

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

Ved Ex-installation må kun godkendt udstyr anvendes. Enhederne skal installeres i henhold til den tilhørende installationsvejledning ved montering i eksplosionsfarligt 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. 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.

Installation

Modulet må kun tilsluttes af kvalificerede teknikere, som er bekendt 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.

Elektriske specifikationer

Driftstemperaturområde	-40°C to +80°C
Lagringstemperatur	-50°C to +85°C
Forsyningsspænding: 5450A	9...32 VDC
5450B & 5450D	9...30 VDC
i FISCO-installationer	9...17,5 VDC
Max. internt effekttab	< 352 mW

Isolationsspænding, test / drift 5450A	2,5 kVAC / 55 VAC
5450B & 5450D	2,5 kVAC / 42 VAC
Kalibreringstemperatur	23...25°
Relativ fugtighed	< 99% RH (ikke kond.)
Mål	Ø44 x 21,45 mm
Centerhulmål	Ø 6,35 mm / ¼ in

Indgang for RTD-type:

Pt10...10.000
Ni10...10.000
Cu5...1000

Indgang for TC-typer:

B, E, J, K, L, N, R, S, T, U, W3, W5, Lr

Lin R:

Potentiometer	10 Ω...100 kΩ
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Spændingsindgang:

Måleområde	-800...+800 mV (bipolar)
.....	-100...1700 mV

Udgang:

PROFIBUS PA protokol	Profil A&B, ver. 4.0 (kompatibel med 3.02)
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PROFIBUS PA protokol-standard	EN 50170 vol. 2
PROFIBUS PA adresse (ved levering)	126

PROFIBUS PA fysiske blokke	2 x funktionsblokke 1 / 2 transducer blok(ke)
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Overholde 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

Ex - / I.S.-godkendelser:

5450A: ATEX	DEKRA 24ATEX0007X
5450B: ATEX	DEKRA 24ATEX0006X
5450D: ATEX	DEKRA 24ATEX0006X
5450A og 5450D: IECEX	IECEX DEK. 24.0005X
..... c FM us	FM25US0051X / FM25CA0022X
c CSA us	CSA25CAB0210307
INMETRO	DEKRA 25.0004X
NEPSI	Ansøgt
EAC Ex	EAEU KZ 7500361.01.01.10203

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



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.

Electrical specifications

Ambient operating temperature range	-40°C to +80°C
Storage temperature	-50°C to +85°C
Supply voltage: 5450A	9...32 VDC
5450B & 5450D	9...30 VDC
i FISCO installations	9...17,5 VDC
Max. internal power dissipation	< 352 mW

Isolation voltage, test / working 5450A	2,5 kVAC / 55 VAC
5450B & 5450D	2,5 kVAC / 42 VAC
Max. internal power dissipation	< 352 mW
Isolation voltage, test / working 5450A	2,5 kVAC / 55 VAC
5450B & 5450D	2,5 kVAC / 42 VAC
Calibration temperature	23...25°
Relative humidity	< 99% RH (non-cond.)
Dimensions	Ø44 x 21,45 mm
Center hole dimensions	Ø 6,35 mm / ¼ in

Input for RTD type:

Pt10...10.000
Ni10...10.000
Cu5...1000

Input for TC types:

B, E, J, K, L, N, R, S, T, U, W3, W5, Lr

Potentiometer input:

Potentiometer	10 Ω...100 kΩ
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Voltage input:

Measurement range	-800...+800 mV (bipolar)
.....	-100...1700 mV

Output:

PROFIBUS PA protocol	Profile A&B, ver. 4.0 (compatible with 3.02)
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PROFIBUS PA protokol-standard	EN 50170 vol. 2
PROFIBUS PA address (at delivery)	126

PROFIBUS PA physical blocks	2 x function blocks 1 / 2 transducer block(s)
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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

Ex / I.S. approvals:

5450A: ATEX	DEKRA 24ATEX0007X
5450B: ATEX	DEKRA 24ATEX0006X
5450D: ATEX	DEKRA 24ATEX0006X
5450A og 5450D: IECEX	IECEX DEK. 24.0005X
..... c FM us	FM25US0051X / FM25CA0022X
c CSA us	CSA25CAB0210307
INMETRO	DEKRA 25.0004X
NEPSI	Pending
EAC Ex	EAEU KZ 7500361.01.01.10203

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. Recherche de pannes sur le module. Seule PR electronics SARL est autorisée à réparer le module.

