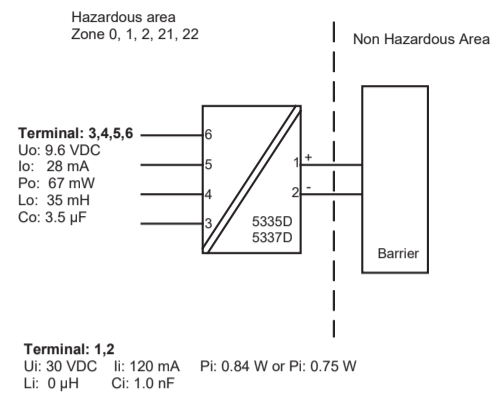


ATEX-installation drawing 5335QA01-V5R0

For safe installation of 5335D or 5337D the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area. Year of manufacture can be taken from the first two digits in the serial number.

ATEX Certificate DEKRA 20ATEX0108 X
 Marking II 1 G Ex ia IIC T6...T4 Ga
 II 2 D Ex ia IIIC Db
 I M1 Ex ia I Ma
 Standards EN IEC 60079-0: 2018, EN 60079-11: 2012



| Temperature Class | Ambient temperature range | |
|-------------------|---------------------------|----------------|
| | Pi: 0.84 W | Pi: 0.75 W |
| T6 | -40°C to +47°C | -40°C to +50°C |
| T5 | -40°C to +62°C | -40°C to +65°C |
| T4 | -40°C to +85°C | -40°C to +85°C |

Installation notes

If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ga, the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP20 according to EN 60529, and that is suitable for the application and correctly installed.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ga or Ma, and if the enclosure is made of aluminum, it must be installed such, that ignition sources due to impact and friction sparks are excluded.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Db, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP5X according to EN 60079-0, and that is suitable for the application and correctly installed. The surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer. Ambient temperature range: -40°C to +85°C.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ma, the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP54 according to EN 60529, and that is suitable for the application and correctly installed. Ambient temperature range: -40°C to +85°C.

Cable entries and blanking elements shall be used that are suitable for the application and correctly installed.

For an ambient temperature ≥ 60°C, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

The sensor circuit is not infallibly galvanically isolated from the input circuit. However, the galvanic isolation between the circuits is capable of withstanding a test voltage of 500 VAC for 1 minute.

ATEX-installation drawing 5335QA02-V5R0

For safe installation of 5335A and 5337A the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area. Year of manufacture can be taken from the first two digits in the serial number.

ATEX Certificate DEKRA 20ATEX0109 X
 Marking II 3 G Ex nA [ic] IIC T6 ... T4 Gc
 II 3 G Ex ec [ic] IIC T6 ... T4 Gc
 II 3 G Ex ic IIC T6 ... T4 Gc
 II 3 D Ex ic IIIC Dc
 Standards EN 60079-0: 2018, EN 60079-11: 2012, EN 60079-15: 2010, EN 60079-7:2015 +A1: 2018

| Terminal 3,4,5,6 | Terminal 1,2 | Terminal 1,2 | Terminal 1,2 |
|--|--|--|-----------------------------------|
| Ex ic IIC, Ex ic IIIC | Ex ic IIC, Ex ic IIIC | Ex ic IIC, Ex ic IIIC | Ex nA, Ex ec |
| Uo: 9.6 V Io: 28 mA Po: 67 mW Lo: 35 mH Co: 3.5 µF | Ui = 35 V Ii = 110 mA Ci = 1 nF Li = 0 µH | Ui = 24 V Ii = 260 mA Ci = 1 nF Li = 0 µH | Umax ≤ 35 VDC or Umax ≤ 24 VDC |

| Ex ic IIC, Ex ic IIIC Temperature Class | Ambient temperature range | |
|---|---------------------------|----------------|
| | Ui=35 V | Ui=24 V |
| T6 | -40°C to +54°C | -40°C to +63°C |
| T5 | -40°C to +69°C | -40°C to +78°C |
| T4 | -40°C to +85°C | -40°C to +85°C |

| Ex ec, Ex nA Temperature Class | Ambient temperature range | |
|--------------------------------|---------------------------|----------------|
| | Vmax=35 V | Vmax=24 V |
| T6 | -40°C to +43°C | -40°C to +55°C |
| T5 | -40°C to +85°C | -40°C to +85°C |
| T4 | -40°C to +85°C | -40°C to +85°C |

Installation notes

If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex ic, the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP20 according to EN 60259, and that is suitable for the application and correctly installed.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Dc, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP5X according to EN 60079-0, and that is suitable for the application and correctly installed. The surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer. Ambient temperature range: -40°C to +85°C.

