

5331A, 5331D, 5334A & 5334B



DK
ADVARSEL

Følgende operationer bør kun udføres på modulet i spændingsløs tilstand og under ESD-sikre forhold. Installation, ledningsmontage og -demontage, fejlfinding på modulet. Reparation af modulet må kun foretages af PR electronics A/S.

ADVARSEL
PR Loop Link programmeringsenheden må ikke benyttes til kommunikation med moduler installeret i Ex-område.

SIKKERHEDSREGLER
Modtagelse og udpakning
Udpak modulet uden at beskadige det. Kontrollér ved modtagelsen, at modultypen svarer til den bestilte. Indpakningen bør følge modulet, indtil dette er monteret på blivende plads.

Miljøforhold
Undgå direkte sollys, kraftigt støv eller varme, mekaniske rystelser og stød, og udsæt ikke modulet for regn eller kraftig fugt. Om nødvendig skal opvarmning, ud over de opgivne grænser for omgivelsestemperatur, forhindres ved hjælp af ventilation.

Installation
Modulet må kun tilsluttes af kvalificerede teknikere, som er bekendte med de tekniske udtryk, advarsler og instruktioner i installationsvejledningen, og som vil følge disse.

Kalibrering og justering
Under kalibrering og justering skal måling og tilslutning af ekstreme spændinger udføres i henhold til denne installationsvejledning, og teknikeren skal benytte sikkerhedsmæssigt korrekte værktøjer og instrumenter.

Rengøring
Modulet må i spændingsløs tilstand, rengøres med en klud let fugtet med destilleret vand.

PC-programmering af SYSTEM 5300
Modulet konfigureres til den aktuelle opgave ved hjælp af en PC og PR electronics A/S' kommunikationsinterface Loop Link. Det er muligt at konfigurere modulet både med og uden tilslutning forsyningspænding, idet kommunikationsinterface leverer nødvendig forsyning til opsettningen. Kommunikationsinterface er galvanisk isoleret, så PC'ens port er optimalt beskyttet. Kommunikationen er 2-vejs, så modulets opsettning kan hentes ind i PC'en, og opsettningen i PC'en kan sendes til modulet. For de brugere, der ikke selv vil foretage opsettning, kan modulet leveres konfigureret efter oplyst specifikation: indgangstype, måleområde, følerfejlsdetektering og udgangssignal.

Elektriske specifikationer

Specifikationsområde.....	-40°C til +85°C
Forsyningsspænding, 5331A & 5334A.....	7.2...35 VDC
Internt effekttab, 5331A & 5334A.....	25 mW...0.8 W
Forsyningsspænding, 5331D & 5334B.....	7.2...30 VDC
Internt effekttab, 5331D & 5334B.....	25 mW...0.7 W
Isolationsspænd, test/oper.....	1.5 kVAC / 50 VAC
Kalibreringstemperatur.....	20...28°C
Relativ fugtighed.....	< 95% RH (ikke kond.)
Mål.....	Ø44 x 20,2 mm
Kapslingsklasse (hus/klemme).....	IP68 / IP00

Indgangstyper:

Pt100.....	-200°C...+850°C
Ni100.....	-60°C...+250°C
TC-indgang.....	B, E, J, K, L, N, R, S, T, U, W3, W5, Lr
Lin. R.....	0 Ω...5000 Ω
Spænding.....	-12...800 mV

Strømodgang:

Signalområde.....	4...20 mA
Min. signalområde.....	16 mA
Belastningsmodstand, Ω.....	≤ (Vforsyn..7.2V)/0,023

Godkendelser:

DNV, Ships & Offshore.....	TAA0000101
EAC Ex.....	HA65.B.00355/19

Overholdte myndighedskrav:

EMC.....	2014/30/EU
RoHS.....	2011/65/EU
ATEX.....	2014/34/EU
EAC.....	TR-CU 020/2011
EAC Ex.....	TR-CU 012/2011

UK
WARNING

The following operations should only be carried out on a disconnected device and under ESD safe conditions: General mounting, connection and disconnection of wires. Troubleshooting the device. Repair of the device must be done by PR electronics A/S only.

WARNING
Do not use the Loop Link programming interface to program the units in Ex area. For installation in classified area the modules must be installed according to the appropriate installation drawings.

SAFETY INSTRUCTIONS
Receipt and unpacking
Unpack the device without damaging it. The packing should always follow the device until this has been permanently mounted. Check at the receipt of the device whether the type corresponds to the one ordered.

