16.5 7 = ANSI 600# WN RTJ, B16.5 E = PN10 EN 1092-1 F = PN16 EN 1092-1 G = PN25 EN 1092-1

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	H = PN40 EN 1092-1 J = PN63 EN 1092-1 Q = 10K B2220 WN JIS R = 16K B2220 WN JIS S = 20K B2220 WN JIS T = 30K B2220 WN JIS U = 40K B2220 WN JIS W = ANSI 400# WNRF, B16.5 X = ANSI 150# WNRF, B16.5 Y = ANSI 300# WNRF, B16.5 Z = ANSI 600# WNRF, B16.5 XX = Custom flange (can be represented with any alpha-numeric character)
e = Meter Body (flowcell) Material	CS = SA-216 GR. WCB LC = SA-352 GR. LCB S4 = SA-351 GR. CF8 S6 = SA-351 GR. CF8M SA = SA-351 GR. CK-3MCuN SD = SA-351 GR. CD3MWCuN HA = SA-494 GR. CW-12MW I6 = SA-494 GR. CW6MC CC = SA-352 GR. LCC WC = SA-216 GR. WCC M4 = SA-494 GR. M30-C XX = Custom flowcell material (can be represented with any alpha-numeric character)
f = Meter Body (flowcell) Schedule	010 = Schedule 10 meter body 020 = Schedule 20 meter body 030 = Schedule 30 meter body STD = Schedule STD meter body 040 = Schedule 40 meter body 060 = Schedule 60 meter body 0XS = Schedule XS meter body 080 = Schedule 80 meter body 100 = Schedule 100 meter body 120 = Schedule 120 meter body 140 = Schedule 140 meter body 160 = Schedule 160 meter body XXS = Schedule XXS meter body 5S = Schedule 5S meter body 10S = Schedule 10S meter body 40S = Schedule 40S meter body 80S = Schedule 80S meter body

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	CUS = Custom schedule meter body (can be represented with any alpha-numeric character) note: minimum wall thickness per pipe schedule 5S
g = System Design	A = ASME B31.3 and NACE MR0175/MR0103 C = ASME B31.3, CRN and NACE MR0175/MR0103 P = ASME B31.3, PED and NACE MR0175/MR0103 D = DIN DESIGN, PED and NACE MR0175/MR0103 J = JIS DESIGN and NACE MR0175/MR0103
h = Paint	A = No paint (stainless steel and duplex stainless steel meter body only) G = Standard paint S = Custom paint (can be represented with any alpha-numeric character)
i = NDE	0 = No NDE requirements 1 = NDE documentation 2 = PMI and standard NDE documentation
j = Transducer O-ring	V = Viton, standard applications E = EPDM, steam and non-standard applications M = MARKEZ (FFKM), special applications S = Special elastomer (can be represented with any alpha-numeric character)
k = Electronics Mounting Style	000L = Local mount (process temperature -40°C to +85°C) 0R25 = Standalone / remote mount with 25 ft armored cable length (process temperature > +85°C) 0R50 = Standalone / remote mount with 50 ft armored cable length (process temperature > +85°C) R100 = Standalone / remote mount with 100 ft armored cable length (process temperature > +85°C) R150 = Standalone / remote mount with 150 ft armored cable length (process temperature > +85°C) Rxxx = Standalone / remote mount with custom armored cable length (process temperature > +85°C)
l = Electronics Enclosure Material	AL = Epoxy coated aluminum enclosure SS = 316 stainless steel enclosure Blank for standalone remote version
m = Conduit Connection	1 = 6x standard 3/4-14 NPT 2 = 6x standard 3/4-14 NPT with M20 adapters Blank for standalone remote version
n = Power Supply	AC = 100 to 240 Vac power supply DC = 12 to 28 Vdc power supply Blank for standalone remote version

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 17ATEX1304X**
Issue 3

o = Pressure and Temperature	0 = None 1 = With 1x external 1/2-NPT port in meter body S = Special (can be represented with any alpha-numeric character) Blank for standalone remote version
p = Additional Input / Output	O = No additional input/output F = 2 frequency outputs T = 2 totalizer outputs A = 2 standard alarms Blank for standalone remote version
q = Digital Communications	2 = MODBUS digital output 3 = HART 4 = Foundation Fieldbus Blank for standalone remote version
r = Calibration and Meter Range	x = (can be represented with any alpha-numeric character) Blank for standalone remote version
s = Preamplifier	00 = No preamp 02 = 2x gain preamp 10 = 10x gain preamp 20 = 20x gain preamp 40 = 40x gain preamp Blank for standalone remote version
t = PF8x System Certification	1 = US / CANADA 2 = ATEX 3 = IECEx
z = Special	0 = None S = Special

Variation 1 - This variation introduced the following changes:

i. Update Applicant's name from GE Infrastructure Sensing, Inc. to Panametrics LLC
ii. Introduction of new PF8X Flowmeter model series, with amended Marking and Description.
iii. Update ambient temperature ratings of 868i and 878 Transmitter model series, with amended Marking and Description.
iv. Updated internal PCB assembly for the 868i and 878 Transmitter model series.
v. Revised schedule drawings for the 868i and 878 Transmitter model series.
vi. Following an appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012/A11:2013 was replaced by EN IEC 60079-0:2018 +AC:2020, EN 60079-1:2014 was replaced by EN 60079-1:2014 + AC:2018.
vii. Three Specific Conditions of Use were added related to the introduced PF8X Flowmeters.
viii. The Condition of Manufacture referencing "previously certified components" was revised.
ix. Introduction of Condition of Manufacture referencing "Routine Overpressure Test".

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Variation 2 - This variation introduced the following changes:

i. Introduce 703-2000 PCBA as an alternative optional Foundation Fieldbus FISCO card option to existing 703-1475 and re-evaluation of the existing 703-1475 card from FNICO to FISCO based on the project 80072179 report 1369980. EN 60079-11:2012 was added to the list of standards.

ii. Change of manufacturer's name from "GE Sensing EMEA" to "Baker Hughes EMEA, formerly GE Sensing EMEA".

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	20 December 2017	R70137637A	The release of the prime certificate.
1	31 October 2019	0639	Transfer of certificate Sira 17ATEX1304X from Sira Certification Service to CSA Group Netherlands B.V.
2	14 January 2021	R80057398A	The introduction of Variation 1.
3	31 July 2023	R80156577A	The introduction of Variation 2.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

15.1 The 868i and 878 series transmitters shall only be mounted in such an orientation that the mounting base is pointed downwards with the cylindrical enclosure in a horizontal position. (See clause 26.5.1.1 of EN 60079-0).

15.2 Contact the manufacturer if dimensional information of flameproof joints is needed. (See clause 5.1 of EN 60079-1).

15.3 Field connections to the 868i and 878 series transmitters (e.g. ultrasonic transducers, accessories or similar peripherals) shall be appropriately certified for the location and installed in accordance with wiring method requirements of the local electrical code as applicable.

15.4 The PF8x series Flowmeters have non-conducting coating which may generate an ignition-capable level of electrostatic charge under certain extreme conditions. The user shall take the necessary precautions to minimize the risk from electrostatic discharge. For example, controlling the environmental humidity where installed in order to minimize generation of static electricity, with the equipment protected from direct airflow which could cause a transfer of charge to the surface of the equipment. Cleaning should be done only with a damp cloth.