AVERTISSEMENT



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 déballeage

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.

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'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.

Spécifications

Température de fonctionnement	-40°C to +80°C
Température de stockage	-50°C to +85°C
Tension d'alimentation: 5450A	9...32 Vcc
5450B & 5450D	9...30 Vcc
en installations FISCO	9...17,5 Vcc
Puissance dissipée max.	< 352 mW

Tension d'isolation, test / fonctionnement 5450A	2,5 kVca / 55 Vca
5450B & 5450D	2,5 kVca / 42 Vca
Température d'étalonnage	23...25°
Humidité relative	< 99% HR (sans cond.)
Dimensions	Ø44 x 21,45 mm
Dimensions du trou central	Ø 6,35 mm / ¼ in

Entrée pour types RTD:

Pt10...10.000
Ni10...10.000
Cu5...1000

Entrée pour types TC:

B, E, J, K, L, N, R, S, T, U, W3, W5, Lr

Lin R:

Potentiomètre	10 Ω...100 kΩ
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Entrée tension:

Gamme de mesure	-800...+800 mV (bipolaire)
.....	-100...1700 mV

Sortie:

Protocole PROFIBUS PA	Profil A&B, ver. 4.0 (compatible avec 3.02)
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Standard protocole PROFIBUS PA	EN 50170 vol. 2
Adresse PROFIBUS PA (à la livraison)	126

Blocs physiques PROFIBUS PA	2 x blocs de fonctions 1 / 2 bloc(s) transducteur
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Compatibilité avec les normes:

CEM	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

Approbations Ex / S.I.:

5450A: ATEX	DEKRA 24ATEX0007X
5450B: ATEX	DEKRA 24ATEX0006X
5450D: ATEX	DEKRA 24ATEX0006X
5450A et 5450D: IECEX	IECEX DEK. 24.0005X
..... c FM us	FM25US0051X / FM25CA0022X
c CSA us	CSA25CAB0210307
INMETRO	DEKRA 25.0004X
NEPSI	En attente
EAC Ex	EAEU KZ 7500361.01.01.10203

DE

WARNUNG



Folgende Maßnahmen sollten nur in spannungslosem Zustand des Gerätes und unter ESD-sicheren Verhältnissen durchgeführt werden:

Installation, Montage und Demontage von Leitungen. Fehlersuche im Gerät. Reparaturen des Gerätes dürfen nur von PR electronics A/S vorgenommen werden.

WARNUNG



Bei der Installation in Gefahrenbereichen darf nur zertifizierte Testausrüstung verwendet werden. Zur Montage in klassifizierten Zonen müssen die Geräte nach den dazugehörigen Einbaubezeichnungen 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 entsprechen 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.

Elektrische Daten

Betriebstemperaturbereich	-40°C to +80°C
Lagertemperatur	-50°C to +85°C
Versorgungsspannung: 5450A	9...32 VDC
5450B & 5450D	9...30 VDC
i FISCO-Anwendungen	9...17,5 VDC
Max. Verlustleistung	< 352 mW

Isolationsspannung, Test / Betrieb 5450A	2,5 kVAC / 55 VAC
5450B & 5450D	2,5 kVAC / 42 VAC
Kalibrierungstemperatur	23...25°
Luftfeuchtigkeit	< 99% RF (nicht kond.)
Maß	Ø44 x 21,45 mm
Durchmesser Leiterdurchführung	Ø 6,35 mm / ¼ in

Eingang für WTH-Typen:

Pt10...10.000
Ni10...10.000
Cu5...1000

Eingang für TE-Typen:

B, E, J, K, L, N, R, S, T, U, W3, W5, Lr

Lin R:

Potentiometer	10 Ω...100 kΩ
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Spannungseingang:

Messbereich	-800...+800 mV (bipolar)
.....	-100...1700 mV

Ausgang:

PROFIBUS PA Protokoll	Profil A&B, Ver. 4.0 (kompatibel mit 3.02)
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PROFIBUS PA Protokollnorm	EN 50170 vol. 2
PROFIBUS PA Adresse (bei Lieferung)	126

PROFIBUS PA Physikalische Blöcke	2 x Funktionsblöcke 1 / 2 Wandlerblock (-blöcke)
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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

Ex - / I.S.-Zulassungen:

5450A: ATEX	DEKRA 24ATEX0007X
5450B: ATEX	DEKRA 24ATEX0006X
5450D: ATEX	DEKRA 24ATEX0006X
5450A und 5450D: IECEX	IECEX DEK