Environment
Avoid direct sunlight, dust, high temperatures, mechanical vibrations and shock, as well as rain and heavy moisture. If necessary, heating in excess of the stated limits for ambient temperatures should be avoided by way of ventilation.

Mounting
Only qualified technicians who are familiar with the technical terms, warnings, and instructions in this installation guide and who are able to follow these should connect the device. Should there be any doubt as to the correct handling of the device, please contact your local distributor or, alternatively, PR electronics A/S.

Calibration and adjustment
During calibration and adjustment, the measuring and connection of external voltages must be carried out according to the specifications of this installation guide. The technician must use tools and instruments that are safe to use.

Cleaning
When disconnected, the device may be cleaned with a cloth moistened with distilled water.

PC programming of SYSTEM 5300
The device is configured to the present task by way of a PC and PR electronics A/S' communications interface Loop Link. The device can be configured with or without a connected supply voltage as the communications interface supplies the necessary voltage to the set-up. The communications interface is galvanically isolated to protect the PC port. Communication is 2-way to allow the retrieval of the device set-up into the PC and to allow the transmission of the PC set-up to the device. For users who do not wish to do the set-up themselves, the device can be delivered configured according to customer specifications: input type, measurement range, sensor error detection, and output signal.

Electrical specifications

Specifications range.....	-40°C to +85°C
Supply voltage, 5331A & 5334A.....	7.2...35 VDC
Internal power dissipation, 5331A & 5334A.....	25 mW...0.8 W
Supply voltage, 5331D & 5334B.....	7.2...30 VDC
Internal power dissipation, 5331D & 5334B.....	25 mW...0.7 W
Isolation voltage, test/oper.....	1.5 kVAC / 50 VAC
Calibration temperature.....	20...28°C
Relative humidity.....	< 95% RH (non-cond.)
Dimensions.....	Ø44 x 20.2 mm
Protection degree (encl./terminal).....	IP68 / IP00

Input types:

Pt100.....	-200°C...+850°C
Ni100.....	-60°C...+250°C
TC input.....	B, E, J, K, L, N, R, S, T, U, W3, W5, Lr
Lin. R.....	0 Ω...5000 Ω
Voltage.....	-12...800 mV

Current output:

Signal range.....	4...20 mA
Min. signal range.....	16 mA
Load resistance, Ω.....	≤ (Vsupply·7.2V)/0,023

Approvals:

DNV, Ships & Offshore.....	TAA0000101
EAC Ex.....	HA65.B.00355/19

Observed authority requirements:

EMC.....	2014/30/EU
RoHS.....	2011/65/EU
ATEX.....	2014/34/EU
EAC.....	TR-CU 020/2011
EAC Ex.....	TR-CU 012/2011

FR
AVERTISSEMENT

Les opérations suivantes doivent être effectuées avec le module débranché et dans un environnement exempt de décharges électrostatiques (ESD): montage général, raccordement et débranchement de fils et recherche de pannes sur le module. Seule PR electronics SARL est autorisée à réparer le module.

AVERTISSEMENT
Ne pas utiliser le kit de programmation "Loop Link" en zone classée dangereuse Ex. Pour des installations en zone classée, les modules doivent être montés conformément aux plans appropriés.

CONSIGNES DE SECURITE
Réception et déballage
Déballer le module sans l'endommager. Il est recommandé de conserver l'emballage du module tant que ce dernier n'est pas définitivement monté. A la réception du module, vérifiez que le type de module reçu correspond à celui que vous avez commandé.

Environnement
N'exposez pas votre module aux rayons directs du soleil et choisissez un endroit à humidité modérée et à l'abri de la poussière, des températures élevées, des chocs et des vibrations mécaniques et de la pluie. Le cas échéant, des systèmes de ventilation permettent d'éviter qu'une pièce soit chauffée au-delà des limites prescrites pour les températures ambiantes.

Montage
Il est conseillé de réserver le raccordement du module aux techniciens qualifiés qui connaissent les termes techniques, les avertissements et les instructions de ce guide et qui sont capables d'appliquer ces dernières. Si vous avez un doute quelconque quant à la manipulation du module, veuillez contacter votre distributeur local. Vous pouvez également vous adresser à PR electronics SARL.

Etalonnage et réglage
Lors des opérations d'étalonnage et de réglage, il convient d'éviter les mesures et les connexions des tensions externes en respectant les spécifications mentionnées dans ce guide. Les techniciens doivent utiliser des outils et des instruments pouvant être manipulés en toute sécurité.

Maintenance et entretien
Une fois le module hors tension, prenez un chiffon imbibé d'eau distillée pour le nettoyer.