15.5 Contact the manufacturer for genuine replacement of special fasteners for the PF8x series Flowmeters: (See clause 11.3 of EN 60079-1)

a. Meter Body to Adapter flange: M10x1.5 35.0 mm length socket head screws, of zinc plated steel (A574) or better, with a minimum yield strength of 135,000 PSI.

b. Local Mount Bracket: M6x1 16.0 mm length socket head screws, of stainless steel (A4-70 SS) or better, with a minimum yield strength of 65,257 PSI.

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15.6 The hazardous locations temperature classification of both local mount version and remote mount version of the PF8x series Flowmeter is contingent upon the process temperature, as follows. At process temperatures higher than 85°C, remote mounting is deemed necessary in order to accommodate the T-class.

Mounting configuration	Process temperature	T-Class
Local	-40°C to +80°C	T6 (85°C)
Local	-40°C to +85°C	T5 (100°C)
Remote	-40°C to +80°C	T6 (85°C)
Remote	-40°C to +95°C	T5 (100°C)
Remote	-40°C to +115°C	T4 (135°C)
Remote	-40°C to +130°C	T4 (135°C)
Remote	-40°C to +150°C	T3 (200°C)

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 Routine Overpressure Test (per EN 60079-1, clause 16, 15.2.3.2): Each of the following enclosure parts / assemblies shall withstand the static test pressures and durations identified below. The test may be conducted at normal ambient temperatures. There shall be no permanent deformation of the joints or damage to the enclosure and no leakages through the cemented joints.

a. 868i and 878 series Transmitter: The routine static test pressure of 570 PSIG shall be applied for a minimum duration of 10 seconds.
b. 868i series Transmitter and ZxG Local Mount Adapter with Trombone Adapter: The routine static test pressure of 470 PSIG shall be applied for a minimum duration of 10 seconds.

17.4 Ex Component Enclosure: The PF8x series Flowmeter assemblies incorporate the following Ex Components which are certified to previous editions of the aforementioned standards. The major technical changes between editions have been assessed with no technical differences found applicable, see ExTR for details. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these components, and to inform CSA Group / Sira of any modifications of the devices which may impinge upon the explosion safety design of the aforementioned products.

a. Enclosure, IME model series: 7080. Certificate number: Sira 07ATEX1331U. Standards: EN 60079-0:2012+A1:2013, EN 60079-1:2014

b. Enclosure, IME model series: 7100. Certificate number: Sira 08ATEX1325U Standards: EN 60079-0:2012+A1:2013, EN 60079-1 :2014

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Certificate Annexe

Certificate Number: **Sira 17ATEX1304X**

Equipment: **DigitalFlow 868i, 878 series Transmitters and Panaflow PF8x series Ultrasonic Gas Flowmeter**

Applicant: **Panametrics LLC.**

Issue 0:

Drawing	Rev.	Sheets	Date (Sira stamp)	Description
238-103	E.1	1 of 1	06 Nov 17	Model IGM878N – Interconnect cable assembly
421-1782	A	1 of 1	06 Nov 17	Heat Sink – AC Power Supply
421-1783	A	1 of 1	06 Nov 17	Heat Sink – I/O PCB
421-3997	9	1 to 2	06 Nov 17	Enclosure Design B – Housing Casting and Machining
421-3999	7	1 to 2	06 Nov 17	Enclosure Design B – Threaded Window Cover Casting and Machining
421-4001	6	1 to 2	06 Nov 17	Enclosure Design B – Threaded Blind Cover Casting and Machining
421-4067	2	1 of 1	06 Nov 17	Enclosure Design B – Window Cover Retaining ring
421-4120	1	1 of 1	06 Nov 17	Enclosure Design B – Glass Window
425-271	M	1 to 5	06 Nov 17	Enclosure Design A – Housing Covers and Assembly Drawing (stainless steel)
442-615	N	1 of 1	06 Nov 17	Adhesive Label – Configuration Options
442-618	C	1 to 2	06 Nov 17	Adhesive Label – Warning / Caution Symbols
442-696	H	1 to 2	06 Nov 17	Markings Nameplate – Model Numbers (Enclosure Design A)
442-869	A	1 to 2	06 Nov 17	Adhesive Label – High Voltage Insulator
442-895	F	1 of 1	06 Nov 17	Adhesive Label – Electrical Ratings, Model and Serial Numbers
442-962	C	1 to 2	06 Nov 17	Adhesive Label – Keypad Interface
442-1446	H.2	1 of 1	06 Nov 17	Markings Nameplate – Certification Information (Enclosure Design A)
442-1907	4	1 of 1	06 Nov 17	Markings Nameplate – Certification Information (Enclosure Design B)
442-1908	1	1 to 2	06 Nov 17	Markings Nameplate – Model Numbers (Enclosure Design B)
700-1021	E	1 of 1	06 Nov 17	PCB Schematic – Fast Response Board
700-1215	F	1 to 2	06 Nov 17	PCB Schematic – Frequency / Totalizer / Alarm Option Board
700-1223	D	1 to 4	06 Nov 17	PCB Schematic – Frequency / Totalizer / Alarm / Analog Input Option Board
700-1225	C	1 to 3	06 Nov 17	PCB Schematic – Frequency / Totalizer / Alarm / Analog Output Option Board
700-1233	C	1 to 4	06 Nov 17	PCB Schematic – Quad Analog Input Option Board
700-1272	B	1 to 4	06 Nov 17	PCB Schematic – Analog I/O Option Board
703-1273	D	1 to 2	06 Nov 17	PCB Schematic – Flow DSP Board
700-1284	J	1 of 1	06 Nov 17	PCB Schematic – Receiver Communications Board
700-1291	C	1 of 1	06 Nov 17	PCB Schematic – Terminal Board
700-1299	A	1 to 1	06 Nov 17	PCB Schematic – Dual Transmit Communications Board
700-1332	A	1 to 2	06 Nov 17	PCB Schematic – Data Logging Board
700-1345	B	1 to 2	06 Nov 17	PCB Schematic – Communications Board
700-1385	A	1 to 3	06 Nov 17	PCB Schematic – Hart Communications Board
700-1402	2	1 of 1	06 Nov 17	PCB Schematic – DC Power Supply Board
700-1403	H	1 of 1	06 Nov 17	PCB Schematic – AC Power Supply Board
700-1418	B	1 to 2	06 Nov 17	PCB Schematic – Interconnect Board
700-1422	B	1 to 7	06 Nov 17	PCB Schematic – Main Board
700-1440	B	1 of 1	06 Nov 17	PCB Schematic – Terminal Board
700-1473	D	1 to 5	06 Nov 17	PCB Schematic – Frequency / Totalizer / Alarm / Analog Input Option Board
700-1475	G	1 to 5	06 Nov 17	PCB Schematic – Foundation Fieldbus Communications Board

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Certificate Annexe

Certificate Number: **Sira 17ATEX1304X**

Equipment: **DigitalFlow 868i, 878 series Transmitters and Panaflow PF8x series Ultrasonic Gas Flowmeter**

