

PR
electronics
PR electronics
5333 2-Wire
Programmable
Transmitter



PR electronics 5333 2-Wire Programmable Transmitter Instruction Manual

[Home](#) » [PR electronics](#) » PR electronics 5333 2-Wire Programmable Transmitter Instruction Manual 

Contents

- [1 PR Electronics 5333 2-Wire Programmable Transmitter](#)
- [2 Product Information](#)
- [3 Product Usage Instructions](#)
- [4 Applications](#)
- [5 Order](#)
- [6 Connections](#)
- [7 Programming](#)
- [8 ATEX-installation drawing 5333QA02-V3R0](#)
- [9 Installation notes](#)
- [10 ATEX-installation drawing 5333QA01-V3R0](#)
- [11 IECEx-installation drawing 5333QI02-V3R0](#)
- [12 IECEx-installation drawing 5333QI01-V3R0](#)
- [13 FM Installation Drawing](#)
- [14 CSA Installation drawing 5333QC02](#)
- [15 CSA Installation drawing 533XQC03 – V5R0](#)
- [16 Documents / Resources](#)
 - [16.1 References](#)
- [17 Related Posts](#)

PR
electronics

PR Electronics 5333 2-Wire Programmable Transmitter



Specifications

- Product Name: 2-wire programmable transmitter 5333
- Model Number: 5333V120-UK
- Features: Temperature, I.S. Interfaces, Communication Interfaces, Multifunctional, Isolation, Display
- Patented Technologies: Innovative signal conditioning for smarter operation
- Warranty: 5-year warranty for reliability

Product Information

The 2-wire programmable transmitter 5333 is designed to provide high signal integrity for industrial process temperature signals. It offers fast response time, automatic self-calibration, sensor error detection, low drift, and top EMC performance in any environment. The transmitter can convert temperature signals to analog, bus, or digital communications and is suitable for a wide range of applications in industrial and factory automation.

Product Usage Instructions

Mounting/Installation:

The 5333 transmitter should be mounted securely in a suitable location near the measurement point using appropriate mounting hardware. Ensure proper electrical connections are made according to the specific application requirements.

Applications:

The transmitter is versatile and can be used for converting RTD to 4-20mA or resistance to 4-20mA signals. It can be easily integrated into control room installations for monitoring and control purposes.

FAQ

- **Q: What are the key features of the 5333 transmitter?**

A: The key features include fast response time, automatic self-calibration, sensor error detection, low drift, top EMC performance, and compatibility with various communication interfaces.

- **Q: Can the 5333 transmitter be used in hazardous environments?**

A: Yes, the transmitter is suitable for hazardous environments and complies with Zone 2/Div. 2 standards.

- **Q: How can I configure the communication interfaces of the 5333 transmitter?**

A: The interfaces can be configured via push-buttons and offer options for Modbus, Bluetooth communication, and remote access using the PR Process Supervisor application.

Product manual 5333

2-wire programmable transmitter



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.

2-wire programmable transmitter 5333

- RTD or Ohm input
- High measurement accuracy
- 3-wire connection
- Programmable sensor error value
- For DIN form B sensor head mountings

Application

- Linearised temperature measurement with Pt100... Pt1000 or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analog current signal, for instance from valves or Ohmic level sensors.

