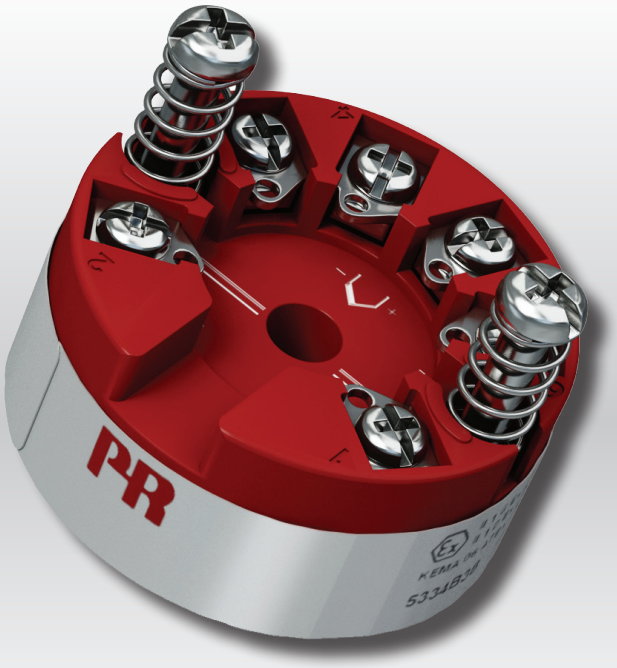
PERFORMANCE
MADE
SMARTER

# Manual do produto
# *5334*
# *Transmissor programável 2 fios*



TEMPERATURA | INTERFACES INTRÍNSECAS | INTERFACE DE COMUNICAÇÃO | MULTIFUNCIONAL | ISOLAÇÃO | DISPLAY

No. 5334V113-BR
Número de serial: 212022169-232061652

PR electronics

# 6 Product Pillars
# *to meet your every need*

## Individually outstanding, unrivalled in combination

With our innovative, patented technologies, we make signal conditioning smarter and simpler. Our portfolio is composed of six product areas, where we offer a wide range of analog and digital devices covering over a thousand applications in industrial and factory automation. All our products comply with or surpass the highest industry standards, ensuring reliability in even the harshest of environments and have a 5-year warranty for greater peace of mind.

Temperature

Our range of temperature transmitters and sensors provides the highest level of signal integrity from the measurement point to your control system. You can convert industrial process temperature signals to analog, bus or digital communications using a highly reliable point-to-point solution with a fast response time, automatic self-calibration, sensor error detection, low drift, and top EMC performance in any environment.

I.S. Interface

We deliver the safest signals by validating our products against the toughest safety standards. Through our commitment to innovation, we have made pioneering achievements in developing I.S. interfaces with SIL 2 Full Assessment that are both efficient and cost-effective. Our comprehensive range of analog and digital intrinsically safe isolation barriers offers multifunctional inputs and outputs, making PR an easy-to-implement site standard. Our backplanes further simplify large installations and provide seamless integration to standard DCS systems.

Communication

We provide inexpensive, easy-to-use, future-ready communication interfaces that can access your PR installed base of products. All the interfaces are detachable, have a built-in display for readout of process values and diagnostics, and can be configured via push-buttons. Product specific functionality includes communication via Modbus and Bluetooth and remote access using our PR Process Supervisor (PPS) application, available for iOS and Android.

Multifunction

Our unique range of single devices covering multiple applications is easily deployable as your site standard. Having one variant that applies to a broad range of applications can reduce your installation time and training, and greatly simplify spare parts management at your facilities. Our devices are designed for long-term signal accuracy, low power consumption, immunity to electrical noise and simple programming.

Isolation

Our compact, fast, high-quality 6 mm isolators are based on microprocessor technology to provide exceptional performance and EMC-immunity for dedicated applications at a very low total cost of ownership. They can be stacked both vertically and horizontally with no air gap separation between units required.

Display

Our display range is characterized by its flexibility and stability. The devices meet nearly every demand for display readout of process signals, and have universal input and power supply capabilities. They provide a real-time measurement of your process value no matter the industry, and are engineered to provide a user-friendly and reliable relay of information, even in demanding environments.

# Transmissor programável 2 fios 5334

# Conteúdo

# Transmissor programável 2 fios
# 5334

- Entrada TC
- Precisão de medição alta
- Isolação galvânica
- Valor de erro de sensor programável
- Montagem do sensor tipo cabeçote para trilho DIN B

**Aplicação**

- Medição de temperatura linearizada com sensor TC.
- Amplificação de sinais mV bipolares para sinal 4...20 mA, opcionalmente linearizado de acordo com a função de linearização definida.