Applicant: **Panametrics LLC.**

Drawing	Rev.	Sheets	Date (Sira stamp)	Description
700-1910	4	1 to 2	06 Nov 17	PCB Schematic – HMI Board
703-1021	E	1 of 1	06 Nov 17	PCB Assembly – Fast Response Board
703-1130	F	1 of 1	06 Nov 17	PCB Assembly – AC Power Supply Board
703-1146	D	1 of 1	06 Nov 17	PCB Assembly – Data Logging Board
703-1213	B	1 of 1	06 Nov 17	PCB Assembly – DC Power Supply Board
703-1215	A	1 of 1	06 Nov 17	PCB Assembly – Frequency / Totalizer / Alarm Option Board
703-1223	D	1 of 1	06 Nov 17	PCB Assembly – Frequency / Totalizer / Alarm / Analog Input Option Board
703-1225	A	1 of 1	06 Nov 17	PCB Assembly – Frequency / Totalizer / Alarm / Analog Output Option Board
703-1233	B	1 of 1	06 Nov 17	PCB Assembly – Quad Analog Input Option Board
703-1244	J	1 to 2	06 Nov 17	PCB Assembly – AC Power Supply Board
703-1272	C	1 of 1	06 Nov 17	PCB Assembly – Analog I/O Option Board
703-1273	B	1 of 1	06 Nov 17	PCB Assembly – Flow DSP Board
703-1277	1	1 of 1	06 Nov 17	PCB Assembly – DC Power Supply Board
703-1281	3	1 of 1	06 Nov 17	PCB Assembly – DC Power Supply Board
703-1284	J	1 of 1	06 Nov 17	PCB Assembly – Receiver Communications Board
703-1291	D	1 of 1	06 Nov 17	PCB Assembly – Terminal Board
703-1299	A	1 of 1	06 Nov 17	PCB Assembly – Dual Transmit Communications Board
703-1332	A	1 to 2	06 Nov 17	PCB Assembly – Data Logging Board
703-1345	B	1 of 1	06 Nov 17	PCB Assembly – Communications Board
703-1385	B	1 of 1	06 Nov 17	PCB Assembly – Hart Communications Board
703-1402	2	1 to 2	06 Nov 17	PCB Assembly – DC Power Supply Board
703-1403	L	1 to 3	06 Nov 17	PCB Assembly – AC Power Supply Board
703-1418	B	1 to 2	06 Nov 17	PCB Assembly – Interconnect Board
703-1422	C	1 to 2	06 Nov 17	PCB Assembly – Main Board
703-1440	H	1 to 3	06 Nov 17	PCB Assembly – Terminal Board
703-1473	D	1 to 2	06 Nov 17	PCB Assembly – Frequency / Totalizer / Alarm / Analog Input Option Board
703-1475	J	1 to 2	06 Nov 17	PCB Assembly – Foundation Fieldbus Communications Board
703-1910	4	1 to 2	06 Nov 17	PCB Assembly – HMI Board
705-683	AN	1 to 3	06 Nov 17	Overall Assembly – XMT868
705-1106	4	1 to 3	06 Nov 17	Assembly – XMT868i with IR Keypad
705-1107	4	1 to 3	06 Nov 17	Assembly – XGX868i with IR Keypad
705-1848	3	1 to 2	06 Nov 17	Enclosure Design B – Assembly Drawing (aluminium)
752-108	P.2	1 to 4	06 Nov 17	Enclosure Design A – Housing Covers and Assembly Drawing (aluminium)
752-546	4	1 to 2	06 Nov 17	Enclosure Design B – Certification Drawing

Issue 1. No new drawings were introduced.

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Certificate Annexe

Certificate Number: **Sira 17ATEX1304X**

Equipment: **DigitalFlow 868i, 878 series Transmitters and Panaflow PF8x series Ultrasonic Gas Flowmeter**

Applicant: **Panametrics LLC.**

Issue 2.

Drawing	Rev.	Sheets	Date	Description
421-3997	A	1 to 2	20 Nov 20	Enclosure Design B – Housing Casting and Machining
421-3999	A	1 to 2	20 Nov 20	Enclosure Design B – Threaded Window Cover Casting and Machining
421-4001	A	1 to 2	20 Nov 20	Enclosure Design B – Threaded Blind Cover Casting and Machining
421-4067	A	1 of 1	20 Nov 20	Enclosure Design B – Window Cover Retaining ring
421-4120	A	1 of 1	20 Nov 20	Enclosure Design B – Glass Window
421-4232	A	1 of 1	20 Nov 20	Heat Sink – AC Power Supply
442-696	J00	1 of 1	11 Jan 21	Markings Nameplate – Model Numbers (Enclosure Design A)
442-895	G00	1 to 2	11 Jan 21	Adhesive Label – Electrical Ratings, Model and Serial Numbers
442-1446	K02	1 of 1	11 Jan 21	Markings Nameplate – Certification Information (Enclosure Design A)
442-1881	B00	1 of 1	11 Jan 21	Markings Nameplate – Model Numbers (Enclosure Design B)
442-1883	C01	1 of 1	11 Jan 21	Markings Nameplate – Certification Information (Enclosure Design B)
700-1284	L	1 of 1	20 Nov 20	PCB Schematic – Receiver Communications Board
700-1345	D	1 to 2	20 Nov 20	PCB Schematic – Communications Board
700-1354	F	1 of 1	20 Nov 20	PCB Schematic – DC Power Supply Board
700-1385	C	1 to 3	20 Nov 20	PCB Schematic – Hart Communications Board
700-1418	C	1 to 2	20 Nov 20	PCB Schematic – Interconnect Board
700-1419	C	1 to 3	20 Nov 20	PCB Schematic – IR Keypad / Display Interface Board
700-1430	D	1 to 5	20 Nov 20	PCB Schematic – 4 Analog Input Board
700-1473	E	1 to 5	20 Nov 20	PCB Schematic – Frequency / Totalizer / Alarm / Analog Input Option Board
700-1475	H	1 to 5	20 Nov 20	PCB Schematic – Foundation Fieldbus Communications Board
700-1477	E	1 to 4	20 Nov 20	PCB Schematic – MODBUS / TCP Board
700-1481	A	1 of 1	20 Nov 20	PCB Schematic – Terminal Ethernet Board
700-1589	D	1 to 7	20 Nov 20	PCB Schematic – Main Board
700-1658	B	1 to 3	20 Nov 20	PCB Schematic – HART Board
700-1674	A	1 to 4	20 Nov 20	PCB Schematic – Magnetic Keypad / Display Interface Board
703-1146	F	1 of 1	20 Nov 20	PCB Assembly – Data Logging Board
703-1215	F	1 of 1	20 Nov 20	PCB Assembly – Frequency / Totalizer / Alarm Option Board
703-1225	C	1 of 1	20 Nov 20	PCB Assembly – Frequency / Totalizer / Alarm / Analog Output Option Board
703-1273	C	1 of 1	20 Nov 20	PCB Assembly – Flow DSP Board
703-1284	K	1 of 1	20 Nov 20	PCB Assembly – Receiver Communications Board
703-1345	D	1 of 1	20 Nov 20	PCB Assembly – Communications Board
703-1354	L	1 of 1	20 Nov 20	PCB Assembly – DC Power Supply Board
703-1385	D	1 to 2	20 Nov 20	PCB Assembly – Hart Communications Board
703-1403	M	1 to 3	20 Nov 20	PCB Assembly – AC Power Supply Board
703-1418	E	1 to 2	20 Nov 20	PCB Assembly – Interconnect Board
703-1419	D	1 to 2	20 Nov 20	PCB Assembly – IR Keypad / Display Interface Board
703-1430	D	1 to 2	20 Nov 20	PCB Assembly – 4 Analog Input Board
703-1440	J	1 to 3	20 Nov 20	PCB Assembly – Terminal Board
703-1473	K	1 to 2	20 Nov 20	PCB Assembly – Frequency / Totalizer / Alarm / Analog Input Option Board

