

PERFORMANCE
MADE
SMARTER

Manual do produto

5333

Transmissor programável 2 fios



Segurança
I
INMETRO



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

No. 5333V115-BR

De número de serial: 132094001 - 132094630
141115001 →

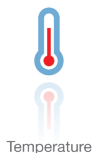
PR
electronics

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.



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.



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.



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.



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.



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.



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 5333

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Transmissor programável 2 fios 5333

- Entrada RTD ou Ohm
- Alta precisão de medição
- Conexão 3 fios
- Valor de erro de sensor programável
- Montagem do sensor tipo cabeçote para trilho DIN B

Aplicação

- Medição de temperatura linearizada com Pt100...Pt1000 ou sensor Ni100...Ni1000.
- Conversão de variação de resistência linear para um sinal de corrente analógico padrão por exemplo válvulas ou sensor de nível Ohmico.

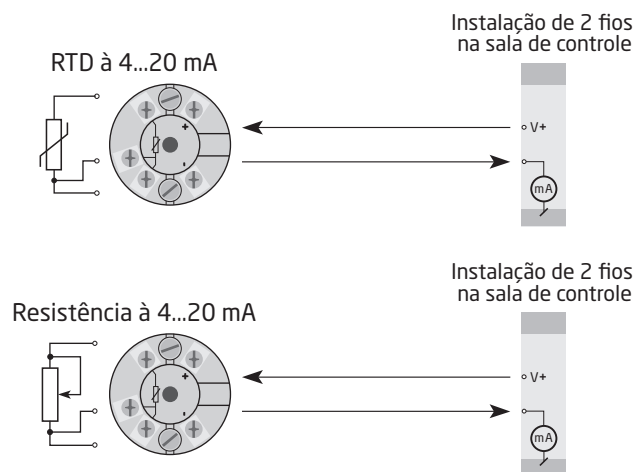
Características técnicas

- Em poucos segundos o usuário pode programa o PR5333 para medição de temperaturas com todos os ranges definidos pelas normas.
- As entradas de RTD e resistência possuem cabo de compensação para conexão 3-fios.

Montagem / instalação

- Para sensor tipo cabeçote de montagem em DIN B. Em áreas não perigosas o 5333 pode ser montado em trilho DIN com o acessório da PR tipo 8421.

Aplicações



Ordem

Tipo	Versão
5333	Zona 2 / Div. 2 : A
	Zona 0, 1, 2, 20, 21, 22, M1 / Div. 1, Div. 2 : D

Acessórios

5909	= Loop Link USB interface and PReset Software
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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 flexível
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:	
5333A	8,0...35 VDC
5333D	8,0...30 VDC
Dissipação de potência	
5333A	25 mW...0,8 W
5333D	25 mW...0,7 W
Queda de tensão	8,0 VDC
Tempo de aquecimento	5 min.
Programação	Loop Link
Sinal / ruído	Min. 60 dB
Tempo de resposta (programável)	0,33...60 s
Dinâmicas de sinal, entrada	19 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	Coefficiente de temperatura
Todas	≤ ±0,1% de span	≤ ±0,01% de span / °C

Valores básicos		
Tipo de entrada	Precisão básica	Coefficiente de temperatura
RTD	≤ ±0,3°C	≤ ±0,01°C/°C
Lin. R	≤ ±0,2 Ω	≤ ±20 mΩ / °C

Influência de imunidade EMC	< ±0,5% de span
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Especificações elétricas, entradas:**Entrada RTD e resistência linear:**

Tipo RTD	Valor mín.	Valor máx.	Span mín.	Padrão
Pt100...Pt1000	-200°C	+850°C	25°C	IEC 60751
Ni100...Ni1000	-60°C	+250°C	25°C	DIN 43760
Resist. lin.	0 Ω	10000 Ω	30 Ω	-----

Compensação máx.	50% do valor máx. selecionado
Resistência do cabo por fio (max.)	10 Ω
Corrente do sensor.	> 0,2 mA, < 0,4 mA
Efeito de resistência de cabo do sensor (3-fios)	< 0,002 Ω / Ω
Detecção de erro de sensor	Sim

Saída:**Saída de corrente:**

Range de sinal	4...20 mA
Range de sinal mín.	16 mA
Tempo de atualização	135 ms
Resistência de carga.	≤ (Valimentação- 8,0) / 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
RoHS.	2011/65/UE
ATEX	2014/34/UE
EAC	TR-CU 020/2011
EAC Ex	TR-CU 012/2011