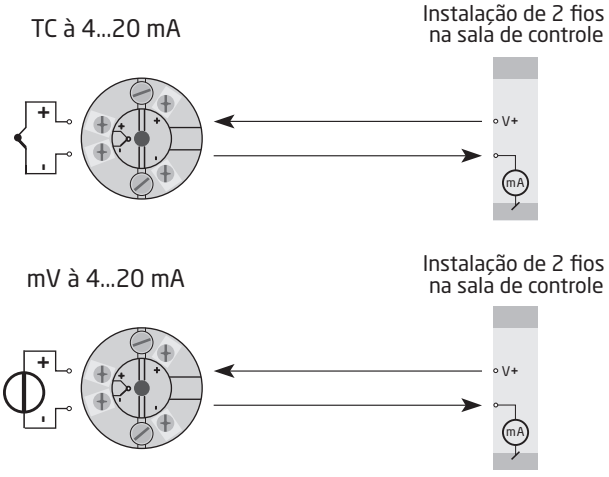
**Características técnicas**

- Em poucos segundos o usuário pode programa o PR5334 para medição de temperaturas com todos os ranges definidos pelas normas.
- Compensação de junta fria (CJC) com sensor de temperatura montado.
- Verificação contínua de dados armazenados vitais por razões de segurança.

**Montagem / instalação**

- Para sensor tipo cabeçote de montagem em DIN B. Em áreas não perigosas o 5334 pode ser montado em trilho DIN com o acessório da PR tipo 8421.

## Aplicações



**Ordem**

| Tipo | Versão | Temperatura ambiente | Isolação galvânica |
|---|---|---|---|
| **5334** | Zona 2 / Div. 2 : A<br>Zona 0, 1, 2, 21, 22, M1 : B | -40°C...+85°C : 3 | 1500 VAC : B |

**Especificações elétricas**

**Condições ambientais:**

Especificações de range . . . . . -40°C a +85°C
Temperatura de calibração . . . . . 20...28°C
Umidade de relativa . . . . . < 95% RH (non-cond.)
Grau de proteção (enclausurado / terminal) . . . . . IP68 / IP00

**Especificações mecânicas:**

Dimensões . . . . . Ø 44 x 20,2 mm
Peso . . . . . 50 g
Tamanho máximo do fio . . . . . 1 x 1,5 $mm^2$ fio flexívell
Torque de terminal de parafuso . . . . . 0,4 Nm
Vibração . . . . . IEC 60068-2-6
2...25 Hz. . . . . ±1,6 mm
25...100 Hz . . . . . ±4 g

**Especificações elétricas comuns:**

Tensão de alimentação, DC:
5334A3B. . . . . 7,2...35 VDC
5334B3B . . . . . 7,2...30 VDC
Dissipação de potência
5334A3B . . . . . 25 mW...0,8 W
5334B3B . . . . . 25 mW...0,7 W
Queda de tensão. . . . . 7,2 VDC
Tensão de isolação, teste / operação . . . . . 1,5 kVAC / 50 VAC
Tempo de aquecimento . . . . . 5 min.
Da inicialização à saída estável . . . . . 4,5 s
Programação . . . . . Loop Link
Sinal / ruído . . . . . Min. 60 dB
Tempo de resposta (programável). . . . . 1...60 s
Verificação de erro EEprom. . . . . < 3,5 s
Dinâmicas de sinal, entrada . . . . . 18 bit
Dinâmicas de sinal, saída . . . . . 16 bit
Efeito de variação de tensão de alimentação . . . . . < 0,005% de span / VDC

Precisão, a melhor para valores gerais e básicos:

| Valores gerais | | |
|---|---|---|
| Tipo de entrada | Precisão absoluta | Coeficiente de temperatura |
| Todas | ≤ ±0,05% de span | ≤ ±0,01% de span / °C |

| Valores básicos | | |
|---|---|---|
| Tipo de entrada | Precisão básica | Coeficiente de temperatura |
| Volt | ≤ ±10 µV | ≤ ±1 µV / °C |
| Tipo TC: E, J, K, L, N, T, U | ≤ ±1°C | ≤ ±0,05°C / °C |
| Tipo TC: B, R, S, W3, W5, Lr | ≤ ±2°C | ≤ ±0,2°C / °C |

Influência de imunidade EMC. . . . . < ±0,5% de span
Imunidade EMC extendida:
NAMUR NE 21, critério A, explosão . . . . . < ±1% de span

