

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 modulet installeret i Ex-område.
Enhederne skal installeres i henhold til den tilhørende installationsvejledning ved montering i eksplosionsfarlig område.
System 6300 skal monteres på DIN-skinne efter DIN EN 60715.

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 ledningstvsærnsnit, forskring og placering.
Beskrivelse af indgang / udgang og forsyningsforbindelser findes i produktmanualen og på sideskiltet.

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 6300

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 forsynings-spænding, 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, 6350A.....	9,0...32 VDC
Forsyningsspænding, 6350B.....	9,0...30 VDC
Max. forbrug.....	< 350 mW per kanal
Hvilestrøm.....	< 11 mA per kanal
Isolationsspænding, test / arbejds.....	1,5 kVAC / 50 VAC
Kalibreringstemperatur.....	20...28°C
Relativ fugtighed.....	< 95% RH (ikke kond.)
Mål.....	109 x 23,5 x 104 mm
Kapslingsklasse.....	IP20

Indgangstyper:

Pt25...Pt1000.....	-200°C...+850°C
Ni25...Ni1000.....	-60°C...+250°C
Cu10...Cu1000.....	-50°C...+260°C
TC.....	B, E, J, K, L, N, R, S, T, U, W3, W5
Lin. R.....	0 Ω...10 kΩ
Potentiometer.....	0 Ω...100 kΩ
Strom.....	-100...+100 mA
Spænding.....	-800...+800 mV

Udgang:

Bus-tilslutning.....	PROFIBUS PA / FOUNDATION Fieldbus
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Godkendelser:

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

DK Ex-godkendelser **UK** I.S approvals **FR** Approbations S.I. **DE** Ex-Zulassungen

	ATEX	Area	Installation drawing	IECEX	Area	Installation drawing	FM	Area	Installation drawing	CSA	Area	Installation drawing
6350A	KEMA 03ATEX1012 X	2, 22	6350QA02	DEK 14.0071X	2, 22	6350QI02	3015609	2 / Div 2	6350QE02	1418937	2 / Div 2	6350QE02
6350B	KEMA 03ATEX1012 X	0, 1, 2, 20, 21, 22, M1	6350QA01	DEK 14.0071X	0, 1, 2, 20, 21, 22, M1	6350QI01	3015609	0, 1, 2 / Div 1, 2	6350QE02	1418937	0, 1, 2 / Div 1, 2	6350QE02

DECLARATION OF CONFORMITY

(6350DoC_102)

As manufacturer
PR electronics A/S, Lerbakken 10, DK-8410 Rønde
hereby declares that the following products:
Type: 6350
Name: PROFIBUS PA/FOUNDATION Fieldbus transmitter
From serial no.: 161544030

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 03ATEX1012 X

Notified body
KEMA Quality B.V. (0344)
Utrechtseweg 310, 6812 AR Arnhem
P.O. Box 5185, 6802 ED Arnhem
The Netherlands

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

Rønde, 15 December 2016

S. Lindemann
Stig Lindemann, CTO
Manufacturer's signature

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. SYSTEM 6300 must be mounted on a DIN rail according to DIN EN 60715.

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 and on the side label.

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 6300

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, 6350A.....	9,0...32 VDC
Supply voltage, 6350B.....	9,0...30 VDC
Max. required power.....	< 350 mW per channel
Quiescent current.....	< 11 mA per channel
Isolation voltage, test.....	1,5 kVAC for 60 s
Isolation voltag. operation.....	50 VRMS / 75 VDC
Calibration temperature.....	20...28°C
Relative humidity.....	< 95% RH (non-cond.)
Dimensions.....	109 x 23,5 x 104 mm
Protection degree.....	IP20

Input types:

Pt25...Pt1000.....	-200°C...+850°C
Ni25...Ni1000.....	-60°C...+250°C
Cu10...Cu1000.....	-50°C...+260°C
TC.....	B, E, J, K, L, N, R, S, T, U, W3, W5
Lin. R.....	0 Ω...10 kΩ
Potentiometer.....	0 Ω...100 kΩ
Current.....	-100...+100 mA
Voltage.....	-800...+800 mV

Output:

Bus connection.....	PROFIBUS PA / FOUNDATION Fieldbus
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Approvals:

EAC.....	TR-CU 020/2011
EAC Ex.....	TR-CU 012/2011

Observed authority requirements:

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

Comptabilité avec les normes:

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

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. Il convient de monter l'appareil SYSTEME 6300 sur un rail DIN en se conformant à la norme DIN EN 60715.