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Certificate Annexe

Certificate Number: **Sira 17ATEX1304X**

Equipment: **DigitalFlow 868i, 878 series Transmitters and Panaflow PF8x series Ultrasonic Gas Flowmeter**

Applicant: **Panametrics LLC.**

Drawing	Rev.	Sheets	Date	Description
703-1475	L	1 to 2	20 Nov 20	PCB Assembly – Foundation Fieldbus Communications Board
703-1477	D	1 to 2	20 Nov 20	PCB Assembly – MODBUS / TCP Board
703-1481	A	1 to 2	20 Nov 20	PCB Assembly – Terminal Ethernet Board
703-1589	D	1 to 2	20 Nov 20	PCB Assembly – Main Board
703-1658	D	1 to 2	20 Nov 20	PCB Assembly – HART Board
703-1674	B	1 to 2	20 Nov 20	PCB Assembly – Magnetic Keypad / Display Interface Board
705-1106	C	1 to 3	20 Nov 20	Assembly – XMT868i with IR Keypad
705-1107	C	1 to 3	20 Nov 20	Assembly – XGX868i with IR Keypad
705-1848	A	1 to 2	20 Nov 20	Enclosure Design B – Assembly Drawing (aluminium)
410-1468	3	1 to 2	20 Nov 20	410 series Line Bushing Seal – 4-pin, 1/2-14 NPT
410-1471	1	1 of 1	20 Nov 20	410 series Line Bushing Seal – 6-pin, 3/4-14 NPT
410-1488	1	1 of 1	20 Nov 20	410 series Line Bushing Seal – 8-pin, 1-11.5 NPT
421-4295	A	1 of 1	20 Nov 20	ZxG Local Mount Adapter – Trombone Adapter
421-4296	A	1 to 2	20 Nov 20	ZxG Local Mount Adapter
421-4297	A	1 to 2	20 Nov 20	ZxG Local Mount Adapter – 868i Mounting Bracket
703-1416	D	1 to 2	20 Nov 20	PCB Assembly – Preamp Board
705-1941	A	1 of 1	20 Nov 20	ZxG Remote Mount Adapter
752-561	- 01	1 to 15	20 Nov 20	Panaflow PF8x Ultrasonic Gas Flowmeter - Remote and Local Assemblies – Certification Drawing

Issue 3

Drawing	Sheets	Rev.	Date (Stamp)	Title
442-1446	1 of 1	M	28 Jun 23	LABEL, CERTIFICATION, AL
442-1883	1 of 1	F	28 Jun 23	LABEL, CERTIFICATION, SS
700-2000	1 to 9	B	26 Jun 23	PCB Schematic – Foundation Fieldbus Option Card PCB (alternative FISCO)
710-2000	1 of 1	B	26 Jun 23	Fabrication - Foundation Fieldbus Option Card PCB (alternative FISCO)
700-1475	1 to 5	J	26 Jun 23	PCB Schematic – Foundation Fieldbus Board
710-1475	1 of 1	F	26 Jun 23	Fabrication - Foundation Fieldbus Option Card PCB
752-326	1 of 1	E	26 Jun 23	CONTROL DRAWING 868 FLOWMETER FISCO

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1 **EU-TYPE EXAMINATION CERTIFICATE**

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

3 Certificate Number: **Sira 20ATEX1001X** Issue: **3**

4 Equipment: **Ultrasonic Flow Transducer Series T5, T5MAX, T17 and T8**

5 Applicant: **Panametrics LLC**

6 Address: 1100 Technology Park Drive
Billerica, Massachusetts 01821 USA

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

8 CSA Group Netherlands B.V., notified body number 2813 in accordance with Articles 17 and 21 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.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-1:2014

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 2 G

T5, T5MAX and T17:	**T8:**
Ex db IIC T6…T1 Gb	Ex db IIC T6…T3 Gb
Ta = -40°C to +60°C	Ta = -40°C to +60°C
Ingress Protection IP66	Ingress Protection IP66

Signed: Michelle Halliwell

Title: Director of Operations

PRODUCTS RvA C 652

Project Number 80162177

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 20ATEX1001X**
Issue 3

13 **DESCRIPTION OF EQUIPMENT**

The T5, T5MAX, T17 and T8 model series of flow transducer assemblies are ultrasonic piezoelectric sensors with varying tube lengths, intended to be mounted in direct contact (i.e. wetted type) within gas pipeline processes. Electrical field wiring connections are enclosed within an Ex Component flameproof enclosure with an Ex Component cable gland and/or Ex Component thread adapter, located a minimum distance of 20 cm from the process connection.

The T5, T5MAX, T17 and T8 are optionally available with an internal XAMP preamplifier.

The T5, T5MAX, T17 and T8 transducer assemblies are comprised of a single compartment, stainless steel or aluminium enclosure, with up to four threaded conduit entries. Each unused conduit entry is provided with a suitably rated blanking element. The overall physical dimensions (L x W x H) are 105.9 x 69.6 x 105.9 mm, with a maximum transducer tube length of 1.8 meters.

The equipment has been separately tested against the requirements of IEC 60529 and meets IP66.

Model code:

T5, T5MAX, and T17 Ultrasonic Transducer Assembly model code: aa-bb-cc-dd-ee-ff-gg-hh-ii-jj-zz

aa = Model
- T5
- T5MAX
- T17

bb = Transducer head:
- 17 = Oblique / 174°
- 18 = Straight body / 180°
- 45 = Oblique / 45° (T5 only)
- 90 = Right angle / 90° (T5 and T5MAX only)

cc = Frequency:
- 05 = 50 kHz
- 10 = 100 kHz
- 20 = 200 kHz
- 50 = 500 kHz

dd = Tube length: specified per application
- 8.5 to 72 = 0.2 to 1.8 meters (8.5 to 72 inches)

ee = Process temperature range:
- LT = Low temperature -220°C to +100°C
- NT = Normal temperature -55°C to +150°C
- HT = High temperature -50°C to +250°C
- XT = Extremely high temperature -180°C to +300°C

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 20ATEX1001X**
Issue 3

ff = Transducer material:
- Ti = Titanium CP2
- MN = Monel 400
- HC = Hastelloy C276
- SS = Stainless steel 316 / 304

gg = Junction box:
- 01 = Aluminium
- 02 = Stainless steel

hh = Preamplifier type:
- 00 = No internal XAMP preamplifier
- 01 = Internal XAMP with transformer
- 02 = Internal XAMP without transformer

ii = Preamplifier gain
- 00 = No internal XAMP
- 01 = Internal XAMP with gain of 10
- 02 = Internal XAMP with gain of 20
- 03 = Internal XAMP with gain of 02
- 04 = Internal XAMP with gain of 40

jj = Certification:
- 02 = ATEX (II 2G Ex db IIC)
- 03 = IECEx (Ex db IIC)

zz = Miscellaneous:
- 0 = None
- S = Special

T8 Ultrasonic Transducer Assembly model code: aa-bb-cc-dd-ee-ff-gg-hh-ii-jj-zz

aa = Model
- T8

bb = Transducer head:
- 18 = Straight body / 180°
- 30 = Oblique / 30°
- 45 = Oblique / 45°

cc = Frequency:
- 05 = 50 kHz
- 10 = 100 kHz
- 20 = 200 kHz
- 50 = 500 kHz

dd = Tube length: specified per application
- 12 to 72 = 0.3 to 1.8 meters (12 to 72 inches)