**Especificações elétricas, entradas:**

**Entrada TC:**

| Tipo | Temperatura mín. | Temperatura máx. | Span mín. | Padrão |
|---|---|---|---|---|
| B | +400°C | +1820°C | 100°C | IEC584 |
| E | -100°C | +1000°C | 50°C | IEC584 |
| J | -100°C | +1200°C | 50°C | IEC584 |
| K | -180°C | +1372°C | 50°C | IEC584 |
| L | -100°C | +900°C | 50°C | DIN 43710 |
| Lr | -200°C | +800°C | 50°C | GOST 3044-84 |
| N | -180°C | +1300°C | 50°C | IEC584 |
| R | -50°C | +1760°C | 100°C | IEC584 |
| S | -50°C | +1760°C | 100°C | IEC584 |
| T | -200°C | +400°C | 50°C | IEC584 |
| U | -200°C | +600°C | 50°C | DIN 43710 |
| W3 | 0°C | +2300°C | 100°C | ASTM E988-90 |
| W5 | 0°C | +2300°C | 100°C | ASTM E988-90 |

Compensação máx. . . . . 50% do valor máx. selecionado
Compensação de junta fria . . . . . < ±1.0°C
Detecção de erro de sensor . . . . . Sim
Erro de corrente do sensor:
Quando detectado . . . . . Nom. 33 µA
Snão . . . . . 0 µA

**Entrada de tensão:**
Range de medição . . . . . -12...150 mV
Span mín. . . . . 5 mV
Compensação máx. . . . . 50% do valor máx. selecionado
Resistência de entrada . . . . . 10 MΩ

**Saída:**

**Saída de corrente:**
Range de sinal . . . . . 4...20 mA
Range de sinal mín. . . . . 16 mA
Tempo de atualização . . . . . 440 ms
Sinal de saída em erro EEprom . . . . . ≤ 3,5 mA
Resistência de carga. . . . . ≤ (Valimentação- 7,2) / 0,023 [Ω]
Estabilidade de carga . . . . . < ±0,01% de span / 100 Ω

**Detecção de erro de sensor:**
Programável. . . . . 3.5...23 mA
NAMUR NE43 Acima de escala . . . . . 23 mA
NAMUR NE43 Abaixo de escala . . . . . 3,5 mA

De span = De range presentemente selecionado

**Determinações das autoridades observados:**

| | |
|---|---|
| EMC | 2014/30/UE & UK SI 2016/1091 |
| ATEX | 2014/34/UE & UK SI 2016/1107 |
| RoHS | 2011/65/UE & UK SI 2012/3032 |
| EAC | TR-CU 020/2011 |
| EAC Ex | TR-CU 012/2011 |

**Aprovação marinha:**

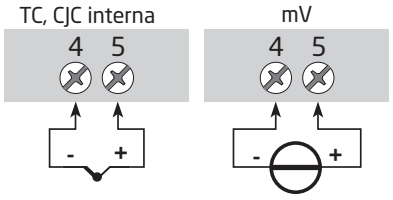
| | |
|---|---|
| DNV, Ships & Offshore | TAA0000101 |

**Aprovações I.S. / Ex:**

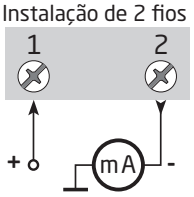
| | |
|---|---|
| ATEX: | |
| 5334A | DEKRA 20ATEX0096 X |
| 5334B | DEKRA 20ATEX0095 X |
| IECEx | DEK 20.0059 X |
| INMETRO | DEKRA 16.0013 X |
| EAC Ex | RU C-DK.HA65.B.00355/19 |

# Conexões

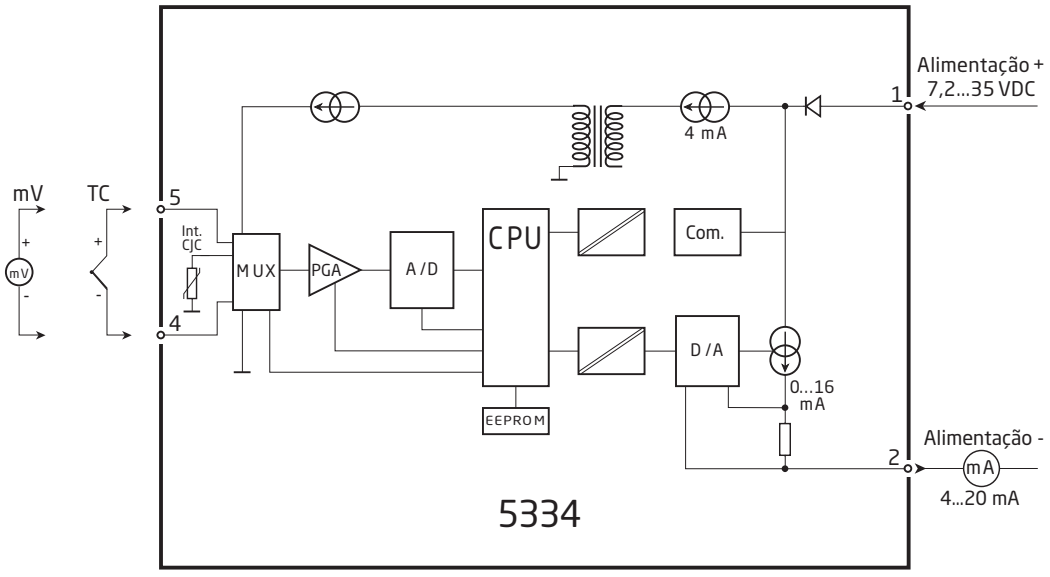
## Entrada:




## Saída:

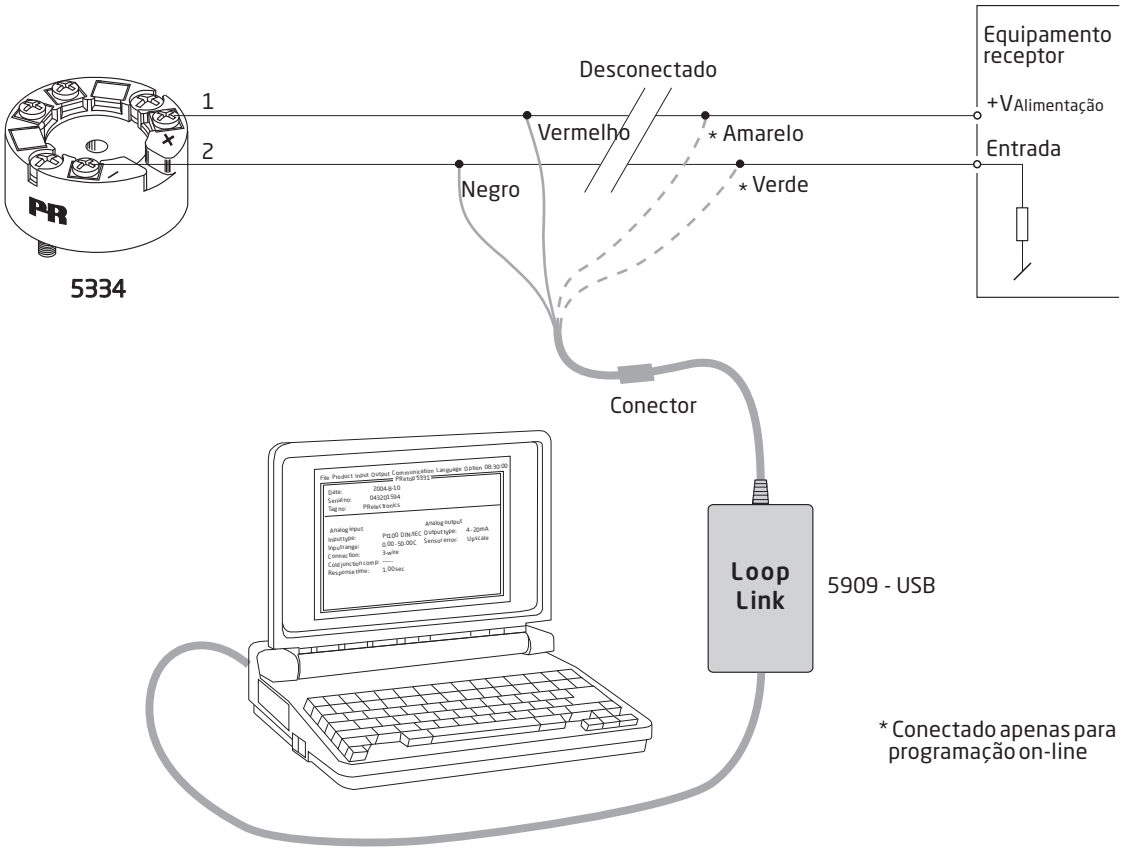



# Diagrama de bloco

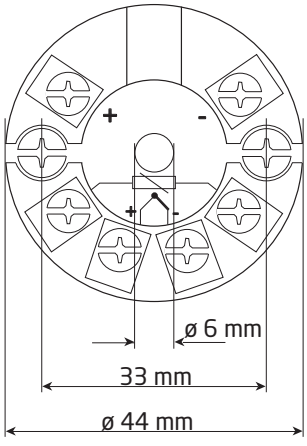


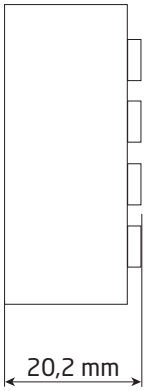
# Programação

- Loop Link é uma interface de comunicações que é necessário para programar o 5334.
- Para programar favor consultar o desenho a seguir e as funções de ajuda no PReset.
- Loop Link não é aprovado para comunicação com módulos instalados em áreas perigosas (Ex).