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.
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 et sur l'étiquette de la face latérale du module.

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 6300

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 dotée 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, 6350A.....	9,0...32 Vcc
Tension d'alimentation, 6350B.....	9,0...30 Vcc
Puissance maximale requise	< 350 mW par voie
Courant de repos.....	< 11 mA par voie
Tension d'isolation test/opér.	1,5 kVca / 50 Vca
Température d'étalonnage.....	20...28°C
Humidité relative.....	< 95% HR (sans cond.)
Dimensions.....	109 x 23,5 x 104 mm
Degré de protection.....	IP50/IP20

Types d'entrée:

Pt25...Pt1000.....	-200°C...+850°C
Ni25...Ni1000.....	-60°C...+250°C
Cu10...Cu1000.....	-50°C...+260°C
TC.....	B, E, J, K, L, N, R, S, T, U, W3, W5
Lin. R.....	0 Ω...10 kΩ
Potentiomètre.....	0 Ω...100 kΩ
Courant.....	-100...+100 mA
Tension.....	-800...+800 mV

Sortie:

Connexion bus.....	PROFIBUS PA / Fieldbus FOUNDATION
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Approbations:

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

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 Einbauezeichnungen installiert werden.
Das System 6300 muss auf eine DIN-Schiene nach DIN EN 60715 montiert werden.

SICHERHEITSGELN

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 Staubeentwicklung 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 Produktmanual und auf dem Typenschild.
Kalibrrierung und Justierung
Während der Kalibrrierung 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 6300

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 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, Fehlererkennung und Ausgangssignal.

Elektrische Daten

Spezifikationsbereich.....	-40°C bis +85°C
Versorgungsspannung, 6350A.....	9,0...32 VDC
Versorgungsspannung, 6350B.....	9,0...30 VDC
Leistungsbedarf, max.....	< 350 mW pro Kanal
Ruhestrom.....	< 11 mA pro Kanal
Isolationsspannung, Test / Betrieb.....	1,5 kVAC / 50 VAC
Kalibrierungstemperatur.....	20...28°C
Luftfeuchtigkeit.....	< 95% RF (nicht kond.)
Maß.....	109 x 23,5 x 104 mm
Schutzart.....	IP50/IP20

Eingangs-Typen:

Pt25...Pt1000.....	-200°C...+850°C
Ni25...Ni1000.....	-60°C...+250°C
Cu10...Cu1000.....	-50°C...+260°C
TE.....	B, E, J, K, L, N, R, S, T, U, W3, W5
Lin. R.....	0 Ω...10 kΩ
Potentiometer.....	0 Ω...100 kΩ
Strom.....	-100...+100 mA
Spannung.....	-800...+800 mV

Ausgang:

Bus-Verbindung.....	PROFIBUS PA / FOUNDATION Fieldbus
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Zulassungen:

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** Installationsvejledningen for teknikere omfatter følgende produkter: 6350A og 6350B.
- UK** The installation guide for technical personnel covers the following products: 6350A and 6350B.
- FR** Le guide d'installation pour le personnel qualifié couvre les produits suivants: 6350A et 6350B.
- DE** Die Installationsanleitung für Techniker umfasst die folgenden Produkte: 6350A und 63

ATEX Installation drawing 6350QA01-V5R0

For safe installation of 6350B the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area. Year of manufacture can be taken from the first two digits in the serial number.

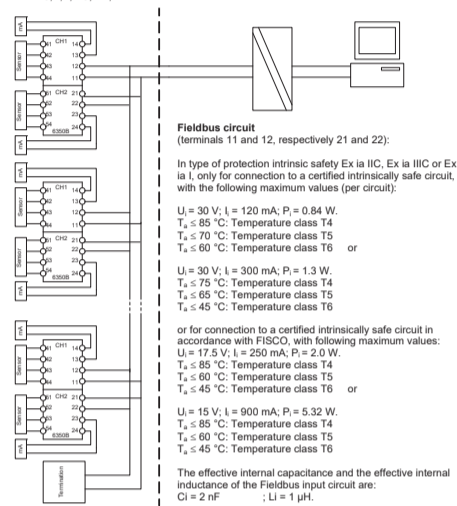
ATEX Certificate KEMA 03ATEX 1012 X
 Marking II 1 G Ex ia IIC T6...T4 Ga or II 2 (1) G Ex ia [Ga] IIC T6...T4 Gb II 1 D Ex ia IIC Da I M 1 Ex ia I Ma
 Standards EN 60079-0 : 2012, EN 60079-11 : 2012

