

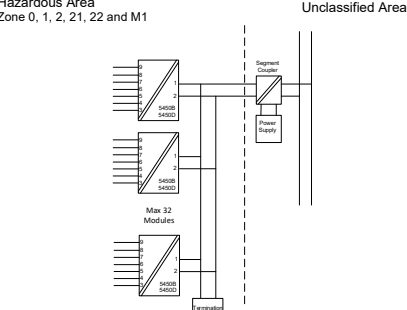
ATEX Installation drawing 5450QA01-V10

ATEX Certificate DEKRA 24ATEX0006X
Standards: EN IEC 60079-0:2017, IEC 60079-11:2011, IEC 60079-7:2015 + A1:2017

Ex ia Installation

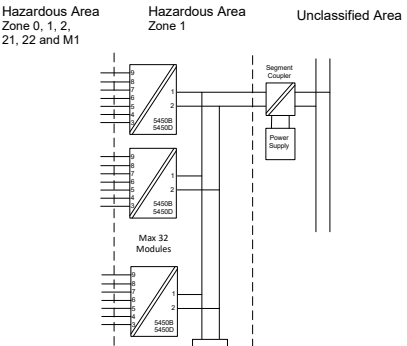
For safe installation of the 5450B... and 5450D... the following must be observed.

Marking  II 1 G Ex ia IIC T6...T4 Ga or II 2(1) G Ex ib [Ga] IIC T6...T4 Gb Ex ia IIIC T85°C...T110 °C Db I M1 Ex ia I Ma



Terminal		
3, 4, 5, 6	7, 8, 9	3, 4, 5, 6, 7, 8, 9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Ex ib Installation



Terminal		
3, 4, 5, 6	3, 7, 8, 9	3, 4, 5, 6, 7, 8, 9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Terminal 1,2		FISCO Field Device	
Ui: 30 VDC	Ui: 380 mA	Ui: 17.5 VDC	Ui: 380 mA
Li: 0 µH	Li: 0 µH	Li: 0 µH	Li: 0 µH
CI: 1 nF	CI: 1 nF	CI: 1 nF	CI: 1 nF
PI: Any	PI: Any	PI: Any	PI: Any
Temperature Range:		Temperature Range:	
Ma: -40 ≤ Ta ≤ 85°C	Ma: -40 ≤ Ta ≤ 85°C	Ma: -40 ≤ Ta ≤ 85°C	Ma: -40 ≤ Ta ≤ 85°C
T4/110°C: -40 ≤ Ta ≤ 85°C	T4/110°C: -40 ≤ Ta ≤ 85°C	T4/110°C: -40 ≤ Ta ≤ 85°C	T4/110°C: -40 ≤ Ta ≤ 85°C
T5/100 °C: -40 ≤ Ta ≤ 73°C	T5/100 °C: -40 ≤ Ta ≤ 73°C	T5/100 °C: -40 ≤ Ta ≤ 82°C	T5/100 °C: -40 ≤ Ta ≤ 82°C
T6/85°C: -40 ≤ Ta ≤ 58°C	T6/85°C: -40 ≤ Ta ≤ 58°C	T6/85°C: -40 ≤ Ta ≤ 67°C	T6/85°C: -40 ≤ Ta ≤ 67°C

General installation instructions

Year of manufacture can be taken from the first two digits in the serial number.

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

For EPL Ga, if the enclosure is made of aluminum, it must be installed such, that ignition sources due to impact and friction sparks are excluded.

The distance between terminals, including the wires' bare part, shall be at least 3 mm separated from any earthed metal.

If the transmitter was applied in type of protection Ex ec, it may afterwards not be applied for intrinsic safety.

For multiple wire connection the wires must be crimped together.

For installation in a potentially explosive gas atmosphere, the following instructions apply:

The transmitter shall be mounted in an enclosure form B according to DIN43729 or equivalent providing a degree of protection of at least IP20 according to IEC60529. The enclosure shall be suitable for the application and correctly installed.