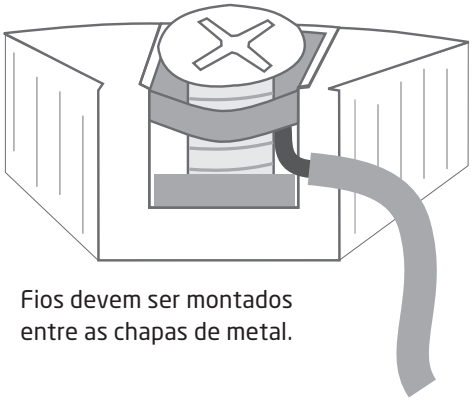



## Especificações mecânicas




## Montagem dos fios do sensor



Fios devem ser montados entre as chapas de metal.

# ATEX-installation drawing 5331QA02-V3R0

For safe installation of 5331A or 5334A 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 20ATEX0096 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<br>Io: 25 mA<br>Po: 60 mW<br>Lo: 33 mH<br>Co: 2.4 µF | Ui = 35 V<br>Ii = 110 mA<br>Ci = 1 nF<br>Li = 10 µH | Ui = 24 V<br>Ii = 260 mA<br>Ci = 1 nF<br>Li = 10 µH | Umax ≤ 35 VDC<br>or<br>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 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 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 EN 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 EN 60664-1.

# ATEX-installation drawing 5331QA01-V3R0

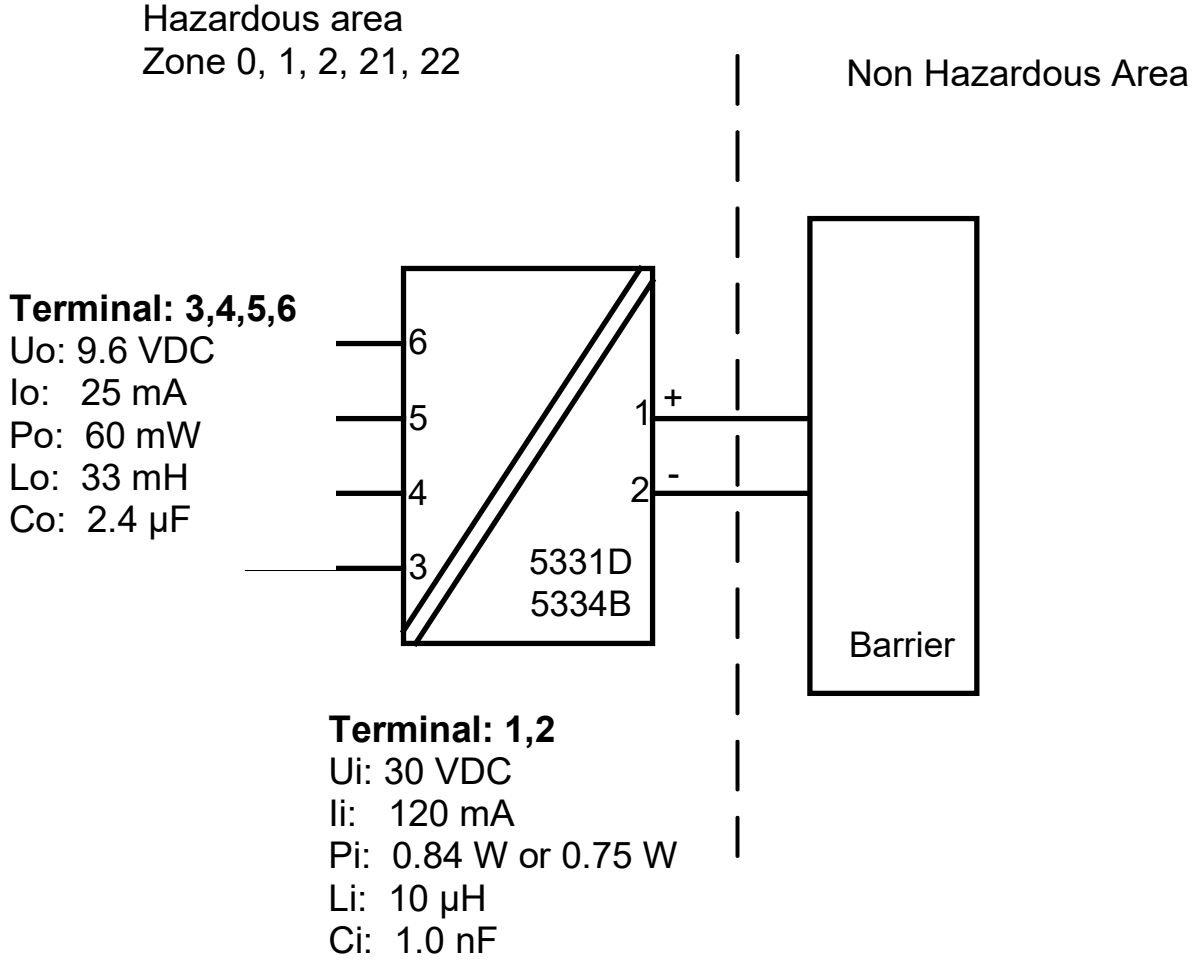
For safe installation of 5331D or 5334B the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area. Year of manufacture can be taken from the first two digits in the serial number.