Aprovação marinha:

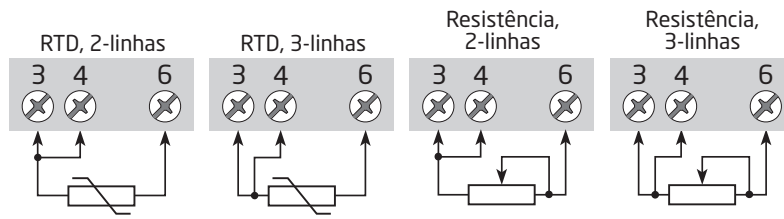
DNV-GL, Ships & Offshore	Standard for Certification No. 2.4
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Aprovações I.S. / Ex:

ATEX:	
5333A.	KEMA 10ATEX0003 X
5333D.	KEMA 03ATEX1535 X
IECEx.	DEK 13.0036 X
FM	FM17US0013X
CSA	1125003
INMETRO	DEKRA 16.0014 X
EAC Ex	RU C-DK.GB08.V.00410

Conexões

Entrada:



Saída:

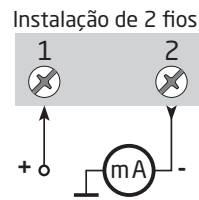
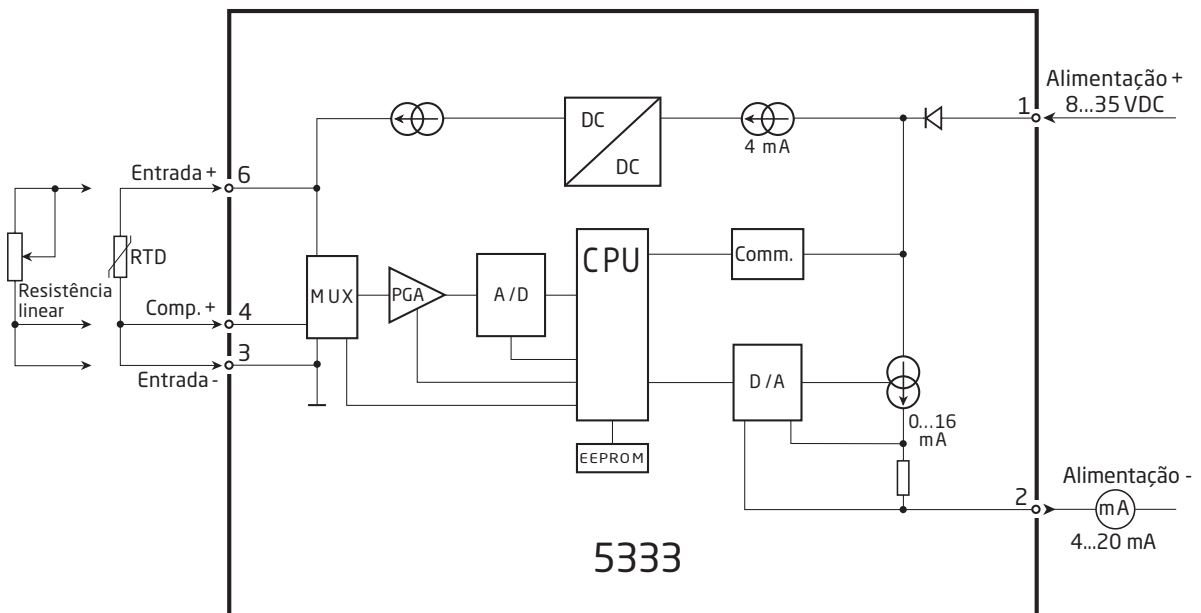
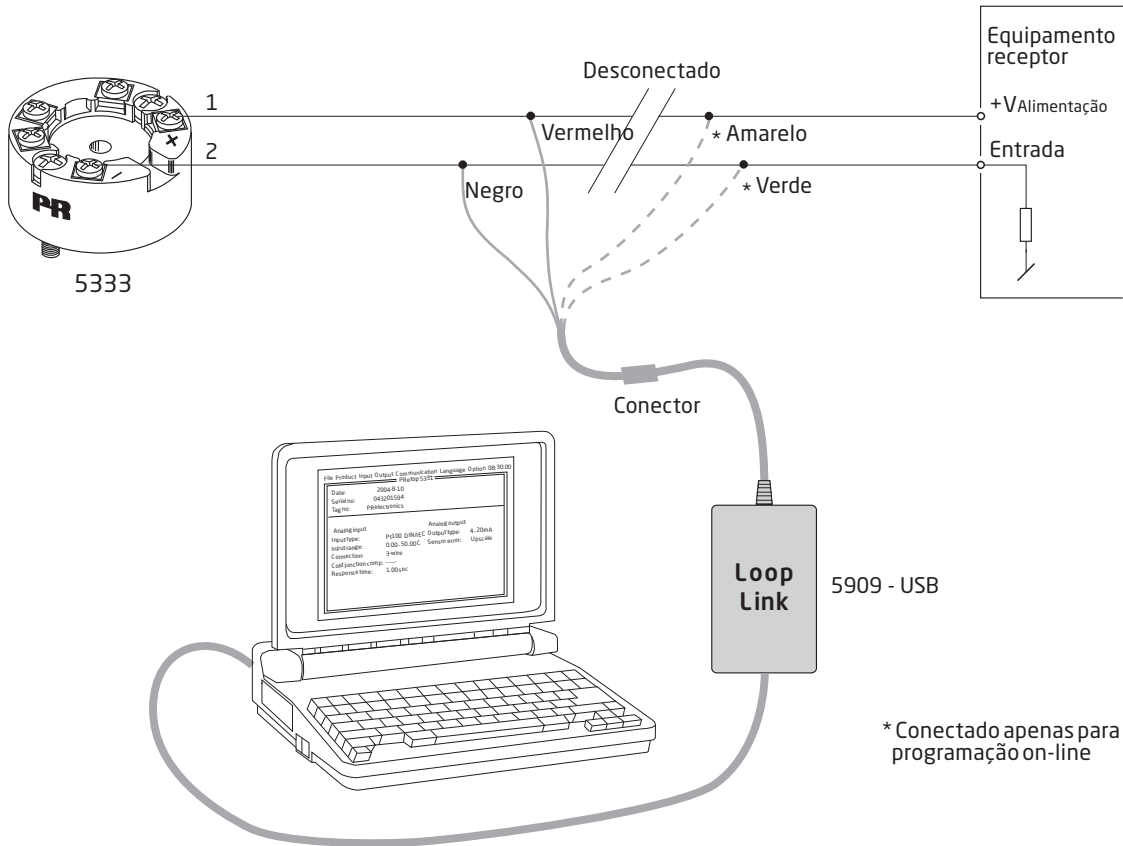


