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.
Enhederne skal installeres i henhold til den tilhørende installations vejledning ved montering i eksplosionfarlig 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 nødvendigt 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.
Hvis der er tvivl om modulets rette håndtering, skal der rettes henvendelse til den lokale forhandler eller alternativt direkte til **PR electronics A/S.**
Installation og tilslutning af modulet skal følge landets gældende regler for installation af elektrisk materiel bl.a. med hensyn til ledningstværsnit, for-sikring og placering.
Beskrivelse af indgang/udgang og forsyningsforbindelser findes i produktmanualen, som kan hentes på www.prelectronics.dk.

Kalibrering og justering
Under kalibrering og justering skal måling og tilslutning af eksterne 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 tilsluttet forsyningsspænding, idet kommunikationsinterfacet leverer nødvendig forsyning til opsætningen. Kommunikationsinterfacet er galvanisk isoleret, så PC'ens port er optimalt beskyttet. Kommunikationen er 2-vejs, så modulets opsætning kan hentes ind i PC'en, og opsætningen i PC'en kan sendes til modulet. For de brugere, der ikke selv vil foretage opsætning, 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

Strømudgang:

Signalområde	4...20 mA
Min. signalområde	16 mA
Belastningsmodstand, Ω	≤ ($V_{forsyn.}$-7,2V)/0,023

Godkendelser:

DNV-GL, Ships & Offshore	TAA0000101
EAC	TR-CU 020/2011
EAC Ex	TR-CU 012/2011

Overholdte myndighedskrav:

EMC	2014/30/EU
ATEX	2014/34/EU
RoHS	2011/65/EU

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.**
Mounting and connection of the device should comply with national legislation for mounting of electric materials, i.e. wire cross section, protective fuse, and location. Descriptions of input / output and supply connections are shown in the product manual found on www.prelectronics.com.

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	≤ (V_{supply}-7.2V)/0.023

Approvals:

DNV-GL, Ships & Offshore	TAA0000101
EAC	TR-CU 020/2011
EAC Ex	TR-CU 012/2011

Observed aothority requirements:

EMC	2014/30/EU
ATEX	2014/34/EU
RoHS	2011/65/EU

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 monté conformément aux plans appropriés.

CONSIGNES DE SECURITE

Réception et déballage
Déballez 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.**
Le montage et le raccordement du module doivent être conformes à la législation nationale en vigueur pour le montage de matériaux électriques, par exemple, diamètres des fils, fusibles de protection et implantation des modules. Les connexions des alimentations et des entrées / sorties sont décrites dans le manuel du produit sur www.prelectronics.fr.

Etalonnage et réglage
Lors des opérations d'étalonnage et de réglage, il convient d'effectuer 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-GL, Ships & Offshore	TAA0000101
EAC	TR-CU 020/2011
EAC Ex	TR-CU 012/2011

Compatibilité avec les normes:

CEM	2014/30/EU
ATEX	2014/34/EU
RoHS	2011/65/EU

DE

WARNUNG

Folgende Maßnahmen sollten nur in spannungslosem Zustand des Gerätes und unter ESD-sicheren Verhältnisse 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 Einbauzeichnungen installiert werden.

SICHERHEITSREGELN

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.
Sollten Zweifel bezüglich der richtigen Handhabung des Gerätes bestehen, sollte man mit dem Händler vor Ort Kontakt aufnehmen. Sie können aber auch direkt mit **PR electronics GmbH** Kontakt aufnehmen.

Die Installation und der Anschluss des Gerätes haben in Übereinstimmung mit den geltenden Regeln des jeweiligen Landes bez. der Installation elektrischer Apparaturen zu erfolgen, u.a. bezüglich Leitungsquerschnitt, (elektrischer) Vor-Absicherung und Positionierung.
Eine Beschreibung von Eingangs- / Ausgangs- und Versorgungsanschlüssen befindet sich im Produkthandbuch, das unter www.prelectronics.de gefunden und abgerufen werden kann.

