



Isolation Galvanic isolators for analogue and digital signals as well as HART® signals. A wide product range with both loop-powered and universal isolators featuring linearisation, inversion, and scaling of output signals.



Displays Programmable displays with a wide selection of inputs and outputs for display of temperature, volume, weight, etc. Feature linearisation, scaling, and difference measurement functions for programming via PReset software.



Ex barriers Interfaces for analogue and digital signals as well as HART® signals between sensors / I/P converters / frequency signals and control systems in Ex zone 0, 1 & 2. Feature options such as mathematical functions and 2 wire transmitter interfaces.



Temperature A wide selection of transmitters for DIN form B mounting and DIN rail modules with analogue and digital bus communication ranging from application-specific to universal transmitters.



Backplane Flexible motherboard solutions for system 5000 modules. Our backplane range features flexible 8 and 16 module solutions with configuration via PReplan 8470 – a PC program with drop-down menus.



DK Side 1

UK Page 13

FR Page 25

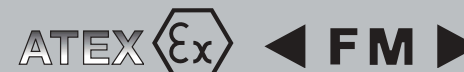
DE Seite 37



5 3 3 3

2-Wire Programmable Transmitter

No. 5333V106-IN (0326)
From ser. no. 010531001



SIGNALS THE BEST

2-TRÅDS PROGRAMMERBAR TRANSMITTER

PRetop 5333

Indholdsfortegnelse

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Sikkerhedsinstruktion

- **Ex-installation:**

For sikker installation af 5333B i eksplosionsfarligt område skal følgende overholdes. Installation må kun foretages af kvalificeret personale, der er bekendt med de nationale og internationale love, direktiver og standarder, der gælder for området.

OVERENSSTEMMELSESERKLÆRING

Som producent erklærer

PR electronics A/S
Lerbakken 10
DK-8410 Rønde

hermed at følgende produkt:

Type: 5333
Navn: 2-Tråds programmerbar transmitter

er i overensstemmelse med følgende direktiver og standarder:

EMC-direktivet 89/336/EEC og senere tilføjelser

Fra serienr.: 990316001 ff
EN 61 326
EN 50 081-1 og EN 50 081-2
EN 50 082-1 og EN 50 082-2

Denne erklæring er udgivet i overensstemmelse med EMC-direktivets paragraf 10, stk. 1. For specifikation af det acceptable EMC-niveau henvises til modulets elektriske specifikationer.

ATEX-direktivet 94/9/EC og senere tilføjelser

Fra serienr.: 990316001 ff
EN 50 014 og EN 50 020
Ex-certifikat: 99 ATEX 126964

Bemyndiget organ for CENELEC / ATEX: **UL International Demko A/S 0539**

Rønde, 4. jan. 2000



Peter Rasmussen
Producentens underskrift

2-TRÅDS PROGRAMMERBAR TRANSMITTER PRetop 5333

- Indgang for RTD eller Ohm
- Høj målenøjagtighed
- 3-leder tilslutning
- Programmerbar følerfejlsværdi
- Kan monteres i DIN form B følerhoved

Anvendelse:

- Temperaturlineariseret måling med Pt100...Pt1000 eller Ni100...Ni1000 føler.
- Omsætning af lineær modstandsændring til standard analogt strømsignal, f.eks. fra ventiler eller ohmske niveaustave.

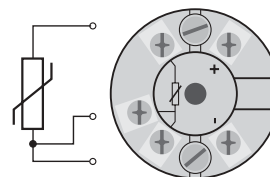
Teknisk karakteristisk:

- PR5333 kan af brugeren i løbet af få sekunder programmeres til at måle inden for alle normerede RTD-temperaturområder.
- RTD- og modstandsindgangen har kabelkompensering for 3-leder tilslutning.

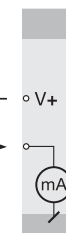
Montage / installation:

- Kan monteres i DIN form B følerhoved eller på DIN-skinne med et specielt beslag.
- **NB:** Som Ex-barriere for 5333B anbefaler vi 5104B, 5111B eller 5114B.

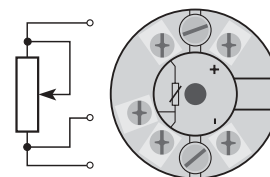
RTD til 4...20 mA



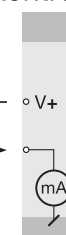
2-Trådsinstallation
i kontrolrum



Modstand til 4...20 mA



2-Trådsinstallation
i kontrolrum



Bestillingsskema: 5333

Type	Version
5333	Standard : A
	ATEX : B
	FM og ATEX : C
	CSA, FM og ATEX : D

Elektriske specifikationer:

Specifikationsområde:

-40°C til +85°C

Fælles specifikationer:

Forsyningsspænding DC

Standard, 5333A	8...35 V
ATEX, FM og CSA, 5333B, C og D.....	8...28 VDC
Egetforbrug	25 mW...0,8 W
Spændingsdrop.....	8 VDC
Opvarmningstid.....	5 min.
Kommunikationsinterface.....	Loop Link 5905A
Signal- / støjforhold.....	min. 60 dB
Reaktionstid (programmerbar)	0,33...60 s
Signaldynamik, indgang.....	19 bit
Signaldynamik, udgang.....	16 bit
Kalibreringstemperatur	20...28°C

Nøjagtighed, størst af generelle og basisværdier:

Generelle værdier		
Indgangstype	Absolut nøjagtighed	Temperaturkoefficient
Alle	$\leq \pm 0,1\%$ af span	$\leq \pm 0,01\%$ af span / °C

Basisværdier		
Indgangstype	Basisnøjagtighed	Temperaturkoefficient
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-immunitetspåvirkning..... $\leq \pm 0,5\%$ af span

Virkning af forsyningsspændings-

ændring	$\leq 0,005\%$ af span / VDC
Vibration	IEC 68-2-6 Test FC
Lloyd's specifikation nr. 1	4 g / 2...100 Hz
Max. ledningskvadrat	1 x 1,5 mm ²
Luffugtighed	< 95% RH (ikke kond.)
Mål	Ø 44 x 20,2 mm
Tæthedsgrad (hus / klemme)	IP68 / IP00
Vægt	50 g

Elektriske specifikationer indgang:

RTD- og lineær modstandsindgang:

RTD-type	Min. værdi	Max. værdi	Min. span
Pt100	-200°C	+850°C	25°C
Ni100	-60°C	+250°C	25°C
Lin.R	0 Ω	10000 Ω	30 Ω

Max. nulpunktsforskydning (offset)	50% af valgt max. værdi
Kabelmodstand pr. leder (max.)	10 Ω
Følerstrøm	> 0,2 mA, < 0,4 mA
Virkning af følerkabelmodstand (3-leder)	< 0,002 Ω / Ω
Følerfejlsdetektering	Ja

Udgang:

Strømodgang:

Signalområde	4...20 mA
Min. signalområde.....	16 mA
Opdateringstid.....	135 ms
Belastningsmodstand.....	$\leq (V_{\text{forsyn.}} - 8) / 0,023 [\Omega]$
Belastningsstabilitet	< $\pm 0,01\%$ af span / 100 Ω

Følerfejlsdetektering:


Programmerbar	3,5...23 mA
NAMUR NE43 Upscale	23 mA
NAMUR NE43 Downscale.....	3,5 mA

Ex-data:

U_j	: 28 VDC
I_j	: 120 mA DC
P_j	: 0,84 W
L_j	: 10 μ H
C_j	: 1,0 nF

EEx-godkendelse CENELEC:

DEMKO 99 ATEX 126964

ATEX 0539  II 1 G
EEx ia IIC T1...T6

Max. omgivelsestemp. for T1...T4 85°C

Max. omgivelsestemp. for T5 og T6 60°C

Anvendes i zone..... 0, 1 eller 2

FM og UL IS, KL. I, DIV. 1, GP. A-D

Entity, FM Control Drawing No. 5300Q502

CSA Klasse I, Zone 0/1, Gruppe IIC

Installation Drawing No. 533XQC03

Overholdte myndighedskrav:

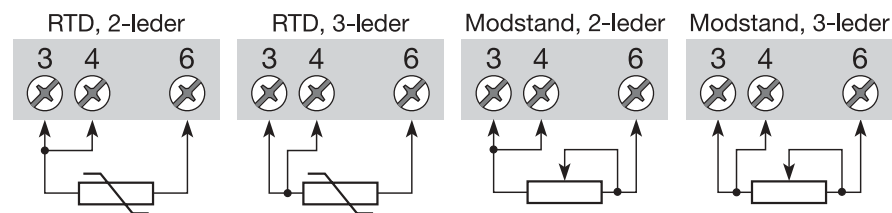
Standard:

EMC 89/336/EØF, Emission	EN 50 081-1, EN 50 081-2
Immunitet	EN 50 082-2, EN 50 082-1
Emission og immunitet	EN 61 326
ATEX 94/9/EF	EN 50 014 og EN 50 020
Factory Mutual, ASCN	3600, 3810, 3611, 3610
UL.....	UL 913, UL 1604
CSA, CAN / CSA.....	E79-15, E79-11