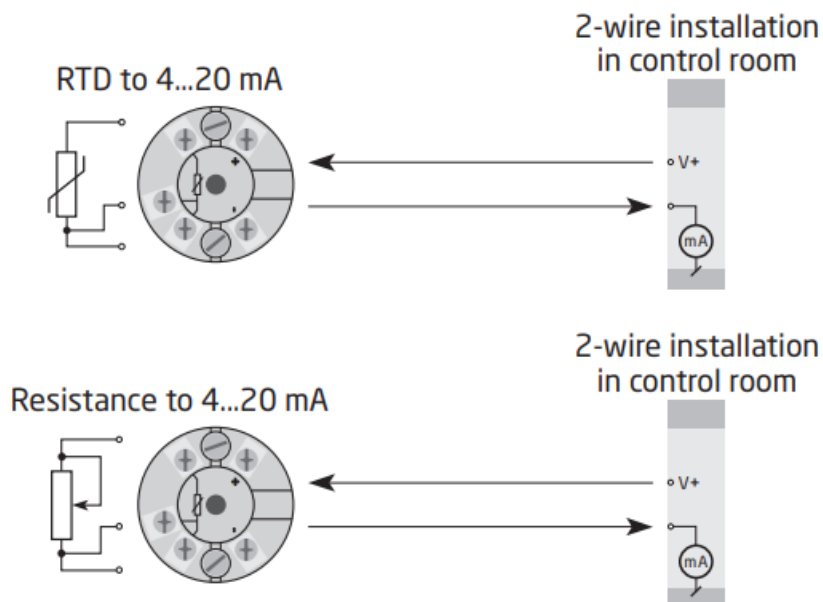
Technical characteristics

- Within a few seconds, the user can program PR5333 to measure temperatures within all RTD ranges defined by the norms.
- The RTD and resistance inputs have cable compensation for a 3-wire connection.

Mounting/installation

- For DIN form B sensor head mounting. In non-hazardous areas, the 5333 can be mounted on a DIN rail with the PR fitting type 8421.

Applications



Order

Type	Version
5333	<ul style="list-style-type: none"> • Zone 2 / Div. 2 : A • Zone 0, 1, 2, 21, 22, M1 / DIV. 1, DIV. 2 : D

Accessories

5909 = Loop Link USB interface and PReset Software

Electrical specifications Environmental conditions:

- Operating temperature -40°C to +85°C
- Calibration temperature. 20...28°C
- Humidity. < 95% RH (non-cond.) Protection degree, enclosure / terminals. IP68 / IP00

Mechanical specifications:

- Dimensions Ø 44 x 20.2 mm
- Weight 50 g
- Max. wire size. 1 x 1.5 mm² stranded wire Screw terminal torque. 0.4 Nm
- Vibration. IEC 60068-2-6
- 2...25 Hz. ±1.6 mm
- 25...100 Hz ±4 g

Common specifications:

- Supply voltage, DC
- 5333A 8.0...35 VDC 5333D
..... 8.0...30 VDC Internal power dissipation
- 5333A 25 mW...0.8 W 5333D
..... 25 mW...0.7 W
- Voltage drop 8.0 VDC Warm-up time.
..... 5 min.
- Programming Loop Link
- Signal / noise ratio > 60 dB
- Response time (programmable) 0.33...60 s
- Signal dynamics, input 19 bit
- Signal dynamics, output 16 bit
- Effect of supply voltage variation < 0.005% of span / VDC

Accuracy, the greater of general and basic values:

General values		
Input type	Absolute accuracy	Temperature coefficient
All	$\leq \pm 0.1\%$ of span	$\leq \pm 0.01\%$ of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
RTD	$\leq \pm 0.3^\circ\text{C}$	$\leq \pm 0.01^\circ\text{C}/^\circ\text{C}$
Lin. R	$\leq \pm 0.2 \Omega$	$\leq \pm 20 \text{ m}\Omega / ^\circ\text{C}$

EMC – immunity influence. < $\pm 0.5\%$ of span

Electrical specifications, input:

RTD and linear resistance input:

RTD type	Min. value	Max. value	Min. span	Standard
Pt100...Pt1000	-200°C	+850°C	25°C	IEC 60751
Ni100...Ni1000	-60°C	+250°C	25°C	DIN 43760
Linear resistance	0 Ω	10000 Ω	30 Ω	—

- Max. offset 50% of selec. max. value
- Cable resistance per wire (max.) 10 Ω
- Sensor current > 0.2 mA, < 0.4 mA

- Cable resistance per wire (max.) 10 Ω
- Sensor current > 0.2 mA, < 0.4 mA

Output:

Current output:

- Signal range 4...20 mA
- Min. signal range 16 mA
- Updating time 135 ms
- Load resistance $\leq (V_{\text{supply}} - 8.0) / 0.023 [\Omega]$
- Load stability < $\pm 0.01\%$ of span / 100 Ω