For installation in a potentially explosive dust atmosphere, the following instructions apply:

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Db, the transmitter shall be mounted in a certified enclosure providing a degree of protection of at least IP5X according to EN 60079-0, and that is suitable for the application and correctly installed.

Cable entry devices and blanking elements shall fulfill the same requirements.

For installation in mines the following instructions apply:

The transmitter shall be mounted in a metal enclosure providing a degree of protection of at least IP54 according to EN 60529.

Aluminum enclosures are not allowed for mines.

The enclosure shall be suitable for the application and correctly installed.

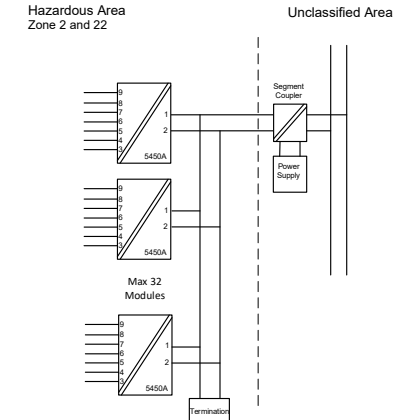
Cable entry devices and blanking elements shall fulfill the same requirements.

Ex ec / Ex ic Installation

ATEX Certificate DEKRA 24ATEX0007X
Standards: EN IEC 60079-7:2015 +A1:2018

For safe installation of the 5450A the following must be observed.

Marking  II 3 G Ex ec IIC T6...T4 Gc II 3 G Ex ic IIC T6...T4 Gc II 3 D Ex ic IIC T85°C...T110 °C Dc



Terminal 1,2 Ex ec	Terminal 1,2 Ex ic	Terminal 1,2 (FISCO Field Device)
Vmax = 30 VDC In = 11 mA	Ui: 30 VDC Ii: 380mA Li: 0 µH CI: 1 nF PI: Any	Ui: 17.5 VDC Ii: 380mA Li: 0 µH CI: 1 nF PI: Any
Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 80°C T6/85°C: -40 sTas 65°C	Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 70°C	Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 74°C

Terminal 3,4,5,6,7,8,9 Ex ec	Terminal Ex ic	Terminal Ex ic
Vmax = 7.2 VDC	Uo: 7.2 VDC Io: 7.3 mA Po: 13.2 mW Lo: 667 mH Co: 13.324 µF	Uo: 7.2 VDC Io: 12.9 mA Po: 23.3 mW Lo: 200 mH Co: 13.324 µF

General installation instructions

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

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 enclosure shall be suitable for the application and correctly installed.

The distance between terminals, inclusive the wires' bare part, shall be at least 3 mm separated from any earthed metal.

For multiple wire connection the wires must be crimped together.

For installation in a potentially explosive gas atmosphere, the following instructions apply:

The transmitter shall be mounted in an enclosure form B according to DIN 43729 or equivalent providing a degree of protection of at least IP20 according to EN 60529. The enclosure shall be 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 ec, the transmitter shall be mounted in a certified enclosure providing a degree of protection of at least IP54 according to IEC 60079-0, and that is suitable for the application and correctly installed.

Cable entry devices and blanking elements shall fulfill the same requirements.

For installation in a potentially explosive dust atmosphere, the following instructions apply:

If the transmitter is supplied with an intrinsically safe signal "ic" and interfaces an intrinsically safe signal "ic" (e.g. a passive device), the transmitter shall be mounted in a metal enclosure form B according to DIN 43729 or equivalent providing a degree of protection of at least IP54 according to EN IEC 60079-0.

Cable entry devices and blanking elements shall fulfill the same requirements.