General installation instructions

Electrostatic charges on the transmitter enclosure shall be avoided. Install in pollution degree 2 or better. Profibus / Foundation Fieldbus Transmitter Type 6350B2x, for rail mounting, with one or two independent channels, converts the measurement signals of temperature sensors, mV signals or mA signals into a Profibus PA fieldbus or to a Foundation Fieldbus. x = A (Single Channel) and x = B (Double Channel). For marking Ex ia IIC T6...T4 Ga The transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP20 according to EN/IEC 60529 and that is suitable for the application and correctly installed. Ambient temperature range is specified under chapter "Electrical and thermal data". For marking Ex ia IIC Da The transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP6X according to EN/IEC 60529, and that is suitable for the application and correctly installed. The surface temperature of the enclosure is equal to the ambient temperature +20 K for a dust layer with a maximum thickness of 5 mm. Ambient temperature range: -40 °C to +85 °C For marking Ex ia I Ma The transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP6X according to EN/IEC 60529, and that is suitable for the application and correctly installed. Ambient temperature range: -40 °C to +85 °C

Sensor Circuit and the Current Measurement Input Circuit
 The Sensor Circuit is galvanically connected to the Current Measurement Input Circuit and only one circuit can be connected at a time. The Input Circuits are not infallibly galvanically isolated from the Fieldbus input circuit. However, the galvanic isolation is capable of withstanding a test voltage of 500Vac during 1 minute.

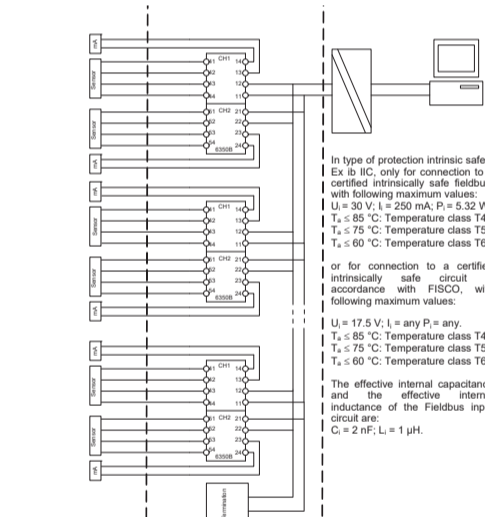
Hazardous Location Zone 0, 1, 2, 20, 21, 22 Non Hazardous Location



Sensor Circuit (terminals 41...44, respectively 51...54):
 In type of protection intrinsic safety Ex ia IIC, Ex ia IIC or Ex ia I, with following maximum values:
 $U_o = 5.7\text{ V}$; $I_o = 8.4\text{ mA}$; $P_o = 12\text{ mW}$; $C_o = 40\text{ }\mu\text{F}$; $L_o = 200\text{ mH}$

Current Measurement Input Circuit (terminals 13 and 14, respectively 23 and 24):
 In type of protection intrinsic safety Ex ia IIC, Ex ia IIC or Ex ia I, only for connection to a certified intrinsically safe circuit, with the following maximum values (per circuit):
 $U_i = 30\text{ V}$; $I_i = 140\text{ mA}$; $P_i = 1\text{ W}$; $C_i = 0\text{ nF}$; $L_i = 0\text{ mH}$

Hazardous area: Zone 0 Hazardous area: Zone 1 Non Hazardous area



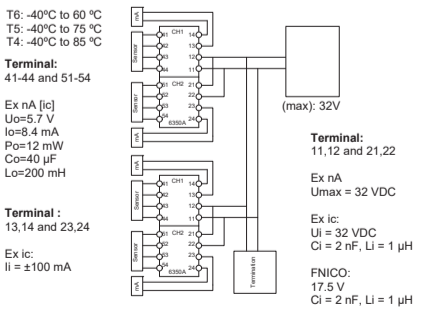
Sensor Circuit (terminals 41...44, respectively 51...54):
 In type of protection intrinsic safety Ex ia IIC, Ex ia IIC or Ex ia I, with following maximum values:
 $U_o = 5.7\text{ V}$; $I_o = 8.4\text{ mA}$; $P_o = 12\text{ mW}$; $C_o = 40\text{ }\mu\text{F}$; $L_o = 200\text{ mH}$