Sensor error detection:

- Programmable 3.5...23 mA
- NAMUR NE43 Upscale 23 mA
- NAMUR NE43 Downscale 3.5 mA Of span = Of the presently selected range

Observed authority requirements:

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

Marine approval:

DNV, Ships & Offshore TAA0000101

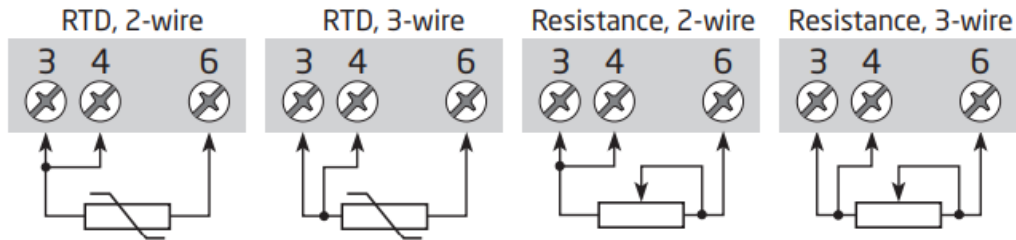
Ex / I.S. approvals:

5333A:

- ATEX DEKRA 20ATEX0106X 5333D:
- ATEX DEKRA 20ATEX0105X
- FM FM17US0013X
- 5333A & 5333D:
- IECEx DEK 20.0062X
- CSA 1125003
- INMETRO DEKRA 23.0010X
- EAC Ex RU C-DK.HA65.B.00355/19

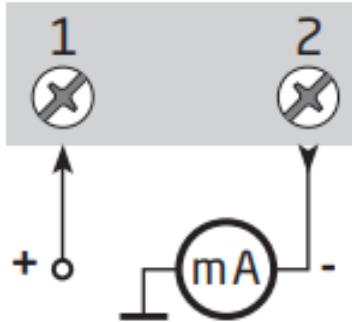
Connections

Input:

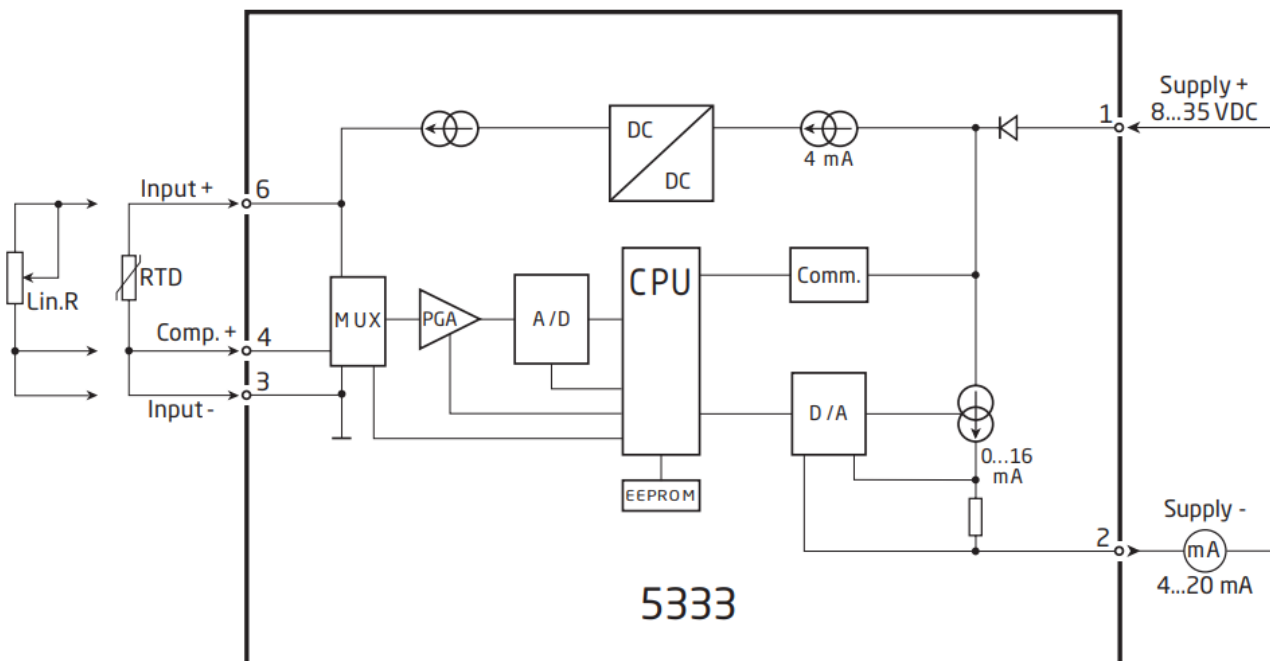


Output:

2-wire installation

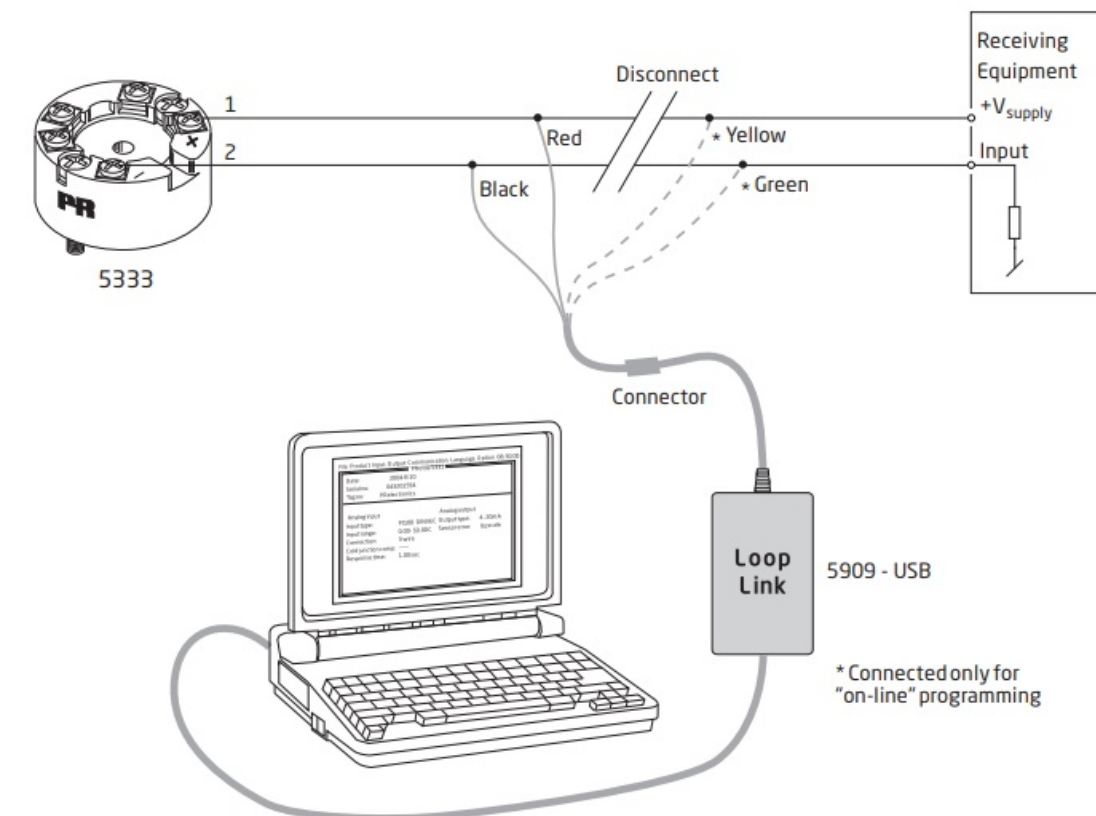


Block diagram

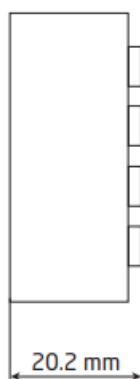
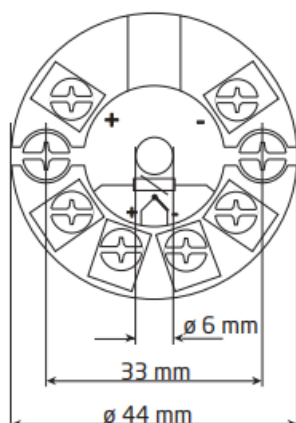