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ee = Process temperature range:
NT = Normal temperature -50°C to +150°C

ff = Transducer material:
Ti = Titanium CP2
MN = Monel 400
HC = Hastelloy C276
SS = Stainless steel 316 / 304

gg = Junction box:
UX = Aluminium
UXSS = Stainless steel

hh = Preamplifier type:
00 = No internal XAMP preamplifier
01 = Internal XAMP with transformer
02 = Internal XAMP without transformer

ii = Preamplifer gain:
00 = No internal XAMP
01 = Internal XAMP with gain of 10
02 = Internal XAMP with gain of 20
03 = Internal XAMP with gain of 02
04 = Internal XAMP with gain of 40

jj = Certification
02 = ATEX (II 2 G Ex db IIC)
03 = IECEx (Ex db IIC)

zz = Miscellaneous:
0 = None
S = Special

Variation 1 - This variation introduced the following change:

i. The certificate holder and manufacturer's name was changed:

From:	To:
GE Infrastructure Sensing Inc.	Panametrics LLC

Variation 2 - This variation introduced the following changes:

i. Addition of the new model "T5MAX", the description was amended accordingly.
ii. Correction of product nomenclature of the model T8 (XAMP option).
iii. Release of documentation supporting the new model "T5MAX".
iv. Minor update to previously assessed Ex Components and Ex Equipment:
-Enclosure with Preamplifier – Name change went from "GE Infrastructure Sensing" to "Panametrics LLC". Refer to report R80097040A where the name change was documented.
-Thread Adapter (ATEX certs) – Change of Certificate numbers and update of standards.

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"Schedule of Limitations" did not change and original analysis performed in report R80028901A, section 3.10.3.6 remains applicable.

v. Correction to "Manufacturing location B" address.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	19 March 2020	R80028901A	The release of the prime certificate.
1	11 December 2020	R80065145A	Transfer of certificate Sira 20ATEX1001X from Sira Certification Service to CSA Group Netherlands B.V.
2	02 February 2022	R80097040A	The introduction of Variation 1.
3	27 June 2023	R80162176A	The introduction of Variation 2.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

15.1 Consult the manufacturer if dimensional information on the flameproof joints is necessary.

15.2 It is end-user's responsibility to ensure that the ambient around the T5, T5MAX, T17 and T8 assembly does not exceed the permitted ambient of -40°C to +60°C, regardless of process temperature.

15.3 The T5, T5MAX, T17 and T8 transducers made of titanium (where ff = Ti) are potential ignitions sources when subjected to impact or friction, which shall be taken into consideration during installation.

15.4 The T5, T5MAX, T17 and T8 have non-conducting coating which may generate an ignition-capable level of electrostatic charge under certain extreme conditions. The user shall take the necessary precautions to minimise the risk from electrostatic discharge. For example, controlling the environmental humidity where installed in order to minimize generation of static electricity, with the equipment protected from direct airflow which could cause a transfer of charge to the surface of the equipment. Cleaning should be done only with a damp cloth.

15.5 The temperature classification rating of the T5, T5MAX, T17 and T8 assemblies is dependent upon the maximum process temperature (see table below).

Model (where aa = T5, T5MAX or T17)	Process temperature	T-Class
aa-bb-cc-dd-LT-ff-gg-hh-ii-jj-zz	-220℃ to +85℃	T6
	+85℃ to +100℃	T5
aa-bb-cc-dd-NT-ff-gg-hh-ii-jj-zz	-55℃ to +85℃	T6
	+86℃ to +100℃	T5
	+101℃ to +135℃	T4
	+136℃ to +150℃	T3
aa-bb-cc-dd-HT-ff-gg-hh-ii-jj-zz	-50℃ to 85℃	T6
	+86℃ to +100℃	T5
	+101℃ to +135℃	T4
	+136℃ to +200℃	T3

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SCHEDULE

EU-TYPE EXAMINATION CERTIFICATE **Sira 20ATEX1001X**
Issue 3

Model (where aa = T5, T5MAX or T17)	Process temperature	T-Class
	+201℃ to +250℃	T2
aa-bb-cc-dd-XT-ff-gg-hh-ii-jj-zz	-180℃ to 85℃	T6
	+86℃ to +100℃	T5
	+101℃ to +135℃	T4
	+136℃ to +200℃	T3
	+201℃ to +300℃	T2
Model T8	Process temperature	T-Class
T8-bb-cc-dd-NT-ff-gg-hh-ii-jj-zz	-50℃ to +85℃	T6
	+86℃ to +100℃	T5
	+101℃ to +135℃	T4
	+136℃ to +150℃	T3

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF MANUFACTURE**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Group Netherlands B.V. certificates.

17.2 Holders of EU-Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

17.3 Routine Overpressure Test (EN 60079-1 clause 16): Welded T5, T5MAX, T17 and T8 transducer head and tube assemblies are subjected to routine overpressure testing of 290 PSI (2000 kPa) for a minimum duration of 10 seconds during assembly, before potting.

17.4 Ex Component Disclosure: The T5, T5MAX, T8, and T17 assemblies incorporate the following previously certified Ex Components. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these components, and to inform CSA Group / Sira of any modifications of the devices which may impinge upon the explosion safety design of the aforementioned products.

- Enclosure, IME model series: 7080. Certificate number: IECEx SIR 07.0111U, SIRA 07ATEX1331U
- Enclosure, IME model series: 6080. Certificate number: IECEx FMG 19.0008U, FM19ATEX0010U
- Enclosure with Preamplifier, **Panametrics** model series XAMP. Certificate number: IECEx SIR 13.0071, Sira 13ATEX1184
- Cable Gland, nVent model: 500SSGL34EX. Certificate number: IECEx BAS 08.0107X, Baseefa08ATEX0327X
- Thread adapter, Peppers model series: AR. Certificate number: CML19ATEX1090X

