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.
Ved Ex-installation må kun godkendt udstyr anvendes. Enhederne skal installeres i henhold til den tilhørende installations vejledning ved montering i eksplosionfarligt 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.
Modulet må kun installeres af kvalificerede personer, som er bekendt med national og international lovgivning, direktiver og standarder i det land, hvor modulet skal installeres.
Produktionsår fremgår af de to første cifre i serienummeret.
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.
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 6437
Modulet kongureres 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

Driftstemperaturområde:	
Standard	-50°C to +85°C
SIL	-40°C to +80°C
Lagringstemperatur	-50°C to +85°C
Forsyningsspænding:	
6437A	7,5*...48** VDC
6437D	7,5*...30** VDC
6437, EU-RO	8,3...33,6 VDC ±10%
Max. internt effekttab	≤ 850 mW pr. kanal
Min. belastningsmodstand v. > 37 V forsyning	(Forsyning - 37)/23 mA
Isolationsspænd., test/oper.	
6437A	2,5 kVAC / 55 VAC
6437D	2,5 kVAC / 42 VAC
Kalibreringstemperatur	23...25°
Relativ fugtighed	< 99% RH (ikke kond.)
Mål (H x B x D)	109 x 23,5 x 104 mm

Indgang for RTD-type:
Pt100 & Ni100

Indgang for TC-typer:
B, E, J, K, L, N, R, S, T, U, W3, W5, Lr

Lin R:
Ohm & KOhm

Spændingsindgang:
mV

Strømudgang:

Normalområde, programmerbart	3,8...20,5 / 20,5..3,8 mA
Udvidet område (udgangsgrænser), programmerbart	3,5...23 / 23...3,5 mA
Belastning (v. strømudgang)	≤ (Vfor.-7,5)/0,023 [Ω]
Belastningsstabilitet	< 0,01% af span/100 Ω

Overholdte myndighedskrav:

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

Godkendelser:

Ex / I.S.:

ATEX	
6437A	DEKRA 18ATEX0135X
6437D	DEKRA 16ATEX0047X
IECEx	IECEx DEK. 16.0029X
cFMus	FM16CA0146X/FM16US0287X
cCSAus	16.70066266
INMETRO	DEKRA 23.0002X
NEPSI	GYJ23.1253X
EAC Ex	RU C-DK.ПБ98.B.00192

Marinegodkendelse:

EU RO Mutual Recognition Type Approval	MRA0000023

Funktionel sikkerhed:
SIL 2-certificeret via Full Assessment iht. IEC 61508 : 2010
SFF> 93% - type B-komponent
SIL 3 Muligt via redundant struktur (HFT=0; 1oo2)
FMEDA-rapport - www.prelectronics.com

* Note: Vær opmærksom på at minimum forsyningsspændingen måles på 6437-terminalerne, dvs. alle eksterne spændingsfald skal medregnes.
**Note: Beskyt enheden mod overspænding ved at anvende en spændingsforsyning af god kvalitet eller alternativt monter overspændingsbeskyttelsesudstyr.

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 hazardous area installation, only certified test equipment may be used.
For installation in classified area the devices 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.
The device 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.
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. 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 6437
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

Ambient operating temperature range:	
Standard	-50°C to +85°C
SIL	-40°C to +80°C
Storage temperature	-50°C to +85°C
Supply voltage:	
6437A	7.5*...48** VDC
6437D	7.5*...30** VDC
6437, EU-RO	8.3...33.6 VDC ±10%
Max. internal power dissipation	≤ 850 mW per channel
Min. load resistance at > 37 V supply	(Supply voltage - 37)/23 mA
Isolation voltage, test/oper.	
6437A	2.5 kVAC / 55 VAC
6437D	2.5 kVAC / 42 VAC
Calibration temperature	23...25°
Relative humidity	< 99% RH (non-cond.)
Dimensions (H x W x D)	109 x 23.5 x 104 mm

Input for RTD type:
Pt100 & Ni100

Input for TC types:
B, E, J, K, L, N, R, S, T, U, W3, W5, Lr

Lin R:
Ohm & KOhm

Voltage input:
mV

Current output:

Normal range, programmable	3.8...20.5 / 20.5..3,8 mA
Extended range (output limits), programmable	3.5...23 / 23...3.5 mA
Load (@ current output)	≤ (Vsup.-7.5)/0.023 [Ω]
Load stability	< 0.01% of span/100 Ω

Observed authority requirements:

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

Approvals:

Ex / I.S.:

ATEX	
6437A	DEKRA 18ATEX0135X
6437D	DEKRA 16ATEX0047X
IECEx	IECEx DEK. 16.0029X
cFMus	FM16CA0146X/FM16US0287X
cCSAus	16.70066266
INMETRO	DEKRA 23.0002X
NEPSI	GYJ23.1253X
EAC Ex	RU C-DK.ПБ98.B.00192

Marine approval:

EU RO Mutual Recognition Type Approval	MRA0000023

Functionel safety:
SIL2 Certified & Fully Assessed acc. to IEC 61508:2010
SFF> 93% - type B component
SIL3 Applicable through redundant structure (HFT=0; 1oo2)
FMEDA report - www.prelectronics.com

* Note: Observe that the minimum Supply Voltage must be as measured at the terminals of the 6437, i.e. all external drops must be considered.
** Note: Make sure to protect the device from overvoltages by using a suitable power supply or by installing overvoltage protecting devices.

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 installation en zone dangereuse, seul un équipement certifié peut être utilisé.
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.
Le module sera seulement installé par un personnel qualifié qui est informé des lois, des directives et des normes nationales et internationales qui s'appliquent à ce secteur.
L'année de la fabrication est indiquée dans les deux premiers chiffres dans le numéro de série.
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. 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 d es 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 nett oyer.

Programmation par PC du Système 6437
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

Température de fonctionnement:	
Standard	-50°C to +85°C
SIL	-40°C to +80°C
Température de stockage	-50°C to +85°C
Tension d'alimentation,	
6437A	7,5*...48** Vcc
6437D	7,5*...30** Vcc
6437, EU-RO	8,3...33,6 Vcc ±10%
Puissance dissipée max.	≤ 850 mW par voie
Résistance de charge min. à > 37 Valimentation	(Alimentation - 37)/23 mA
Tension d'isolation, test/opération	
6437A	2,5 kVca / 55 Vca
6437D	2,5 kVca / 42 Vca
Température d'étalonnage	23...25°
Humidité relative	< 99% HR (sans cond.)
Dimensions (H x L x P)	109 x 23,5 x 104 mm

Entrée pour types RTD:
Pt100 & Ni100

Entrée pour types TC:
B, E, J, K, L, N, R, S, T, U, W3, W5, Lr

Lin R:
Ohm & KOhm

Entrée tension:
mV

Sortie courant:

Gamme normale, programmable	3,8...20,5 / 20,5..3,8 mA
Gamme étendue (limites de sortie), programmable	3,5...23 / 23...3,5 mA
Charge (à la sortie courant)	≤ (Vali.-7,5)/0,023 [Ω]
Stabilité sous charge	< 0,01% de l'EC/100 Ω

Compatibilité avec les normes:

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

Approbations:

Ex / S.I.:

ATEX	
6437A	DEKRA 18ATEX0135X
6437D	DEKRA 16ATEX0047X
IECEx	IECEx DEK. 16.0029X
cFMus	FM16CA0146X/FM16US0287X
cCSAus	16.70066266
INMETRO	DEKRA 23.0002X
NEPSI	GYJ23.1253X
EAC Ex	RU C-DK.ПБ98.B.00192

Approbation marine:

EU RO Mutual Recognition Type Approval	MRA0000023

Sécurité fonctionnelle:
Certification complète SIL 2 selon IEC 61508 : 2010
SFF> 93% - Composant type B
Capabilité SIL 3 en structure redondante (HFT=0; 1oo2)
Analyse FMEDA - www.prelectronics.com

*NB: Observez que la tension d'alimentation minimale doit être mesurée aux bornes du 6437, c'est-à-dire que toutes les chute externes doivent être prises en considération.
**NB: Assurez-vous de protéger l'appareil contre les surtensions en utilisant une alimentation électrique appropriée ou en installant des dispositifs de protection contre les surtensions.

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. Reparaturen des Gerätes dürfen nur von PR electronics A/S vorgenommen werden.

WARNUNG

Benutzen Sie die Programmierschnittstelle Loop Link nicht im Ex Bereich.
Bei der Installation in Gefahrenbereichen darf nur zertifizierte Testausrüstung verwendet werden.
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.
Das Gerät darf nur von qualifiziertem Personal eingebaut werden, das mit den nationalen und internationalen Gesetzen, Richtlinien und Standards auf diesem Gebiet vertraut ist.
Das Baujahr kann aus den ersten beiden Ziffern der Seriennummer ersehen werden.
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.
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 6437
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

Betriebstemperaturbereich:	
Standard	-50°C to +85°C
SIL	-40°C to +80°C
Lagertemperatur	-50°C to +85°C
Versorgungsspannung,	
6437A	7,5*...48** VDC
6437D	7,5*...30** VDC
6437, EU-RO	8,3...33,6 VDC ±10%
Max. Verlustleistung	≤ 850 mW pro Kanal
Min. Lastwiderstand bei > 37 V Versorgung	(Versorg. - 37)/23 mA
Isolationsspannung, Test / Betrieb	
6437A	2,5 kVAC / 55 VAC
6437D	2,5 kVAC / 42 VAC
Kalibrierungstemperatur	23...25°
Luftfeutigkeit	< 99% RF (nicht kond.)
Maß (H x B x T)	109 x 23,5 x 104 mm

Eingang für WTH-Typen:
Pt100 & Ni100

Eingang für TE-Typen:
B, E, J, K, L, N, R, S, T, U, W3, W5, Lr

Lin R:
Ohm & KOhm

Spannungseingang:
mV

Stromausgang:

Normalbereich, konfig.	3,8...20,5 / 20,5..3,8 mA
Erweiterter Bereich (Ausgangsgrenzen), konfig.	3,5...23 / 23...3,5 mA
Belastung (bei Stromausg.)	≤ (VVersorgung-7,5)/0,023 [Ω]
Belastungsstabilität	< 0,01% d. Sp./100 Ω

Eingehaltene Behördenvorschriften:

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

Zulassungen:

Ex / S.I.:

ATEX	
6437A	DEKRA 18ATEX0135X
6437D	DEKRA 16ATEX0047X
IECEx	IECEx DEK. 16.0029X
cFMus	FM16CA0146X/FM16US0287X
cCSAus	16.70066266
INMETRO	DEKRA 23.0002X
NEPSI	GYJ23.1253X
EAC Ex	RU C-DK.ПБ98.B.00192

Marine-Zulassung:

EU RO Mutual Recognition Type Approval	MRA0000023

Funktionale Sicherheit:
SIL 2, vollständig geprüft und zertifiziert gemäß IEC 61508:2010
SFF > 93 % - Komponente Typ B
SIL-3-konform dank redundanter Struktur (HFT = 0; 1oo2)
FMEDA-Bericht: www.prelectronics.de

* Hinweis: Beachten Sie, dass die minimale Versorgungsspannung an den Klemmen des 6437 gemessen werden muss. D.h. dass alle externen Spannungsabfälle berücksichtigt werden müssen.
** Hinweis: Achten Sie darauf, das Gerät vor Überspannungen zu schützen, indem Sie ein geeignetes Netzteil verwenden oder Überspannungsschutzgeräte installieren.

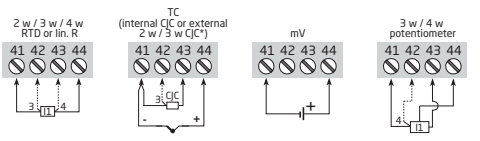
SN6437-104-2508

6437A / 6437D

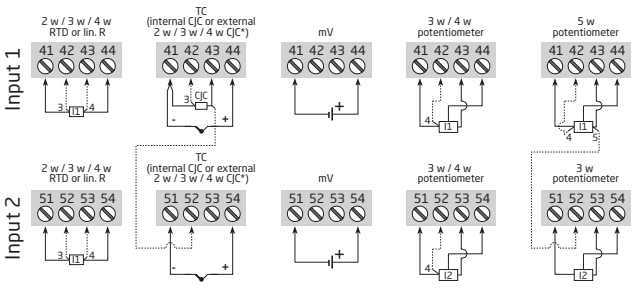
6437A 6437D

DK Tilslutninger UK Connections FR Connexions DE Anschlüsse

Single input:

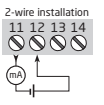


Dual inputs:



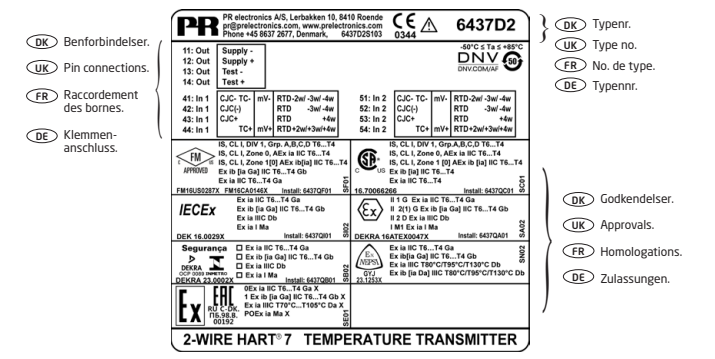
* When using thermocouple input, the 6437 can be configured for either constant, internal or external CJC via a Pt100 or Ni100 sensor. This must be selected during device configuration.