Programming

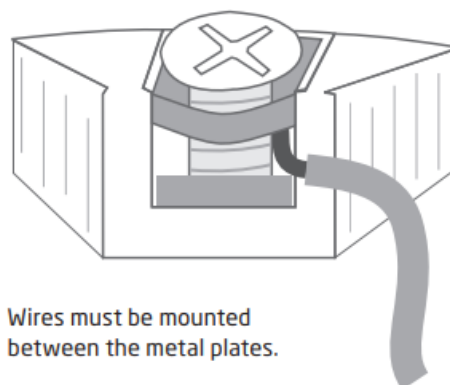
- Loop Link is a communications interface that is needed for programming 5333.
- For programming please refer to the drawing below and the help functions in PReset.
- Loop link is not approved for communication with modules installed in hazardous (Ex) areas.



Mechanical specifications



Mounting of sensor wires



ATEX-installation drawing 5333QA02-V3R0

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 Marking
DEKRA 20ATEX0106 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 3,4,6	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: 5 V Io: 4.0 mA Po: 20 mW Lo: 900 mH Co: 1000 µF	Ui = 35 V Ii = 110 mA Ci = 1 nF Li = 10 µH	Ui = 24 V Ii = 260 mA Ci = 1 nF Li = 10 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 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 5333QA01-V3R0

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.

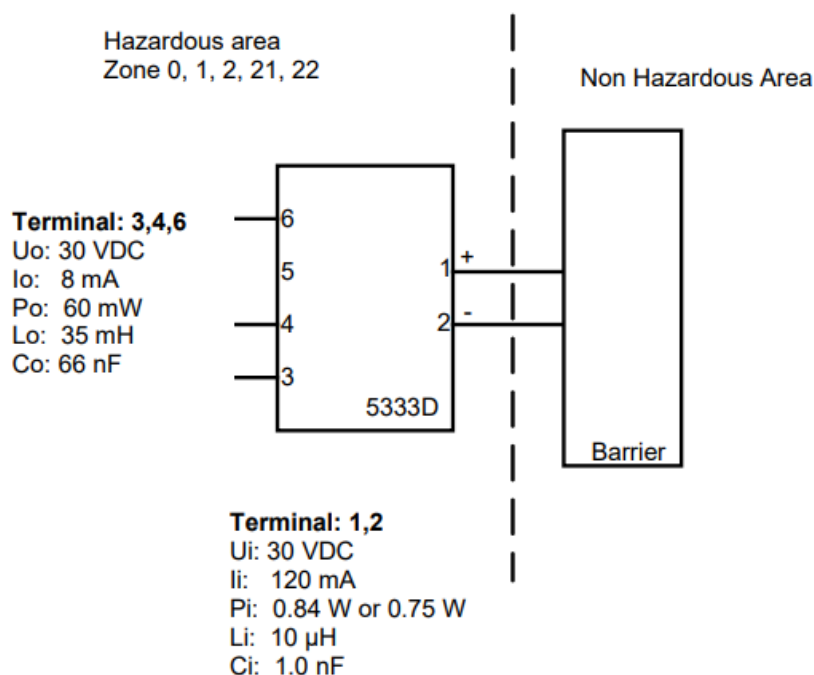
ATEX Certificate DEKRA 20ATEX0105 X



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

IECEx-installation drawing 5333QI02-V3R0

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.