IECEx Installation drawing 5450QI01-V10

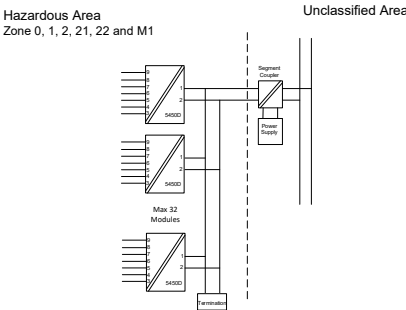
IECEx Certificate IECEx DEK 24.0005X

Standards: IEC 60079-0:2017, IEC 60079-11:2011, IEC 60079-7:2015 + A1:2017

For safe installation of the 5450D... the following must be observed.

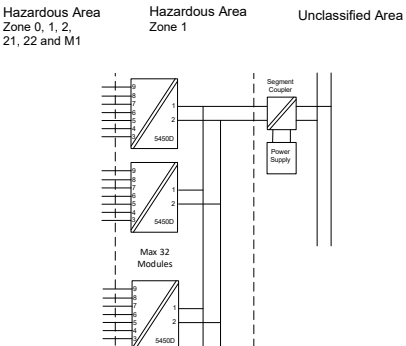
Marking Ex ia IIC T6...T4 Ga or Ex ib [Ga] IIC T6...T4 Gb Ex ia IIIC T85°C...T110 °C Db Ex ia I Ma

Ex ia Installation



Terminal		
3, 4, 5, 6	3, 7, 8, 9	3, 4, 5, 6, 7, 8, 9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Ex ib Installation



Terminal		
3, 4, 5, 6	3, 7, 8, 9	3, 4, 5, 6, 7, 8, 9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Terminal 1,2		FISCO Field Device	
Ui: 30 VDC	Ui: 380 mA	Ui: 17.5 VDC	Ui: 380 mA
Li: 0 µH	Li: 0 µH	Li: 0 µH	Li: 0 µH
CI: 1 nF	CI: 1 nF	CI: 1 nF	CI: 1 nF
PI: Any	PI: Any	PI: Any	PI: Any
Temperature Range:		Temperature Range:	
Ma: -40 ≤ Ta ≤ 85°C	Ma: -40 ≤ Ta ≤ 85°C	Ma: -40 ≤ Ta ≤ 86°C	Ma: -40 ≤ Ta ≤ 86°C
T4/110°C: -40 ≤ Ta ≤ 85°C	T4/110°C: -40 ≤ Ta ≤ 85°C	T4/110°C: -40 ≤ Ta ≤ 85°C	T4/110°C: -40 ≤ Ta ≤ 85°C
T5/100 °C: -40 ≤ Ta ≤ 73°C	T5/100 °C: -40 ≤ Ta ≤ 73°C	T5/100 °C: -40 ≤ Ta ≤ 82°C	T5/100 °C: -40 ≤ Ta ≤ 82°C
T6/85°C: -40 ≤ Ta ≤ 58°C	T6/85°C: -40 ≤ Ta ≤ 58°C	T6/85°C: -40 ≤ Ta ≤ 67°C	T6/85°C: -40 ≤ Ta ≤ 67°C

General installation instructions

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

For EPL Ga, if the enclosure is made of aluminum, it must be installed such, that ignition sources due to impact and friction sparks are excluded.

The distance between terminals, inclusive the wires bare part, shall be at least 3 mm separated from any earthed metal.

If the transmitter was applied in type of protection Ex ec, it may afterwards not be applied for intrinsic safety.

For multiple wire connection the wires must be crimped together.

For installation in a potentially explosive gas atmosphere, the following instructions apply:

The transmitter shall be mounted in an enclosure form B according to DIN43729 or equivalent providing a degree of protection of at least IP20 according to IEC60529. The enclosure shall be suitable for the application and correctly installed.

For installation in a potentially explosive dust atmosphere, the following instructions apply:

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Db or Dc and applied in type of protection Ex ia or Ex ic, the transmitter shall be mounted in a certified enclosure providing a degree of protection of at least IP5X according to IEC 60079-0, and that is suitable for the application and correctly installed.