ATEX Certificate DEKRA 20ATEX0095 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 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 ≥ 60ºC, 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 5331QI02-V2R0

For safe installation of 5331A and 5334A 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 20.0059X

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<br>Io: 25 mA<br>Po: 60 mW<br>Lo: 33 mH<br>Co: 2.4 µF | Ui = 35 V<br>Ii = 110 mA<br>Ci = 1 nF<br>Li = 10 µH | Ui = 24 V<br>Ii = 260 mA<br>Ci = 1 nF<br>Li = 10 µH | Umax ≤ 35 VDC<br>or<br>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 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 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.

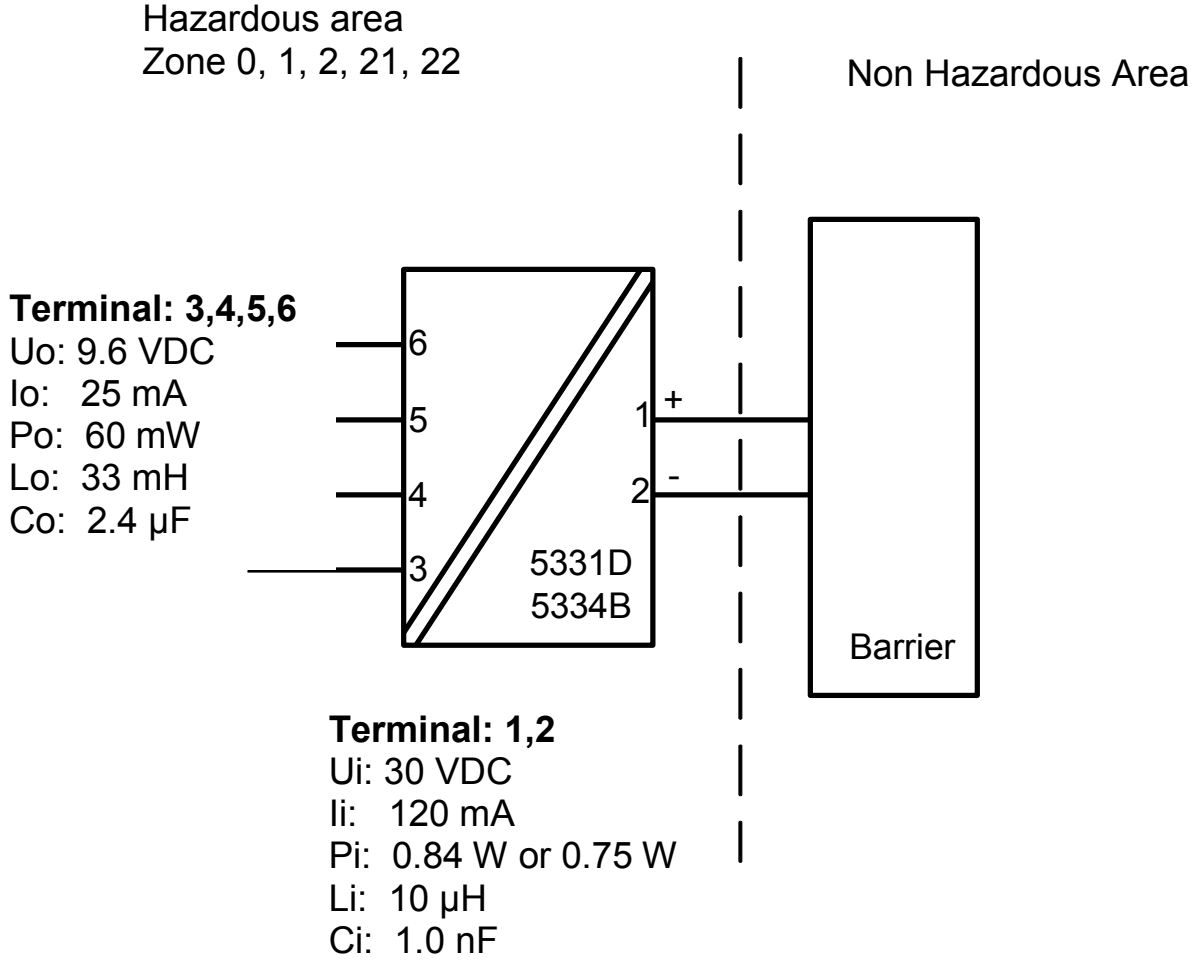
If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex nA or Ex ec, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP54 according to IEC 60079-0,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