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Certificate Annexe

Certificate Number: **Sira 20ATEX1001X**

Equipment: **Ultrasonic Flow Transducer Series T5, T5MAX T17 and T8**

Applicant: **Panametrics LLC**

Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
531-160	1 of 1	J	19 Mar 20	T5 transducer 180° head
531-161	1 of 1	E	19 Mar 20	T5 transducer 180° long head
531-170	1 of 1	K	19 Mar 20	T5 extended tube length
531-308	1 of 1	H	19 Mar 20	T5 transducer 45° head
531-309	1 of 1	J	19 Mar 20	T5 transducer 90° head
531-310	1 of 1	H	19 Mar 20	T5 transducer 90° long head
531-578	1 of 1	H	19 Mar 20	T5 and T17 tube length
531-1022	1 of 1	A	19 Mar 20	T5 and T17 standard tube length
752-057	1 of 1	C	19 Mar 20	T5 180° NT transducer assembly
752-058	1 of 1	C	19 Mar 20	T5 180° XT / HT / LT transducer assembly
752-059	1 of 1	C	19 Mar 20	T5 90° NT transducer assembly
752-060	1 of 1	C	19 Mar 20	T5 90° XT / HT / LT transducer assembly
752-061	1 of 1	C	19 Mar 20	T5 45° NT transducer assembly
752-062	1 of 1	C	19 Mar 20	T5 45° XT / HT / LT transducer assembly
752-063	1 of 1	N	19 Mar 20	T5 and T17 series assemblies
752-116	1 of 1	E	19 Mar 20	T8 30° NT transducer assembly
752-117	1 of 1	E	19 Mar 20	T8 45° NT transducer assembly
752-118	1 of 1	E	19 Mar 20	T8 180° NT transducer assembly
752-119	1 of 1	F	19 Mar 20	T8 tube body
752-121	1 of 1	D	19 Mar 20	T8 transducer 30° head
752-122	1 of 1	D	19 Mar 20	T8 transducer 180° head
752-123	1 of 1	E	19 Mar 20	T8 transducer 45° head
752-124	1 of 1	E	19 Mar 20	T8 transducer head cap
752-125	1 of 1	D	19 Mar 20	T8 series assembly
752-321	1 of 1	A	19 Mar 20	T17 180° transducer assembly

Issue 1. No new drawings were introduced.

Issue 2

Drawing	Sheets	Rev.	Date (Stamp)	Title
752-125	1 of 1	A	01 Feb 22	T8 Transducer
752-063	1 of 1	P	01 Feb 22	T5/T17 Transducer

Issue 3

Drawing	Sheets	Rev.	Date (Stamp)	Title
752-063	1 to 2	00	24 Apri23	T5/T17/T5MAX TOP LEVEL CERT DWG
173M2721	1 of 1	00	24 Apri23	T5MAX 180 NT TRDCR CONSTRUCTION CERT DWG
173M2754	1 of 1	00	24 Apri23	T5MAX 90 NT TRDCR CONSTRUCTION CERT DWG

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IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx CML 19.0106X**

Certificate history:

Status: **Current**

Issue No: 0

Date of Issue: 2019-10-10

Applicant: **Peppers Cable Glands Limited**
Stanhope Road, Camberley, Surrey, GU15 3BT
United Kingdom

Equipment: **Type CR-***, CR-D** & CR-O*** Cable Glands**

Optional accessory:

Type of Protection: **Flameproof, Increased Safety, Dust, Restricted Breathing**

Marking: CR-O***

Ex eb IIC Gb

Ex ta IIIC Da

CR-*** and CR-D**

Ex db IIC Gb

Ex eb IIC Gb

Ex ta IIIC Da

Ex nR IIC Gc

Approved for issue on behalf of the IECEx Certification Body: **A C Smith**

Position: **Technical Operations Director**

Signature:
(for printed version)

Date:
(for printed version)

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Certificate issued by:

Eurofins E&E CML Limited
Unit 1, Newport Business Park
New Port Road
Ellesmere Port, CH65 4LZ
United Kingdom

IECEx Certificate of Conformity

Certificate No.: **IECEx CML 19.0106X**

Date of issue: 2019-10-10 Issue No: 0

Manufacturer: **Peppers Cable Glands Limited**
Stanhope Road, Camberley, Surrey, GU15 3BT
United Kingdom

Manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

GB/CML/ExTR19.0133/00

Quality Assessment Report:

GB/CML/QAR19.0022/00

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The type CR-***, CR-D** and CR-O*** ranges of cable glands may be supplied in gland size 16 to 100 with entry thread sizes M20 to M100 or with the equivalent size NPT, NPSM, BSPP, BSPT, PG or ET
entry thread forms.

Refer to Certification Annex for full equipment description.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Glands fitted with neoprene sealing rings (black) shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of -35°C to +90°C.
2. Glands fitted with silicone sealing rings (white or red) shall not be used in enclosures where the temperature, at the point of mounting, is outside the range of –60°C to +180°C.
3. When the gland is used with increased safety and/or dust protected equipment, the entry thread shall be suitably sealed to maintain the ingress protection rating of the associated enclosure.
4. If the CR-***, CR-D** and CR-O*** types of cable glands only grip the cable sheath of the cable and do not clamp the cable armour or if they are used to terminate unarmoured, braided or screened cables, then they shall only be used for fixed installations, hence, the cables shall be effectively clamped to prevent pulling or twisting.
5. The CR-*** and CR-D** cable glands, when installed in accordance with the manufacturer's instructions and with an appropriate enclosure on which they are fixed, are capable of providing an ingress protection of IP66 and IP68 (50 metres 7 days).
6. The CR-O*** range of cable glands, when installed in accordance with the manufacturer's instructions and with an appropriate enclosure on which they are fixed, are capable of providing an ingress protection of IP66.
7. The threaded entry component threads without interface O-ring seals installed in an explosive dust atmosphere, within threaded entries, shall only be fitted into enclosures that have either:

- parallel entries that will ensure that a minimum of 5 full threads of contact will be maintained, this is in accordance with clause 5.1.2 of EN 60079-31:2014.
- tapered entries that will ensure that a minimum of 3 ½ full threads of contact will be maintained, this is in accordance with clause 5.1.2 of EN 60079-31:2014.

Annex:

Annex IECEx CML 19.0106X Issue 0_1.pdf

Annexe to:	IECEx CML 19.0106X Issue 0
Applicant:	Peppers Cable Glands Limited
Apparatus:	Type CR-***, CR-D** & CR-O*** Cable Glands

The type CR-***, CR-D** and CR-O*** ranges of cable glands may be supplied in gland size 16 to 100 with entry thread sizes M20 to M100 or with the equivalent size NPT, NPSM, BSPP, BSPT, PG or ET entry thread forms. They are intended for use with effectively filled and circular armoured, unarmoured, braided, tape or screened sheathed cables and compromise the following components: -

a.	An entry component	f.	A tapered clamp ring
b.	An elastomeric inner sealing ring	g.	A middle nut
c.	A metal inner skid washer	h.	An elastomeric outer sealing ring
d.	A compression nut	i.	A nylon outer skid washer
e.	An armour clamping cone	j.	A back nut

Additional assembly options are described by the following designation coding:

Type CR-*** Cable Glands Gland Type:	CR-***					
Available Part No's.:	C	R	*	*	*	
			1	B	R	
			2	S		
			3			
			4			

Options:		
	1	Neoprene Seals
	2	Neoprene Seals with Lead Sheath Cable Continuity Washer
	3	Silicone Seals
	4	Silicone Seals with Lead Sheath Cable Continuity Washer
	B	Brass material
	S	316 Stainless Steel material
	R	Reduced Bore option

Type CR-*** Cable Glands:

Unit 1, Newport Business Park
New Port Road
Ellesmere Port
CH65 4LZ

T +44 (0) 151 559 1160
E info@cmlex.com

www.cmlex.com

Company Reg No. 8554022 VAT No. GB163023642

Gland Size	Standard Entry threads		Inner Sheath		Outer Sheath		Reduced Bore		Armour Dia./Thickness	
									Steel wire & Tape (Universal) or Braid/Screen	
	Metric	NPT	Min	Max	Min	Max	Min	Max	Min	Max
16	M20	½”	3.4	8.4	8.4	13.5	6.7	10.3	0.15	1.25
16H	M20	½”	3.4	8.4	11.5	16.0	9.4	12.5	0.15	1.25
20S	M20	½”	7.2	11.7	11.5	16.0	9.4	12.5	0.15	1.25
20	M20	½”	9.4	14.0	15.5	21.1	12.0	17.6	0.15	1.25
25	M25	¾”	13.5	20.0	20.3	27.4	16.8	23.9	0.15	1.6
32	M32	1”	19.5	26.3	26.7	34.0	23.2	30.5	0.15	2.0
40	M40	1 ¼”	23.0	32.2	33.0	40.6	28.6	36.2	0.2	2.0
50S	M50	1 ½”	28.1	38.2	39.4	46.7	34.8	42.4	0.2	2.5
50H	M50	1 ½”	28.1	38.2	45.7	53.2	41.1	48.5	0.2	2.5
50	M50	2”	33.1	44.1	45.7	53.2	41.1	48.5	0.3	2.5
63S	M63	2”	39.2	50.1	52.1	59.5	47.5	54.8	0.3	2.5
63H	M63	2”	39.2	50.1	58.4	65.8	53.8	61.2	0.3	2.5
63	M63	2 ½”	46.7	56.0	58.4	65.8	53.8	61.2	0.3	2.5
75S	M75	2 ½”	52.1	62.0	64.8	72.2	60.2	68.0	0.3	2.5
75H	M75	2 ½”	52.1	62.0	71.1	78.0	66.5	73.4	0.3	2.5
75	M75	3”	58.0	68.0	71.1	78.0	66.5	73.4	0.3	2.5
80	M80	3”	62.2	72.0	77.0	84.0	71.9	79.4	0.45	3.15
80H	M80	3”	62.2	72.0	79.6	90.0	75.0	85.4	0.45	3.15
85	M85	3”	69.0	78.0	79.6	90.0	75.0	85.4	0.45	3.15
90	M90	3 ½”	74.0	84.0	88.0	96.0	82.0	91.4	0.45	3.15
90H	M90	3 ½”	74.0	84.0	92.0	102.0	87.4	97.4	0.45	3.15
100	M100	3 ½”	82.0	90.0	92.0	102.0	87.4	97.4	0.45	3.15
110	M110	4”	92.0	102.0	104.0	117.0	-	-	0.45	3.15

Type CR-D Cable Glands**

The Type CR-D** Cable Glands are used with armoured, unarmoured, braided or screened sheathed cables. They are formed by removing the outer cap, outer seal and outer skid washer from the Type CR-*** cable glands and fitting an alternative middle cap component, in addition these glands are fitted with an O-ring entry body seal. The Type CR-D** Cable Glands are available with ISO metric entry threads of M20 to M100 (alternative thread forms are available in equivalent sizes) in cable gland sizes 16 through to 100, they can be made from either brass (B) or stainless steel (S).

Gland Type: CR-D**

Available Part No's.:	C	R	D	*	*
				1	B
				2	S
				3	
				4	

Options:		
	1	Neoprene Seals
	2	Neoprene Seals with Lead Sheath Cable Continuity Washer
	3	Silicone Seals
	4	Silicone Seals with Lead Sheath Cable Continuity Washer
	B	Brass material
	S	316 Stainless Steel material

Type CR-D** Type Cable Glands:

Gland Size	Standard Entry threads		Inner Sheath		Outer Sheath	Armour Dia./Thickness	
						Steel wire & Tape (Universal) or Braid/Screen	
	Metric	NPT	Min	Max	Max	Min	Max
16	M20	½"	3.4	8.4	16.0	0.15	1.25
20S	M20	½"	7.2	11.7	16.0	0.15	1.25
20	M20	½"	9.4	14.0	21.1	0.15	1.25
25	M25	¾"	13.5	20.0	27.5	0.15	1.6
32	M32	1"	19.5	26.3	34.0	0.15	2.0
40	M40	1 ¼"	23.0	32.2	40.6	0.2	2.0

Gland Size	Standard Entry threads		Inner Sheath		Outer Sheath	Armour Dia./Thickness	
						Steel wire & Tape (Universal) or Braid/Screen	
	Metric	NPT	Min	Max	Max	Min	Max
50S	M50	1 ½"	28.1	38.2	53.2	0.2	2.5
50	M50	2"	33.1	44.1	53.2	0.3	2.5
63S	M63	2"	39.2	50.1	65.8	0.3	2.5
63	M63	2 ½"	46.7	56.0	65.8	0.3	2.5
75S	M75	2 ½"	52.1	62.0	78.0	0.3	2.5
75	M75	3"	58.0	68.0	78.0	0.3	2.5
80	M80	3"	62.2	72.0	90.0	0.45	3.15
85	M85	3"	69.0	78.0	90.0	0.45	3.15
90	M90	3 ½"	74.0	84.0	102.0	0.45	3.15
100	M100	3 ½"	82.0	90.0	102.0	0.45	3.15

The Type CR-D** Cable Glands are formed by removing the outer cap, outer seal and outer skid washer from the CR-*** gland and fitting an alternative middle cap component. They are available in the same size, entry thread options and materials as the CR-*** cable gland.

Type CR-O*** Cable Glands

The Type CR-O*** Cable Glands are used with armoured, non-lead sheathed cables. They are formed by removing the inner sealing ring and its associated skid washer from the Type CR-*** cable glands, in addition these glands are fitted with an O-ring entry body seal. The Type CR-O*** Cable Glands are available with ISO metric entry threads of M20 to M100 (alternative thread forms are available in equivalent sizes) in cable gland sizes 16 through to 100, they can be made from either brass (B), stainless steel (S) and fitted with an optional reduced bore outer seal (R).

Gland Type: CR-O***

Available Part No's.:	C	R	O	*	*	*
				1	B	R
				3	S	

Options:
1 Neoprene Seals
3 Silicone Seals

B	Brass material
S	316 Stainless Steel material
R	Reduced Bore Option

Type CR-O*** Cable Glands

Gland Size	Standard Entry threads		Inner Sheath Max	Outer Sheath		Reduced Bore		Armour Dia./Thickness	
								Steel wire & Tape (Universal) or Braid/Screen	
	Metric	NPT		Min	Max	Min	Max	Min	Max
16	M20	½”	11.7	8.4	13.5	6.7	10.3	0.15	1.25
20S	M20	½”	11.7	11.5	16.0	9.4	12.5	0.15	1.25
20	M20	½”	14.0	15.5	21.1	12.0	17.6	0.15	1.25
25	M25	¾”	20.0	20.3	27.4	16.8	23.9	0.15	1.6
32	M32	1”	26.3	26.7	34.0	23.2	30.5	0.15	2.0
40	M40	1 ¼”	32.2	33.0	40.6	28.6	36.2	0.2	2.0
50S	M50	1 ½”	38.2	39.4	46.7	34.8	42.4	0.2	2.5
50H	M50	1 ½”	44.1	39.4	46.7	34.8	42.4	0.3	2.5
50	M50	2”	44.1	45.7	53.2	41.1	48.5	0.3	2.5
63S	M63	2”	50.1	52.1	59.5	47.5	54.8	0.3	2.5
63H	M63	2”	56.0	52.1	59.5	47.5	54.8	0.3	2.5
63	M63	2 ½”	56.0	58.4	65.8	53.8	61.2	0.3	2.5
75S	M75	2 ½”	62.0	64.8	72.2	60.2	68.0	0.3	2.5
75H	M75	2 ½”	68.0	64.8	72.2	60.2	68.0	0.3	2.5
75	M75	3”	68.0	71.1	78.0	66.5	73.4	0.3	2.5
80	M80	3”	72.0	77.0	84.0	71.9	79.4	0.45	3.15
80H	M80	3”	78.0	79.6	90.0	75.0	85.4	0.45	3.15
85	M85	3”	78.0	79.6	90.0	75.0	85.4	0.45	3.15
90	M90	3 ½”	84.0	88.0	96.0	82.0	91.4	0.45	3.15
90H	M90	3 ½”	90.0	88.0	96.0	82.0	91.4	0.45	3.15