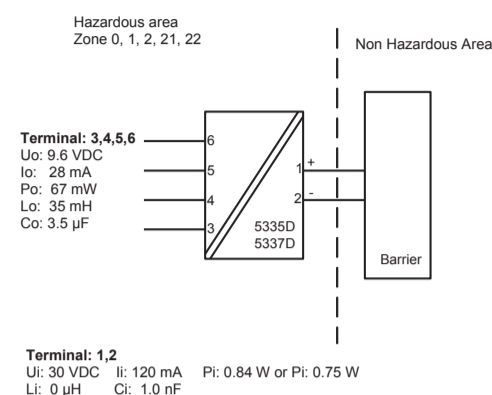
If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex nA or Ex ec, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP54 according to IEC 60079-0, and that is suitable for the application and correctly installed.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex nA or Ex ec, the equipment shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.

IECEx-installation drawing 5335QI01-V5R0

For safe installation of 5335D or 5337D the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area. Year of manufacture can be taken from the first two digits in the serial number.

Certificate IECEx DEK 20.0063X
 Marking Ex ia IIC T6...T4 Ga
 Ex ia IIIC Db
 Ex ia I Ma
 Standards IEC 60079-0: 2017, IEC 60079-11: 2011



| Temperature Class | Ambient temperature range | |
|-------------------|---------------------------|----------------|
| | Pi: 0.84 W | Pi: 0.75 W |
| T6 | -40°C to +47°C | -40°C to +50°C |
| T5 | -40°C to +62°C | -40°C to +65°C |
| T4 | -40°C to +85°C | -40°C to +85°C |

Installation notes

If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ga, the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP20 according to IEC 60529, and that is suitable for the application and correctly installed.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ga or Ma, and if the enclosure is made of aluminum, it must be installed such, that ignition sources due to impact and friction sparks are excluded.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Db, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP5X according to IEC 60079-0, and that is suitable for the application and correctly installed. The surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer. Ambient temperature range: -40°C to +85°C.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ma, the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP54 according to IEC 60529, and that is suitable for the application and correctly installed. Ambient temperature range: -40°C to +85°C.

Cable entries and blanking elements shall be used that are suitable for the application and correctly installed.

For an ambient temperature ≥ 60°C, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

The sensor circuit is not infallibly galvanically isolated from the input circuit. However, the galvanic isolation between the circuits is capable of withstanding a test voltage of 500 VAC for 1 minute.

IECEx-installation drawing 5335QI02-V5R0

For safe installation of 5335A and 5337A the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area. Year of manufacture can be taken from the first two digits in the serial number.

Certificate IECEx DEK 20.0063X
 Marking Ex nA [ic] IIC T6 ... T4 Gc
 Ex ec [ic] IIC T6 ... T4 Gc
 Ex ic IIC T6 ... T4 Gc
 Ex ic IIIC Dc
 Standards IEC 60079-0: 2017, IEC 60079-11: 2011, IEC 60079-15: 2010, IEC 60079-7:2017

| Terminal 3,4,5,6 | Terminal 1,2 | Terminal 1,2 | Terminal 1,2 |
|--|--|--|-----------------------------------|
| Ex ic IIC, Ex ic IIIC | Ex ic IIC, Ex ic IIIC | Ex ic IIC, Ex ic IIIC | Ex nA, Ex ec |
| Uo: 9.6 V Io: 28 mA Po: 67 mW Lo: 35 mH Co: 3.5 µF | Ui = 35 V Ii = 110 mA Ci = 1 nF Li = 0 µH | Ui = 24 V Ii = 260 mA Ci = 1 nF Li = 0 µH | Umax ≤ 35 VDC or Umax ≤ 24 VDC |

| Ex ic IIC, Ex ic IIIC Temperature Class | Ambient temperature range | |
|---|---------------------------|----------------|
| | Ui=35 V | Ui=24 V |
| T6 | -40°C to +54°C | -40°C to +63°C |
| T5 | -40°C to +69°C | -40°C to +78°C |
| T4 | -40°C to +85°C | -40°C to +85°C |

| Ex ec, Ex nA Temperature Class | Ambient temperature range | |
|--------------------------------|---------------------------|----------------|
| | Vmax=35 V | Vmax=24 V |
| T6 | -40°C to +43°C | -40°C to +55°C |
| T5 | -40°C to +85°C | -40°C to +85°C |
| T4 | -40°C to +85°C | -40°C to +85°C |

Installation notes

If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex ic, the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP20 according to IEC 60259, and that is suitable for the application and correctly installed.

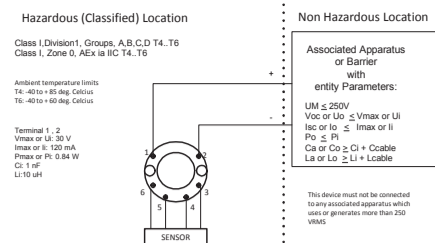
If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Dc, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP5X according to IEC 60079-0, and that is suitable for the application and correctly installed. The surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer. Ambient temperature range: -40°C to +85°C.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex nA or Ex ec, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP54 according to IEC 60079-0, and that is suitable for the application and correctly installed.