Output:



DK	UK	FR	DE
Enkelt indgang	Single input	1 entrée	1 Eingang
2- / 3- / 4-tråds RTD eller lin. R	2 w / 3 w / 4 w RTD or lin. R	RTD 2- / 3- / 4-fils ou R lin.	2- / 3- / 4-Draht WTH oder lin. R
TC (intern CJC eller ekstern 2- / 3-tråds CJC)	TC (internal CJC or external 2 w / 3 w CJC)	TC (CSF int. ou CSF ext. 2- / 3-fils)	TE (int. CJC oder ext. 2- / 3-Draht CJC)
mV (unipolar eller bipolar)	mV (unipolar or bipolar)	mV (unipolaire ou bipolaire)	mV (unipolar oder bipolar)
3- / 4-tråds potentiometer	3 w / 4 w potentiometer	Potentiomètre 3- / 4-fils	3- / 4-Draht Potentiometer
Dobbelt indgang	Dual inputs	2 entrées	2 Eingänge
Indgang 1: 2- / 3- / 4-tråds RTD eller lin. R Indgang 2: 2- / 3- / 4-tråds RTD eller lin. R	Input 1: 2 w / 3 w / 4 w RTD or lin. R Input 2: 2 w / 3 w / 4 w RTD or lin. R	Entrée 1: RTD ou R lin. 2- / 3- / 4-fils Entrée 2: RTD ou R lin. 2- / 3- / 4-fils	Eingang 1: 2- / 3- / 4-Draht WTH oder lin. R Eingang 2: 2- / 3- / 4-Draht WTH oder lin. R
Indgang 1: TC (int. CJC el. ekst. 2- / 3- / 4-tråds CJC) Indgang 2: TC (int. CJC el. ekst. 2- / 3- / 4-tråds CJC)	Input 1: TC (int. CJC or ext. 2 w / 3 w / 4 w CJC) Input 2: TC (int. CJC or ext. 2 w / 3 w / 4 w CJC)	Entrée 1: TC (CSF int. ou CSF ext. 2- / 3- / 4-fils) Entrée 2: TC (CSF int. ou CSF ext. 2- / 3- / 4-fils)	Eingang 1: TE (int. CJC oder ext. 2- / 3- / 4-Draht CJC) Eingang 2: TE (int. CJC oder ext. 2- / 3- / 4-Draht CJC)
Indgang 1: mV Indgang 2: mV	Input 1: mV Input 2: mV	Entrée 1: mV Entrée 2: mV	Eingang 1: mV Eingang 2: mV
Indgang 1: 3- / 4-tråds potentiometer Indgang 2: 3- / 4-tråds potentiometer	Input 1: 3 w / 4 w potentiometer Input 2: 3 w / 4 w potentiometer	Entrée 1: potentiomètre 3- / 4-fils Entrée 2: potentiomètre 3- / 4-fils	Eingang 1: 3- / 4-Draht Potentiometer Eingang 2: 3- / 4-Draht Potentiometer
Indgang 1: 5-tråds potentiometer Indgang 2: 3-tråds potentiometer	Input 1: 5 w potentiometer Input 2: 3 w potentiometer	Entrée 1: potentiomètre 5-fils Entrée 2: potentiomètre 3 -fils	Eingang 1: 5-Draht Potentiometer Eingang 2: 3-Draht Potentiometer
Udgang	Output	Sortie	Ausgang
Forsyning, 6437A 7,5*...48** VDC	Supply, 6437A 7.5*...48** Vcc	Alimentation, 6437A 7,5*...48** Vcc	Versorgung, 6437A 7,5*...48** VDC
Forsyning, 6437D 7,5*...30** VDC	Supply, 6437D 7.5*...30** VDC	Alimentation, 6437D 7,5*...30** Vcc	Versorgung, 6437D 7,5*...30** VDC
Forsyning, 6437 - EU-RO 8,3...33,6 VDC ±10%	Supply, 6437 - EU-RO 8.3...33.6 VDC ±10%	Aliment., 6437 - EU-RO 8,3...33,6 Vcc ±10%	Versorgung, 6437 - EU-RO 8,3...33,6 VDC ±10%
3,8...20,5 mA-udgang	3.8...20.5 mA output	Sortie 3,8...20,5 mA	3,8...20,5 mA-Ausgang
2-trådsinstallation	2-wire installation	Installation 2-fils	2-Draht-Installaton

DK Sideskilt UK Side label FR Etiquette DE Typenschild



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

EU DECLARATION OF CONFORMITY

(6437DoC_101)

As manufacturer
PR electronics A/S, Lerbakken 10, DK-8410 Rønde

hereby declares that the following products:
Type: 6437
Name: 2-wire HART 7 temperature transmitter
From serial no.: 211337149
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 IEC 60079-0 : 2018, EN 60079-7 : 2015 + A1 : 2018,
EN 60079-11 : 2012 and EN 60079-15 : 2010
ATEX certificate: DEKRA 16ATEX0047X (6437D)
ATEX certificate: DEKRA 18ATEX0135X (6437A)
ATEX notified body (type approval)
DEKRA Certification B.V.
Meander 1051, 6825 MJ Arnhem
P.O. Box 5185, 6802 ED Arnhem
The Netherlands

The RoHS-II Directive 2011/65/EU and later amendments
EN IEC 63000 : 2018

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

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Rønde, 23 September 2022

Stig Lindemann, CTO
Manufacturer's signature

UKCA DECLARATION OF CONFORMITY

(6437DoC_UKCA_100)

As manufacturer
PR electronics A/S, Lerbakken 10, DK-8410 Rønde
hereby declares that the following product:
Type: 6437
Name: 2-wire HART 7 temperature transmitter
From serial no.: 211337149

is in conformity with the following statutory requirements:

The Electromagnetic Compatibility Regulations 2016 (UK SI 2010/1091) 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 Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016 (UK SI 2016/1107) and later amendments
EN IEC 60079-0 : 2018, EN 60079-7 : 2015 + A1 : 2018,
EN 60079-11 : 2012 and EN 60079-15 : 2010

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (UK SI 2010/3032) and later amendments
EN IEC 63000 : 2018

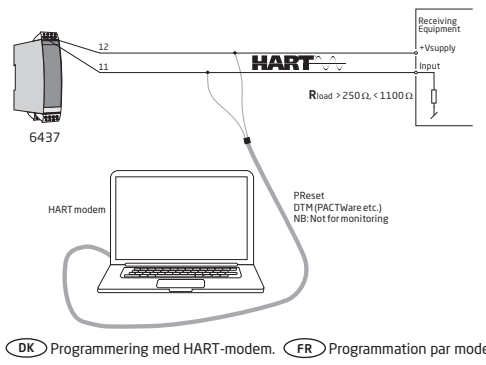
The conformity declared by this document is based on the EU standards covered by 6437_DoC_EU_101 and the ATEX certificates:

DEKRA 16ATEX0047 X (6437D)
DEKRA 18ATEX0135 X (6437A)

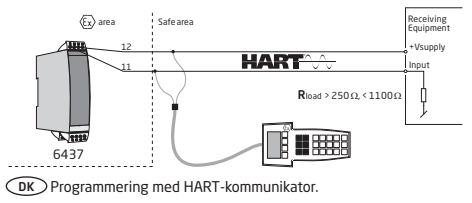
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Rønde, 23 September 2022

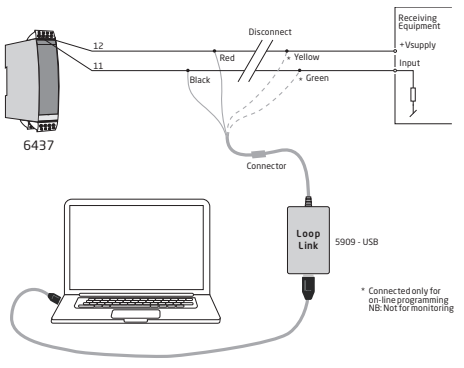
Stig Lindemann, CTO
Manufacturer's signature



DK Programmering med HART-modem. FR Programmation par modem HART.
UK Programming with HART modem. DE Konfigurierung mit HART-Modem.



DK Programmering med HART-kommunikator.
UK Programming with HART communicator.
FR Programmation par communicateur HART.
DE Konfigurierung mit HART-Kommunikator.



DK Loop Link er et kommunikationsinterface, der er nødvendigt for programmering af 643x. 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 643x. 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 le 643x. Loop Link ne doit pas être utilisé pour communication avec des modules installés en zone dangereuse.

DE Loop Link ist eine Schnittstelle zur Konfigurierung des 643x. Loop Link darf nicht zur kommunikation mit Geräten, die in Ex-gefährdeten Bereichen installiert sind, benutz werden.

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**

PR electronics A/S • Lerbakken 10 • DK-8410 Rønde • Tel. +45 8637 2677 • www.prelectronics.com
UK importer: PR electronics (UK) Ltd • Unit 1 Block B • Southern Gate, Chichester • West Sussex, PO19 8GR • Tel. +44 (0) 1243 776 450

ATEX Installation drawing 6437QA01-V4R0

ATEX Certificate DEKRA 16ATEX 0047X
Standards: EN 60079-0:2018, EN60079-11:2012

Ex ia Installation

For safe installation of the 6431Dxxx and 6437Dxxx the following must be observed.

Marking
II 1 G Ex ia IIC T6...T4 Ga or
II 2(1) G Ex ib [ia Ga] IIC T6...T4 Gb
II 2 D Ex ia IIIC Db
I M1 Ex ia I Ma

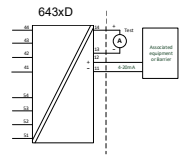
Hazardous Area
Zone 0, 1, 2, 21, 22 and M1

Unclassified Area

643xD

Terminal:
54,53,52,51 and
44,43,42,41

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5 µF



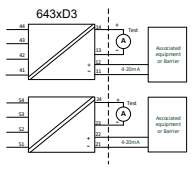
Terminal:
44,43,42,41

643xD3

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5 µF

Terminal:
54,53,52,51

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5 µF



Ex ib Installation

Hazardous Area
Zone 0, 1, 2,
21, 22 and M1

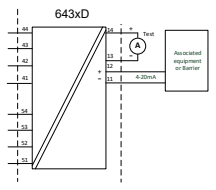
Hazardous Area
Zone 1

Unclassified Area

643xD

Terminal:
54,53,52,51 and
44,43,42,41

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5 µF



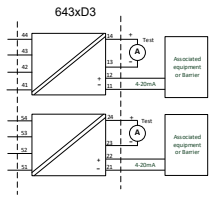
Terminal:
44,43,42,41

643xD3

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5 µF

Terminal:
54,53,52,51

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5 µF



643xD1: Terminal: 11,12 643xD2: Terminal: 11,12 643xD3: Terminal: Ch1: 11,12 Ch2: 21,22			
Ex ia and ib installation **Ui: 30 VDC; Ii: 120 mA; Li: 0 µH; Ci: 1 nF**			
P_i per channel	Temperature class	Maximum ambient temperature	
		Single and dual input	Two channel
900 mW	T6	+50°C	+45°C
	T5	+65°C	+60°C
	T4	+85°C	+85°C
750 mW	T6	+55°C	+50°C
	T5	+70°C	+65°C
	T4	+85°C	+85°C
610 mW	T6	+60°C	+55°C
	T5	+75°C	+70°C
	T4	+85°C	+85°C

General installation instructions
Year of manufacture can be taken from the first two digits in the serial number.
If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.
The distance between terminals, inclusive the wire's bare part, shall be at least 3 mm separated from any earthed metal.
The test pins allow measurement of loop current directly while maintaining loop integrity. Power must be connected to the transmitter when using the test pins. For hazardous area installation, only certified test equipment may be used.
If the transmitter was applied in type of protection Ex nA or Ex ec, it may afterwards not be applied for intrinsic safety.
The front connector and front test pads provide an intrinsically safe extension-port signal and may only be connected to dedicated equipment of PR electronics.

Warning: Do not connect or disconnect plugs and sockets when energized.

For installation in a potentially explosive dust atmosphere, the following instructions apply:
The transmitter shall be mounted in an enclosure, that is providing a degree of protection of at least IP5X according to EN60529. The enclosure shall be suitable for the application and correctly installed.
Cable entry devices and blanking elements shall fulfill the same requirements.
For EPL Db, the surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer.

For installalation in mines the following instructions apply:
The transmitter shall be mounted in a metal enclosure that is providing a degree of protection of at least IP54 according to EN60529.
Aluminum enclosures are not allowed for mines.
The enclosure shall be suitable for the application and correctly installed.
Cable entry devices and blanking elements shall fulfill the same requirements.

Ex nA / Ex ec / Ex ic Installation

For safe installation of the 6431Axxx and 6437Axxx the following must be observed.