Diagrama de bloco



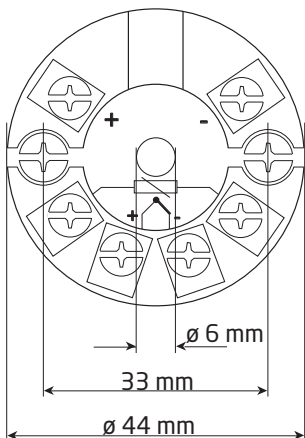
Programação

- Loop Link é uma interface de comunicações que é necessário para programar o 5333.
- 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).

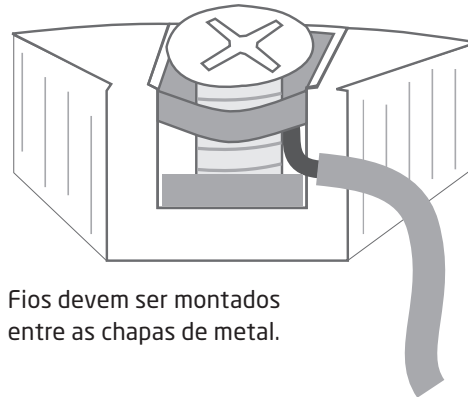


* Conectado apenas para programação on-line

Especificações mecânicas



Montagem dos fios do sensor



Fios devem ser montados entre as chapas de metal.

ATEX Installation drawing

For safe installation of 5333A 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 KEMA 10ATEX 0003X

Marking



II 3 G Ex nA [ic] IIC T4 ... T6 Gc
II 3 G Ex ic IIC T4...T6 Gc
II 3 D Ex ic IIIC Dc

Standards EN 60079-0 : 2012, EN 60079-11 : 2012, EN 60079-15 : 2010

T4: $-40 \leq T_a \leq 85^\circ\text{C}$
T6: $-40 \leq T_a \leq 60^\circ\text{C}$

Terminal: 3,4,6
Ex nA [ic]

Terminal: 1,2
Ex nA

Terminal: 1,2
Ex ic

Uo: 5V
Io: 4.0 mA
Po: 20 mW
Lo: 900 mH
Co: 1000 μF

Umax. ≤ 35 VDC

Ui = 35 VDC
Ii = 110mA
Li = 10 μH
Ci = 1.0 nF

Special conditions for safe use

For type of protection Ex nA, the transmitter shall be mounted in a metal enclosure providing a degree of protection of at least IP54 according to EN60529.