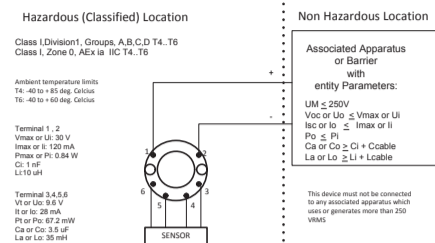
If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex nA or Ex ec, the equipment shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.

FM Installation Drawing 5300Q502 V3R0

Model 5331D, 5332D, 5333D and 5343B



Model 5335D, 5337D



The entity concept

The Transmitter must be installed according to National Electrical Code (ANSI-NFPA 70) and shall be installed with the enclosure, mounting, and spacing segregation requirement of the ultimate application.

Equipment that is FM-approved for intrinsic safety may be connected to barriers based on the ENTITY CONCEPT. This concept permits interconnection of approved transmitters, meters and other devices in combinations which have not been specifically examined by FM, provided that the agency's criteria are met. The combination is then intrinsically safe, if the entity concept is acceptable to the authority having jurisdiction over the installation.

The entity concept criteria are as follows:

The intrinsically safe devices, other than barriers, must not be a source of power. The maximum voltage (Uo/Vmax) and current (Ioc/Imax), and maximum power (Pmax/Pmax), which the device can receive and remain intrinsically safe, must be equal to or greater than the voltage (Uo or Voc or Vi) and current (Ioc or Ii) and the power Po which can be delivered by the barrier.

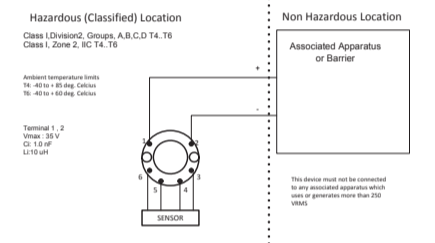
The sum of the maximum unprotected capacitance (C) for each intrinsically device and the interconnecting wiring must be less than the capacitance (Ca) which can be safely connected to the barrier.

The sum of the maximum unprotected inductance (L) for each intrinsically device and the interconnecting wiring must be less than the inductance (La) which can be safely connected to the barrier.

The entity parameters Uo, Voc, or Vi, Ioc, or Ii, and Ca and La for barriers are provided by the barrier manufacturer.

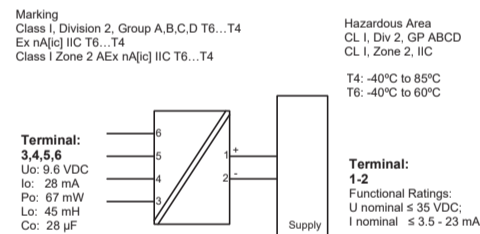
NI Field Circuit Parameters

Model 5331D, 5332D, 5333D, 5335D, 5337D and 5343B



CSA Installation drawing 5337QC02 - V2R0

For safe installation of the 5335A and 5337A the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.



NI Installation instructions

The transmitter must be installed in an enclosure providing a degree of protection of at least IP54 according to IEC60529 that is suitable for the application and is correctly installed. Cable entry devices and blanking elements shall fulfill the same requirements. If the enclosure is made of non-metallic materials or of painted metal, electrostatic charging shall be avoided. Use supply wires with a rating of at least 5 k above the ambient temperature. Supply from a Class 2 Power Supply with Transient protection or equivalent.

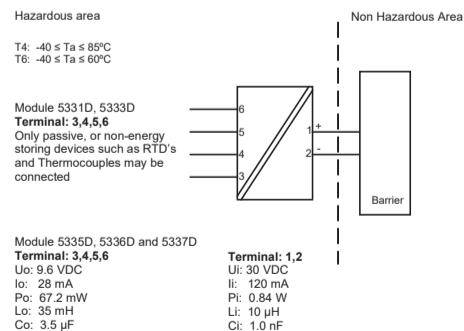
WARNING: Substitution of components may impair suitability for Class I, Division 2
 AVERTISSEMENT: la substitution de composants peut nuire à l'aptitude à la Classe I, Division 2.

WARNING: Do not disconnect equipment unless power has been switched off or the area is known to be safe
 AVERTISSEMENT: Ne débranchez pas l'équipement sauf si l'alimentation a été coupée ou si la zone est connue pour être sûre.