Programmation par PC du SYSTEME 5300
Le module peut être programmé en fonction d'une application donnée à partir d'un PC et le kit de programmation Loop Link de PR electronics A/S. Le module peut être programmé sans être alimenté car l'interface de communication fournit l'alimentation nécessaire pour la configuration. L'interface de communication est doté d'une isolation galvanique pour protéger le port du PC. La communication est bidirectionnelle. Cela permet non seulement la programmation du module mais également la récupération d'une configuration existante ainsi que la lecture du numéro de série et du repère. Le module peut être livré déjà programmé, si l'utilisateur le souhaite.

Spécifications

Plage de température.....	-40°C à +85°C
Tension d'alimentation, 5331A & 5334A.....	7.2...35 Vcc
Puissance dissipée, 5331A & 5334A.....	25 mW...0.8 W
Tension d'alimentation, 5331D & 5334B.....	7.2...30 Vcc
Puissance dissipée, 5331D & 5334B.....	25 mW...0.7 W
Tension d'iso. test/opér.....	1.5 kVca / 50 Vca
Température d'étalonnage... ..	20...28°C
Humidité relative.....	< 95% HR (sans cond.)
Dimensions.....	Ø44 x 20,2 mm
Degré de protection (boîtier/bornier).....	IP68 / IP00

Types d'entrée:

Pt100.....	-200°C...+850°C
Ni100.....	-60°C...+250°C
Entrée TC.....	B, E, J, K, L, N, R, S, T, U, W3, W5, Lr
Résistance linéaire.....	0 Ω...5000 Ω
Tension.....	-12...800 mV

Sortie courant:

Gamme de signal.....	4...20 mA
Plage de signal min.....	16 mA
Résistance de charge, Ω.....	≤ (Valim..7.2V)/0,023

Approbations:

DNV, Ships & Offshore.....	TAA0000101
EAC Ex.....	HA65.B.00355/19

Compatibilité avec les normes:

CEM.....	2014/30/UE
RoHS.....	2011/65/UE
ATEX.....	2014/34/UE
EAC.....	TR-CU 020/2011
EAC Ex.....	TR-CU 012/2011

DE
WARNUNG

Folgende Maßnahmen sollten nur in spannungslosem Zustand des Gerätes und unter ESD-sicheren Verhältnissen durchgeführt werden: Installation, Montage und Demontage von Leitungen. Fehlersuche im Gerät und Reparaturen des Gerätes dürfen nur von PR electronics A/S vorgenommen werden.

WARNUNG
Benutzen Sie die Programmierschnittstelle Loop Link nicht im Ex Bereich. Zur Montage in klassifizierten Zonen müssen die Geräte nach den dazugehörigen Einbauezeichnungen installiert werden.

SICHERHEITSGELTEN
Empfang und Auspacken
Packen Sie das Gerät aus, ohne es zu beschädigen, und kontrollieren Sie beim Empfang, ob der Gerätetyp Ihrer Bestellung entspricht. Die Verpackung sollte beim Gerät bleiben, bis dieses am endgültigen Platz montiert ist.

Umgebungsbedingungen
Direkte Sonneneinstrahlung, starke Staubentwicklung oder Hitze, mechanische Erschütterungen und Stöße sind zu vermeiden; das Gerät darf nicht Regen oder starker Feuchtigkeit ausgesetzt werden. Bei Bedarf muss eine Erwärmung, welche die angegebenen Grenzen für die Umgebungstemperatur überschreitet, mit Hilfe eines Kühlgebläses verhindert werden.

Installation
Das Gerät darf nur von qualifizierten Technikern angeschlossen werden, die mit den technischen Ausdrücken, Warnungen und Anweisungen in dieser Installationsanleitung vertraut sind und diese befolgen.

Kalibrierung und Justierung
Während der Kalibrierung und Justierung sind die Messung und der Anschluss externer Spannungen entsprechend dieser Installationsanleitung auszuführen, und der Techniker muss hierbei sicherheitsmäßig einwandfreie Werkzeuge und Instrumente benutzen.

Reinigung
Das Gerät darf in spannungslosem Zustand mit einem Lappen gereinigt werden, der mit destilliertem Wasser leicht angefeuchtet ist.