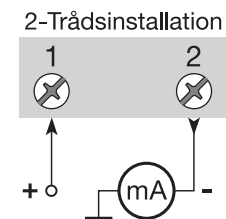
Af span = Af det aktuelt valgte område

Tilslutninger:

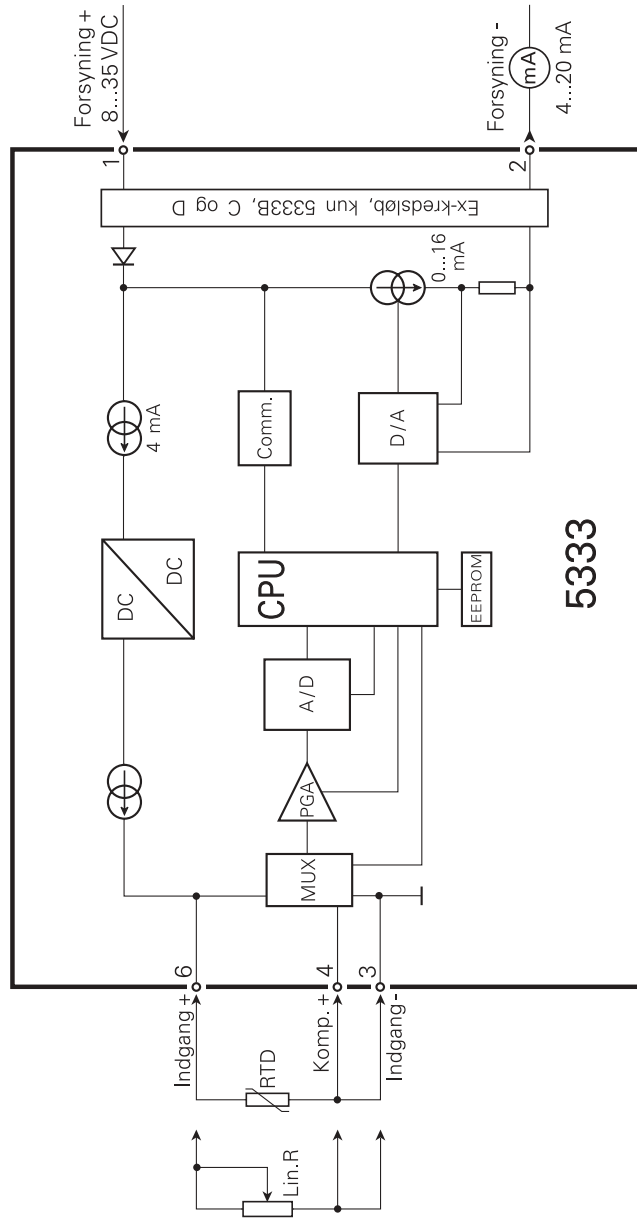
Indgang:



Udgang:



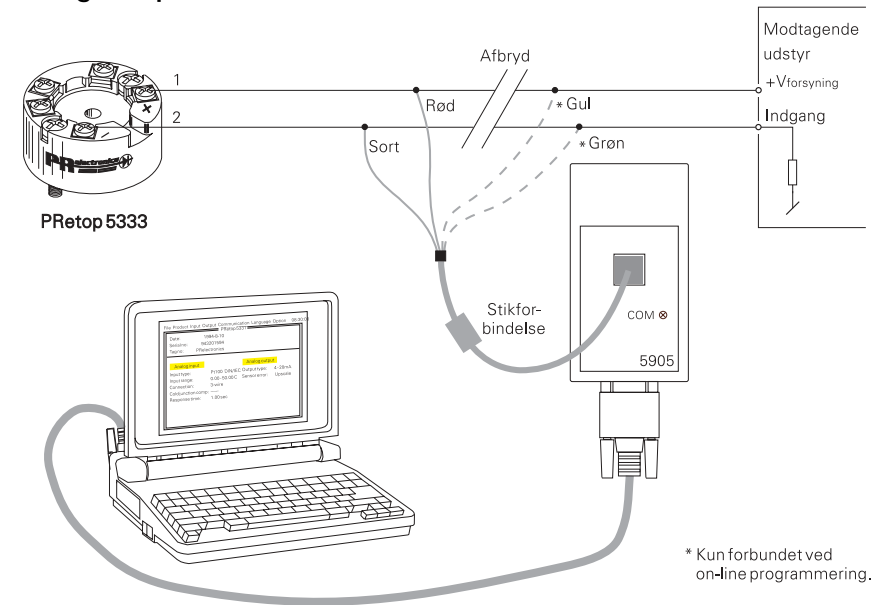
BLOKDIAGRAM:



Programmering:

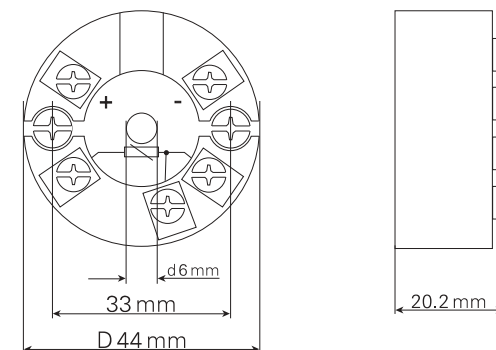
- Loop Link 5905A er et batteridrevet kommunikationsinterface, der er nødvendigt for programmering af PRetop 5333.
- Ved programmering henvises til tegningen nedenfor og hjælpefunktionen i PReset programmet.
- Loop Link 5905A må ikke benyttes til kommunikation med moduler installeret i Ex-område.

Bestilling: Loop Link 5905A.



* Kun forbundet ved on-line programmering.

Mekaniske specifikationer:



2-WIRE PROGRAMMABLE TRANSMITTER

PRetop 5333

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Safety instructions

- **Ex installation:**

For a safe installation of 5333B in hazardous area the following must be observed. The module must only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

DECLARATION OF CONFORMITY

As manufacturer

**PR electronics A/S
Lerbakken 10
DK-8410 Rønede**

hererby declares that the following product:

**Type: 5333
Name: 2-Wire programmable transmitter**

is in conformity with the following directives and standards:

EMC directive 89/336/EEC and later amendments

**From serial no.: 990316001 ff
EN 61 326
EN 50 081-1, EN 50 081-2
EN 50 082-1, EN 50 082-2**

This declaration is issued in compliance with article 10, subclause 1 of the EMC directive. For specification of the acceptable EMC performance level, refer to the electrical specifications for the module.

The ATEX directive 94/9/EC and later amendments

**From serial no.: 990316001 ff
EN 50 014 and EN 50 020
Ex certificate: 99 ATEX 126964**

Notified body for CENELEC/ATEX: UL International Demko A/S 0539

Rønede, 4 Jan. 2000



Peter Rasmussen
Manufacturer's signature

2-WIRE PROGRAMMABLE TRANSMITTER PRetop 5333

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

Application:

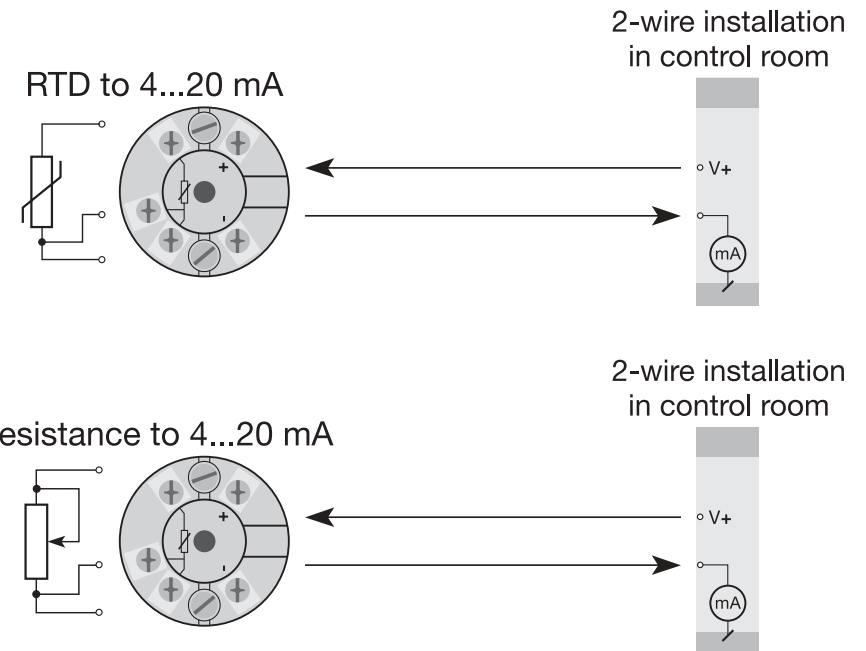
- Linearised temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.
- Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.

