



cCSAus certificate:

EN

70124133

for

CP7xx



Meggitt SA
Route de Moncor 4
PO Box 1616
CH - 1701 Fribourg
Switzerland

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Certificate of Compliance

Certificate: 70124133 **Master Contract:** 175074
Project: 70124133 **Date Issued:** 2017-04-27

Issued to: Meggitt SA
 Rte de Moncor 4
 Villars-sur-Glane, Fribourg 1752
 SWITZERLAND
 Attention: Carlo Pellegrinelli

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.



Issued by: *Hossein Saleh*
 Hossein Saleh

PRODUCTS

CLASS - 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations
 CLASS - 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups A, B, C and D
Ex ia IIC T6...714°C Ga
Class I, Zone 0, AEx ia IIC T6...714°C Ga

Dynamic Pressure Sensor type CP 7XX is an electro-mechanical transducer with piezoelectric crystal. It is equipped with a cable or a connector which is connected to an external power source. Intrinsically safe with entity parameters when connected per drawing PZ 8820. Temperature range: -200°C to +704°C.

Nomenclature:

- Part number is 143-7XX-000-YYY (XX and YYY variable parts)
- XX define the shape of the sensor head (X = 0 to 9)
- YYY depends on the connector type or cable length (y = 0 to 9)



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Rating:

In type of protection intrinsic safety A/Ex ia, only for connection to a certified intrinsically safe certified source with the following entity parameters:

Supply Type	Equipment Type	V _{max} U _i	I _{max} I _i	P _{max} P _i	C _i	L _i
Resistive linear	With Integral Cable	28 V	100 mA	0.7 W	300 pF + 250 pF/m * cable length m*	Negligible*
	Without Integral Cable	28 V	100 mA	0.7 W	300 pF	0 uH
Non-linear	With Integral Cable	28 V	25 mA	0.7 W	300 pF + 250 pF/m * cable length m*	Negligible*
	Without Integral Cable	28 V	25 mA	0.7 W	300 pF	0 uH

* Note - Maximum allowed length of cable for equipment with integral cable is 330 m. For equipment without integral cable the maximum cable length is restricted by cable capacitance such that C_i + C_{CABLE} ≤ C_{ea}.

Notes:

- The above model is fixed connection, Pollution Degree 2, Installation Category I.
- Mode of operation: Continuous.
- Environmental Conditions: Extended, Outdoor use, -200°C to +704°C, altitude up to 2000m, RH% of 0-80%.

Conditions of Acceptability:

- The equipment must be only connected to a certified intrinsically safe barrier with the entity parameters mentioned in installation drawing PZ 8820.
- Cable length must be defined in such a way that total capacitance of sensor and cable does not exceed the maximum permitted capacitance of certified intrinsically safe barrier.
- Ambient temperature range: -200°C to +704°C.
- The mounting of the apparatus into an installation must be carried out in such a way that metallic body of the sensor is reliably connected to the system earth.
- Temperature code depends on ambient temperature as follows:

T _{amb} Range	Temperature Code
-200°C to +80°C	T6
-200°C to +95°C	T5
-200°C to +130°C	T4
-200°C to +195°C	T3
-200°C to +290°C	T2
-200°C to +440°C	T1
-200°C to +xxx°C (xxx°C ≤ +704°C)	xxx°C + 10°C (≤ +714°C)

CLASS - C225802 - PROCESS CONTROL EQUIPMENT-For Hazardous Locations-
 CLASS - C225882 - PROCESS CONTROL EQUIPMENT-For Hazardous Locations - Certified to US Standards

Class I, Division 2, Groups A, B, C and D
Ex nA IIC T6...714°C Gc
Class I, Zone 2, AEx nA IIC T6...714°C Gc



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APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 0-10	General Requirements – Canadian Electrical Code, Part II
CAN/CSA C22.2 No. 61010-1-12	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements – Third Edition
CSA Std. C22.2 No. 213-16	Non-Incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA-C22.2 No. 60079-0:15	Explosive Atmospheres – Part 0: Equipment - General requirements
CAN/CSA-C22.2 No. 60079-11:14	Explosive Atmospheres – Part 11: Equipment protection by intrinsic safety "i"
CAN/CSA-C22.2 No. 60079-15:16	Electrical apparatus for explosive gas atmospheres – Part 15: Construction, test and marking of type of protection "n" electrical apparatus
ANSI/ISA-61010-1 3rd Edition	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1: General Requirements – Third Edition
ANSI/ISA-12.12.01-2015	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
ANSI/UL 60079-0:13	Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements
ANSI/UL 60079-11:13	Electrical apparatus for Explosive Gas Atmospheres – Part 11: Intrinsic Safety "i"
ANSI/UL 60079-15:13	Electrical apparatus for Explosive Gas Atmospheres – Part 15: Type of Protection "n"