Cable entry devices and blanking elements shall fulfill the same requirements.

For installation in mines the following instructions apply:

The transmitter shall be mounted in a metal enclosure providing a degree of protection of at least IP54 according to EN 60529.

Aluminum enclosures are not allowed for mines.

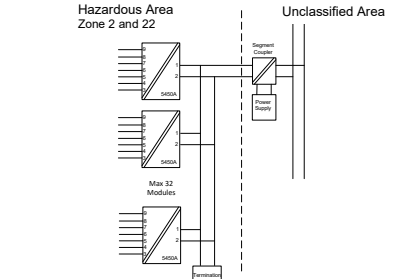
The enclosure shall be suitable for the application and correctly installed.

Cable entry devices and blanking elements shall fulfill the same requirements.

Ex ec / Ex ic Installation

For safe installation of the 5450A the following must be observed.

Marking Ex ec IIC T6...T4 Gc Ex ic IIC T6...T4 Gc Ex ic IIIC T85°C...T110 °C Dc



Terminal 1,2 Ex ec	Terminal 1,2 Ex ic	Terminal 1,2 (FISCO Field Device)
Vmax = 30 VDC In = 11 mA	Ui: 30 VDC Ii: 380mA Li: 0 µH CI: 1 nF PI: Any	Ui: 17.5 VDC Ii: 380mA Li: 0 µH CI: 1 nF PI: Any
Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 80°C T6/85°C: -40 sTas 65°C	Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 70°C	Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 74°C

Terminal 3, 4, 5, 6, 7, 8, 9 Ex ec	Terminal Ex ic	Terminal Ex ic
Vmax = 7.2 VDC	Uo: 7.2 VDC Io: 7.3 mA Po: 13.2 mW Lo: 667 mH Co: 13.324 µF	Uo: 7.2 VDC Io: 12.9 mA Po: 23.3 mW Lo: 200 mH Co: 13.324 µF

General installation instructions

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

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 enclosure shall be suitable for the application and correctly installed.

The distance between terminals, including the wires' bare part, shall be at least 3 mm separated from any earthed metal.

For multiple wire connection the wires must be crimped together.

For installation in a potentially explosive gas atmosphere, the following instructions apply:

The transmitter shall be installed in a certified enclosure providing a degree of protection of at least IP54 in accordance with IEC 60079-0, which is suitable for the application and correctly installed e.g. in an enclosure that is in type of protection Ex e. Additionally, the area inside the enclosure shall be pollution degree 2 or better as defined in IEC 60664-1.

Cable entry devices and blanking elements shall fulfill the same requirements.

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

Cable entry devices and blanking elements shall fulfill the same requirements.

For installation in a potentially explosive dust atmosphere, the following instructions apply:

If the transmitter is supplied with an intrinsically safe signal "ic" and interfaces an intrinsically safe signal "ic" (e.g. a passive device), the transmitter shall be mounted in a certified metal enclosure form B according to DIN 43729 or equivalent providing a degree of protection of at least IP54 according to IEC 60079-0.

Cable entry devices and blanking elements shall fulfill the same requirements.

Instalação INMETRO 5450QB01-V2

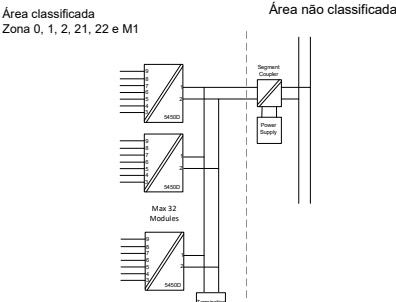
Certificado INMETRO DEKRA 25.0004X

Normas: ABNT NBR IEC 60079-0:2020 Versão Corrigida:2023
ABNT NBR IEC 60079-7:2019 Versão Corrigida:2022
ABNT NBR IEC 60079-11:2013 Versão Corrigida:2017

Para a instalação segura do dispositivo 54500 os seguintes pontos devem ser observados.