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 3-wire connection.

Mounting / installation:

- For DIN form B sensor head or DIN rail mounting with a special fitting.
- **NB:** As Ex barrier for 5333B we recommend 5401B, 5111B, or 5114B.



Order: 5333

Type	Version
5333	Standard : A
	ATEX : B
	FM and ATEX : C
	CSA, FM and ATEX : D

Electrical specifications:

Specifications range:

-40°C to +85°C

Common specifications:

Supply voltage, DC

Standard, 5333A 8...35 V

ATEX, FM and CSA, 5333B, C and D.. 8...28 VDC

Internal consumption 25 mW...0.8 W

Voltage drop 8 VDC

Warm-up time..... 5 min.

Communications interface Loop Link 5905A

Signal / noise ratio Min. 60 dB

Response time (programmable)..... 0.33...60 s

Signal dynamics, input..... 19 bit

Signal dynamics, output 16 bit

Calibration temperature 20...28°C

Accuracy, the greater of general and basic values:

General values		
Input type	Absolute accuracy	Temperature coefficient
All	≤ ±0.1% of span	≤ ±0.01% of span / °C

Basic values		
Input type	Basic accuracy	Temperature coefficient
RTD	≤ ±0.3°C	≤ ±0.01°C / °C
Lin.R	≤ ±0.2 Ω	≤ ±20 mΩ / °C
EMC immunity influence ≤ ±0.5% of span		

Effect of supply voltage variation..... ≤ 0,005% of span / VDC

Vibration IEC 68-2-6 Test FC

Lloyd's specification no. 1 4 g / 2...100 Hz

Max. wire size..... 1 x 1.5 mm²

Humidity < 95% RH (non-cond.)

Dimensions..... Ø 44 x 20.2 mm

Tightness (enclosure / terminal) IP68 / IP00

Weight 50 g

Electrical specifications, input:

RTD and linear resistance input:

RTD type	Min. value	Max. value	Min. span
Pt100	-200°C	+850°C	25°C
Ni100	-60°C	+250°C	25°C
Lin.R	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

Effect of sensor cable resistance

(3-wire)..... < 0.002 Ω / Ω

Sensor error detection Yes

Output:

Current output:

Signal range 4...20 mA

Min. signal range..... 16 mA

Updating time..... 135 ms

Load resistance..... ≤ (V_{supply}- 8) / 0.023 [Ω]

Load stability < ±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

Ex data:

U_i	: 28 VDC
I_i	: 120 mA DC
P_i	: 0.84 W
L_i	: 10 μ H
C_i	: 1.0 nF

EEx approval CENELEC:

DEMKO 99	ATEX 126964
ATEX	0539 Ex II 1 G
	EEx ia IIC T1...T6

Max. amb. temperature for T1...T4	85°C
Max. amb. temperature for T5 and T6.....	60°C
Applicable in zone	0, 1 or 2

FM and UL	IS, CL. I, DIV. 1, GP. A-D
Entity, FM Control Drawing No.	5300Q502

CSA	Class I, Zone 0/1, Group IIC
Installation Drawing No.	533XQC03

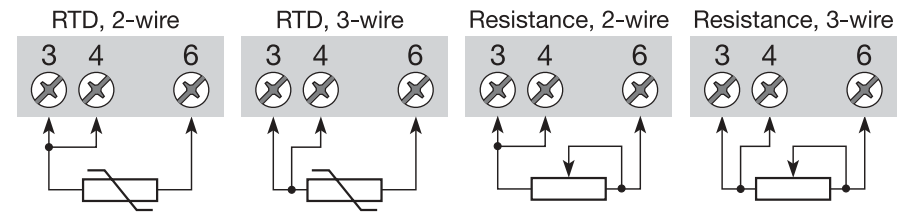
Observed authority requirements:

Standard:	
EMC 89/336/EEC, Emission	EN 50 081-1, EN 50 081-2
Immunity	EN 50 082-2, EN 50 082-1
Emission and immunity	EN 61 326
ATEX 94/9/EC.....	EN 50 014 and EN 50 020
FM Class Number	3600, 3610
CSA Class Number	2258 04 and 2258 84

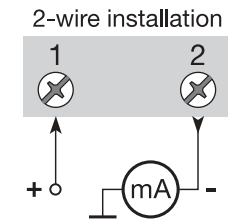
Of span = Of the presently selected range

Connections:

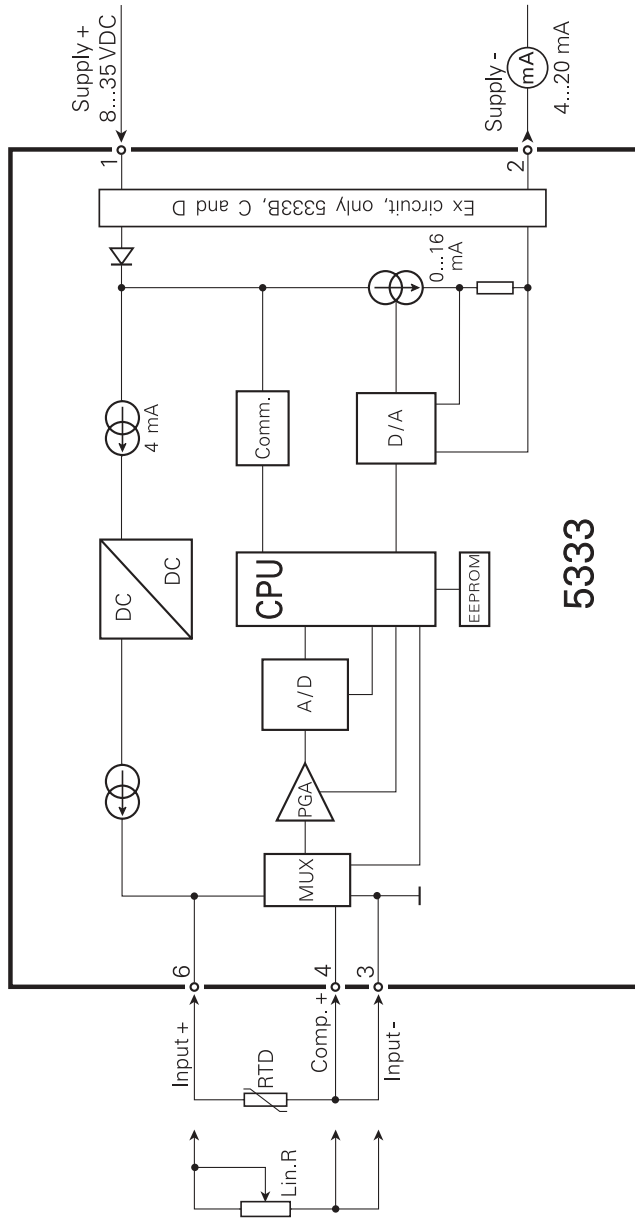
Input:



Output:

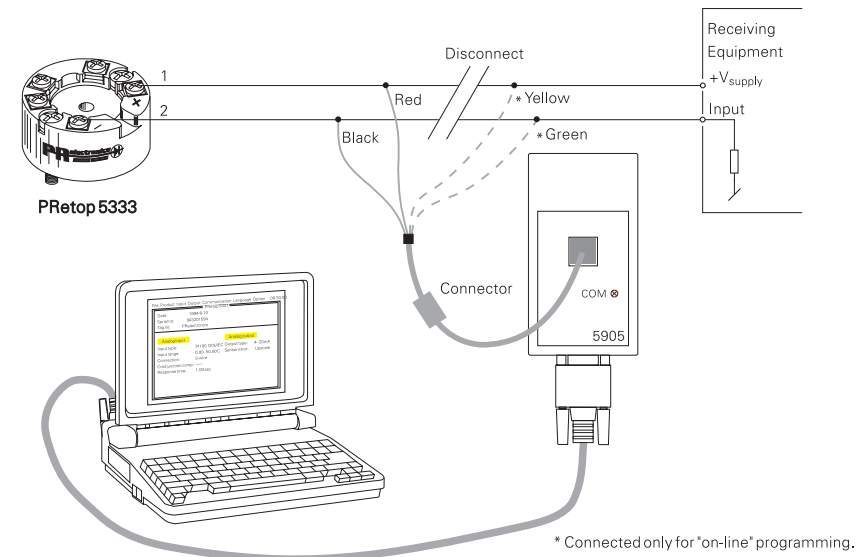


BLOCK DIAGRAM:

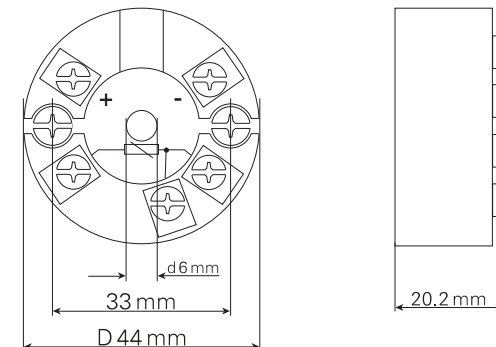


Programming:

- Loop Link 5905A is a battery-powered communications interface that is needed for programming PRetop 5333.
 - For programming please refer to the drawing below and the help functions in PReset.
 - Loop Link 5905A is not approved for communication with modules installed in hazardous (Ex) areas.
- Order: Loop Link 5905A.**



Mechanical specifications:



TRANSMETTEUR 2-FILS PROGRAMMABLE (Pt100)

PRetop 5333

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Consigne de sécurité

- **Installation S.I. :**

Pour l'installation de 5333B dans les zones dangereuses, conformez-vous aux consignes de sécurité suivantes : l'installation ne doit être réalisée que par du personnel qualifié connaissant la législation nationale et internationale ainsi que les directives et standards régissant ce domaine.