PC-Programmierung des Systems 5300
Das Gerät wird für die jeweilige Aufgabe mit Hilfe eines PCs und PR electronics A/S' Kommunikations-schnittstelle Loop Link konfiguriert. Es ist möglich, das Gerät sowohl mit als auch ohne angeschlossene Versorgungsspannung zu konfigurieren, da die Kommunikations-schnittstelle die notwendige Versorgung für die Einstellung liefert. Die Kommunikationsschnittstelle ist galvanisch isoliert, sodass der Anschluss des PCs optimal geschützt ist. Die Kommunikation erfolgt in beiden Richtungen, sodass die Einstellung des Gerätes in den PCs geholt, und die Einstellung im PC an das Gerät gesandt werden kann. Für diejenigen Anwender, welche die Einstellung nicht selbst vornehmen wollen, kann das Gerät nach folgenden Kundenspezifikationen konfiguriert geliefert werden: Eingangstyp, Messbereich, Fehlererkennung und Ausgangssignal.

Elektrische Daten

Spezifikationsbereich.....	-40°C bis +85°C
Versorgungsspannung, 5331A & 5334A.....	7.2...35 VDC
Verlustleistung, 5331A & 5334A.....	25 mW...0.8 W
Versorgungsspannung, 5331D & 5334B.....	7.2...30 VDC
Verlustleistung, 5331D & 5334B.....	25 mW...0.7 W
Test / Betrieb.....	1.5 kVAC / 50 VAC
Kalibreringstemperatur.....	20...28°C
Luftfeuchtigkeit.....	< 95% RF (nicht kond.)
Maßstab (Gehäuse/Anschl.).....	Ø44 x 20,2 mm
IP68 / IP00.....	

Eingangstypen:

Pt100.....	-200°C...+850°C
Ni100.....	-60°C...+250°C
TE-Eingang.....	B, E, J, K, L, N, R, S, T, U, W3, W5, Lr
Lin. R.....	0 Ω...5000 Ω
Spannung.....	-12...800 mV

Stromausgang:

Signalbereich.....	4...20 mA
Min. Signalbereich.....	16 mA
Belastungswiderstand, Ω.....	≤ (Vversorg..7.2V)/0,023

Zulassungen:

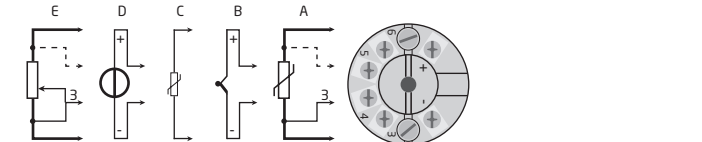
DNV, Ships & Offshore.....	TAA0000101
EAC Ex.....	HA65.B.00355/19

Eingehaltene Behördenvorschriften:

EMV.....	2014/30/EU
RoHS.....	2011/65/EU
ATEX.....	2014/34/EU
EAC.....	TR-CU 020/2011
EAC Ex.....	TR-CU 012/2011

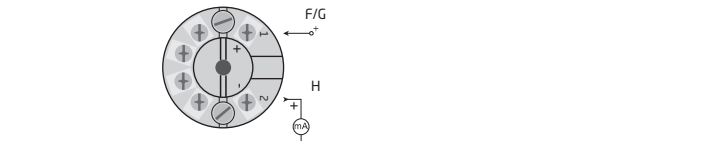


DK Indgangssignaler **UK** Input signals **FR** Signaux d'entrée **DE** Eingangssignale

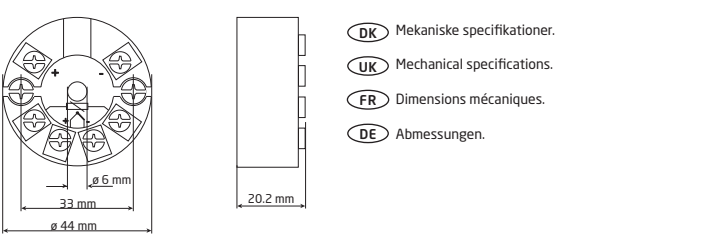


	DK	UK	FR	DE	5331	5334
A	RTD	RTD	RTD	WTH	x	x
B	TC	TC	TC	TE	x	x
C	CJC	CJC	CSF	CJC	x	x
D	Spænding	Voltage	Tension	Spannung	x	x
E	Lin R	Lin R	Lin R	Lin R	x	x

DK Udgangssignaler **UK** Output signals **FR** Signaux de sortie **DE** Ausgangssignale