Current Measurement Input Circuit (terminals 13 and 14, respectively 23 and 24):
 In type of protection intrinsic safety Ex ia IIC, Ex ia IIC or Ex ia I, only for connection to a certified intrinsically safe circuit, with the following maximum values (per circuit):
 $U_i = 30\text{ V}$; $I_i = 140\text{ mA}$; $P_i = 1\text{ W}$; $C_i = 0\text{ nF}$; $L_i = 0\text{ mH}$

ATEX Installation drawing 6350QA02-V4R0

For safe installation of 6350A the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area. Year of manufacture can be taken from the first two digits in the serial number.

ATEX Certificate KEMA 03ATEX 1012 X
 Marking II 3 G Ex nA [ic] IIC T6...T4 Gc II 3 G Ex ic IIC T6...T4 Gc II 3 D Ex ic IIC Dc
 Standards EN 60079-0 : 2012, EN 60079-11 : 2012, EN 60079-15



General installation instructions

To avoid risk of ignition during installation and maintenance appropriate safety measures against electrostatic discharge (ESD) are to be considered. Install in pollution degree 2 or better.

Profibus / Foundation Fieldbus Transmitter Type 6350A2x, for rail mounting, with one or two independent channels, converts the measurement signals of temperature sensors, mV signals or mA signals into a Profibus PA fieldbus or to a Foundation Fieldbus. x = A (Single Channel) and x = B (Double Channel).

The Sensor Circuit is galvanically connected to the Current Measurement Input Circuit and only one circuit can be connected at a time. The Sensor Circuit and the Current Measurement Input Circuit are not infallibly galvanically isolated from the Fieldbus input circuit. However, the galvanic isolation is capable of withstanding a test voltage of 500Vac during 1 minute.

IECEx Installation drawing 6350QI01-V2R0

For safe installation of 6350B 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.

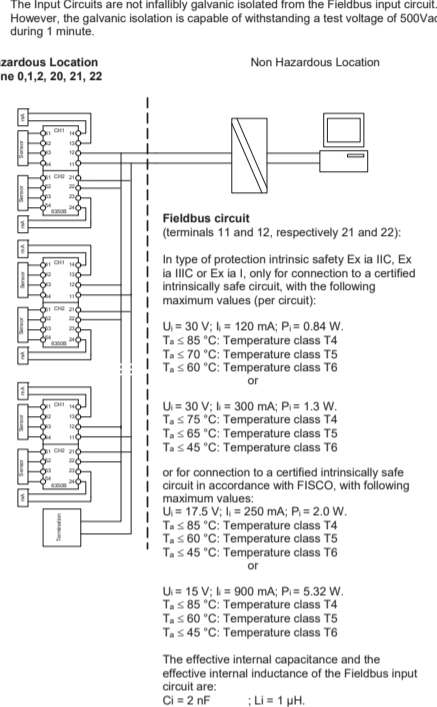
IECEx Certificate DEK 14.0071X
 Marking Ex ia IIC T6...T4 Ga Ex ia [ib] [Ga] IIC T6...T4 Gb Ex ia IIC Da Ex ia I Ma
 Standards IEC60079-11:2011, IEC60079-0: 2011

General installation instructions

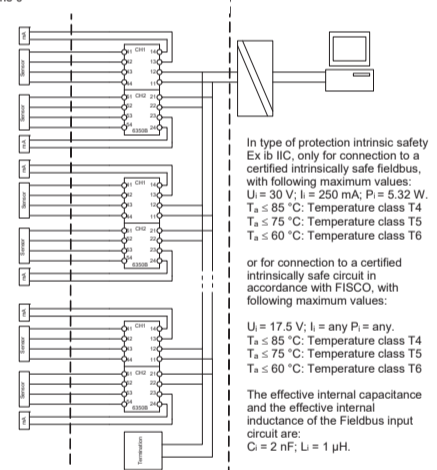
Electrostatic charges on the transmitters enclosure shall be avoided. Install in pollution degree 2 or better. Profibus / Foundation Fieldbus Transmitter Type 6350B2x, for rail mounting, with one or two independent channels, converts the measurement signals of temperature sensors, mV signals or mA signals into a Profibus PA fieldbus or to a Foundation Fieldbus. x = A (Single Channel) and x = B (Double Channel). For marking Ex ia IIC T6...T4 Ga The transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP20 according to EN/IEC 60529 and that is suitable for the application and correctly installed. Ambient temperature range is specified under chapter "Electrical and thermal data". For marking Ex ia IIC Da The transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP6X according to EN/IEC 60529, and that is suitable for the application and correctly installed. The surface temperature of the enclosure is equal to the ambient temperature +20 K for a dust layer with a maximum thickness of 5 mm. Ambient temperature range: -40 °C to +85 °C For marking Ex ia I Ma The transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP6X according to EN/IEC 60529, and that is suitable for the application and correctly installed. Ambient temperature range: -40 °C to +85 °C