DECLARATION DE CONFORMITE

En tant que fabricant

PR electronics A/S
Lerbakken 10
DK-8410 Rønde

déclare que le produit suivant :

Type : 5333
Nom : Transmetteur 2-fils programmable

correspond aux directives et normes suivantes :

La directive CEM (EMC) 89/336/EEC et les modifications subséquentes

A partir du no. de série : 990316001 sqq.
EN 61 326
EN 50 081-1, EN 50 081-2
EN 50 082-1, EN 50 082-2

Cette déclaration est délivrée en correspondance à l'article 10, alinéa 1 de la directive CEM. Pour une spécification du niveau de rendement acceptable CEM (EMC) renvoyer aux spécifications électriques du module.

La directive ATEX 94/9/EC et les modifications subséquentes

A partir du no. de série : 990316001 sqq.
EN 50 014 et EN 50 020
Certificat Ex : 99 ATEX 126964

Organisme notifié pour CENELEC/ATEX: **UL International Demko A/S 0539**



Rønde, le 4 janvier 2000

Peter Rasmussen
Signature du fabricant

TRANSMETTEUR 2-FILS PROGRAMMABLE (Pt100) PRetop 5333

- *Entrée RTD ou résistance*
- *Grande précision de mesure*
- *Connexion aux sondes à 3 fils*
- *Sécurité programmable*
- *Pour tête de sonde DIN B*

Application :

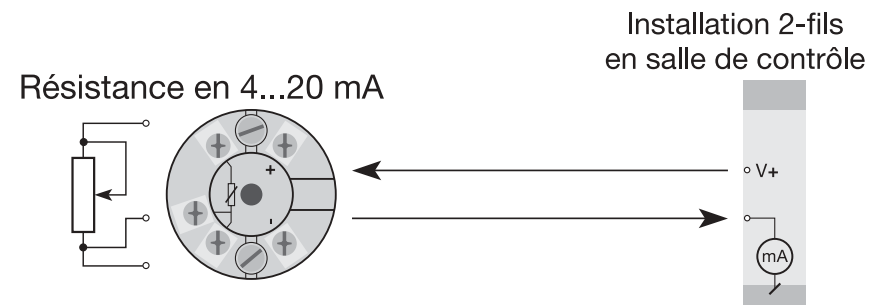
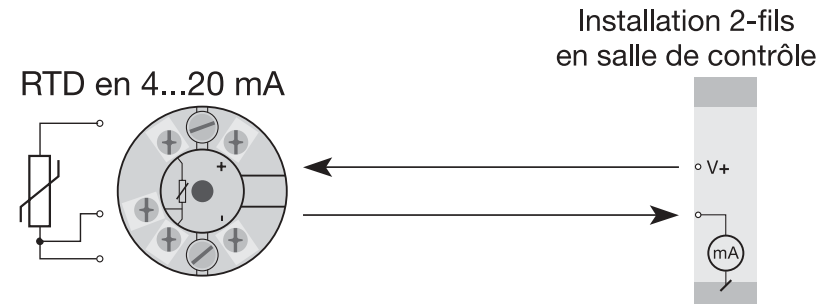
- Mesure linéarisée de la température avec un capteur Pt100...Pt1000 ou Ni100...Ni1000.
- Conversion d'une résistance linéaire en un signal courant standard analogique pour mesurer par exemple le niveau ou la position d'une vanne.

Caractéristiques techniques :

- Le PR5333 peut être programmé de manière simple et rapide.
- Compensation de ligne pour des entrées RTD et résistance avec un raccordement à 3 fils.

Montage / installation :

- Pour tête de sonde DIN B ou pour rail DIN avec un raccord spécial.
- **N.B.** : Comme barrière S.I. pour le 5333B nous recommandons le PR5104B, 5111B ou 5114B.



Référence : 5333

Type	Version
5333	Standard : A
	ATEX : B
	FM et ATEX : C
	CSA, FM et ATEX : D

Spécifications électriques :

Plage des spécifications :

-40°C à +85°C

Spécifications communes :

Tension d'alimentation cc

Standard, 5333A 8...35 V

ATEX, FM et CSA, 5333B, C et D 8...28 Vcc

Consommation interne 25 mW...0,8 W

Chute de tension 8 Vcc

Temps de chauffe 5 min.

Kit de programmation Loop Link 5905A

Rapport signal / bruit Min. 60 dB

Temps de réponse (programmable) 0,33...60 s

Dynamique du signal d'entrée 19 bit

Dynamique du signal de sortie 16 bit

Température d'étalonnage 20...28°C

Précision, la plus grande des valeurs générales et de base :

Valeurs générales		
Type d'entrée	Précision absolue	Coefficient de température
Tous	≤ ±0,1% de l'EC	≤ ±0,01% de l'EC / °C

Valeurs de base		
Type d'entrée	Précision de base	Coefficient de température
RTD	≤ ±0,3°C	≤ ±0,01°C / °C
R. Lin.	≤ ±0,2 Ω	≤ ±20 mΩ / °C
Immunité CEM..... ≤ ±0,5% de l'EC		

Effet d'une variation de la tension d'alimentation ≤ 0,005% de l'EC / Vcc
 Vibration IEC 68-2-6 Test FC
 Lloyd, spécification no 1 4 g / 2...100 Hz
 Taille max. des fils 1 x 1,5 mm²
 Humidité < 95% HR (sans cond.)
 Dimensions Ø 44 x 20,2 mm
 Etanchéité (boîtier / bornier) IP68 / IP00
 Poids 50 g

Spécifications électriques, entrée :

Entrée RTD et entrée résistance linéaire :

Type RTD	Valeur min.	Valeur max.	Plage min.
Pt100	-200°C	+850°C	25°C
Ni100	-60°C	+250°C	25°C
R. Lin.	0 Ω	10000 Ω	30 Ω

Décalage max. 50% de la valeur max. sélectionnée
 Résistance de ligne max. par fil 10 Ω
 Courant de sonde > 0,2 mA, < 0,4 mA
 Effet de la résistance de ligne (3-fils) < 0,002 Ω / Ω
 Détection de rupture sonde Oui

Sortie :

Sortie courant :

Gamme de mesure 4...20 mA
 Plage de mesure min. 16 mA
 Temps de scrutation 135 ms
 Résistance de charge ≤ (V_{alim.} - 8) / 0,023 [Ω]
 Stabilité de charge < ±0,01% de l'EC / 100 Ω

Détection de rupture de sonde :


Programmable	3,5...23 mA
NAMUR NE43 Haut d'échelle	23 mA
NAMUR NE43 Bas d'échelle.....	3,5 mA

Caractéristiques S.I. :

U_i	: 28 Vcc
I_i	: 120 mAcc
P_i	: 0,84 W
L_i	: 10 μ H
C_i	: 1,0 nF

Approbation EEx CENELEC :

DEMKO 99 ATEX 126964

ATEX 0539  II 1 G

EEx ia IIC T1...T6

Température amb. max. (T1...T4) 85°C

Température amb. max. (T5 et T6)..... 60°C

Zones d'application..... 0, 1 ou 2

FM IS, CL. I, DIV. 1, GP. A-D

Entity, FM Control Drawing No. 5300Q502

CSA Class I, Zone 0/1, Group IIC

Installation Drawing No. 533XQC03

Agréments et homologations : Standard :

EMC 89/336/CEE, Emission..... EN 50 081-1, EN 50 081-2

Immunité..... EN 50 082-2, EN 50 082-1

Emission et immunité..... EN 61 326

ATEX 94/9/CE..... EN 50 014 et EN 50 020

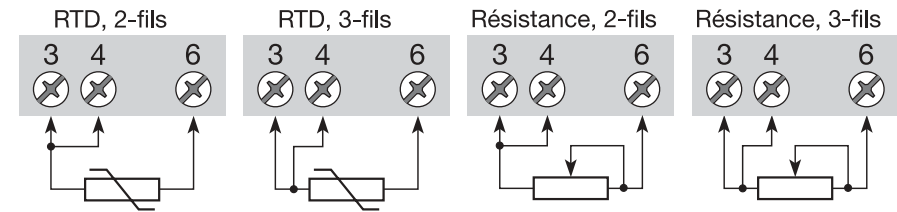
FM Class Number 3600, 3610

CSA Class Number 2258 04 and 2258 84

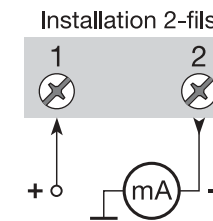
EC = Echelle configurée

Connexions :