Certificate IECEx DEK 20.0062X

Marking

- Ex nA [ic] IIC T6 ... T4 Gc
- Ex nA [ic] IIC T6 ... T4 Gc
- Ex ic IIC T6 ... T4 Gc
- Ex ic IIC T6 ... T4 Gc

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: 5 V Io: 4 mA Po: 20 mW Lo: 900 mH Co: 1000 μ F	Ui = 35 V Ii = 110 mA Ci = 1 nF Li = 10 μ H	Ui = 24 V Ii = 260 mA Ci = 1 nF Li = 10 μ H	Umax \leq 35 VDC or Umax \leq 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.

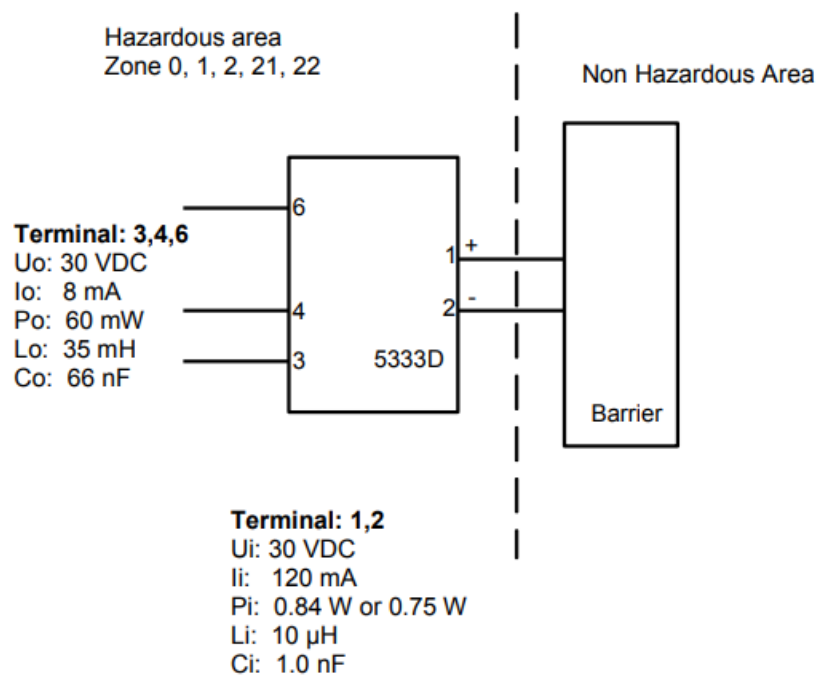
IECEx-installation drawing 5333QI01-V3R0

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 20.0062X
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

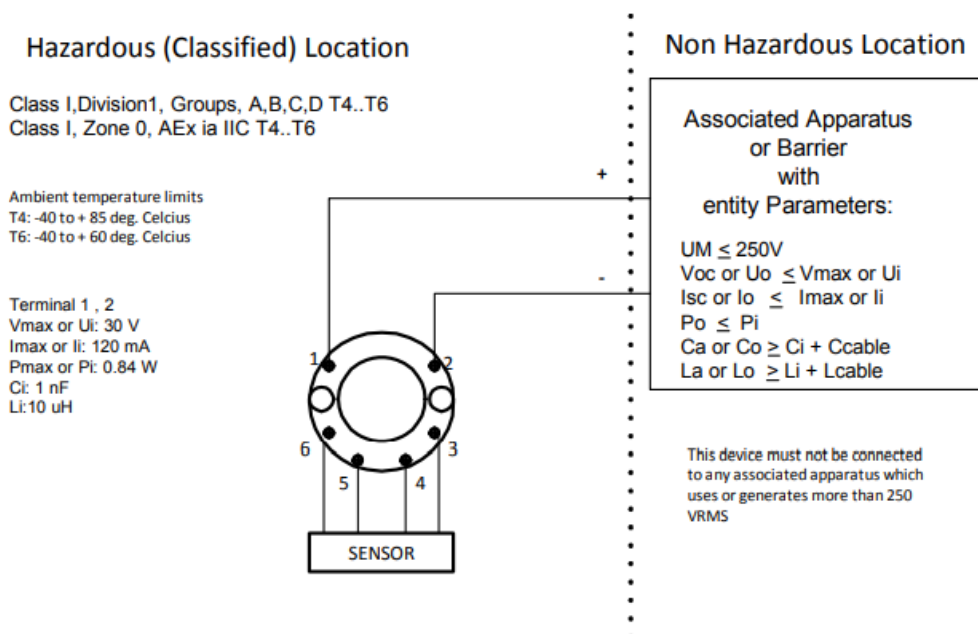
- If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.