For use in the presence of combustible dusts the transmitter shall be mounted in an enclosure providing a degree of protection of at least IP6X in accordance with EN60529, the surface temperature of the outer enclosure is 20 K above the ambient temperature

For an ambient temperature $\geq 60^\circ\text{C}$, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

ATEX Installation drawing



For safe installation of 5333D 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 KEMA 03ATEX 1535 X

Marking



II 1 G Ex ia IIC T4...T6 Ga
II 1 D Ex ia IIIC Da
II 1 M Ex ia I Ma

Standards

EN 60079-0 : 2012, EN 60079-11 : 2012, EN 60079-26 : 2007,
EN 60079-15 : 2010

Hazardous area

Zone 0, 1, 2, 20, 21, 22

T4: $-40 \leq T_a \leq 85^\circ\text{C}$

T5: $-40 \leq T_a \leq 60^\circ\text{C}$

T6: $-40 \leq T_a \leq 60^\circ\text{C}$

Terminal: 3,4,6

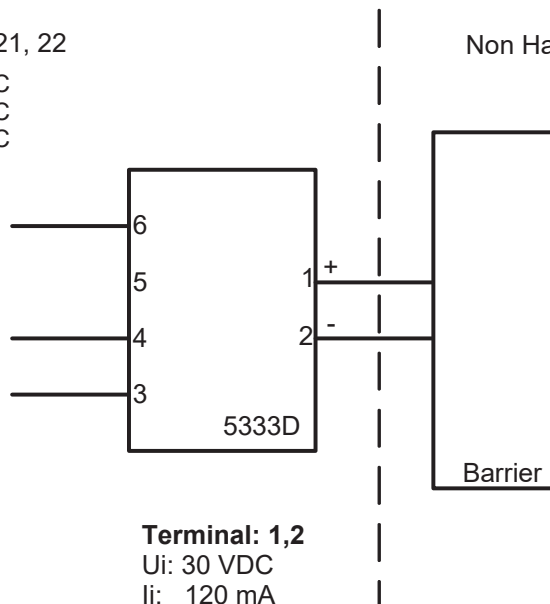
U_o: 30 VDC

I_o: 8 mA

P_o: 60 mW

L_o: 35 mH

C_o: 66 nF



Terminal: 1,2

U_i: 30 VDC

I_i: 120 mA

P_i: 0.84 W

L_i: 10μH

C_i: 1.0nF

Installation notes:

In a potentially explosive gas atmosphere, the transmitter shall be mounted in an enclosure in order to provide a degree of protection of at least IP20 according to EN60529.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment of category 1 G, 1 M or 2 M, 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 enclosure is made of non-metallic materials, electrostatic charging shall be avoided.

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

The transmitter shall be mounted in a metal enclosure form B that is providing a degree of protection of at least IP6X according to EN60529, that is suitable for the application and correctly installed.

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

For an ambient temperature $\geq 60^{\circ}\text{C}$, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

The surface temperature of the enclosure is equal to the ambient temperature plus 20 K, for a dust layer with a thickness up to 5 mm

IECEX Installation drawing



For safe installation of 5333A or 5343A 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 13.0036X	
Marking	Ex nA [ic] IIC T6..T4 Gc	T4: $-40 \leq T_a \leq 85^\circ\text{C}$
	Ex ic IIC T6..T4 Gc	T6: $-40 \leq T_a \leq 60^\circ\text{C}$
	Ex ic IIIC Dc	
Standards	IEC 60079-0 : 2011, IEC 60079-11 : 2011, IEC 60079-15 : 2010	

Terminal	Ex nA [ic]	Ex ic
1,2	U _{max} = 35V	U _i : 35V, I _i :110mA, I _i :10μH, C _i :1,0nF
3,4,6	U _o : 5V, I _o : 4mA, P _o : 20mW,	Lo: 900mH, Co: 1000μF

Installation note:

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

For nA installation the transmitter must be installed in an metal enclosure e.g. a form B enclosure, providing a degree of protection of at least IP54 according to IEC60529 or in an enclosure with type of protection Ex n or Ex e.