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 Kommunikationsschnittstelle Loop Link konfiguriert. Es ist möglich, das Gerät sowohl mit als auch ohne angeschlossene Versorgungsspannung zu konfigurieren, da die Kommunikationsschnittstelle 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 PC 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, Fühlerfehlererkennung 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
Isolationsspannung, Test / Betrieb	1,5 kVAC / 50 VAC
Kalibrierungstemperatur	20...28°C
Luftfeutigkeit	< 95% RF (nicht kond.)
Maß	Ø44 x 20,2 mm
Schutzart (Gehäuse / Anschluss)	IP68 / IP00

Eingangs-Typen:

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	≤ ($V_{Versorg.}$-7.2V)/0,023

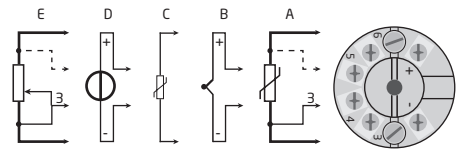
Zulassungen:

DNV-GL, Ships & Offshore	TAA0000101
EAC	TR-CU 020/2011
EAC Ex	TR-CU 012/2011

Eingehaltene Behördenvorschriften:

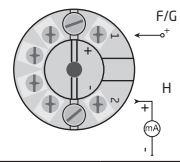
EMV	2014/30/EU
ATEX	2014/34/EU
RoHS	2011/65/EU

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

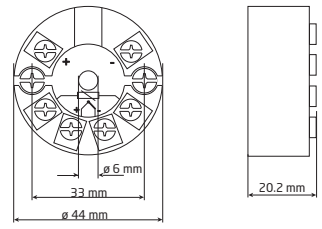


	DK	UK	FR	DE	5331	5334
A	RTD	RTD	RTD	WTH	x	
B	TC	TC	TC	TE	x	x
C	CJC	CJC	CSF	CJC	x	x
D	Spænding	Voltage	Tension	Spannung	x	x
E	Lin R	Lin R	Lin R	Lin R	x	

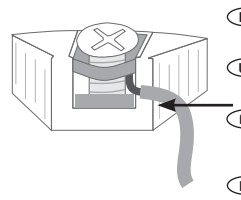
DK Udgangssignaler · UK Output signals · FR Signaux de sortie · DE Ausgangssignale



	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 Mekaniske specifikationer.
UK Mechanical specifications.
FR Dimensions mécaniques.
DE Abmessungen.

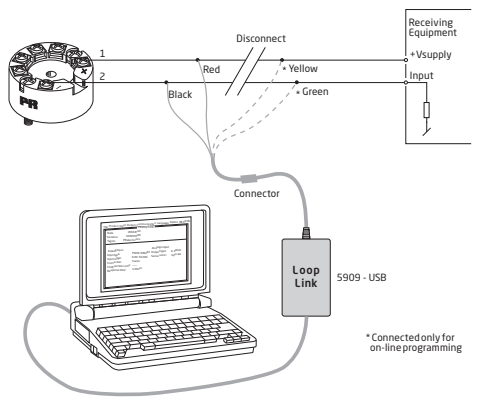


DK Montering af følerledninger
Ledninger monteres mellem metalpladerne. Ledningskvadrat (max.) 1 x 1,5 mm² flerkoret ledning. Klemskruetilspændingsmoment 0,4 Nm.

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 Litzendraht. Klemmschraubenanzugsmoment 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, benutz 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	KEMA 10ATEX0002 X	2, 22	5331QA02	DEK 13.0035X	2, 22	5331QI02				1125003	2 / Div 2	5331QC02	DEKRA 16.0013 X	2, 22	5331QB02
5334A	KEMA 10ATEX0002 X	2, 22	5331QA02	DEK 13.0035X	2, 22	5331QI02							DEKRA 16.0013 X	2, 22	5331QB02
5331D	KEMA 06ATEX0062 X	0, 1, 2, 20, 21, 22, M1	5331QA01	DEK 13.0035X	0, 1, 2, 20, 21, 22, M	5331QI01	FM17US0013X	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	KEMA 06ATEX0062 X	0, 1, 2, 20, 21, 22, M1	5331QA01	DEK 13.0035X	0, 1, 2, 20, 21, 22, M	5331QI01							DEKRA 16.0013 X	0, 1, 2, 20, 21, 22, M	5331QB01