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

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

FM Installation Drawing

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



Model 5335D, 5337D

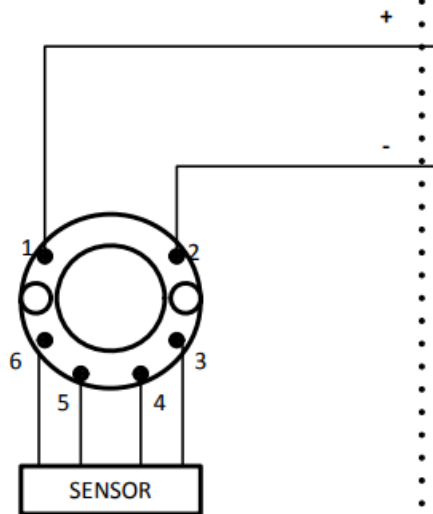
Hazardous (Classified) Location

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:

$UM \leq 250V$
 $V_{oc} \text{ or } U_o \leq V_{max} \text{ or } U_i$
 $I_{sc} \text{ or } I_o \leq I_{max} \text{ or } I_i$
 $P_o \leq P_i$
 $C_a \text{ or } C_o \geq C_i + C_{cable}$
 $L_a \text{ or } L_o \geq L_i + L_{cable}$

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 the interconnection of approved transmitters, meters, and other devices in combinations that 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 VOC or V_t) and current (I_o or ISC 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 intrinsic 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 intrinsic 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 , VOC or V_t and I_o , ISC 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

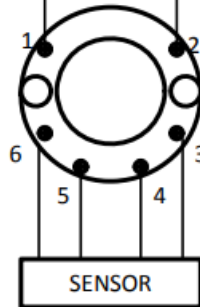
Hazardous (Classified) Location

Class I, Division 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:

$U_M \leq 250V$
 $V_{oc} \text{ or } U_o \leq V_{max} \text{ or } U_i$
 $I_{sc} \text{ or } I_o \leq I_{max} \text{ or } I_i$
 $P_o \leq P_i$
 $C_a \text{ or } C_o \geq C_i + C_{cable}$
 $L_a \text{ or } L_o \geq L_i + L_{cable}$

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

CSA Installation drawing 5333QC02

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.

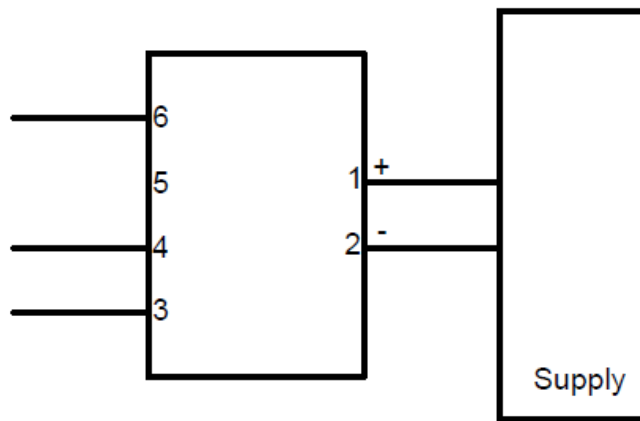
Marking

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

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: 1000 μ F



Terminal:
1-2
Functional Ratings:
U nominal \leq 35 VDC;
I nominal \leq 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 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, $V_{oc} < V_{max}$, $C_a \geq C_i + C_{cable}$, $L_a \geq L_i + L_{cable}$.