	DK	UK	FR	DE	5331A	5331D	5334A	5334B
F	Forsyning +7.2...35 VDC	Supply +7.2...35 VDC	Alimentation +7.2...35 Vcc	Versorgung +7.2...35 VDC	x		x	
G	Forsyning +7.2...30 VDC	Supply +7.2...30 VDC	Alimentation +7.2...30 Vcc	Versorgung +7.2...30 VDC		x		x
H	4...20 mA udgang	4...20 mA output	Sortie 4...20 mA	4...20 mA-Ausgang	x	x	x	x

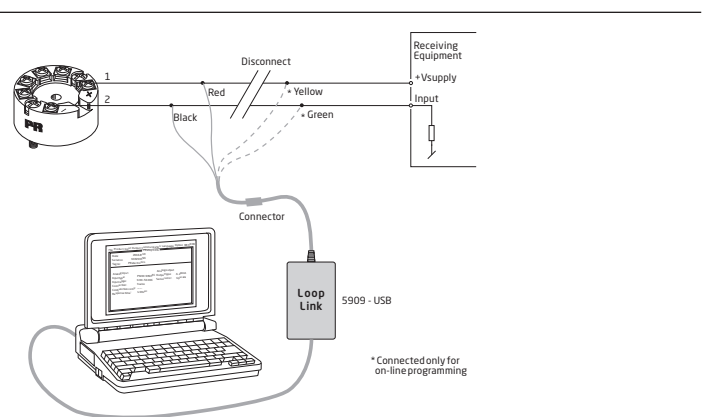


DK **Montering af følerledninger**
Ledninger monteres mellem metalpladerne. Ledningskvadrat (max.) 1 x 1.5 mm² flertrådet ledning. Klemmekruet/spændingsmoment 0,4 Nm.

UK **Mounting of sensor wires**
Wires must be mounted between the metal plates. Max. wire size 1 x 1.5 mm² stranded wire. Screw terminal torque 0.4 Nm.

FR **Montage des fils du capteur**
Les fils doivent être montés entre les plaques métalliques. Taille max. des fils 1 x 1.5 mm² fils multibrins. Pression max. avant déformation de la vis 0,4 Nm.

DE **Montage von Fühlerleitungen**
Die Leitungen müssen zwischen den Metallplatten montiert werden. Leitungsquerschnitt (max.) 1 x 1.5 mm² Litzenstrahl. Klemmschraubanzugsmoment 0,4 Nm.



- DK** Loop Link er et kommunikationsinterface, der er nødvendigt for programmering af 53xx. Loop Link må ikke benyttes til kommunikation med moduler installeret i Ex-område.
- UK** Loop Link is a communications interface that is needed for programming 53xx. Loop Link is not approved for communication with devices installed in hazardous (Ex) areas.
- FR** Loop Link est un kit de programmation permettant de programmer les 53xx. Loop Link ne doit pas être utilisé pour communication avec des modules installés en zone dangereuse.
- DE** Loop Link ist eine Schnittstelle zur Programmierung des 53xx. Loop Link darf nicht zur Kommunikation mit Geräten, die in Ex-gefährdeten Bereichen installiert sind, benutzt werden.

DK Godkendelser **UK** Approvals **FR** Approbations **DE** Zulassungen **BR** Aprovações

	ATEX	Area / Zone	Installation drawing	IECEX	Area / Zone	Installation drawing	FM	Zone / Div.	Installation drawing	CSA	Zone / Div.	Installation drawing	INMETRO	Area	Installation drawing
5331A	DEKRA 20ATEX0096 X	2, 22	5331QA02	DEK 20.0059X	2, 22	5331QI02				1125003	2 / Div 2	5331QC02	DEKRA 16.0013 X	2, 22	5331QB02
5334A	DEKRA 20ATEX0096 X	2, 22	5331QA02	DEK 20.0059X	2, 22	5331QI02							DEKRA 16.0013 X	2, 22	5331QB02
5331D	DEKRA 20ATEX0095 X	0, 1, 2, 21, 22, M1	5331QA01	DEK 20.0059X	0, 1, 2, 21, 22, M	5331QI01	FM17U50013X	0, 1, 2 / Div 1, 2	5300Q502	1125003	0, 1, 2 / Div 1, 2	533XQC03	DEKRA 16.0013 X	0, 1, 2, 20, 21, 22, M	5331QB01
5334B	DEKRA 20ATEX0095 X	0, 1, 2, 21, 22, M1	5331QA01	DEK 20.0059X	0, 1, 2, 21, 22, M	5331QI01							DEKRA 16.0013 X	0, 1, 2, 20, 21, 22, M	5331QB01

EU DECLARATION OF CONFORMITY
(5331_5334DoC_106)



As manufacturer PR electronics A/S, Lerbakken 10, DK-8410 Rønde hereby declares that the following products: Type: 5331 / 5334 Name: 2-Wire programmable transmitter From serial no.: 212020194 / 212021269 is in conformity with the following directives and standards:

The EMC Directive 2014/30/EU and later amendments EN 61326-1 : 2013 Immunity test requirements for equipment intended to be used in an industrial electromagnetic environment. For the specification of the acceptable EMC performance level, refer to the electrical specifications for the device.