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Dynamic Pressure Sensor type CP 7XX is an electro-mechanical transducer with piezoelectric crystal. It is equipped with a cable or a connector which is connected to an external power source of maximum 32VDC. Temperature range: -200°C to +704°C.

Nomenclature:

- Part number is 143-7XX-000-YYY (XX and YYY variable parts)
- XX define the shape of the sensor head (x = 0 to 9)
- YYY depends on the connector type or cable length (y = 0 to 9)


Notes:

- The above model is fixed connection, Pollution Degree 2, Installation Category I.
- Mode of operation: Continuous.
- Environmental Conditions: Extended, Outdoor use, -200°C to +704°C, altitude up to 2000m, RH% of 0-80%.

Conditions of Acceptability:

- To be installed in Zone 2 or Division 2 per installation drawing PZ 8824.
- To be supplied by a Class 2 or limited-energy source according to CSA 61010-1-12/ISA 61010-1 3rd Edition with a maximum voltage of 32VDC.
- Ambient temperature range: -200°C to +704°C.
- The mounting of the apparatus into an installation must be carried out in such a way that metallic body of the sensor is reliably connected to the system earth.
- For the sensor without integrated cable, the connector of the equipment presents a protection degree of at least IP40. The connection shall be made in locations providing adequate protection against the entry of solid foreign objects or water capable of impairing safety in accordance with clause 6.3.1 of CSA/UL 60079-15 Edition 4 standard.
- Warning – Do not connect or disconnect when energized.
- The final installation shall ensure that there is no risk of mechanical impact to the cable of the device.
- The final installation of the device shall meet the requirements of CEC (for Canada) and NEC (for USA) for wiring method in Zone 2 and Division 2 and is subjected to acceptance of local authority having jurisdiction.
- Temperature code depends on ambient temperature as follows:

T _{amb} Range	Temperature Code
-200°C to +80°C	T6
-200°C to +95°C	T5
-200°C to +130°C	T4
-200°C to +195°C	T3
-200°C to +290°C	T2
-200°C to +440°C	T1
-200°C to +xxx°C (xxx°C ≤ +704°C)	xxx°C (≤ +714°C)