For ic installation the transmitter must be installed in enclosure providing a degree of protection of at least IP20 according to IEC60529 and that is suitable for the application.

Cable entry devices and blanking elements shall fulfill the same requirements

For an ambient temperature $\geq 60^\circ\text{C}$, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

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

The surface temperature of the enclosure is equal to the ambient temperature plus 20 K, for a dust layer with a thickness up to 5 mm.

The transmitter must be mounted in a enclosure according to DIN 43729 that provides a degree of protection of at least IP6X according to IEC60529, and that is suitable for the application. Cable entry devices and blanking elements shall fulfill the same requirements.

IECEX Installation drawing



For safe installation of 5333D 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 13.0036X
Marking	Ex ia IIC T4...T6 Ga Ex ia IIIC Da Ex ia I Ma
Standards	IEC 60079-0 : 2011, IEC 60079-11 : 2011, IEC 60079-26:2006

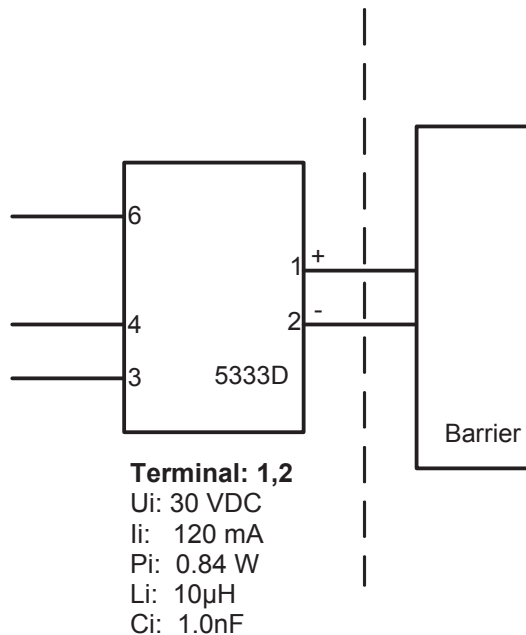
Hazardous area
Zone 0, 1, 2, 20, 21, 22, M1

T4: $-40 \leq T_a \leq 85^\circ\text{C}$
T5: $-40 \leq T_a \leq 60^\circ\text{C}$
T6: $-40 \leq T_a \leq 45^\circ\text{C}$

Non Hazardous Area

Terminal: 3,4,6

U_o: 30 VDC
I_o: 8 mA
P_o: 60 mW
L_o: 35 mH
C_o: 66 nF



Installation notes.

In a potentially explosive gas atmosphere, the transmitter shall be mounted in a metal form B enclosure in order to provide a degree of protection of at least IP20 according to IEC60529. If however the environment requires a higher degree of protection, this shall be taken into account.

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

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

For explosive dust atmospheres, the surface temperature of the outer enclosure is 20 K above the ambient temperature.

The transmitter shall be mounted in a metal enclosure form B according to DIN43729 that is providing a degree of protection of at least IP6X according to IEC60529, that is suitable for the application and correctly installed.

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

For an ambient temperature $\geq 60^{\circ}\text{C}$, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

FM Installation Drawing

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

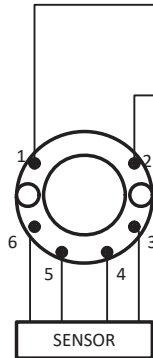
Hazardous (Classified) Location

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

Ambient temperature limits
T4: -40 to +85 deg. Celcius
T6: -40 to +60 deg. Celcius

Terminal 1, 2
Vmax or Ui: 30 V
Imax or Ii: 120 mA
Pmax or Pi: 0.84 W
Ci: 1 nF
Li: 10 uH

Terminal 3, 4, 5, 6
Vt or Uo: 9.6 V
It or Io: 28 mA
Pt or Po: 67.2 mW
Ca or Co: 3.5 uF
La or Lo: 35 mH



Non Hazardous Location

Associated Apparatus
or Barrier
with
entity Parameters:

$UM \leq 250V$
 $Voc \text{ or } Uo \leq Vmax \text{ or } Ui$
 $Isc \text{ or } Io \leq Imax \text{ or } Ii$
 $Po \leq Pi$
 $Ca \text{ or } Co \geq Ci + Ccable$
 $La \text{ or } Lo \geq Li + Lcable$

This device must not be connected
to any associated apparatus which
uses or generates more than 250
VRMS