The ATEX Directive 2014/34/EU and later amendments EN IEC 60079-0 : 2018, EN 60079-7 : 2015 + A1 : 2018, EN 60079-11 : 2012 and EN 60079-15 : 2010 ATEX certificate: DEKRA 20ATEX0096 X (5331A / 5334A) ATEX certificate: DEKRA 20ATEX0095 X (5331D / 5334B)

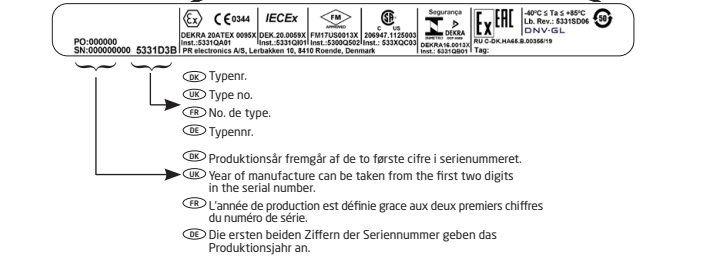
ATEX notified body (type approval) DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands

The RoHS2 Directive 2011/65/EU and later amendments EN 50581 : 2012

Notified body 0344 DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands

Rønde, 11 November 2021
S. Lindemann
21g Lindemann, CTO
Manufacturer's signature

DK Sideskilt **UK** Side label **FR** Etiquette **DE** Typenschild **DK** Godkendelser **UK** Approvals **FR** Homologies **DE** Zulassungen



DK Kina RoHS **UK** China RoHS **FR** RoHS chinois **DE** China-RoHS

Hazardous Substances						
Part Name	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Printed circuit board	X	0	0	0	0	0

This table is prepared in accordance with the provisions of SJ/11364
O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.
X: Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.

The product's Environmentally Friendly Use Period (EFUP) is 50 years **50**

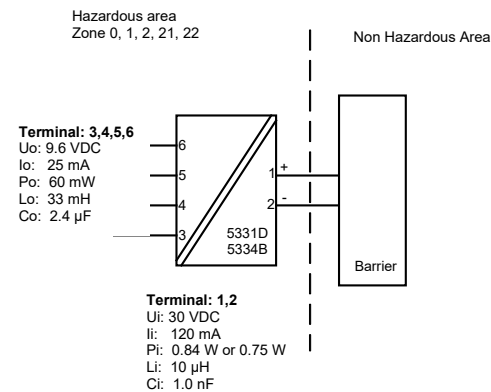
DK Dokumentation, godkendelser og yderligere information findes på internettet på www.prelectronics.dk

UK Documentation, permits and other information can be found on the internet at

ATEX-installation drawing 5331QA01-V3R0

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

ATEX Certificate DEKRA 20ATEX0095 X
 Marking II 1 G Ex ia IIC T6...T4 Ga
 II 2 D Ex ia IIIC Db
 I M1 Ex ia I Ma
 Standards EN 60079-0: 2018, EN 60079-11: 2012



Temperature Class	Ambient temperature range	
	Pi: 0.84 W	Pi: 0.75 W
T6	-40°C to +47°C	-40°C to +50°C
T5	-40°C to +62°C	-40°C to +65°C
T4	-40°C to +85°C	-40°C to +85°C

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

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ga, the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP20 according to EN 60529, and that is suitable for the application and correctly installed.

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

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Db, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP5X according to EN 60079-0, and that is suitable for the application and correctly installed. The surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer. Ambient temperature range: -40°C to +85°C.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Ma, the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP54 according to EN 60529, and that is suitable for the application and correctly installed. Ambient temperature range: -40°C to +85°C.

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

For an ambient temperature ≥ 60°C, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

The sensor circuit is not infallibly galvanically isolated from the input circuit. However, the galvanic isolation between the circuits is capable of withstanding a test voltage of 500 VAC for 1 minute.