Sensor Circuit and the Current Measurement Input Circuit
 The Sensor Circuit is galvanically connected to the Current Measurement Input Circuit and only one circuit can be connected at a time. The Input Circuits are not infallibly galvanically isolated from the Fieldbus input circuit. However, the galvanic isolation is capable of withstanding a test voltage of 500Vac during 1 minute.

Hazardous Location Zone 0, 1, 2, 20, 21, 22 Non Hazardous Location



Hazardous area: Zone 0 Hazardous area: Zone 1 Non Hazardous area



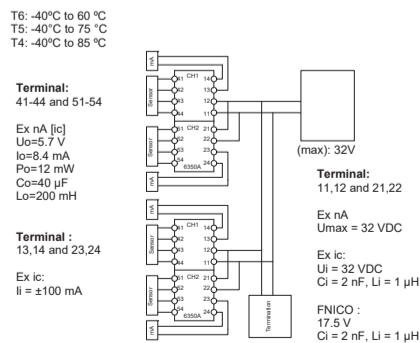
Sensor Circuit (terminals 41...44, respectively 51...54):
 In type of protection intrinsic safety Ex ia IIC, Ex ia IIC or Ex ia I, with following maximum values:
 $U_o = 5.7\text{ V}$; $I_o = 8.4\text{ mA}$; $P_o = 12\text{ mW}$; $C_o = 40\text{ }\mu\text{F}$; $L_o = 200\text{ mH}$

Current Measurement Input Circuit (terminals 13 and 14, respectively 23 and 24):
 In type of protection intrinsic safety Ex ia IIC, Ex ia IIC or Ex ia I, only for connection to a certified intrinsically safe circuit, with the following maximum values (per circuit):
 $U_i = 30\text{ V}$; $I_i = 140\text{ mA}$; $P_i = 1\text{ W}$; $C_i = 0\text{ nF}$; $L_i = 0\text{ mH}$

IECEx Installation drawing 6350QI02-V2R0

For safe installation of 6350A 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.

IECEx Certificate DEK 14.0071X
 Marking Ex nA [ic] IIC T6 Gc Ex ic IIC T6 Gc Ex ic IIC Dc
 Standards IEC 60079-0 : 2011, IEC 60079-11 : 2011, IEC 60079-15 : 2010



General installation instructions

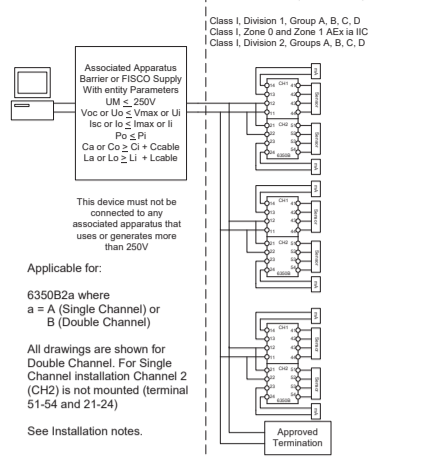
To avoid risk of ignition during installation and maintenance appropriate safety measures against electrostatic discharge (ESD) are to be considered. Install in pollution degree 2 or better.

Profibus / Foundation Fieldbus Transmitter Type 6350A2x, for rail mounting, with one or two independent channels, converts the measurement signals of temperature sensors, mV signals or mA signals into a Profibus PA fieldbus or to a Foundation Fieldbus. x = A (Single Channel) and x = B (Double Channel).

The Sensor Circuit is galvanically connected to the Current Measurement Input Circuit and only one circuit can be connected at a time. The Sensor Circuit and the Current Measurement Input Circuit are not infallibly galvanically isolated from the Fieldbus input circuit. However, the galvanic isolation is capable of withstanding a test voltage of 500Vac during 1 minute.