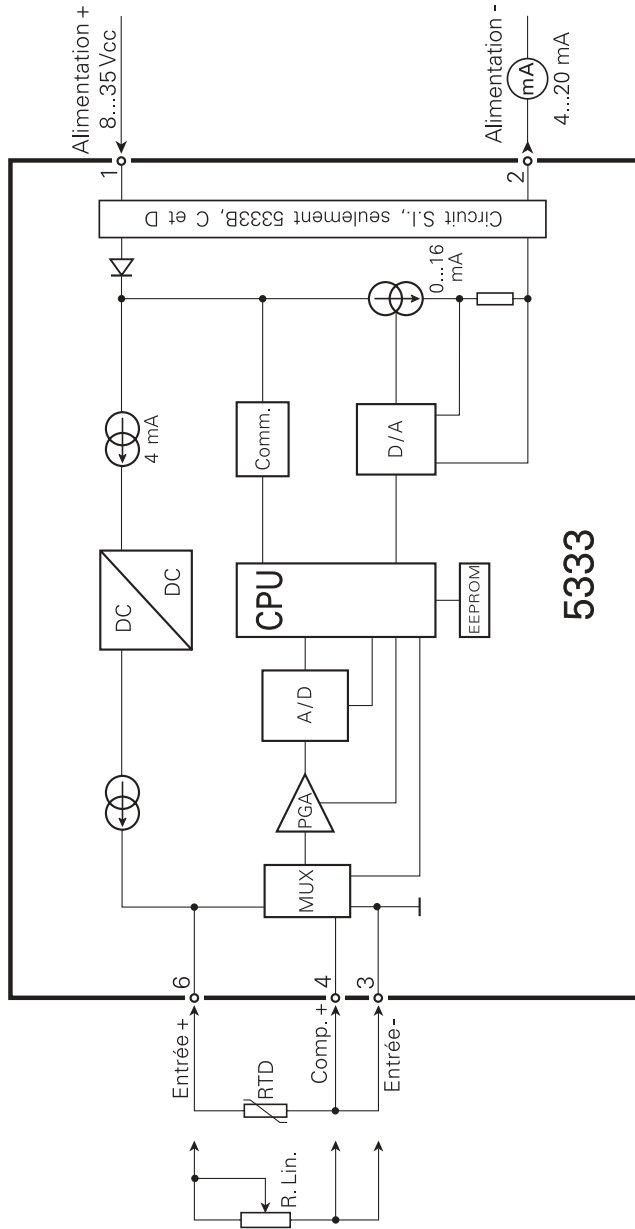
Entrée :



Sortie :

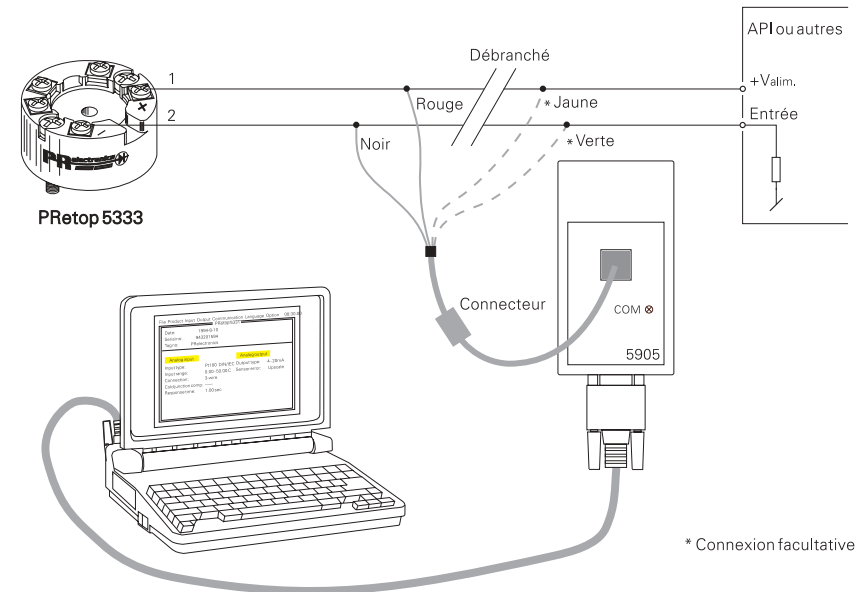


SCHEMA DE PRINCIPE :

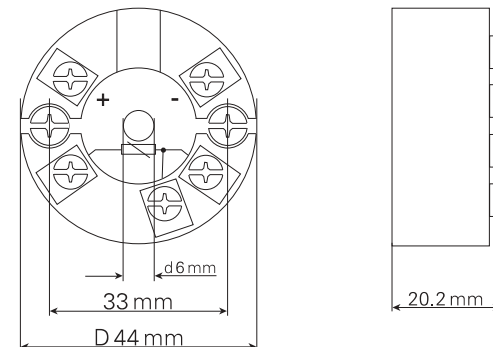


Programmation :

- Loop Link 5905A est un kit de programmation permettant de programmer le PRetop 5333.
 - Pour le raccordement du Loop Link 5905, veuillez vous reporter au schéma ci-dessous et à l'aide en ligne du logiciel PReset.
 - Loop Link 5905A ne doit pas être utilisé pour communication avec des modules installés en zone dangereuse.
- Numéro de référence : Loop Link 5905A.**



Dimensions mécaniques :



2-DRAHT PROGRAMMIERBARER MESSUMFORMER

PRetop 5333

Inhaltsverzeichnis

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Sicherheitsinstruktion

- **Ex-Installation:**

Für sichere Installation von 5333B in explosionsgefährdeter Umgebung muss folgendes beobachtet werden. Die Installation muss nur von qualifizierten Personen, die mit den nationalen und internationalen Gesetze, Direktiven und Standards des Gebiets bekannt sind, vorgenommen werden.

KONFORMITÄTSERKLÄRUNG

Als Hersteller bescheinigt

PR electronics A/S
Lerbakken 10
DK-8410 Rønde

hiermit für das folgende Produkt:

Typ: 5333
Name: 2-Draht programmierbarer Messumformer

die Konformität mit folgenden Richtlinien und Normen:

EMV Richtlinien 89/336/EEC und nachfolgende Änderungen

Ab der Serien-Nr.: 990316001 ff.
EN 61 326
EN 50 081-1, EN 50 081-2
EN 50 082-1, EN 50 082-2

Diese Erklärung ist in Übereinstimmung mit Artikel 10, Unterklausel 1 der EMV Richtlinie ausgestellt. Zur Spezifikation des zulässigen Erfüllungsgrades, siehe die Elektrische Daten des Moduls.

Die ATEX Richtlinien 94/9/EC und nachfolgende Änderungen

Ab der Serien-Nr.: 990316001 ff.
EN 50 014 und EN 50 020
Ex Zertifikat: 99 ATEX 126964

Zulassungsstelle für CENELEC/ATEX: **UL International Demko A/S 0539**

Rønde, 4. Jan. 2000



Peter Rasmussen
Unterschrift des Herstellers

2-DRAHT PROGRAMMIERBARER MESSUMFORMER PRetop 5333

- Eingang für WTH oder Ω
- Hohe Messgenauigkeit
- 3-Leiter-Anschluss
- Programmierbare Sensorfehlanzeige
- Für Einbau in Anschlusskopf DIN Form B

Verwendung:

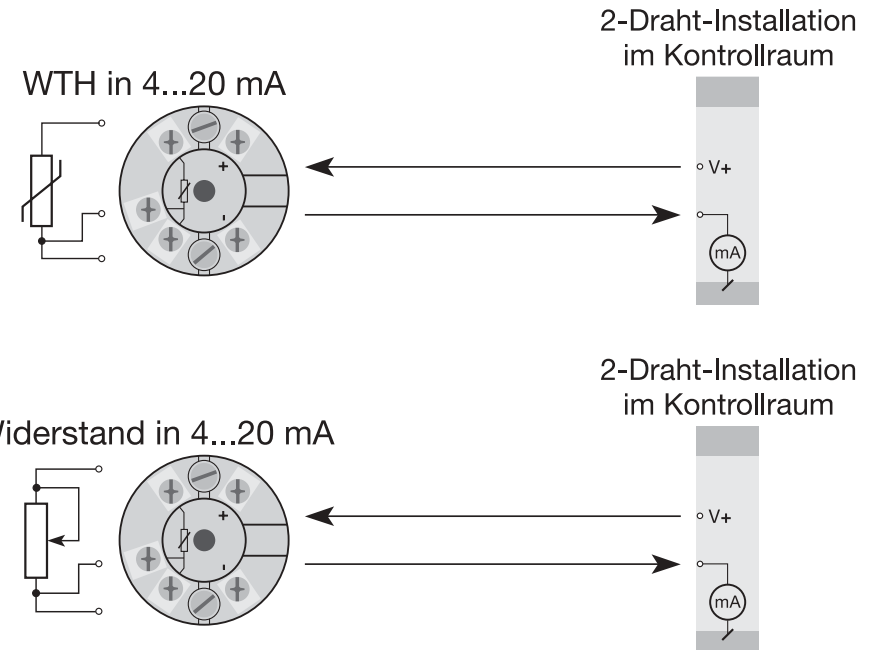
- Linearisierte Temperaturmessung mit Pt100...Pt1000, Ni100...Ni1000 Sensor.
- Umwandlung von linearer Widerstandsänderung in ein analoges Standard-Stromsignal, z.B. von Ventilen oder Niveau-Messwertgeber.