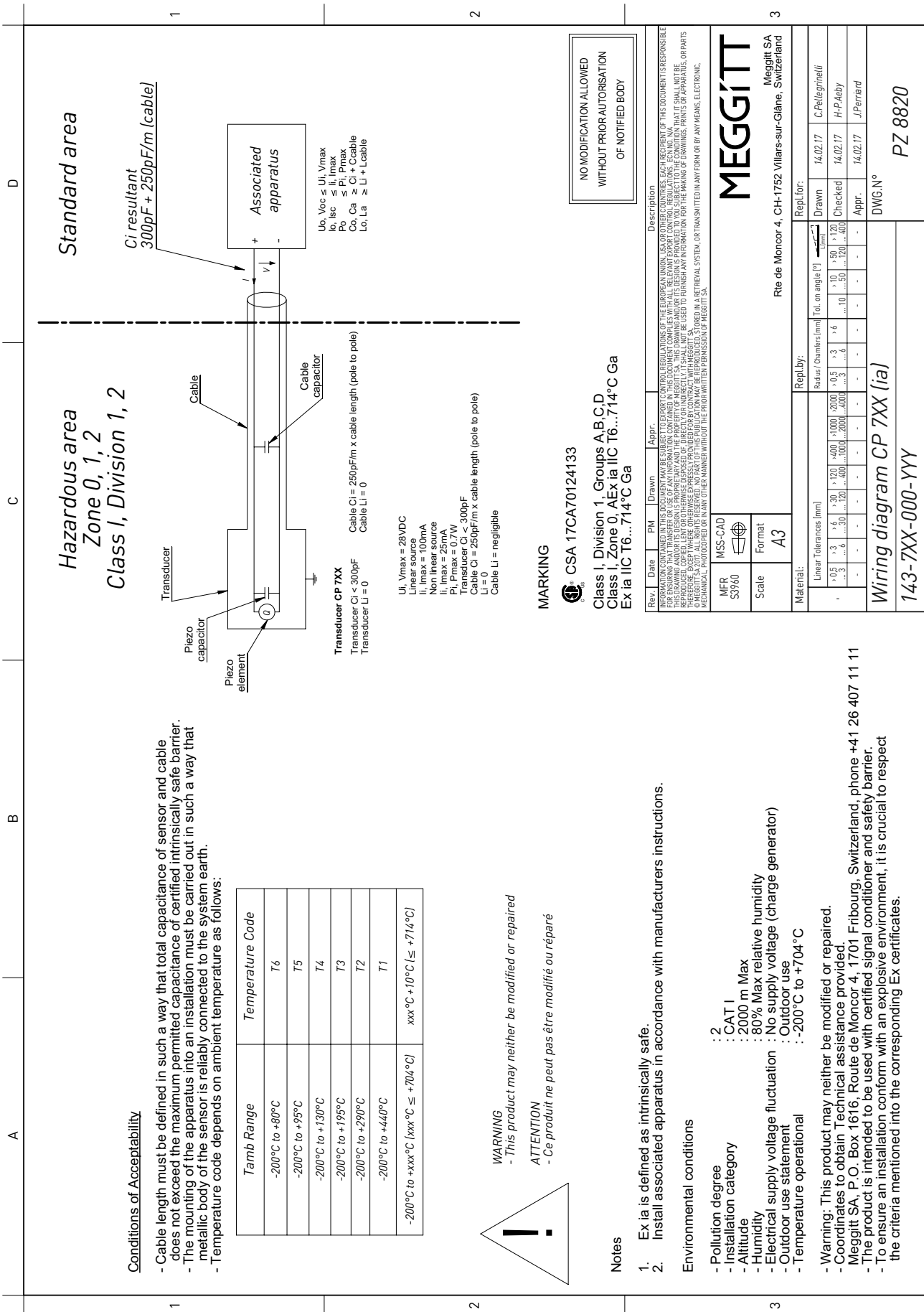
Supplement to Certificate of Compliance

Certificate: 70124133 **Master Contract:** 175074

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History	
Project	Description
70124133	CSA C-US certification of Meggitt SA new Dynamic Pressure Sensor family CP 7XX for protection method: Class I, Division 1, Groups A, B, C, D; Ex ia IIC T6...714°C; Class I, Zone 0, AEx ia IIC T6...714°C; Class I, Division 2, Groups A, B, C, D; Ex nA IIC T6...714°C; Class I, Zone 2, AEx nA IIC T6...714°C. Ambient temperature range: -200°C to +704°C.

DQP 507 Rev. 2016-02-18
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MARKING



Class I, Division 1, Groups A,B,C,D
 Class I, Zone 0, AEx ia IIC T6...T14°C Ga
 Ex ia IIC T6...T14°C Ga

Rev.	Date	PM	Drawn	Appr.	Description
1					Information contained in this document may be subject to export control regulations of the European Union, USA or other countries. Each recipient of this document is responsible for ensuring that it is not used for military or nuclear purposes. This drawing and its design is copyright and the property of MEGGITT SA. This drawing and its design is provided on the condition that it shall not be reproduced, copied, lent or otherwise disposed of directly or indirectly. It shall not be used to furnish information for the making of drawings, prints or apparatus, or parts thereof, without the prior written permission of MEGGITT SA. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopied or in any other manner without the prior written permission of MEGGITT SA.
MFR		MSS-CAD		MEGGITT	
S3960				Meggit SA Rte de Moncor 4, CH-1752 Villars-sur-Glâne, Switzerland	
Scale		Format		Repl.Loc:	
A3				Drawn 14.02.17 C.Pellegrinelli/ Checked 14.02.17 H-P.Aeby Appr. 14.02.17 J.Perriard	
Material:		Repl.By:		DWG.N°	
Linear Tolerance (mm)		Radius / Chamfers (mm)		PZ 8820	
+0.5 x3 +0.6 x6 +0.6 x30 +0.6 x120 +0.6 x200 +0.6 x400		+0.5 x3 +0.6 x6 +0.6 x30 +0.6 x120 +0.6 x200 +0.6 x400		Tot. on angle [°]	
				+10 x50 +10 x50 +10 x50 +10 x50	