ATEX Certificate DEKRA 18ATEX0135X
Standards: EN 60079-0 : 2018, EN 60079-11 : 2012
EN 60079-7 : 2015+A1:2018, EN 60079-15 : 2010

Marking
II 3 G Ex nA IIC T6...T4 Gc
II 3 G Ex ec IIC T6...T4 Gc
II 3 G Ex ic IIC T6...T4 Gc
II 3 D Ex ic IIIC Dc

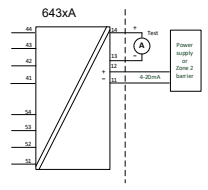
Hazardous Area
Zone 2 and 22

Unclassified Area

643xA

Terminal:
54,53,52,51 and
44,43,42,41

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5 µF



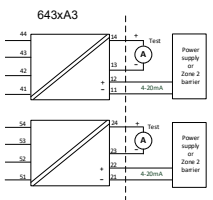
Terminal:
44,43,42,41

643xA3

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5 µF

Terminal:
54,53,52,51

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5 µF



643xA1: Terminal 44 43,42,41 643xA2: Terminal In1: 44 43,42,41 In2: 54 53,52,51 643xA3: Terminal: Ch1: 44 43,42,41 Ch2: 54 53,52,51	
Ex nA & Ex ec	**Ex ic**
Vmax = 7.2 VDC	Uo: 7.2 VDC; Io: 7.3 mA Po: 13.2 mW; Lo: 667 mH;Co: 13.5 µF

643xA1: Terminal: 11,12 643xA2: Terminal: 11,12 643xA3: Terminal: Ch1: 11,12 Ch2: 21,22					
Supply / output circuit				Maximum ambient temperature	
Ex nA & Ex ec	Ex ic Li = 0 uH Ci = 1 nF	Ex ic Ui= 48 VDC, Li = 0 uH, Ci = 1 nF	Temperature class	Single and dual input	Two channel
Vmax= 37 VDC	Ui= 37 VDC	Pi= 851 mW per channel	T4	+85°C	+85°C
			T5	+70°C	+65°C
			T6	+55°C	+50°C
Vmax= 30 VDC	Ui= 30 VDC	Pi= 700 mW per channel	T4	+85°C	+85°C
			T5	+75°C	+70°C
			T6	+60°C	+55°C

General installation instructions
If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.
For an ambient temperature ≥ 60ºC, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.
The enclosure shall be suitable for the application and correctly installed.
The distance between terminals, inclusive the wire's bare part, shall be at least 3 mm separated from any earthed metal
'TEST' connection, may only be applied when the area is safe, or if supply / output circuit and the applied current meter are intrinsically safe.

Warning: Do not connect or disconnect Terminal Blocks when energized.

For installation in a potentialy explosive gas atmosphere, the following instructions apply:
The transmitter must be installed in an enclosure providing a degree of protection of at least IP54 in accordance with EN60079-0. In addition, the enclosure shall provide an internal pollution degree 2 or better as defined in EN 60664-1.
Cable entry devices and blanking elements shall fulfill the same requirements.

For installation in a potentially explosive dust atmposphere, the following instructions apply:
For EPL Dc, the surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer.

If the transmitter is supplied with an intrinsically safe signal "ic" and interfaces an intrinsically safe signal "ic" (e.g. a passive device), the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP54 according to EN60079-0.
Cable entry devices and blanking elements shall fulfill the same requirements.

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 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.
Cable entry devices and blanking elements shall fulfill the same requirements.

IECEx Installation drawing 6437QI01-V4R0

IECEx Certificate IECEx DEK 16.0029X
Standards: IEC 60079-0:2017, IEC60079-11:2011,
IEC 60079-15:2010, IEC60079-7: 2017

Ex ia Installation

For safe installation of the 6431Dxxx and 6437Dxxx the following must be observed.

Marking
Ex ia IIC T6...T4 Ga or
Ex ib [ia Ga] IIC T6...T4 Gb
Ex ia IIIC Db
Ex ia I Ma

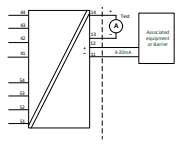
Hazardous Area
Zone 0, 1, 2, 21, 22 and M1

Unclassified Area

643xD

Terminal:
54,53,52,51 and
44,43,42,41

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5µF



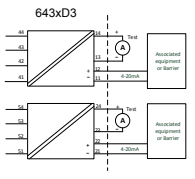
Terminal:
44,43,42,41

643xD3

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5µF

Terminal:
54,53,52,51

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5µF



Ex ib Installation

Hazardous Area
Zone 0, 1, 2,
21, 22 and M1

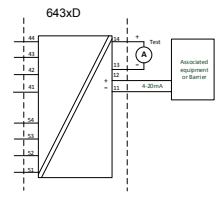
Hazardous Area
Zone 1

Unclassified Area

643xD

Terminal:
54,53,52,51 and
44,43,42,41

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5µF



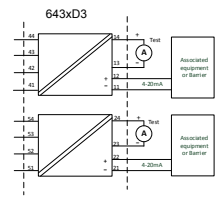
Terminal:
44,43,42,41

643xD3

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5µF

Terminal:
54,53,52,51

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5µF



643xD1: Terminal: 11,12 643xD2: Terminal: 11,12 643xD3: Terminal: Ch1: 11,12 Ch2: 21,22			
Ex ia and ib installation **Ui: 30 VDC; Ii: 120 mA; Li: 0 µH; Ci: 1 nF**			
P_i per channel	Temperature class	Maximum ambient temperature	
		Single and dual input	Two channel
900 mW	T6	+50 °C	+45 °C
	T5	+65 °C	+60 °C
	T4	+85 °C	+85 °C
750 mW	T6	+55 °C	+50 °C
	T5	+70 °C	+65 °C
	T4	+85 °C	+85 °C
610 mW	T6	+60 °C	+55 °C
	T5	+75 °C	+70 °C
	T4	+85 °C	+85 °C

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

For EPL Ga, if the enclosure is made of aluminum, it must be installed such, that ignition sources due to impact and friction sparks are excluded.

The distance between terminals, inclusive the wire's bare part, shall be at least 3 mm separated from any earthed metal.
The test pins allow measurement of loop current directly while maintaining loop integrity. Power must be connected to the transmitter when using the test pins. For hazardous area installation, only certified test equipment may be used.
If the transmitter was applied in type of protection Ex nA or Ex ec, it may afterwards not be applied for intrinsic safety.
The front connector and front test pads provides an intrinsically safe extension-port signal and may only be connected to dedicated equipment of PR electronics.

Warning: Do not connect or disconnect plugs and sockets when energized.

For installation in a potentially explosive dust atmosphere, the following instructions apply:
If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Db or Dc and applied in type of protection Ex ia or Ex ic, the transmitter shall be mounted in 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.
Cable entry devices and blanking elements shall fulfill the same requirements.
The surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer.

For installalation in mines the following instructions apply:
The transmitter shall be mounted in a metal enclosure that is providing a degree of protection of at least IP54 according to IEC60529.

Aluminum enclosures are not allowed for mines.
The enclosure shall be suitable for the application and correctly installed.
Cable entry devices and blanking elements shall fulfill the same requirements.

Ex nA / Ex ec / Ex ic Installation

For safe installation of the 6431Axxx and 6437Axxx the following must be observed.