Model 5335D, 5337D

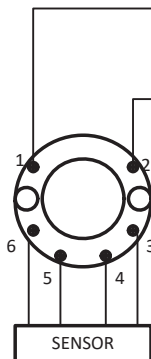
Hazardous (Classified) Location

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

Ambient temperature limits
T4: -40 to +85 deg. Celcius
T6: -40 to +60 deg. Celcius

Terminal 1, 2
Vmax or Ui: 30 V
Imax or Ii: 120 mA
Pmax or Pi: 0.84 W
Ci: 1 nF
Li: 10 uH

Terminal 3, 4, 5, 6
Vt or Uo: 9.6 V
It or Io: 28 mA
Pt or Po: 67.2 mW
Ca or Co: 3.5 uF
La or Lo: 35 mH



Non Hazardous Location

Associated Apparatus
or Barrier
with
entity Parameters:

$UM \leq 250V$
 $Voc \text{ or } Uo \leq Vmax \text{ or } Ui$
 $Isc \text{ or } Io \leq Imax \text{ or } Ii$
 $Po \leq Pi$
 $Ca \text{ or } Co \geq Ci + Ccable$
 $La \text{ or } Lo \geq Li + Lcable$

This device must not be connected
to any associated apparatus which
uses or generates more than 250
VRMS

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 $U_i(V_{MAX})$ and current $I_i(I_{MAX})$, and maximum power $P_i(P_{max})$, which the device can receive and remain intrinsically safe, must be equal to or greater than the voltage (U_o or V_{OC} or V_t) and current (I_o or I_{SC} or I_t) and the power P_o which can be delivered by the barrier.

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

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

The entity parameters U_o, V_{OC} or V_t and I_o, I_{SC} or I_t , and C_a and L_a for barriers are provided by the barrier manufacturer.

NI Field Circuit Parameters

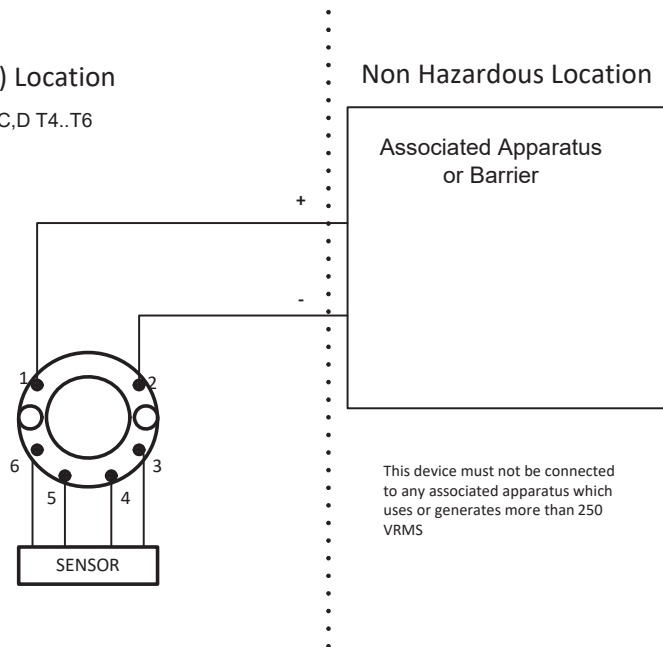
Model 5331D, 5332D, 5333D, 5335D, 5337D and 5343B

Hazardous (Classified) Location

Class I, Division 2, Groups, A, B, C, D T4..T6
Class I, Zone 2, IIC T4..T6

Ambient temperature limits
T4: -40 to + 85 deg. Celcius
T6: -40 to + 60 deg. Celcius

Terminal 1 , 2
 $V_{max} : 35 V$
 $C_i : 1.0 nF$
 $L_i : 10 uH$



For safe installation of the 5333A 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.

Marking

Class I, Division 2, Group A,B,C,D T4..T6
 Class I Zone 2 Ex/AEx nA[ic] IIC T4..T6
 Class I Zone 2 Ex/AEx nA IIC T4..T6
 NIFW Class I Division 2, Group A,B,C,D

Hazardous Area

CL I, Div 2, GP ABCD
 CL I, Zone 2, IIC

T4: -40°C to 85 °C

T6: -40°C to 60 °C

Terminal:

3,4,6

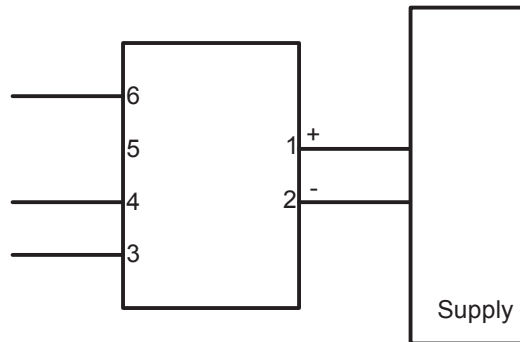
Uo: 5 VDC

Io: 4 mA

Po: 20 mW

Lo: 900 mH

Co: 1000µF



Terminal:

1-2

Functional Ratings:

U nominal ≤ 35 VDC;

I nominal ≤ 3.5 - 23 mA

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.

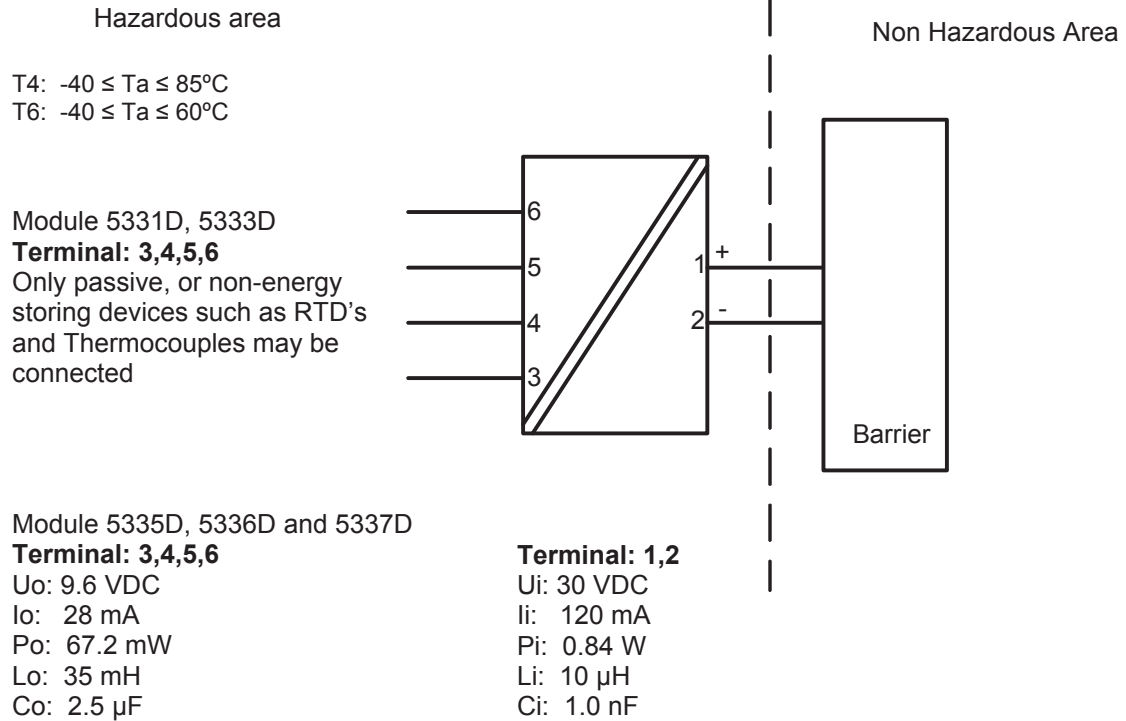
AVERTISSEMENT: Ne débranchez pas l'équipement sauf si l'alimentation a été coupée ou si la zone est connue pour être sûre.

Non Incendive field wiring installation

The non incendive field Wiring Circuit concept allows interconnection of Nonincendive Field wiring Apparatus with Associated Nonincendive Field Wiring Apparatus or Assosicated Intrinsically Safe Apparatus or Associated Apparatus not specially examined in combination as a syatem using any of the wiring methods permitted for unclassified locations,

$V_{oc} < V_{max}$, $C_a \geq C_i + C_{cable}$, $L_a \geq L_i + L_{cable}$.

CSA Installation drawing 533XQC03



CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations
Class I, Division 1, Groups A, B, C and D
Ex ia IIC, Ga

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
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).

Desenho de Instalação INMETRO



Para instalação segura do 5333A ou 5343A o seguinte deve ser observado. O modo 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.
Ano de fabricação pode ser pego dos dois primeiros dígitos do número de série.