EU DECLARATION OF CONFORMITY

(5331_5334DoC_105)

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.: 161984001
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 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 60079-0 : 2012 + A11 : 2013, EN 60079-11 : 2012 and EN 60079-15 : 2010
ATEX certificate: KEMA 10ATEX0002 X (5331A / 5334A)
ATEX certificate: KEMA 06ATEX0062 X (5331D / 5334B)
No changes are required to enable compliance with the replacement standards:
EN 60079-0 : 2018
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

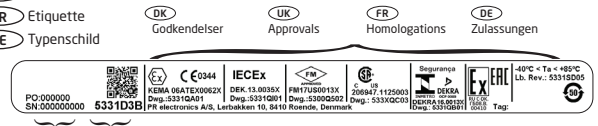
Notified body 0344
DEKRA Certification B.V.
Meander 1051, 6825 MJ Arnhem
P.O. Box 5185, 6802 ED Arnhem
The Netherlands

Rønde, 24 January 2020

Stig Lindemann, CTO
Manufacturer's signature

DK Sideskilt
UK Side label
FR Etiquette
DE Typenschild

DK Godkendelser · UK Approvals · FR Homologations · DE Zulassungen



DK Typenr.
UK Type no.
FR No. de type.
DE Typennr.

DK Produktionsår fremgår af de to første cifre i serienummeret.
UK Year of manufacture can be taken from the first two digits in the serial number.
FR L'année de production est définie grace aux deux premiers chiffres du numéro de série.
DE Die ersten beiden Ziffern der Seriennummer geben das Produktionsjahr an.

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

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

This table is prepared in accordance with the provisions of SJ/T 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

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 **www.prelectronics.com**

FR
La documentation et toute autre information peuvent être trouvées sur l'Internet sur notre site: **www.prelectronics.fr**

DE
Dokumentationen, Zulassungen und andere Informationen können auf unserer Internet-Seite unter **www.prelectronics.de** gefunden und abgerufen werden.

BR
Documentações, licenças e outras informações podem ser encontradas no site **www.prelectronics.com**

ATEX Installation drawing 5331QA01-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.

ATEX Certificate KEMA 06ATEX 0062 X

Marking II 1 G Ex ia IIC T4...T6 Ga
II 1 D Ex ia IIIC Da
I M1 Ex ia I Ma

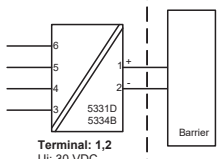
Standards EN 60079-0 : 2012, EN 60079-11 : 2012, EN 60079-26 : 2007, EN 60079-15 :2010

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

Non Hazardous Area

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

Terminal: 3,4,5,6
Uo: 9.6 VDC
Io: 25 mA
Po: 60 mW
Lo: 33 mH
Co: 2.4µF



Terminal: 1,2
Ui: 30 VDC
Ii: 120 mA
Pi: 0.84 W
Li: 10 µH
Ci: 1.0 nF

Installation notes.

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

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

If the transmitter is installed in an explosive atmosphere requiring the use of equipment of category 1 G, 1 M or 2 M, and if the enclosure is made of aluminum, if must be installed such, that ignition sources due to impact and friction sparks are excluded.

if the enclosure is made of non-metallic materials, electrostatic charging shall be avoided.

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

The transmitter shall be mounted in a metal enclosure form B according to DIN43729 that is providing a degree of protection of at least IP6X according to EN60529, that is suitable for the application and correctly installed.

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

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

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

ATEX Installation drawing 5331QA02 – V2R0

For safe installation of 5331A3B or 5334A3B the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.
Year of manufacture can be taken from the first two digits in the serial number.

ATEX Certificate KEMA 10ATEX 0002 X

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

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

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

Terminal: 3,4,5,6
Ex nA [ic]

Uo: 9.6 V
Io: 25 mA
Po: 60 mW
Lo: 33 mH
Co: 2.4 µF

Terminal: 1,2
Ex nA

Umax ≤ 35 VDC

Terminal: 1,2
Ex ic

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

Special conditions for safe use.