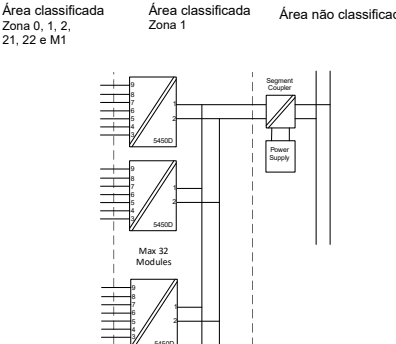
Marcação Ex ia IIC T6...T4 Ga ou Ex ib [ia Ga] IIC T6...T4 Gb Ex ia IIIC T85°C...T110 °C Db Ex ia I Ma

Instalação Ex ia



Terminals		
3,4,5,6	3,7,8,9	3,4,5,6,7,8,9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Instalação Ex ib



Terminals		
3,4,5,6	3,7,8,9	3,4,5,6,7,8,9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Terminals 1,2		Dispositivo de campo FISCO	
Ui: 30 VDC	Ui: 380 mA	Ui: 17.5 VDC	Ui: 380 mA
Li: 0 µH	Li: 0 µH	Li: 0 µH	Li: 0 µH
CI: 1 nF	CI: 1 nF	CI: 1 nF	CI: 1 nF
PI: Qualquer	PI: Qualquer	PI: Qualquer	PI: Qualquer

Faixas de temperaturas		Faixas de temperaturas	
Ma: -40 ≤ Ta ≤ 85°C	Ma: -40 ≤ Ta ≤ 85°C	Ma: -40 ≤ Ta ≤ 86°C	Ma: -40 ≤ Ta ≤ 86°C
T4/110°C: -40 ≤ Ta ≤ 85°C	T4/110°C: -40 ≤ Ta ≤ 85°C	T4/110°C: -40 ≤ Ta ≤ 85°C	T4/110°C: -40 ≤ Ta ≤ 85°C
T5/100 °C: -40 ≤ Ta ≤ 73°C	T5/100 °C: -40 ≤ Ta ≤ 73°C	T5/100 °C: -40 ≤ Ta ≤ 82°C	T5/100 °C: -40 ≤ Ta ≤ 82°C
T6/85°C: -40 ≤ Ta ≤ 58°C	T6/85°C: -40 ≤ Ta ≤ 58°C	T6/85°C: -40 ≤ Ta ≤ 67°C	T6/85°C: -40 ≤ Ta ≤ 67°C

Instruções gerais de instalação

Se o invólucro for feito de materiais plásticos não metálicos, devem ser evitadas cargas eletrostáticas no invólucro do transmissor.

Para EPL Ga, se o invólucro for de alumínio, ele deve ser instalado de forma que as fontes de ignição devido a faíscas de impacto e fricção sejam excluídas.

A distância entre terminais, fios inclusivos não isolados, deve ser separada por pelo menos 3 mm de qualquer metal aterrado.

Se o transmissor foi aplicado no tipo de proteção Ex ec, não pode ser aplicado para segurança intrínseca.

Para conexão de múltiplos fios, os fios devem ser crimpados juntos.

Para instalações com uma atmosfera de gás potencialmente explosiva, as seguintes instruções se aplicam:

O transmissor deverá ser montado em um invólucro 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.

O invólucro deve ser adequado para a aplicação e instalado corretamente.

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

Se o transmissor for instalado em uma atmosfera explosiva que exija o uso de nível de proteção de equipamento Db ou Dc e aplicado no tipo de proteção Ex ia ou Ex ic, o transmissor deverá ser montado em invólucro que forneça um grau de proteção de pelo menos IP5X de acordo com ABNT NBR IEC60079-0, e que seja adequado a aplicação e instalado corretamente.

Os dispositivos de entrada de cabos e os elementos de obstrução devem cumprir os mesmos requisitos.