# IECEx-installation drawing 5331QI01-V2R0

For safe installation of 5331D or 5334B 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 20.0059X |
| Marking | Ex ia IIC T6...T4 Ga<br>Ex ia IIIC Db<br>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 ≥ 60ºC, 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.

LERBAKKEN 10, 8410 RØNDE DENMARK. WWW.PRELECTRONICS.COM

# Desenho de Instalação INMETRO

Para instalação segura do 5331A ou 5334A o seguinte deve ser observado. O modelo deve apenas ser instalado por pessoas qualificadas que são familiarizadas com as leis nacionais e internacionais, diretrizes e padrões que se aplicam a esta área.
O ano de fabricação pode ser pego dos dois primeiros dígitos do número de série.

Certificado DEKRA 16.0013 X

Marcas
Ex nA [ic] IIC T4..T6 Gc
Ex ic IIC T4..T6 Gc
Ex ic IIIC Dc

Normas ABNT NBR IEC 60079-0 : 2013; ABNT NBR IEC 60079-11 : 2013
ABNT NBR IEC60079-15 : 2012

| | | | |
|---|---|---|---|
| T4: -40 ≤ Ta ≤ 85ºC<br>T6: -40 ≤ Ta ≤ 60ºC | **Terminais:**<br>**3,4,5,6**<br>Uo: 9,6 V<br>Io: 25 mA<br>Po: 60 mW<br>Lo: 33 mH<br>Co: 2,4 µF | **Terminais: 1,2**<br>Ex nA<br><br>U ≤35 VDC | **Terminais: 1,2**<br>Ex ic<br><br>Ui = 35 VDC<br>Ii = 110 mA<br>Li = 10 µH<br>Ci = 1,0 nF |

**Notas para instalação**

Para a instalação em uma atmosfera de gás potencialmente explosivo, aplicam-se as instruções a seguir:
Para a instalação nA o transmissor deve ser instalado em um invólucro de metal, por exemplo, gabinete em forma B que forneça um grau de proteção de pelo menos IP54 de acordo com ABNT NBR IEC60529 ou em um invólucro com tipo de proteção Ex n ou Ex e.
Para a instalação Ex ic o transmissor deve ser instalado em um invólucro proporcionando um grau de proteção IP20de acordo com a norma ABNT NBR IEC60529. E o invólucro deve, pelo menos, ser adequado para a aplicação e corretamente instalado.

Dispositivos de entrada de cabos e elementos de supressão devem cumprir os mesmos requisitos.

Para temperatura ambiente >= 60ºC, fios de resistência ao calor devem ser usados com uma faixa de pelo menos 20K acima da temperatura ambiente.

Para a instalação em uma atmosfera de poeira potencialmente explosiva , aplicam-se as instruções a seguir:
O transmissor deve ser montado em invólucro de metal forma B de acordo com DIN43729 que está fornecendo pelo menos um grau de proteção IP6X de acordo com ABNT NBR IEC60529.
O invólucro deve ser adequado para aplicação e instalado corretamente.

As entradas dos cabos e os elementos de obturação que podem ser utilizados devem ser adequados à aplicação pretendida e corretamente instalados.
A temperatura da superfície do invólucro é igual à temperatura ambiente mais 20 K, para uma camada de pó, com uma espessura de até 5 mm.