Marking
Ex nA IIC T6...T4 Gc
Ex ec IIC T6...T4 Gc
Ex ic IIC T6…T4 Gc
Ex ic IIIC Dc

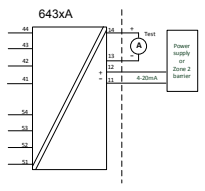
Hazardous Area
Zone 2 and 22

Unclassified Area

643xA

Terminal:
54,53,52,51 and
44,43,42,41

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5µF



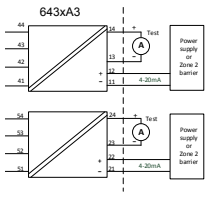
Terminal:
44,43,42,41

643xA3

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5µF

Terminal:
54,53,52,51

Uo: 7.2 VDC
Io: 7.3 mA
Po: 13.2 mW
Lo: 667 mH
Co: 13.5uF



643xA1: Terminal 44 43,42,41 643xA2: Terminal In1: 44 43,42,41 In2: 54 53,52,51 643xA3 : Terminal Ch1: 44 43,42,41 Ch2: 54 53,52,51	
Ex nA & Ex ec	**Ex ic**
Vmax = 7.2VDC	Uo: 7.2 VDC; Io: 7.3 mA Po: 13.2 mW; Lo: 667 mH; Co: 13.5µF

643xA1: Terminal: 11,12 643xA2: Terminal: 11,12 643xA3: Terminal: Ch1: 11,12 Ch2: 21,22					
Supply / output circuit				Maximum ambient temperature	
Ex nA & Ex ec	Ex ic Li = 0 uH Ci = 1 nF	Ex ic Ui= 48 VDC, Li = 0 uH, Ci = 1 nF	Temperature class	Single and dual input	Two channel
Vmax= 37 VDC	Ui= 37 VDC	Pi= 851 mW per channel	T4	+85 °C	+85 °C
			T5	+70 °C	+65 °C
			T6	+55 °C	+50 °C
Vmax= 30 VDC	Ui= 30 VDC	Pi= 700 mW per channel	T4	+85 °C	+85 °C
			T5	+75 °C	+70 °C
			T6	+60 °C	+55 °C

General installation instructions
If the enclosure is made of non-metallic plastic materials, electrostatic charges on the transmitter enclosure shall be avoided.
For an ambient temperature ≥ 60ºC, heat resistant cables shall be used with a rating of at least 20 K above the ambient temperature.
The enclosure shall be suitable for the application and correctly installed
The distance between terminals, inclusive the wires bare part, shall be at least 3 mm separated from any earthed metal
'TEST' connection, may only be applied when the area is safe, or if supply / output circuit and the applied current meter are intrinsically safe.

Warning: Do not connect or disconnect Terminal Blocks when energized.

For installation in a potentialy explosive gas atmosphere, the following instructions apply:
The transmitter must be installed in an enclosure providing a degree of protection of not less than IP54 in accordance with IEC 60079-0, which is suitable for the application and correctly installed e.g. in an enclosure that is in type of protection Ex n or Ex e. Additionally, the area inside the enclosure shall be pollution degree 2 or better as defined in IEC 60664-1.
Cable entry devices and blanking elements shall fulfill the same requirements.

For installation in a potentially explosive dust atmposphere, the following instructions apply:
For EPL Dc, the surface temperature of the outer enclosure is +20 K above the ambient temperature, determined without a dust layer.
If the transmitter is supplied with an intrinsically safe signal "ic" and interfaces an intrinsically safe signal "ic" (e.g. a passive device), the transmitter shall be mounted in an enclosure that provides a degree of protection of at least IP54 according to IEC 60079-0. Cable entry devices and blanking elements shall fulfill the same requirements.

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 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.
Cable entry devices and blanking elements shall fulfill the same requirements.

Instalação INMETRO 6437QB01-V4R1

INMETRO Certificado DEKRA 23.0002X

Normas: **ABNT NBR IEC 60079-0:2020 Versão Corrigida:2023**
ABNT NBR IEC 60079-7:2018 Versão Corrigida:2022
ABNT NBR IEC 60079-11:2013 Versão Corrigida:2017

Para a instalação segura do 6431Dxxx e 6437Dxxx os seguintes pontos devem ser observados

NOTAS
Ex ia IIC T6…T4 Ga or
Ex ib [ia Ga] IIC T6…T4 Gb
Ex ia IIIC Db
Ex ia I Ma

Instalação Ex ia

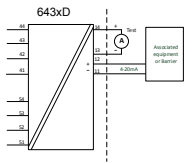
Área Classificada
Zone 0, 1, 2, 21, 22 and M1

Área Não classificada

643xD

Terminais:
54,53,52,51 e
44,43,42,41

Uo: 7,2 VDC
Io: 7,3 mA
Po: 13,2 mW
Lo: 667 mH
Co: 13,5µF



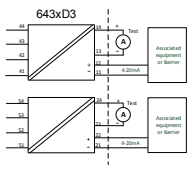
Terminais:
44,43,42,41

643xD3

Uo: 7,2 VDC
Io: 7,3 mA
Po: 13,2 mW
Lo: 667 mH
Co: 13,5µF

Terminais:
54,53,52,51

Uo: 7,2 VDC
Io: 7,3 mA
Po: 13,2 mW
Lo: 667 mH
Co: 13,5µF



Instalação Ex ib

Área Classificada
Zone 0, 1, 2,
21, 22 and Ma

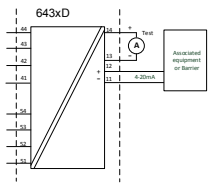
Área Classificada
Zone 1

Área Não Classificada

643xD

Terminais:
54,53,52,51 e
44,43,42,41

Uo: 7,2 VDC
Io: 7,3 mA
Po: 13,2 mW
Lo: 667 mH
Co: 13,5µF



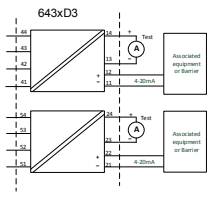
Terminais:
44,43,42,41

643xD3

Uo: 7,2 VDC
Io: 7,3 mA
Po: 13,2 mW
Lo: 667 mH
Co: 13,5µF

Terminais:
54,53,52,51

Uo: 7,2 VDC
Io: 7,3 mA
Po: 13,2 mW
Lo: 667 mH
Co: 13,5µF



643xD1: Terminais: 11,12 643xD2: Terminais: 11,12 643xD3: Terminais: Ch1: 11,12 Ch2: 21,22			
Instalações Ex ia e Ex ib **Ui: 30 VDC; Ii: 120 mA; Li: 0 µH; Ci: 1,0nF**			
P_i por canal	Classe de temperatura	Faixas de Temperaturas	
		Entrada simples e dupla	Dois canais
900 mW	T6	+50 °C	+45 °C
	T5	+65 °C	+60 °C
	T4	+85 °C	+85 °C
750 mW	T6	+55 °C	+50 °C
	T5	+70 °C	+65 °C
	T4	+85 °C	+85 °C
610 mW	T6	+60 °C	+55 °C
	T5	+75 °C	+70 °C
	T4	+85 °C	+85 °C