Certificado	DEKRA 16.0014 X		
Marcas	Ex nA [ic] IIC T6..T4 Gc	T4: $-40 \leq T_a \leq 85^\circ\text{C}$	
	Ex ic IIC T6..T4 Gc	T6: $-40 \leq T_a \leq 60^\circ\text{C}$	
	Ex ic IIIC Dc		

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

Terminais	Ex nA [ic]	Ex ic
1,2	$U \leq 35\text{V}$	$U_i : 35\text{V}, I_i:110\text{mA}, I_i:10\mu\text{H}, C_i:1,0\text{nF}$
3,4,6	$U_o: 5\text{V}, I_o: 4\text{mA}, P_o: 20\text{mW},$	$L_o: 900\text{mH}, C_o: 1000\mu\text{F}$

Notas para instalação

Para a instalação em uma atmosfera de gás potencialmente explosivo, se aplicam 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 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 de IP20, pelo menos, de acordo com a norma ABNT NBR IEC 60529. E o invólucro deve 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 $\geq 60^\circ\text{C}$, 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 , se aplicam as instruções a seguir:

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 e instalado corretamente.

As entradas dos cabos e os elementos de obturação que podem ser utilizados são adequados para a aplicação 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 até 5 mm.

Desenho de Instalação InNMETRO



Para instalação segura do 5333D ou 5343B o seguinte deve ser observado. O modo 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.

Ano de fabricação pode ser pego dos dois primeiros dígitos do número de série.

Certificado	DEKRA 16.0014 X
Marcas	Ex ia IIC T6...T4 Ga Ex ia IIIC Da
Normas	ABNT NBR IEC 60079-0 : 2013; ABNT NBR IEC 60079-11 : 2013

Áreas Risco

Zona 0, 1, 2, 20, 21, 22, M1

T4: $-40 \leq T_a \leq 85^\circ\text{C}$

T5: $-40 \leq T_a \leq 60^\circ\text{C}$

T6: $-40 \leq T_a \leq 45^\circ\text{C}$

Areas de não Risco

Terminais:

3,4,5,6

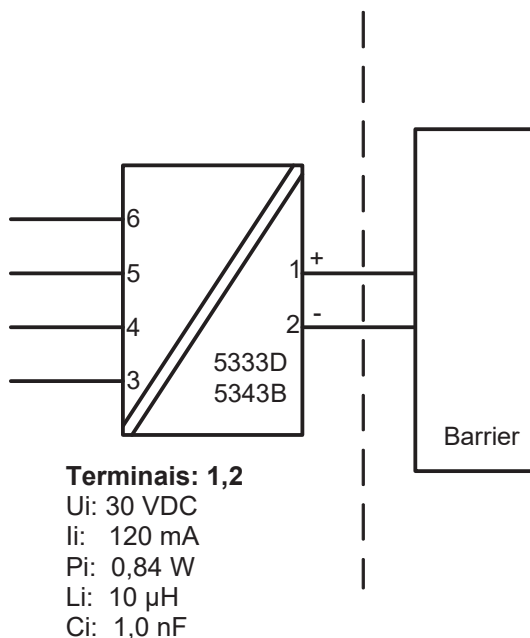
Uo: 30 VDC

Io: 8 mA

Po: 60 mW

Lo: 35 mH

Co: 66 nF



Terminais: 1,2

Ui: 30 VDC

Ii: 120 mA

Pi: 0,84 W

Li: 10 μH

Ci: 1,0 nF

Notas de Instalação.

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

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 de avaria rara, fontes de ignição devido a impacto e fricção, faíscas são eliminadas; Se o enclosure é feito de materiais não metálicos, cargas eletroestáticas devem ser evitadas.

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

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

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 e instalado corretamente.

As entradas dos cabos e os elementos de obturação que podem ser utilizados são adequados para a aplicação e corretamente instalados.

Para temperatura ambiente $\geq 60^{\circ}\text{C}$, 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 de 20 K, por uma camada de pó, com uma espessura até 5 mm.

História do documento

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

ID de rev.	Data	Notas Rev.
111	13/45	Aprovações IECEX e INMETRO adicionadas.
112	15/14	Aprovação de PESO/CCOE adicionada. Aprovação GOST substituída pela aprovação da EAC.
113	17/07	Desenho de instalação FM atualizado. Desenho de instalação INMETRO atualizado.
114	18/48	Desenho de instalação FM atualizado.
115	19/35	Aprovação CSA para 5333A recebida. Desenho de instalação atualizado. Aprovação CCOE descontinuada.

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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