ATEX-installation drawing 5331QA02-V3R0

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

ATEX Certificate DEKRA 20ATEX0096 X
 Marking II 3 G Ex nA [ic] IIC T6 ... T4 Gc
 II 3 G Ex ec [ic] IIC T6 ... T4 Gc
 II 3 G Ex ic IIC T6 ... T4 Gc
 II 3 D Ex ic IIIC Dc
 Standards EN 60079-0: 2018, EN 60079-11: 2012, EN 60079-15: 2010, EN 60079-7:2015 +A1: 2018

Terminal 3,4,5,6	Terminal 1,2	Terminal 1,2	Terminal 1,2
Ex ic IIC, Ex ic IIIC	Ex ic IIC, Ex ic IIIC	Ex ic IIC, Ex ic IIIC	Ex nA, Ex ec
Uo: 9.6 V Io: 25 mA Po: 60 mW Lo: 33 mH Co: 2.4 µF	Ui: 35 V Ii: 110 mA Ci: 1 nF Li: 10 µH	Ui: 24 V Ii: 280 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.

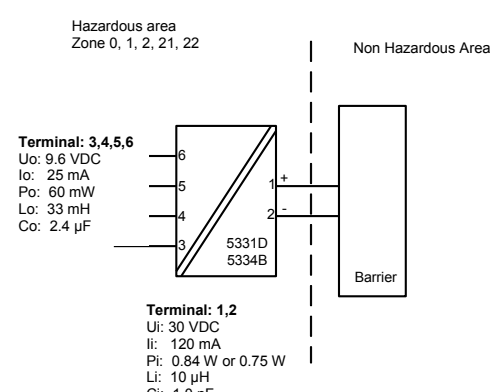
If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex nA or Ex ec, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP54 according to EN 60079-0,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

IECEX-installation drawing 5331QI01-V2R0

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

Certificate IECEX DEK 20.0059X
 Marking Ex ia IIC T6...T4 Ga
 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 ≥ 60°C, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

IECEX-installation drawing 5331QI02-V2R0

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

Certificate IECEX DEK 20.0059X
 Marking Ex nA [ic] IIC T6 ... T4 Gc
 Ex ec [ic] IIC T6 ... T4 Gc
 Ex ic IIC T6 ... T4 Gc
 Ex ic IIIC Dc
 Standards IEC 60079-0: 2017, IEC 60079-11: 2011, IEC 60079-15: 2010, IEC 60079-7:2017

Terminal 3,4,5,6	Terminal 1,2	Terminal 1,2	Terminal 1,2
Ex ic IIC, Ex ic IIIC	Ex ic IIC, Ex ic IIIC	Ex ic IIC, Ex ic IIIC	Ex nA, Ex ec
Uo: 9.6 V Io: 25 mA Po: 60 mW Lo: 33 mH Co: 2.4 µF	Ui: 35 V Ii: 110 mA Ci: 1 nF Li: 10 µH	Ui: 24 V Ii: 280 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 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.

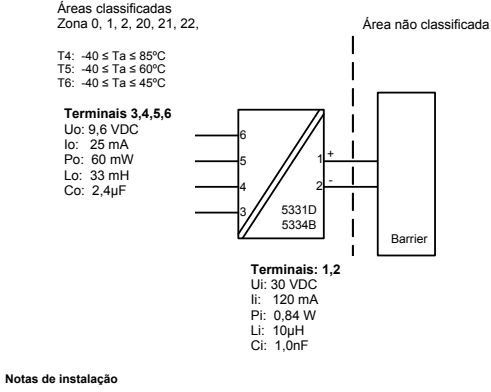
If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex nA or Ex ec, the transmitter shall be mounted in a separately certified enclosure that provides a degree of protection of at least IP54 according to IEC 60079-0,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

Desenho de Instalação INMETRO 5331QB01-V3R0

Para instalação segura do 5331D ou 5334B 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.

CertificadoDEKRA 16.0013 X
 Marcas Ex ia IIC T6...T4 Ga
 Ex ia IIIC Da
 Ex ia I Ma
 Normas ABNT NBR IEC 60079-0: 2013; ABNT NBR IEC 60079-11: 2013



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

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

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

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

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

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

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

Para temperatura ambiente = 60°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 20 K, por uma camada de pó, com espessura de até 5 mm.