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

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

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

IECEx Installation drawing 5331QI01-V1R0

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 13.0035X

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

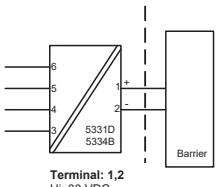
Standards IEC 60079-0 : 2011, IEC 60079-11 : 2011, IEC 60079-26:2006

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

Non Hazardous Area

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

Terminal: 3,4,5,6
Uo: 9.6 VDC
Io: 25 mA
Po: 60 mW
Lo: 33 mH
Co: 2.4 µF



Terminal: 1,2
Ui: 30 VDC
Ii: 120 mA
Pi: 0.84 W
Li: 10 µH
Ci: 1.0 nF

Installation notes

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

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

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

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

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

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

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

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

IECEx Installation drawing 5331QI02-V1R0

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 13.0035X

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

Standards IEC 60079-0 : 2011, IEC 60079-11 : 2011, IEC 60079-15 : 2010

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

Terminal: 3,4,5,6
Uo: 9.6 V
Io: 25 mA
Po: 60 mW
Lo: 33 mH
Co: 2.4 µF

Terminal: 1,2
Ex nA

Umax =35 VDC

Installation note:

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

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

Cable entry devices and blanking elements shall fulfill the same requirements
For an ambient temperature ≥ 60ºC, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.

For installation in a potentially explosive dust atmposphere, the following instructions apply:
The surface temperature of the enclosure is equal to the ambient temperature plus 20 K, for a dust layer with a thickness up to 5 mm.
The transmitter must be mounted in a enclosure according to DIN 43729 that provides a degree of protection of at least IP6X according to IEC60529, and that is suitable for the application. Cable entry devices and blanking elements shall fulfill the same requirements.

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.

Certificado …..DEKRA 16.0013 X

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

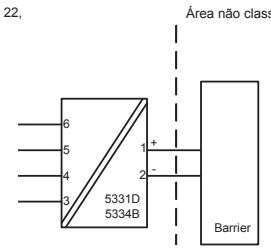
Normas ABNT NBR IEC 60079-0: 2013; ABNT NBR IEC 60079-11: 2013

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

Área não classificada

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

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



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

Notas de instalação

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

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

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

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

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

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

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

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

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

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

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

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

Terminais: 1,2
Ex nA

U ≤35 VDC

Terminais: 1,2
Ex ic

Ui = 35 VDC
Ii = 110 mA
Li = 10 µH
Ci = 1,0 nF

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

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

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

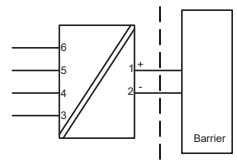
As entradas dos cabos e os elementos de obturação que podem ser utilizados devem ser adequados à aplicação pretendida e corretamente instalados.
A temperatura da superfície do invólucro é igual à temperatura ambiente mais 20 K, para uma camada de pó, com uma espessura de até 5 mm.

CSA Installation drawing 533XQC03 – V4R0

Hazardous area
T4: -40 ≤ Ta ≤ 85ºC
T6: -40 ≤ Ta ≤ 60ºC

Non Hazardous Area

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: 2.5µF

Terminal: 1,2
Ui: 30 VDC
Ii: 120 mA
Pi: 0.84 W
Li: 10µH
Ci: 1.0nF

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

CLASS 2258 84 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe Entity - For Hazardous Locations - Certified to US Standards
Class I, Division 1, Groups A, B, C and D
Class I, Zone 0, AEx ia IIC, Ga

Warning:
Substitution of components may impair intrinsic safety.

The transmitters must be installed in a suitable enclosure to meet installation codes stipulated in the Canadian Electrical Code (CEC) or for US the National Electrical Code (NEC).