Instruções Gerais de Instalação
O ano de fabricação pode ser obtido a partir dos dois primeiros dígitos do número de série. Se o invólucro for feito de materiais não metálicos ou de metal com uma camada de tinta mais espessa que 0,2 mm (grupo IIC) ou 2 mm (grupo IIB, IIA, I) ou qualquer espessura (grupo III), cargas eletrostáticas devem ser evitadas.
Para EPL Ga, se o invólucro for de alumínio, ele deverá ser instalado de forma que as fontes de ignição devido a faíscas de impacto e fricção sejam excluídas.
A distância entre os terminais, inclusive a parte nua dos fios, deve ser pelo menos 3 mm separada de qualquer metal aterrado.
Os pinos de teste permitem medir a corrente do loop diretamente, mantendo a integridade do loop. A energia deve estar conectada ao transmissor ao usar os pinos de teste. Para instalação em áreas classificadas, somente equipamentos de teste certificados podem ser utilizados.
Se o transmissor foi aplicado no tipo de proteção Ex ec, pode não ser aplicado posteriormente para segurança intrínseca.
O conector frontal e os pads de teste frontais fornecem um sinal de porta de extensão intrinsecamente seguro e só podem ser conectados a equipamentos dedicados da PRelectronics.

Aviso: Não conecte ou desconecte as fichas e as tomadas quando energizados.

Para instalação em uma atmosfera potencialmente explosiva de poeira, as seguintes instruções se aplicam:
O transmissor deve ser montado em um gabinete que ofereça um grau de proteção de pelo menos IP5X, de acordo com a ABNT NBR IEC60529. O gabinete deve ser adequado para a aplicação e instalado corretamente.
Os dispositivos de entrada de cabos e os elementos de supressão devem cumprir os mesmos requisitos.
A temperatura da superfície do invólucro externo é +20 K acima da temperatura ambiente, determinada sem camada de poeira.

Para instalações em Minas, as instruções abaixo se aplicam:
O transmissor deverá ser montado em um gabinete de metal que possibilita um grau mínimo de proteção IP54 de acordo com a ABNT NBR IEC60529
Gabinetes de Alumínio não são permitidos para instalações em Minas.
O gabinete deve ser adequado para a aplicação e instalado corretamente.
Os dispositivos de entrada de cabos e os elementos espaçadores devem satisfazer os mesmos requisitos

Instalações Ex ec / Ex ic

Para instalações seguras do 6431Axxx e 6437Axxx as seguintes instruções devem ser observadas

Notas
Ex ec IIC T6…T4 Gc
Ex ic IIC T6…T4 Gc
Ex ic IIIC Dc

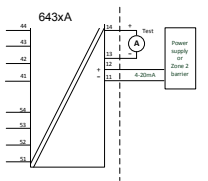
Área Classificada
Zone 2 and 22

Área Não Classificada

643xA

Terminais:
54,53,52,51 e
44,43,42,41

Uo: 7,2 VDC
Io: 7,3 mA
Po: 13,2 mW
Lo: 667 mH
Co: 13,5µF



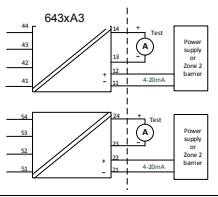
Terminais:
44,43,42,41

643xA3

Uo: 7,2 VDC
Io: 7,3 mA
Po: 13,2 mW
Lo: 667 mH
Co: 135µF

Terminais:
54,53,52,51

Uo: 7,2 VDC
Io: 7,3 mA
Po: 13,2 mW
Lo: 667 mH
Co: 135µF



643xA1: Terminal 44 43,42,41 643xA2: Terminal In1: 44 43,42,41 In2: 54 53,52,51 643xA3 : Terminal Ch1: 44 43,42,41 Ch2: 54 53,52,51	
Ex ec	**Ex ic**
Vmax = 7,2VDC	Uo: 7,2 VDC; Io: 7,3 mA Po: 13,2 mW; Lo: 667 mH; Co: 13,5µF

643xA1: Terminais: 11,12 643xA2: Terminais: 11,12 643xA3: Terminais: Ch1: 11,12 Ch2: 21,22					
Circuito de alimentação / saída				Faixa de Temperatura	
Ex ec	Ex ic Li = 0 uH Ci = 1,0 nF	Ex ic Ui= 48 VDC, Li = 0 uH, Ci = 1,0 nF	Classe de temperatura	Entrada simples e dupla	Dois canais
Vmax= 37 VDC	Ui= 37 VDC	Pi= 851 mW por canal	T4	+85 °C	+85 °C
			T5	+70 °C	+65 °C
			T6	+55 °C	+50 °C
Vmax= 30 VDC	Ui= 30 VDC	Pi= 700 mW por canal	T4	+85 °C	+85 °C
			T5	+75 °C	+70 °C
			T6	+60 °C	+55 °C

Instruções gerais de instalação:
Se o invólucro for feito de materiais não metálicos, ou se for feito de metal com uma camada de tinta mais espessa que 0,2 mm (grupo IIC), ou 2 mm (grupo IIB, IIA, I) ou qualquer espessura (grupo III), cargas eletrostáticas devem ser evitadas.
Para uma temperatura ambiente ≥ 60ºC, devem ser utilizados cabos resistentes ao calor com uma classificação de pelo menos 20 K acima da temperatura ambiente.
O gabinete deve ser adequado para a aplicação e instalado corretamente.
A distância entre terminais, fios inclusivos não isolados, deve ser separada por pelo menos 3 mm de qualquer metal aterrado.
A conexão TESTE, deve ser utilizado somente quando a área é segura, ou quando a fonte / circuito de saída e o medidor de corrente aplicado seja do tipo intrinsicamente seguro.

Aviso: Não conecte ou desconecte as fichas e as tomadas quando energizados.

Para instalações em uma atmosfera de gás potencialmente explosiva, as instruções abaixo e aplicarão:
O transmissor deve ser instalado em um gabinete que forneça um grau de proteção não inferior a IP54, de acordo com a ABNT NBR IEC 60079-0, adequado para a aplicação e corretamente instalado, por exemplo, em um gabinete que esteja no tipo de proteção Ex ec.
Além disso, a área dentro do gabinete deve ter grau de poluição 2 ou melhor, conforme definido na ABNT NBR IEC 60664-1.
Os dispositivos de entrada de cabos e os elementos de supressão devem cumprir os mesmos requisitos.

Para a instalação em uma atmosfera de poeira potencialmente explosiva, as seguintes instruções se aplicarão:
Para EPL Dc, a temperatura da superfície do invólucro externo é +20 K acima da temperatura ambiente, determinada sem camada de poeira.
Se o transmissor for fornecido com um sinal intrinsecamente seguro "ic" e fizer interface com um sinal intrinsecamente seguro "ic" (por exemplo, um dispositivo passivo), o transmissor deverá ser montado em um gabinete que forneça um grau de proteção de pelo menos IP54 de acordo com IEC 60079-0. Os dispositivos de entrada de cabos e os elementos de obturação devem cumprir os mesmos requisitos.