Non incandive field wiring installation

The non incandive field Wiring Circuit concept allows interconnection of Nonincandive Field Wiring Apparatus with Associated Nonincandive Field Wiring Apparatus or Associated Intrinsically Safe Apparatus or Associated Apparatus not specially examined in combination as a system using any of the wiring methods permitted for unclassified locations, Voc < Vmax, Ca ≥ Ci + Ccable, La ≥ Li + Lcable.

CSA Installation drawing 533XQC03 - V5R0



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 T6...T4
 Ex ia IIC T6...T4 Ga
 Class I, Zone 0, AEx ia IIC Ga

Warning: Substitution of components may impair intrinsic safety.

The transmitters must be installed in a suitable enclosure to meet installation codes stipulated in the Canadian Electrical Code (CEC) or for US the National Electrical Code (NEC).

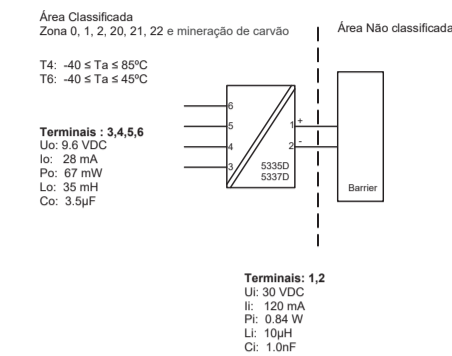
Instalação INMETRO 5335QB01-V8R0

Para uma instalação segura, o seguinte deve ser observado. O módulo só deve ser instalado por pessoal qualificado e familiarizado com as leis, diretrizes e normas nacionais e internacionais aplicáveis a essa área.

Certificado DEKRA18.0002X
 Normas ABNT NBR IEC 60079-0:2013 Versão corrigida 2: 2016
 ABNT NBR IEC 60079-11:2013 : Versão corrigida 2017
 ABNT NBR IEC 60079-15:2012

5335D, 5337D:

Notas Ex ia IIC T6...T4 Ga
 Ex ia IIIC Da
 Ex ia I Ma



Instruções Gerais de Instalação.

O circuito do sensor não é galvanicamente infalivelmente isolado do circuito de saída de alimentação. No entanto, o isolamento galvanico entre os circuitos é capaz de suportar uma tensão de teste de 500Vac durante 1 minuto. Se o invólucro for feito de alumínio, ele deve ser instalado de tal forma que, mesmo em caso de incidentes raros, fontes de ignição devidas a impactos e fricção, faíscas sejam excluídas. Se o invólucro for feito de materiais não metálicos ou metais pintados, o carregamento eletrostático deve ser evitado.

Para instalações em uma atmosfera de gás potencialmente explosiva, a seguinte instrução se aplicará:

O transmissor deverá ser montado em um gabinete de formato tipo B de acordo com a norma DIN43729 ou equivalente que possibilite um grau mínimo de proteção IP20 de acordo com a ABNT NBR IEC60529 adequado para a aplicação e instalado corretamente.

Para instalação em uma atmosfera de poeira potencialmente explosiva, as seguintes instruções se aplicam:

O transmissor deve ser montado em um invólucro metálico B de acordo com DIN43729 ou equivalente que esteja fornecendo um grau de proteção de pelo menos IP6X de acordo com a ABNT NBR IEC 60529 que seja adequado para a aplicação e instalado corretamente. Entradas de cabos e buíças de fechamento devem ser usados adequados à aplicação e instalados corretamente.

Para instalação em minas, as seguintes instruções se aplicam:

O transmissor deve ser montado em um invólucro de metal que forneça um grau de proteção de pelo menos IP6X de acordo com a ABNT NBR IEC 60529 e seja adequado para a aplicação e instalado corretamente. Entradas de cabos e buíças de fechamento devem ser usados adequados à aplicação e instalados corretamente.

Se o invólucro for feito de alumínio, ele deve ser instalado de tal forma que, mesmo em caso de incidentes raros, fontes de ignição devidas a impactos e fricção, faíscas sejam excluídas. Se o invólucro for feito de materiais não metálicos ou metais pintados, o carregamento eletrostático deve ser evitado. O recinto não deve conter mais de massa a) 15% no total de alumínio, magnésio, titânio e zircônio e b) 7,5% no total de magnésio, titânio e zircônio.

| 5335A, 5337A: | | 5335A, 5337A: | |
|--|--|---|-----------------------------|
| Notas | Ex nA [ic] IIC T6...T4 Gc Ex ic IIC T6...T4 Gc Ex ic IIIC Dc | Terminal: 3,4,5,6 Ex nA [ic] | Terminal: 1,2 Ex nA |
| T4: -40 ≤ Ta ≤ 85°C T6: -40 ≤ Ta ≤ 60°C | | Uo: 9.6 V Io: 28 mA Po: 67 mW Lo: 45 mH Co: 28 µF | U ≤ 35 VDC I = 4 - 20 mA |

Instruções Gerais de instalação