Para instalações em minas, as instruções abaixo se aplicam:

O transmissor deverá ser montado em um invólucro de metal que possibilite um grau mínimo de proteção IP54 de acordo com a ABNT NBR IEC60529.

Invólucros de alumínio não são permitidos para instalações em minas.

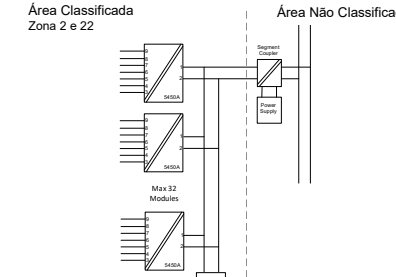
O invólucro deve ser adequado para a aplicação e instalado corretamente.

Os dispositivos de entrada de cabos e os elementos espaçadores devem satisfazer os mesmos requisitos.

Instalações Ex ec / Ex ic

Para a instalação segura do dispositivo 5450A os seguintes pontos devem ser observados.

Marcação Ex ec IIC T6...T4 Gc Ex ic IIC T6...T4 Gc Ex ic IIIC T85°C...T110 °C Dc



Terminals 1,2 Ex ec	Terminals 1,2 Ex ic	Terminals 1,2 (dispositivo de campo FISCO)
Vmáx. = 30 VDC In = 11 mA	Ui: 30 VDC Ii: 380mA Li: 0 µH CI: 1 nF PI: Qualquer	Ui: 17.5 VDC Ii: 380mA Li: 0 µH CI: 1 nF PI: Qualquer
Faixas de temperaturas T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 80°C T6/85°C: -40 sTas 65°C	Faixas de temperaturas T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 70°C	Faixas de temperaturas T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 74°C

Terminals Ex ec	Terminals Ex ic
Vmáx. = 7.2 VDC	Uo: 7.2 VDC Io: 7.3 mA Po: 13.2 mW Lo: 667 mH Co: 13.324 µF

Instruções gerais de instalação

Se o invólucro for feito de materiais plásticos não metálicos, devem ser evitadas cargas eletrostáticas no invólucro do transmissor.

Para uma temperatura ambiente ≥ 60°C, devem ser utilizados cabos resistentes ao calor com uma classificação de pelo menos 20 K acima da temperatura ambiente.

O invólucro deve ser adequado para a aplicação e instalado corretamente.

A distância entre terminais, fios inclusivos não isolados, deve ser separada por pelo menos 3 mm de qualquer metal aterrado.

Para conexão de múltiplos fios, os fios devem ser crimpados juntos.

Para instalações em uma atmosfera de gás potencialmente explosiva, as seguintes instruções se aplicam:

O transmissor deverá ser instalado em um invólucro que possibilite um grau de proteção de no mínimo IP54 de acordo com a ABNT NBR IEC60079-0 e seja adequado para a aplicação e instalado corretamente, por exemplo em um invólucro que esteja no tipo de proteção Ex e.

Em adição, o invólucro deverá possibilitar um grau de poluição interna de 2 ou melhor, como definido na ABNT NBR IEC60664-1.

Os dispositivos de entrada de cabos e os elementos espaçadores devem satisfazer os mesmos requisitos.

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

Se o transmissor for fornecido com um sinal intrinsecamente seguro "ic" e fizer interface com um sinal intrinsecamente seguro "ic" (por exemplo, um dispositivo passivo), o transmissor deverá ser montado em um invólucro metálico certificado forma B de acordo com DIN 43729 ou equivalente que forneça um grau de proteção de pelo menos IP54 conforme ABNT NBR IEC60079-0.

Os dispositivos de entrada de cabos e os elementos de obstrução devem cumprir os mesmos requisitos.

cFMus Installation drawing 5450QF01-V4R0

FM Certificates FM25US0051X; FM25CA0022X

IS Class I, Division 1 Groups A,B,C,D T6...T4 or Class I, Zone 0 AEx ia IIC T6...T4 Ga or Ex ia IIC T6...T4 Ga