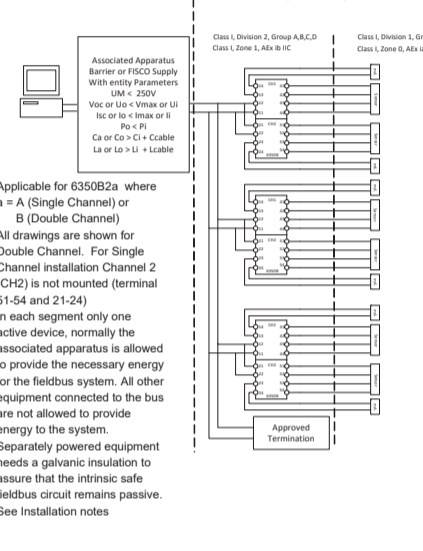
FM/CSA Installation Drawing 6350QE02-V3R0

Non Hazardous Location Hazardous (Classified) Location



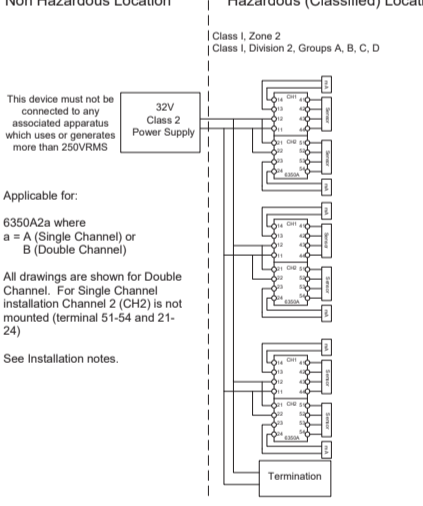
Terminal	IS, Class I, Division 1, Group A, B, C, D Class I, Zone 0 AEx ia IIC	Class I, Division 2, Group A, B, C, D Class I, Zone 1 AEx ib IIC
T1...T5	$T_a \leq +60^\circ\text{C}$	$T_a \leq +60^\circ\text{C}$
T6	$T_a \leq +60^\circ\text{C}$	$T_a \leq +60^\circ\text{C}$
Vmax or Ui	30V	17.5V
Imax or Ii	120 mA	300 mA
Pmax or Pi	0.84 W	1.3 W
Ci	2 nF	2 nF
Li	1 µH	1 µH

Non Hazardous Location Hazardous (Classified) Location



Terminal	11, 12 and 21, 22	Terminal	11, 12 and 21, 22	Terminal	41-44 and 51-54
Vmax (Ui)	30V	30V	17.5V	Vi or Uo	5.71V
Imax (Ii)	140 mA	250 mA	any	Io or Io	8.4 mA
Pmax (Pi)	1 W	5.32 W	any	Pi or Po	12 mW
Ci	0	2 nF	2 nF	Ca or Co	40 µF
Li	0	1 µH	1 µH	La or Lo	200 mH

Non Hazardous Location Hazardous (Classified) Location



Terminal:	Class I, Division 2, Group A, B, C, D Class I, Zone 2 IIC
Vmax (Ui)	32 V

Installation notes:

This drawing applies to models 6350A2a and 6350B2a Where: a = A (Single Channel) or B (Double Channel)

All drawings are shown as Double Channel. For Single Channel installation Channel 2 (CH2) is not mounted (terminal 51-54 and 21-24)

For installation in the US the 6350 must be installed according to National Electrical Code (ANSI-NFPA 70). For installation in Canada the transmitter must be installed in a suitable enclosure to meet installation codes stipulated in the Canadian Electrical Code (CEC). For installation in Canada different intrinsically safe circuits need to be separated as outlined in the Canadian Electrical Code (CEC)

The entity concept

Equipment that is FM / CSA -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 / CSA, provided that the agency's criteria are met. The combination is 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 (VMAX) and current I_i (IMAX), and maximum power P_i (Pmax), which the device can receive and remain intrinsically safe, must be equal to or greater than the voltage (U_o or VOC or VI) and current (I_o or ISC or II) and the power P_o 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 U_o , VOC or VI and I_o , ISC or II, and Ca and La for barriers are provided by the barrier manufacturer.