CSA Installation drawing 5331QC02 – V1R0

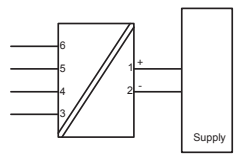
For safe installation of the 5331A and 5332A the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

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

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

T4: -40ºC to 85 ºC
T6: -40ºC to 60 ºC

Terminal: 3,4,5,6
Uo: 9.6 VDC
Io: 25 mA
Po: 60 mW
Lo: 33 mH
Co: 2.4µF



Terminal: 1-2
Functional Ratings:
U nominal ≤ 35 VDC;
I nominal ≤ 3.5 - 23 mA

NI Installation instructions

The transmitter must be installed in anenclosure providing a degree of protection of at least IP54 according to IEC60529 that is suitable for the application and is correctly installed. Cable entry devices and blanking elements shall fulfill the same requirements. If the enclosure is made of non-metallic materials or of painted metal, electrostatic charging shall be avoided.
Use supply wires with a rating of at least 5 K above the ambient temperature.
Supply from a Class 2 Power Supply with Transient protection or equivalent.

WARNING: Substitution of components may impair suitability for Class I, Division 2
AVERTISSEMENT: la substitution de composants peut nuire à l'aptitude à la Classe I, Division 2.

WARNING: Do not disconnect equipment unless power has been switched off or the area is known to be safe.
AVERTISSEMENT: Ne débranchez pas l'équipement sauf si l'alimentation a été coupée ou si la zone est connue pour être sûre.

Non Incendive field wiring installation
The non incendive field Wiring Circuit concept allows interconnection of Nonincendive Field wiring Apparatus with Associated Nonincendive Field Wiring Apparatus or Assosicated Intrinsically Safe Apparatus or Associated Apparatus not specially examined in combination as a syatem using any of the wiring methods permitted for unclassified locations,
Voc < Vmax, Ca ≥ Ci + Ccable , La ≥ Li + Lcable.

FM Installation Drawing 5300Q502 V3R0

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

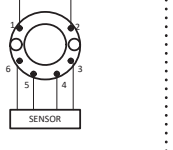
Hazardous (Classified) Location

Class I,Division1, 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 ≤ 250V
Voc or Uo ≤ Vmax or Ui
Isc or Io ≤ Imax or Ii
Po ≤ Pi
Ca or Co ≥ Ci + Ccable
La or Lo ≥ Li + Lcable

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

Model 5335D, 5337D

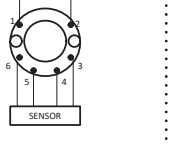
Hazardous (Classified) Location

Class I,Division1, 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 ≤ 250V
Voc or Uo ≤ Vmax or Ui
Isc or Io ≤ Imax or Ii
Po ≤ Pi
Ca or Co ≥ Ci + Ccable
La or Lo ≥ Li + Lcable

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

The entity concept

The Transmitter must be installed according to National Electrical Code (ANSI-NFPA 70) and shall be installed with the enclosure, mounting, and spacing segregation requirement of the ultimate application.

Equipment that is FM-approved for intrinsic safety may be connected to barriers based on the ENTITY CONCEPT. This concept permits interconnection of approved transmitters, meters and other devices in combinations which have not been specifically examined by FM, provided that the agency's criteria are met. The combination is then intrinsically safe, if the entity concept is acceptable to the authority having jurisdiction over the installation.

The entity concept criteria are as follows:

The intrinsically safe devices, other than barriers, must not be a source of power.

The maximum voltage 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 Vt) and current (Io or ISC or It) and the power Po which can be delivered by the barrier.

The sum of the maximum unprotected capacitance (Ci) 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 (Li) 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 Vt and Io,ISC or It, and Ca and La for barriers are provided by the barrier manufacturer.

NI Field Circuit Parameters

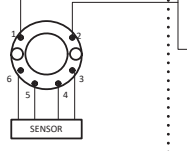
Model 5331D, 5332D, 5333D, 5335D, 5337D and 5343B

Hazardous (Classified) Location

Class I,Division2, Groups, A,B,C,D T4..T6
Class I, Zone 2, IIC T4..T6

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

Terminal 1 , 2
Vmax : 35 V
Ci: 1.0 nF
Li:10 uH



Non Hazardous Location

Associated Apparatus
or Barrier

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