Technische Merkmale:

- PR5333 kann vom Benutzer innerhalb von wenigen Sekunden zur Messung in allen genormten WTH-Temperaturbereiche programmiert werden.
- Der WTH- und Widerstandseingang haben Leitungskompensation bei 3-Leiter-Anschluss.

Montage / Installation:

- Für Einbau in Anschlusskopf DIN Form B oder Montage auf DIN-Schiene mittels eines speziellen Beschlages.
- **NB:** Als Ex-Sicherheitsbarriere für 5333B empfehlen wir 5104B, 5111B oder 5114B.



Bestellangaben: 5333

Typ	Version
5333	Standard : A
	ATEX : B
	FM und ATEX : C
	CSA, FM und ATEX : D

Elektrische Daten:

Spezifikationsbereich:

-40°C bis +85°C

Gemeinsame Daten:

Versorgungsspannung DC

Standard, 5333A	8...35 V
ATEX, FM und CSA, 5333B, C und D..	8...28 VDC
Eigenverbrauch	25 mW...0,8 W
Spannungsabfall.....	8 VDC
Aufwärmzeit.....	5 Min.
Kommunikationsschnittstelle	Loop Link 5905A
Signal- / Rauschverhältnis	min. 60 dB
Ansprechzeit (programmierbar).....	0,33...60 s
Signalauflösung, Eingang.....	19 Bit
Signalauflösung, Ausgang.....	16 Bit
Kalibrierungstemperatur	20...28 °C

Genauigkeit, höherer Wert von allgemeinen und Grundwerten:

Allgemeine Werte		
Eingangsart	Absolute Genauigkeit	Temperaturkoeffizient
Alle	≤ ±0,1% d. Messsp.	≤ ±0,01% d. Messsp./°C

Grundwerte		
Eingangsart	Grundgenauigkeit	Temperaturkoeffizient
WTH	≤ ±0,3°C	≤ ±0,01°C / °C
Lin.R	≤ ±0,2 Ω	≤ ±20 mΩ / °C

EMV-Immunitätseinwirkung..... ≤ ±0,5% d. Messsp.

Einfluss von Änderung der

Versorgungsspannung.....	≤ 0,005% d. Messsp. / VDC
Vibration	IEC 68-2-6 Test FC
Lloyd's Spezifikation Nr. 1	4 g / 2...100 Hz
Max. Leitungsquerschnitt.....	1 x 1,5 mm ²
Luftfeuchtigkeit.....	< 95% RH (nicht kond.)
Maß	Ø 44 x 20,2 mm
Schutzart (Gehäuse / Anschluss).....	IP68 / IP00
Gewicht	50 g

Elektrische Daten, Eingang:

WTH- und linearer Widerstandseingang:

WTH-Typ	Min. Wert	Max. Wert	Min. Spanne
Pt100	-200°C	+850°C	25°C
Ni100	-60°C	+250°C	25°C
Lin.R	0 Ω	10000 Ω	30 Ω

Max. Nullpunktverschiebung (Offset)..... 50% des gewählten Max.-wertes

Leitungswiderstand pro Leiter (Max.)..... 10 Ω

Fühlerstrom

Wirkung des Fühlerkabelwiderstandes

(3-Leiter)

Fühlerfehlererkennung..... Ja

Ausgang:

Stromausgang:

Signalbereich..... 4...20 mA

Min. Signalbereich..... 16 mA

Aktualisierungszeit

Belastungswiderstand..... ≤ (U_{Vers.} - 8) / 0,023 [Ω]

Belastungsstabilität


Fühlerfehlererkennung:

Programmierbar	3,5...23 mA
NAMUR NE43 aufsteuernd	23 mA
NAMUR NE43 zusteuernd	3,5 mA

Ex-Daten:

U_i	: 28 VDC
I_i	: 120 mA DC
P_i	: 0,84 W
L_i	: 10 μ H
C_i	: 1,0 nF

EEx-Zulassung CENELEC:

DEMKO 99	ATEX 126964
ATEX	0539  II 1 G
	EEx ia IIC T1...T6

Max. Umgebungstemp. für T1...T4	85°C
Max. Umgebungstemp. für T5 und T6	60°C
Anwendungsbereich in zone	0, 1 oder 2

FM	IS, CL. I, DIV. 1, GP. A-D
Entity, FM Control Drawing No.	5300Q502

CSA	Class I, Zone 0/1, Group IIC
Installation Drawing No.	533XQC03

Eingehaltene Behördenvorschriften:

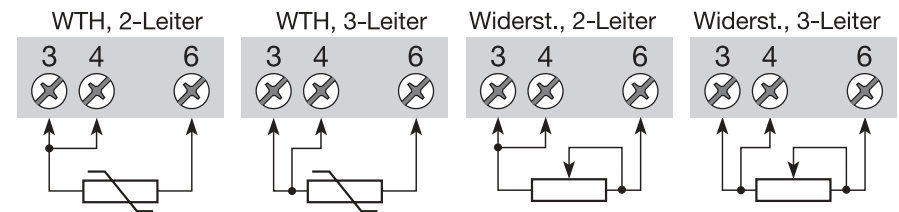
Norm:

EMV 89/336/EWG, Emission	EN 50 081-1, EN 50 081-2
Immunität	EN 50 082-2, EN 50 082-1
Emission und Immunität	EN 61 326
ATEX 94/9/EG	EN 50 014 und EN 50 020
FM Class Number	3600, 3610
CSA Class Number	2258 04 and 2258 84

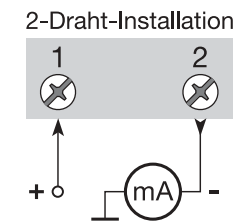
d. Messspanne = der gewählten Messspanne

Anschlüsse:

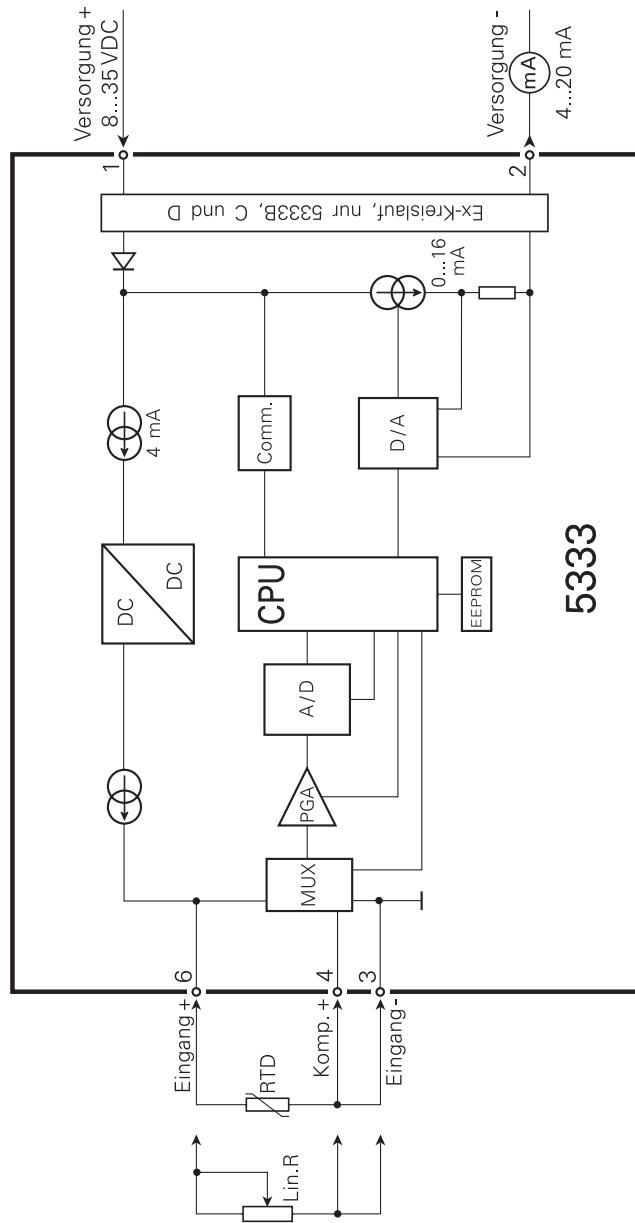
Eingang:



Ausgang:



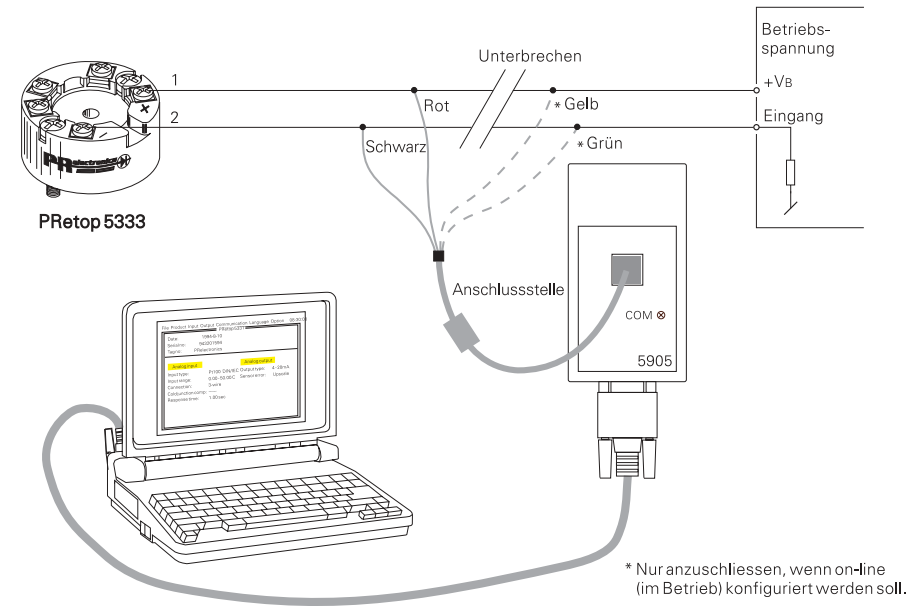
BLOCKDIAGRAMM:



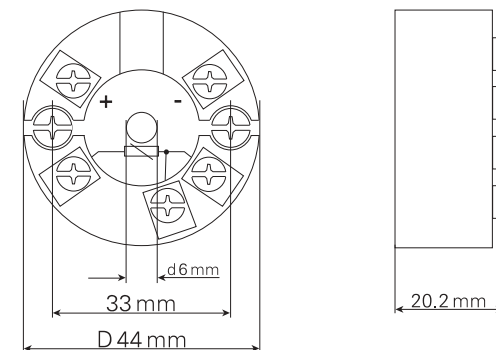
Programmierung:

- Loop Link 5905A ist eine batteriegespeiste Schnittstelle zur Programmierung des PRetop 5333.
- Bezüglich Programmierung verweisen wir auf die nachfolgende Zeichnung und die "Hilfe"-Funktion im PReset-Programm.
- Loop Link 5905A darf nicht zur Kommunikation mit Modulen, die in Ex-gefährdeten Bereichen installiert sind, benutzt werden.

Bestellangaben: Loop Link 5905A.



Abmessungen:



APPENDIX

FM Control Drawing No. 5300Q502

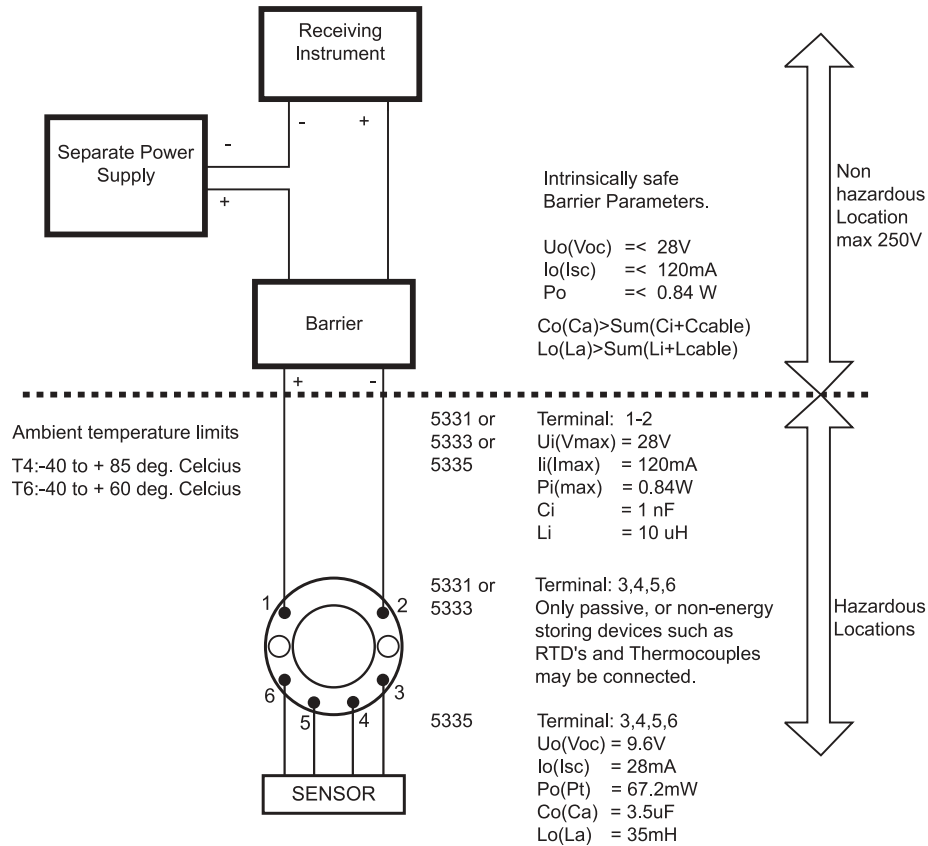
CSA Installation Drawing No. 533XQC03

Pretop 53xx FM Control Drawing.

5331C, 5331D, 5333C, 5333D, 5335C and 5335D transmitters are approved as intrinsically safe in Zone 0 Group IIC or Class I, Division 1, Group A, B, C, D when installed according to 53xx FM Control Drawing.

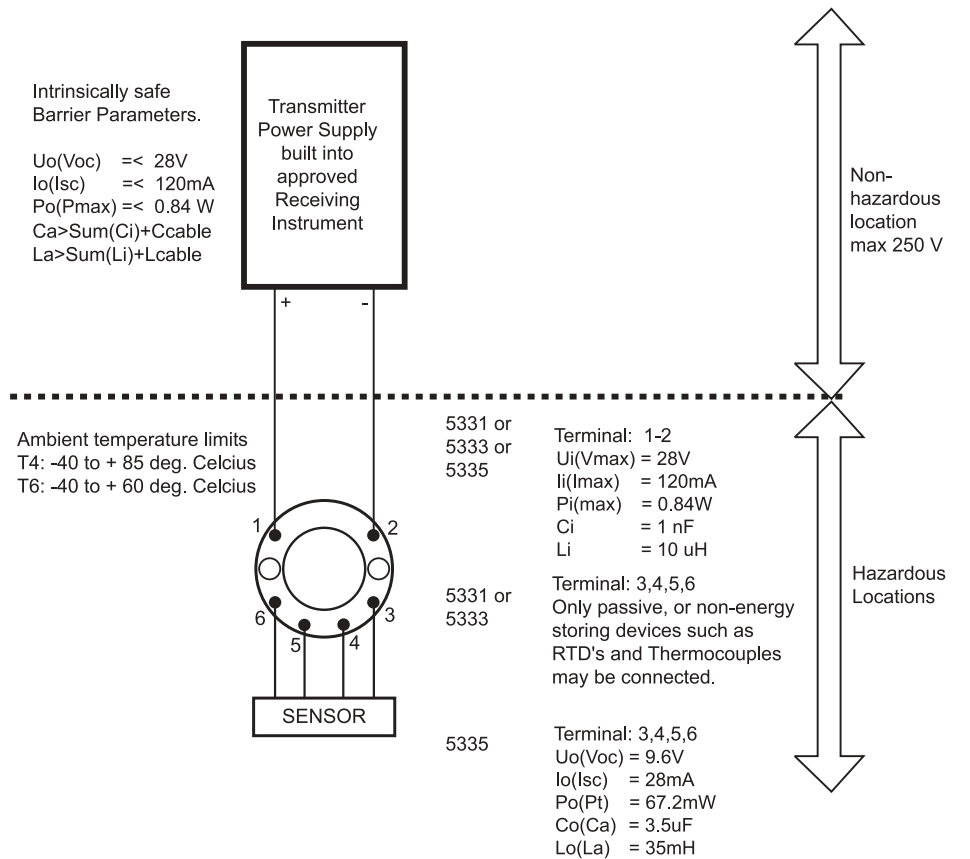
1. Connections with separate power supply and receiver.