Desenho de Instalação INMETRO 5331QB02-V2R0

Para instalação segura do 5331A ou 5334A 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 16.0013 X
 Marcas Ex nA [ic] IIC T4, T6 Gc
 Ex ic IIC T4, T6 Gc
 Ex ic IIIC Dc
 Normas ABNT NBR IEC 60079-0: 2013; ABNT NBR IEC 60079-11: 2013 ABNT NBR IEC60079-15: 2012

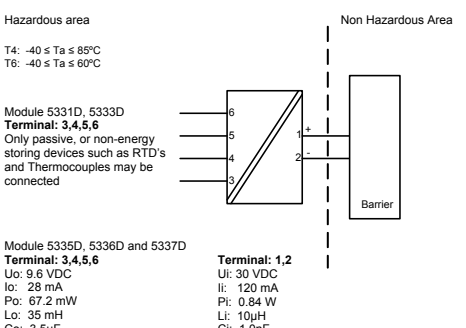
Notas para instalação
 Para a instalação em uma atmosfera de gás potencialmente explosivo, aplicam-se as instruções a seguir:
 Para a instalação nA o transmissor deve ser instalado em um invólucro de metal, por exemplo, gabinete em forma B que forneça um grau de proteção de pelo menos IP54 de acordo com a ABNT NBR IEC60529 ou em um invólucro com tipo de proteção Ex n ou Ex e.
 Para a instalação Ex ic o transmissor deve ser instalado em um invólucro proporcionando um grau de proteção IP20 de acordo com a norma ABNT NBR IEC60529. E o invólucro deve, pelo menos, ser adequado para a aplicação e corretamente instalado.
 Dispositivos de entrada de cabos e elementos de supressão devem cumprir os mesmos requisitos.

Para temperatura ambiente >= 60°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, aplicam-se as instruções a seguir:
 O transmissor deve ser montado em invólucro de metal forma B de acordo com DIN43729 que está fornecendo pelo menos um grau de proteção IP6X de acordo com a ABNT NBR IEC60529.
 O invólucro deve ser adequado para aplicação e instalado corretamente.

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

CSA Installation drawing 533XQC03 - V4R0



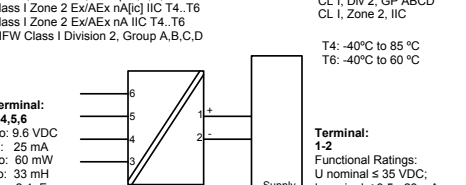
CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations
 Class 1, Division 1, Groups A, B, C and D
 Ex ia IIC, Ga

CLASS 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations - Certified to US Standards
 Class 1, 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).

CSA Installation drawing 5331QC02 - V1R0

For safe installation of the 5331A and 5332A 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.



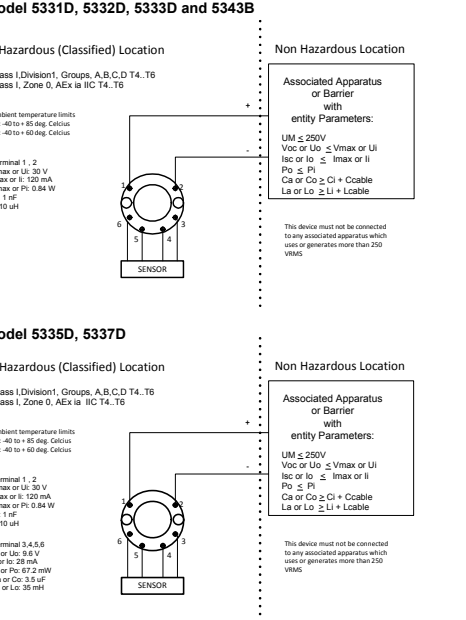
NI Installation instructions
 The transmitter must be installed in an enclosure providing a degree of protection of at least IP54 according to IEC60529 that is suitable for the application and is correctly installed. Cable entry devices and blanking elements shall fulfill the same requirements. If the 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 débrancher 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, Voc ≤ Vmax, Ca ≥ Ci + Ccable, La ≥ Li + Lcable.

FM Installation Drawing 5300Q502 V3R0



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 Ui(Vmax) and current Ii(Imax), and maximum power Pi(Pmax), which the device can receive and remain intrinsically safe, must be equal to or greater than the voltage (Uo or Voc or Vi) and current (Io or Isc or I) and the power Po which can be delivered by the barrier.

The sum of the maximum unprotected capacitance (C) for each intrinsically device and the interconnecting wiring must be less than the capacitance (Ca) which can be safely connected to the barrier.
 The sum of the maximum unprotected inductance (L) for each intrinsically device and the interconnecting wiring must be less than the inductance (La) which can be safely connected to the barrier.

The entity parameters Uo, Voc or Vi and Io, Isc or I, and Ca and La for barriers are provided by the barrier manufacturer.

NI Field Circuit Parameters Model 5331D, 5332D, 5333D, 5335D, 5337D and 5343B