FISCO rules

The FISCO Concept allows the interconnection of intrinsically safe apparatus to associated apparatus not specifically examined in such combination. The criterion for such interconnection is that the voltage (Vmax), the current (Imax) and the power (Pi) which intrinsically safe apparatus can receive and remain intrinsically safe, considered as a system when: U_o or Vmax, I_o or ISC or II, and the power (Po) which can be provided by the associated apparatus (supply unit). In addition, the maximum unprotected residual capacitance (Ci) and inductance (Li) of each apparatus (other than the terminators) connected to the Fieldbus must be less than or equal to 5 nF and 10 µH respectively.

In each I.S. Fieldbus segment only one active source, normally the associated apparatus, is allowed to provide the necessary power for the Fieldbus system. The allowed voltage (Uo, Voc, Vi) of the associated apparatus used to supply the bus must be limited to the range of 14V d.c. to 24V d.c. All other equipment connected to the bus cable has to be passive, meaning that the apparatus is not allowed to provide energy to the system, except to a leakage current of 50 µA for each connected device. Separately powered equipment needs a galvanic isolation to insure that the intrinsically safe Fieldbus circuit remains passive.

The cable used to interconnect the devices needs to comply with the following parameters:

Loop resistance R: 15...150 Ω/KM

Inductance per unit length L': 0.4...1 mH/km
 Capacitance per unit length C': 80...200 nF/km
 $C = C' \cdot \text{line/line} + C' \cdot \text{line/screen}$, if both lines are floating or
 $C = C' \cdot \text{line/line} + C' \cdot \text{line/screen}$, if the screen is connected to one line
 Length of spur Cable: max. 30m
 Length of trunk cable: max. 1Km
 Length of splice: max. 1m

Terminators
 At each end of the trunk cable an approved line terminator with the following parameters is suitable:
 $R = 90...100\text{ }\Omega$
 $C = 0...2.2\text{ }\mu\text{F}$

System evaluation

The number of passive devices like transmitters, actuators, connected to a single bus segment is not limited due to I.S. reasons. Furthermore, if the above rules are respected, the inductance and capacitance of the cable need not to be considered and will not impair the intrinsic safety of the installation.

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

Installation Notes For FISCO and Entity Concepts:

- The Intrinsic Safety Entity concept allows the interconnection of FM / CSA Approved Intrinsically safe devices (Div 1 or Zone 0 or Zone 1) and non-incendive apparatus (Div 2 or Zone 2), with entity parameters not specifically examined in combination as a system when:
 U_o or Vmax or VI \leq Vmax, I_o or ISC or II \leq Imax, $P_o \leq P_i$, C_a or $C_o \geq C_i + C_{\text{Cable}}$, L_a or $L_o \geq L_i + L_{\text{Cable}}$, $P_o \leq P_i$
 - The Intrinsic Safety FISCO concept allows the interconnection of FM / CSA Approved Intrinsically safe devices with FISCO parameters not specifically examined in combination as a system when:
 U_o or Vmax or VI \leq Vmax, I_o or ISC or II \leq Imax, $P_o \leq P_i$
 - Dust-tight conduit seals must be used when installed in Class II and Class III environments.
 - Control equipment connected to the Associated Apparatus must not use or generate more than 250 Vrms or Vdc.
 - Installation should be in accordance with ANSI/ISA RP12.6 (except chapter 5 for FISCO installations) "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" and the National Electrical Code® (ANSI/NFPA 70) Sections 504 and 505.
 - The configuration of associated Apparatus must be Factory Mutual Research or CSA Approved under the associated concept.
 - Associated Apparatus manufacturer's installation drawing must be followed when installing this equipment.
 - The 6350 Series are Approved for Class I, Zone 0, applications. If connecting AEx(ib) associated Apparatus or AEx(ib) I.S. Apparatus to the 6350 the I.S. circuit is only suitable for Class I, Zone 1, or Class I, Zone 2, and is not suitable for Class I, Zone 0 or Class I, Division 1, Hazardous (Classified) Locations."
 - No revision to drawing without prior FM / CSA Approval.
 - Single Apparatus is defined as a device that neither generates nor stores more than 1.2 V, 0.1 A 20 µJ or 25 mW.
 - The termination must be NRTL approved, and the resistor must be infallible.
 - Warning:**
 For applications in Div2 or Zone 2 (Classified Locations) Explosion hazard: Except for field circuits, do not disconnect the apparatus unless the area is known to be non hazardous.
 - Warning:**
 Substitution of Components May Impair Safety.
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