Wiring diagram CP 7XX (ia)

143-7XX-000-YYY

Conditions of Acceptability

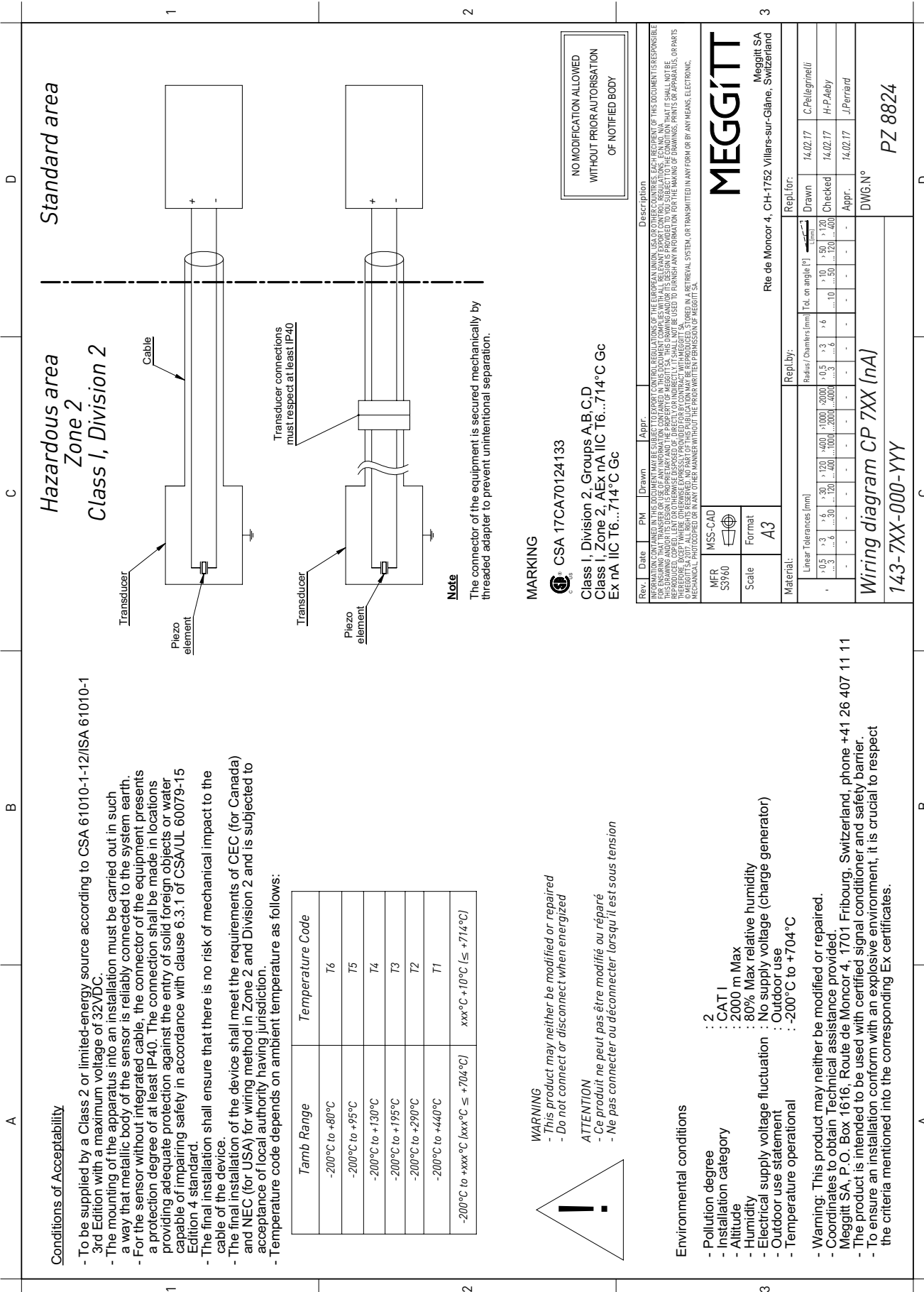
- Cable length must be defined in such a way that total capacitance of sensor and cable does not exceed the maximum permitted capacitance of certified intrinsically safe barrier.
- The mounting of the apparatus into an installation must be carried out in such a way that metallic body of the sensor is reliably connected to the system earth.
- Temperature code depends on ambient temperature as follows:

Tamb Range	Temperature Code
-200°C to +80°C	T6
-200°C to +95°C	T5
-200°C to +130°C	T4
-200°C to +195°C	T3
-200°C to +290°C	T2
-200°C to +440°C	T1
-200°C to +xxx°C [xxx°C ≤ +704°C]	xxx°C + 10°C (≤ +714°C)

WARNING
- This product may neither be modified or repaired

ATTENTION
- Ce produit ne peut pas être modifié ou réparé

- Notes**
1. Ex ia is defined as intrinsically safe.
 2. Install associated apparatus in accordance with manufacturers instructions.
- Environmental conditions**
- Pollution degree : 2
 - Installation category : CAT I
 - Altitude : 2000 m Max
 - Humidity : 80% Max relative humidity
 - Electrical supply voltage fluctuation : No supply voltage (charge generator)
 - Outdoor use statement : Outdoor use
 - Temperature operational : -200°C to +704°C
- Warning: This product may neither be modified or repaired.
 - Coordinates to obtain Technical assistance provided.
 Meggitt SA, P.O. Box 1616, Route de Moncor 4, 1701 Fribourg, Switzerland, phone +41 26 407 11 11
 - The product is intended to be used with certified signal conditioner and safety barrier.
 - To ensure an installation conform with an explosive environment, it is crucial to respect the criteria mentioned into the corresponding Ex certificates.



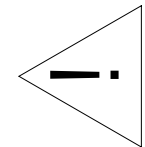
Standard area

Hazardous area
 Zone 2
 Class I, Division 2

Conditions of Acceptability

- To be supplied by a Class 2 or limited-energy source according to CSA 61010-1-12/ISA 61010-1-3rd Edition with a maximum voltage of 32VDC.
- The mounting of the apparatus into an installation must be carried out in such a way that metallic body of the sensor is reliably connected to the system earth.
- For the sensor without integrated cable, the connector of the equipment presents a protection degree of at least IP40. The connection shall be made in locations providing adequate protection against the entry of solid foreign objects or water capable of impairing safety in accordance with clause 6.3.1 of CSA/UL 60079-15 Edition 4 standard.
- The final installation shall ensure that there is no risk of mechanical impact to the cable of the device.
- The final installation of the device shall meet the requirements of CEC (for Canada) and NEC (for USA) for wiring method in Zone 2 and Division 2 and is subjected to acceptance of local authority having jurisdiction.
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-200°C to +440°C	T1
-200°C to +xxx°C (xxx°C ≤ +704°C)	xxx°C +10°C (≤ +714°C)



WARNING
 - This product may neither be modified or repaired
 - Do not connect or disconnect when energized

ATTENTION
 - Ce produit ne peut pas être modifié ou réparé
 - Ne pas connecter ou déconnecter lorsqu'il est sous tension

MARKING

CSA 17CA70124133
 Class 1, Division 2, Groups A,B,C,D
 Class I, Zone 2, AEx nA IIC T6...714°C Gc
 Ex nA IIC T6...714°C Gc

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Rev.	Date	PM	Drawn	Appr.	Description																
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MFR	S3960	MSS-CAD			MEGGITT Meggitt SA Rte de Moncor 4, CH-1752 Villars-sur-Glâne, Switzerland																
Scale	A3																				
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-	-	-	Appr. 14.02.17 J-Perriard																		
Wiring diagram CP 7XX (nA)																					
143-7XX-000-YYY																					
A			D																		

Environmental conditions

- Pollution degree : 2
- Installation category : CAT 1
- Altitude : 2000 m Max
- Humidity : 80% Max relative humidity
- Electrical supply voltage fluctuation : No supply voltage (charge generator)
- Outdoor use statement : Outdoor use
- Temperature operational : -200°C to +704°C
- Warning: This product may neither be modified or repaired.
- Coordinates to obtain Technical assistance provided. Meggitt SA, P.O. Box 1616, Route de Moncor 4, 1701 Fribourg, Switzerland, phone +41 26 407 11 11
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