Se o transmissor for instalado em uma atmosfera explosiva que exija o uso de nível de proteção de equipamento Gc e aplicado no tipo de proteção Ex ec, o transmissor deverá ser montado em gabinete que forneça um grau de proteção de pelo menos IP54 de acordo com IEC 60079-0, e isso é adequado para o aplicativo e instalado corretamente. Os dispositivos de entrada de cabos e os elementos de obturação devem cumprir os mesmos requisitos.

FM Installation drawing 6437QF01-V2R0

Division1 / Zone 0, Intrinsic Safe Installation

For safe installation of the 6431Dxxx and 6437Dxxx the following must be observed.

Marking
CL I, Div 1, Gp A,B,C,D
CL I, Zone 0 AEx ia IIC, T6…T4
CL I, Zone 1 [0] AEx ib [ia] IIC, T6…T4
Ex ia IIC, T6…T4
Ex ib [ia Ga] IIC, T6…T4 Gb

Hazardous Area
CL I, Div 1, GP ABCD
CL I, Zone0 IIC

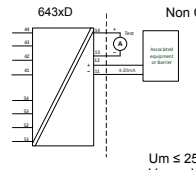
643xD

Non Classified Area

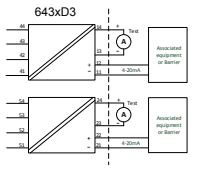
Terminals:
54,53,52,51
44,43,42,41

Uo: 7.2 VDC
Io: 12.9 mA
Po: 23.3 mW
Lo: 200 mH
Co: 13.5µF

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



643xD3



Terminal 11,12 and 21, 22 Ex ia / Div 1 AEx/Ex ia IIC, T6…T4 Ga CL I, Div 1, Gp ABCD, T6…T4;	Temperature Range
Ui: 30 VDC; Ii: 120 mA ; Pi:900 mW; Li:0 µH; Ci:1.0nF	T4: -50 ≤ Ta ≤ 85ºC T5: -50 ≤ Ta ≤ 70ºC T6: -50 ≤ Ta ≤ 55ºC
Ui: 30 VDC; Ii: 100 mA ; Pi:750 mW; Li:0 µH; Ci:1.0nF	T4: -50 ≤ Ta ≤ 85ºC T5: -50 ≤ Ta ≤ 75ºC T6: -50 ≤ Ta ≤ 60ºC

Zone 0 / Zone 1, Intrinsic Safe Installation

Hazardous Area
CL I, Zone 0 IIC

Hazardous Area
CL I, Zone 1 IIC

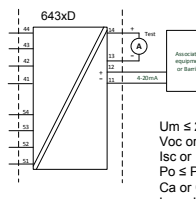
Non Classified Area

643xD

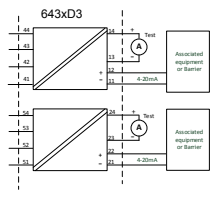
Terminals:
54,53,52,51
44,43,42,41

Uo: 7.2 VDC
Io: 12.9 mA
Po: 23.3 mW
Lo: 200 mH
Co: 13.5µF

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



643xD3



Terminal 11,12 and 21, 22 Ex ib [ia Ga] IIC T6…T4 Gb;	Temperature Range
Ui: 30 VDC; Ii: 120 mA ; Pi:900 mW; Li:0 µH; Ci:1.0nF	T4: -50 ≤ Ta ≤ 85ºC T5: -50 ≤ Ta ≤ 70ºC T6: -50 ≤ Ta ≤ 55ºC
Ui: 30 VDC; Ii: 100 mA ; Pi:750 mW; Li:0 µH; Ci:1.0nF	T4: -50 ≤ Ta ≤ 85ºC T5: -50 ≤ Ta ≤ 75ºC T6: -50 ≤ Ta ≤ 60ºC

IS installation instructions
• Install in accordance with the US the National Electrical Code (NEC) or for Canada the Canadian Electrical Code (CEC).

• 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 interconnect-ing 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.

• The transmitter 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).
• 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.

WARNING: Substitution of components may impair intrinsic safety
AVERTISSEMENT: la substitution de composants peut nuire à la sécurité intrinsèque

Division 2 / Zone 2, Non Sparking Installation

For safe installation of the 6431Axxx and 6437Axxx the following must be observed.

Marking
Class I, Division 2, GP A,B,C,D; T6…T4
Class I, Zone 2 AEx nA IIC, T6…T4 Gc
Class I, Zone 2 Ex nA IIC, T6…T4 Gc
NIFW, CL I, Div 2, GP A,B,C,D

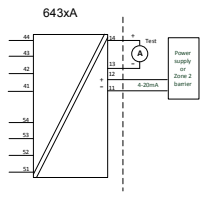
Hazardous Area
CL I, Div 2, GP ABCD
CL I, Zone 2 IIC

Unclassified Area

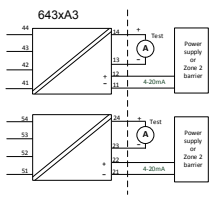
643xA

Terminal:
54,53,52,51
44,43,42,41

Vmax: 7.2 VDC



643xA3



Terminal 11, 12 and 21, 22 Ex nA	Temperature Range
Supply voltage: max 37 VDC	T4: -50 ≤ Ta ≤ 85ºC T5: -50 ≤ Ta ≤ 70ºC T6: -50 ≤ Ta ≤ 55ºC
Supply voltage: max 30 VDC	T4: -50 ≤ Ta ≤ 85ºC T5: -50 ≤ Ta ≤ 75ºC T6: -50 ≤ Ta ≤ 60ºC

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.

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.

Terminal 11,12 and 21, 22 Non Incendive Field Wiring parameters	Temperature Range
Vmax= 30 VDC, Ci=1nF, Li=0	T4: -50 ≤ Ta ≤ 85ºC T5: -50 ≤ Ta ≤ 75ºC T6: -50 ≤ Ta ≤ 60ºC

Functional Ratings:
Unom ≤ 30 VDC; Inom ≤ 3.5 - 23 mA

CSA Installation drawing 6437QC01-V3R0

CSA Certificate 16.70066266

Division1 / Ex ia, Intrinsic Safe Installation

For safe installation of the 6431Dxxx and 6437Dxxx the following must be Observed.

Marking:
Class I Division 1, Groups A,B,C,D
Ex ia IIC T6…T4
Class I, Zone 0: AEx ia IIC, T6…T4
Ex ib [ia] IIC T6…T4
Class I, Zone 1: AEx ib [ia] IIC T6…T4

IS Installation instructions
• Install in accordance with the US the National Electrical Code (NEC) or for Canada the Canadian Electrical Code (CEC).

• The transmitter must be installed in a suitable enclosure to meet installation cod