Gland Size	Standard Entry threads		Inner Sheath Max	Outer Sheath		Reduced Bore		Armour Dia./Thickness	
								Steel wire & Tape (Universal) or Braid/Screen	
	Metric	NPT		Min	Max	Min	Max	Min	Max
100	M100	3 ½”	90.0	92.0	102.0	87.4	97.4	0.45	3.15
110	M110	4”	102.0	104.0	117.0	-	-	0.45	3.15

Notes:

BAS01ATEX2271X, Sira 09ATEX1221X and IECEx SIR 07.0099X are superseded by certificates CML 19ATEX1348X, CML 19ATEX4109X and IECEx CML 19.0106X.

The product covered by Issue 0 of this certificate remains identical to that previously covered by BAS01ATEX2271X, Sira 09ATEX1221X and IECEx SIR 07.0099X.

Where BAS01ATEX2271X and/or Sira 09ATEX1221X and/or IECEx SIR 07.0099X is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not required.

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx SIR 09.0131X**

Certificate history:
Issue 3 (2011-06-30)
Issue 2 (2011-03-29)
Issue 1 (2010-04-27)
Issue 0 (2010-03-05)

Status: **Current**

Issue No: 4

Date of Issue: 2014-07-31

Applicant: **Peppers Cable Glands Ltd**
Stanhope Road
Camberley
Surrey, GU15 3BT
United Kingdom

Equipment: **AR range of Adaptors and Reducers SPA, SPB, SPMH and SPHH ranges of Stopping Plugs**

Optional accessory:

Type of Protection: **Flameproof, Increased Safety, Type N and Dust**

Marking: **Adapters and Reducers**
Ex d IIC Gb / Ex d I Mb, Ex e IIC Gb / Ex e I Mb, Ex nR IIC Gc, Ex tb III C Db IP66/ 68

Stopping Plugs
Ex d IIC Gb / Ex d I Mb, Ex e IIC Gb / Ex e I Mb Ex nR IIC Gc, Ex tb III C Db IP66* (*refer to the description)

Approved for issue on behalf of the IECEx Certification Body: **C Ellaby**

Position: **Deputy Certification Manager**

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

IECEx Certificate of Conformity

Certificate No.: **IECEx SIR 09.0131X**

Date of issue: 2014-07-31 Issue No: 4

Manufacturer: **Peppers Cable Glands Ltd**
Stanhope Road
Camberley
Surrey
GU15 3BT
United Kingdom

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

IEC 60079-1:2007-04 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:6

IEC 60079-15:2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition:4

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2006-07 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:4

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

GB/SIR/ExTR14.0163/00
GB/SIR/ExTR11.0074/00
GB/SIR/ExTR10.0037/00
GB/SIR/ExTR10.0038/01
GB/SIR/ExTR10.0073/00

Quality Assessment Reports:

GB/SIR/QAR06.0018/05
GB/SIR/QAR06.0018/01
GB/SIR/QAR06.0018/02
GB/SIR/QAR06.0018/03
GB/SIR/QAR06.0018/04

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Refer to the Annexe for the Description, design options etc.

The Manufacturer shall comply with the following condition of manufacture:

1. Aluminium devices shall not be marked with any information indicating that they are suitable for Group I use.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1.	The Stopping Plugs and Blanking elements shall not be used in conjunction with an adapter or reducer when installed in a flameproof enclosure.
2.	Where Adapters and Reducers without sealing rings are installed in protection by enclosure (Ex t) equipment for use in explosive dust atmospheres, they shall only be fitted into enclosures offering a minimum of 5 full threads, in accordance with IEC 60079-31:2008 clause 5.1.1.
3.	When no seal is fitted and the stopping plug is installed in an increased safety (Ex e) enclosure, the user shall ensure that a minimum degree of protection IP54 is maintained.
4.	Where Stopping Plugs without sealing rings are installed in protection by enclosure (Ex t) equipment for use in explosive dust atmospheres, they may only be fitted into enclosures offering a minimum of 5 full threads, in accordance with IEC 60079-31:2008 clause 5.1.1
5.	Adapters and Reducers shall not to be used for the direct inter-connection of enclosures.
6.	Only one adapter or reducer is to be used with any single cable entry on the associated equipment.
7.	The products are approved for a temperature range at their point of mounting based upon the interface seal and material combinations of construction: See EQUIPMENT (continued) for Table

Equipment (continued):

	0	=	No seal fitted	(-100°C to +400°C)
	1	=	Nitrile O-ring	(-30°C to +100°C)
	2	=	Neoprene O-ring	(-35°C to +90°C)
	3	=	Silicone O-ring	(-60°C to +200°C)
	4	=	Fluorosilicone O-ring	(-55°C to +200°C)
	5	=	Viton O-ring	(-20°C to +180°C)
	6	=	EPDM O-ring	(-50°C to +110°C)

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1 – this Issue introduced the following changes:		
1.	The recognition of an increase in the width of the marking band on the adaptors.	
2.	To allow amendments to dimensions of the adaptors and reducers, the changes do not affect the type of protection.	
Issue 2 – this Issue introduced the following change:		
1.	The introduction of male to male and female to female adaptors was recognised, the description in the annexe is amended accordingly	
Issue 3 – this Issue introduced the following change:		
1.	Issued to allow GB/SIR/ExTR10.0038/01 to replace GB/SIR/ExTR10.0038/00	
Issue 4 – this Issue introduced the following change:		
1.	The introduction of the:	
	•	M12, 1/4” and 3/8” NPT/NPSM/BSPT/BSPP sizes of the SPA, SPB, SPMH and SPHH ranges of stopping plugs.
	•	PG7 size of the SPMH and SPHH ranges of stopping plugs.
	•	M24 size for the SPMH stopping plug.
	•	ET conduit thread type for the SPA, SPB, SPMH and SPHH stopping plugs.
	Note: the range of thread types in the Description was amended to bring it up to date with this change.	
2.	Following appropriate re-assessment to demonstrate compliance with the requirements of the latest standards, the documents originally listed, IEC 60079-0:2007 Ed 5, IEC 60079-15:2005 Ed 3 and IEC 60079-31:2008 Ed 1, were replaced by, IEC 60079-0:2011 Ed 6, IEC 60079-15:2010 Ed 4 and IEC 60079-31:2013 Ed 2 respectively.	
3.	The marking Section was updated in relation to the IP ratings of the stopping plugs.	

Annex:

Annex to IECEx SIR 09.0131X Issue 4 Annexe.pdf