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# Desenho de Instalação INMETRO

Para instalação segura do 5331D ou 5334B o seguinte deve ser observado. O modelo deve apenas ser instalado por pessoas qualificadas que são familiarizadas com as leis nacionais e internacionais, diretrizes e padrões que se aplicam a esta área.
O ano de fabricação pode ser pego dos dois primeiros dígitos do número de série.

Certificado .....DEKRA 16.0013 X

Marcas
Ex ia IIC T6…T4 Ga
Ex ia IIIC Da
Ex ia I Ma

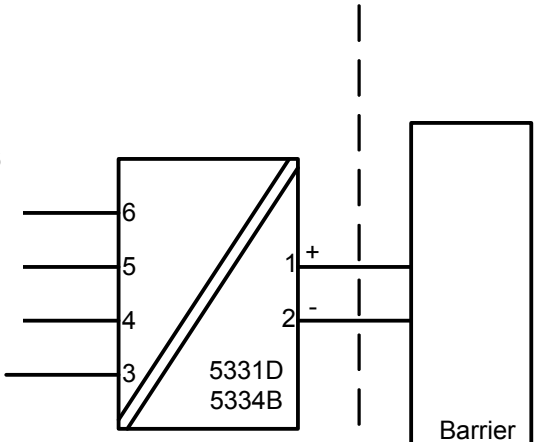
Normas ABNT NBR IEC 60079-0: 2013; ABNT NBR IEC 60079-11: 2013

Áreas classificadas
Zona 0, 1, 2, 20, 21, 22,

Área não classificada

T4: -40 ≤ Ta ≤ 85ºC
T5: -40 ≤ Ta ≤ 60ºC
T6: -40 ≤ Ta ≤ 45ºC

**Terminais 3,4,5,6**
Uo: 9,6 VDC
Io: 25 mA
Po: 60 mW
Lo: 33 mH
Co: 2,4µF




**Terminais:**
**1,2**
Ui: 30 VDC
Ii: 120 mA
Pi: 0,84 W
Li: 10µH
Ci: 1,0nF

**Notas de instalação**

O circuito do sensor não é isolado galvanicamente do circuito de entrada de forma infalível. Contudo, a isolação galvânica entre os circuitos é capaz de resistir a um ensaio de tensão de 500Vac durante 1 minuto.

Em uma atmosfera de gás potencialmente explosiva, o transmissor deve ser montado em um invólucro a fim de garantir um grau de proteção de no mínimo IP20 de acordo com a ABNT NBR IEC60529. Se contudo, o ambiente necessitar de um nível de proteção maior, isso deve ser levado em consideração.

Se o transmissor é instalado em uma atmosfera explosiva exigindo o uso de equipamento de proteção de nível Ga e se o invólucro é feito de alumínio, ele deve ser instalado de modo que, mesmo em caso remoto de avaria, fontes de ignição devido ao impacto e fricção, faíscas são eliminadas.

Se o invólucro é feito de materiais não metálicos, cargas eletroestáticas devem ser evitadas.

Para instalação em atmosfera de poeira potencialmente explosiva, as instruções a seguir são aplicáveis:

O transmissor deve ser montado em invólucro de metal forma B de acordo com DIN43729 que está fornecendo um grau de proteção de pelo menos IP6X de acordo com ABNT NBR IEC60529. O invólucro deve ser adequado para aplicação pretendida e instalado corretamente.

As entradas dos cabos e os elementos de obturação que podem ser utilizados devem ser adequados à aplicação pretendida e corretamente instalados.

Para temperatura ambiente >= 60ºC, fios de resistência ao calor devem ser usados com uma faixa de pelo menos 20K acima da temperatura ambiente.

A temperatura da superfície do invólucro é igual à temperatura ambiente mais 20 K, por uma camada de pó, com espessura de até 5 mm.

# História do documento

A lista a seguir fornece notas sobre as revisões deste documento.

| ID de rev. | Data | Notas Rev. |
|---|---|---|
| 108 | 1345 | Aprovações IECEx e INMETRO adicionadas. |
| 109 | 1514 | Aprovação de PESO/CCOE adicionada.<br>Aprovação GOST substituída pela aprovação da EAC. |
| 110 | 1707 | Desenho de instalação INMETRO atualizado. |
| 111 | 2004 | Aprovação de PESO/CCOE descontinuada.<br>Desenho de instalação INMETRO atualizado. |
| 112 | 2145 | Aprovações ATEX e IECEx atualizadas - Ex na alterado para Ex ec. |
| 113 | 2245 | UKCA adicionada. |

Todos os clientes poderão declarar uma reclamação através do telefone 0XX19-3429-7890 ou email suporte@tsie.com.br ou pelo site: http://technosupply.com.br/suporte-tecnico

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