CSA Installation drawing 533XQC03 – V5R0

Hazardous area

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

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

Module 5331D, 5333D

Terminal: 3,4,5,6

Only passive, or non-energy storing devices such as RTD's and Thermocouples may be connected

Module 5335D, 5336D and 5337D

Terminal: 3,4,5,6

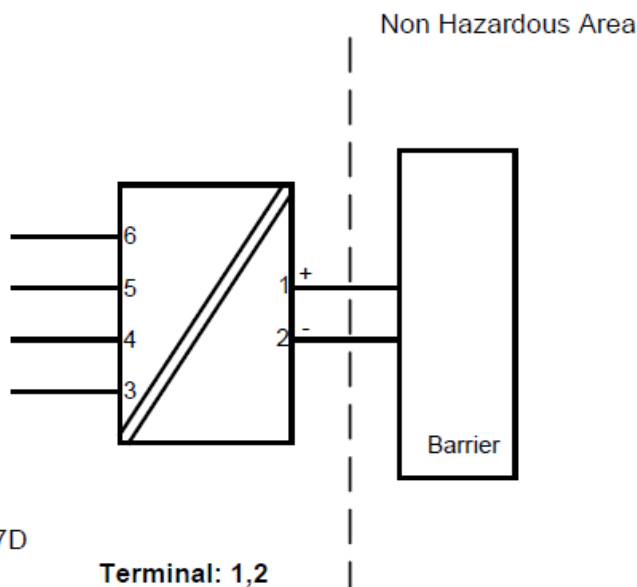
Uo: 9.6 VDC

Io: 28 mA

Po: 67.2 mW

Lo: 35 mH

Co: 3.5 μF



Terminal: 1,2

Ui: 30 VDC

Ii: 120 mA

Pi: 0.84 W

Li: 10 μH

Ci: 1.0 nF

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).

Document history

The following list provides notes concerning revisions of this document.

- Rev. ID Date Notes
- 111 1345 IECEx and INMETRO approvals added.
- 112 1514 PESO/CCOE approval added. GOST approval replaced with EAC approval
- 113 1707 FM installation drawing updated.
- 114 1848 FM installation drawing updated
- 115 1935 CSA approval for 5333A received. Installation drawing added
- 115 1935 CSA approval for 5333A received. Installation drawing added
- 117 2139 ATEX and IECEx approvals updated – Ex na changed to Exec.
- 118 2202 CSA installation drawings updated.
- 119 2245 UKCA added.
- 120 2345 INMETRO approval updated – Ex nA replaced by Exec.

We are near you, all over the world

- Our trusted red boxes are supported wherever you are
- All our devices are backed by expert service and a 5-year warranty. With each product you purchase, you receive personal technical support and guidance, day-to-day delivery, repair without charge within the warranty period and easily accessible documentation.
- We are headquartered in Denmark and have offices and authorized partners the world over. We are a local
- Business with a global reach. This means that we are always nearby and know your local markets well.
- We are committed to your satisfaction and provide PERFORMANCE-MADE SMARTER all around the world.
- For more information on our warranty program, or to meet with a sales representative in your region, visit prelectronics.com.


Benefit today from PERFORMANCE MADE SMARTER

PR Electronics is the leading technology company specializing in making industrial process control safer, more reliable and more efficient. Since 1974, we have been dedicated to perfecting our core competence of innovating high precision technology with low power consumption. This dedication continues to set new standards for products communicating, monitoring and connecting our customers' process measurement points to their process control systems.

Our innovative, patented technologies are derived from our extensive R&D facilities and from having a great understanding of our customers' needs and processes. We are guided by principles of simplicity, focus, courage and excellence, enabling some of the world's greatest companies to achieve PERFORMANCE MADE SMARTER.

www.prelectronics.com

Documents / Resources

	<p>PR electronics 5333 2-Wire Programmable Transmitter [pdf] Instruction Manual 5333, 5333 2-Wire Programmable Transmitter, 2-Wire Programmable Transmitter, Programmabl e Transmitter, Transmitter</p>
---	---

References

- [PR PR electronics | Specialists in signal conditioning devices](#)
- [PR PR electronics | Specialists in signal conditioning devices](#)
- [User Manual](#)

[Manuals+](#), [Privacy Policy](#)

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.