Output: Standard 4 - 20mA loop



2. Connection with power supply and barrier built into receiver.

Output: Standard 4 - 20mA loop



3. The entity concept.

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 safe 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 safe device and the interconnecting wiring must be less than the inductance (L_a) which can be safely connected to the barrier.

The maximum entity parameters U_i , I_i , P_i , C_i , and L_i for the Pretop 53xx Transmitters are listed on pages 1 and 2 of this document.

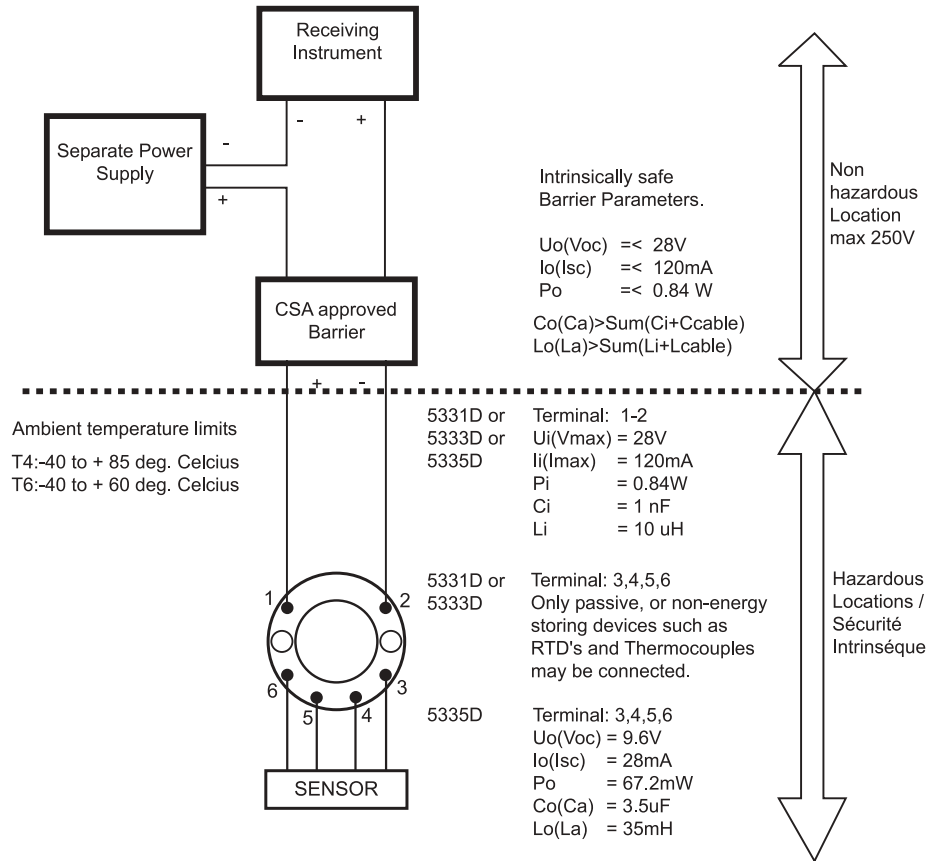
The entity parameters U_O , V_{oc} or V_t and I_O , I_{sc} or I_t , and C_a and L_a for barriers are provided by the barrier manufacturer.

CSA Intrinsic Safety Installation Drawing.

5331D, 5333D and 5335D transmitters are approved as intrinsically safe in Zone 0 Group IIC or Class I, Division 1, Group A, B, C, D when installed according to Installation Drawing.

1. Connections with separate power supply and receiver.

Output: Standard 4 - 20mA loop



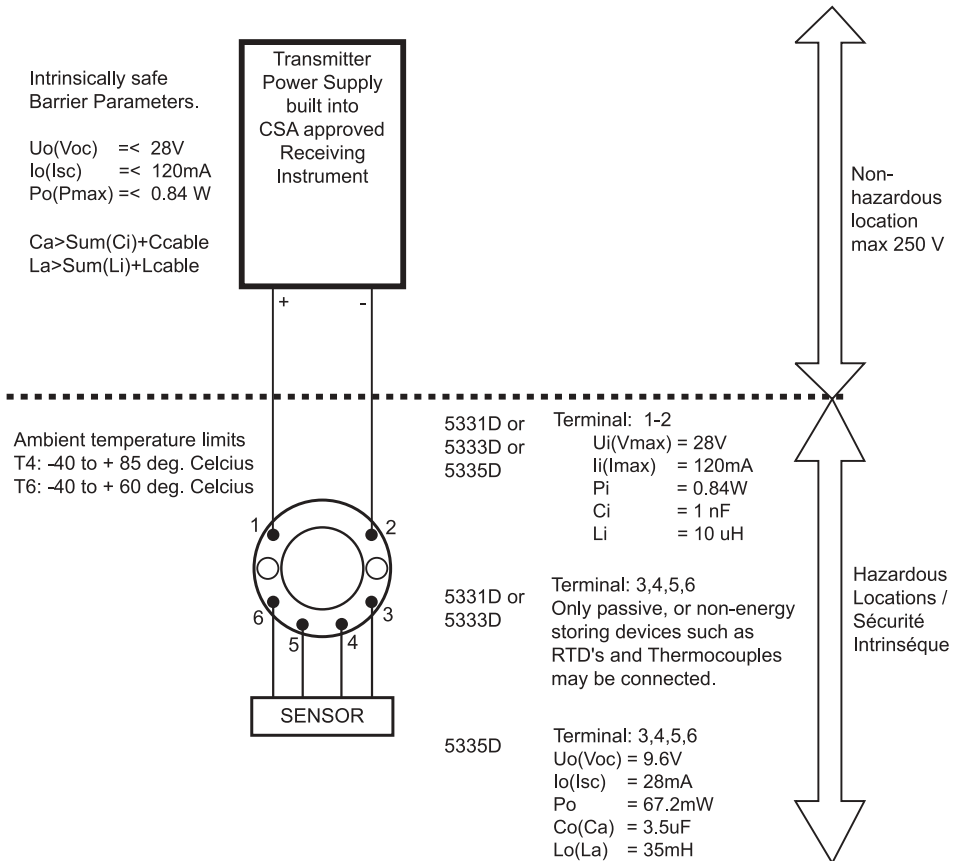
Warning:
 Substitution of components may impair intrinsic safety.
 The transmitters must be installed in a suitable enclosure to meet installation codes stipulated in the Canadian Electrical Code (CEC).

2001-08-30 533XQC03

1/2

2. Connection with power supply and barrier built into receiver

Output: Standard 4 - 20mA loop



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).

2001-08-30 533XQC03

2/2

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DK ► PR electronics A/S tilbyder et bredt program af analoge og digitale signalbehandlingsmoduler til industriel automation. Vores kompetenceområder omfatter: Isolation, Displays, Ex-barrierer, Temperatur samt Backplanes. Alle produkter opfylder de strengeste internationale standarder, og størstedelen integrerer den patenterede STREAM-SHIELD teknologi, der sikrer driftsikkerhed i selv de værste omgivelser. Vores motto »Signals the Best« er indbegrebet af denne filosofi – og din garanti for kvalitet.

UK ► PR electronics A/S offers a wide range of analogue and digital signal conditioning modules for industrial automation. Our areas of competence include: Isolation, Displays, Ex barriers, Temperature, and Backplanes. All products comply with the most exacting international standards and the majority feature our patented STREAM-SHIELD technology ensuring reliability in even the worst of conditions. »Signals the Best« is the epitome of our philosophy – and your guarantee for quality.

FR ► PR electronics A/S offre une large gamme de produits pour le traitement des signaux analogiques et numériques dans tous les domaines industriels. Nos compétences s'étendent des transmetteurs de température aux afficheurs, des isolateurs aux barrières SI, jusqu'aux platines de montage. Tous nos produits sont conformes aux normes internationales les plus strictes et la majorité d'entre eux répondent même à la technologie brevetée STREAM-SHIELD qui garantit un fonctionnement fiable sous les conditions les plus défavorables. Notre devise »SIGNALS the BEST« c'est notre ligne de conduite - et pour vous l'assurance de la meilleure qualité.

DE ► PR electronics A/S verfügt über ein breites Produktprogramm an analogen und digitalen Signalverarbeitungsmodulen für die industrielle Automatisierung. Unsere Kompetenzbereiche umfassen: Displays, Temperaturtransmitter, Ex- und galvanische Signaltrenner. Alle Produkte von PR electronics werden in Übereinstimmung mit den strengsten internationalen Normen produziert. Für die Mehrzahl aller Produkte garantiert die patentierte STREAM-SHIELD Technologie höchste Zuverlässigkeit auch unter schwierigsten Einsatzbedingungen. »Signals the Best« ist Ihre Garantie für Qualität!



Quality System
DS/EN ISO 9001