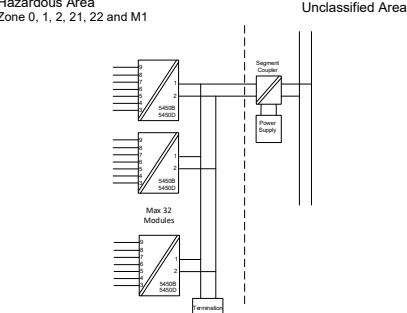
ATEX Installation drawing 5450QA01-V10

ATEX Certificate DEKRA 24ATEX0006X
Standards: EN IEC 60079-0:2017, IEC 60079-11:2011, IEC 60079-7:2015 + A1:2017

Ex ia Installation

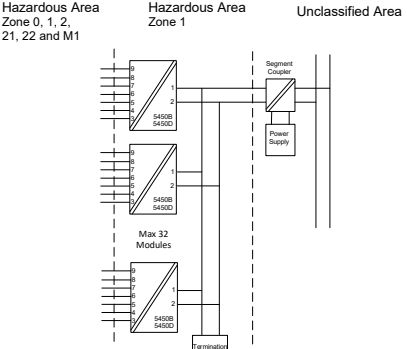
For safe installation of the 5450B... and 5450D... the following must be observed.

Marking  II 1 G Ex ia IIC T6...T4 Ga or II 2(1) G Ex ib [Ga] IIC T6...T4 Gb Ex ia IIIC T85°C...T110 °C Db I M1 Ex ia I Ma



Terminal		
3, 4, 5, 6	3, 7, 8, 9	3, 4, 5, 6, 7, 8, 9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Ex ib Installation



Terminal		
3, 4, 5, 6	3, 7, 8, 9	3, 4, 5, 6, 7, 8, 9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Terminal 1,2		FISCO Field Device	
Ex ia and Ex ib installation		Ui: 30 VDC	Ui: 17.5 VDC
Li: 380 mA	Li: 380 mA	Li: 380 mA	Li: 380 mA
Lo: 0 µH	Lo: 0 µH	Lo: 0 µH	Lo: 0 µH
Co: 1 nF	Co: 1 nF	Co: 1 nF	Co: 1 nF
Pi: Any	Pi: Any	Pi: Any	Pi: Any
Temperature Range:		Temperature Range:	
Ma	-40 ≤ Ta ≤ 85°C	Ma	-40 ≤ Ta ≤ 85°C
T4/110°C:	-40 ≤ Ta ≤ 85°C	T4/110°C:	-40 ≤ Ta ≤ 85°C
T5/100 °C:	-40 ≤ Ta ≤ 73°C	T5/100 °C:	-40 ≤ Ta ≤ 82°C
T6/85°C:	-40 ≤ Ta ≤ 58°C	T6/85°C:	-40 ≤ Ta ≤ 67°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.

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, including the wires' bare part, shall be at least 3 mm separated from any earthed metal.

If the transmitter was applied in type of protection Ex ec, it may afterwards not be applied for intrinsic safety.

For multiple wire connection the wires must be crimped together.

For installation in a potentially explosive gas atmosphere, the following instructions apply:
The transmitter shall be mounted in an enclosure form B according to DIN43729 or equivalent providing a degree of protection of at least IP20 according to IEC60529. The enclosure shall be suitable for the application and correctly installed.

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, the transmitter shall be mounted in a certified enclosure providing a degree of protection of at least IP5X according to EN 60079-0, and that is suitable for the application and correctly installed.

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

For installation in mines the following instructions apply:
The transmitter shall be mounted in a metal enclosure providing a degree of protection of at least IP54 according to EN 60529.

Aluminum enclosures are not allowed for mines.

The enclosure shall be suitable for the application and correctly installed.

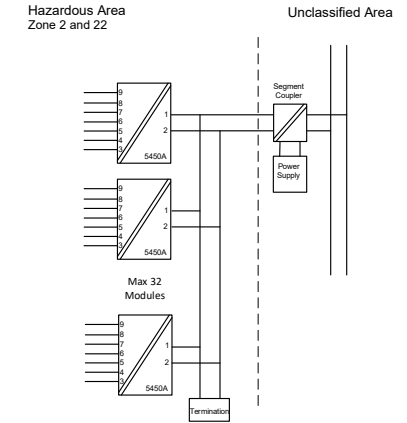
Cable entry devices and blanking elements shall fulfill the same requirements.

Ex ec / Ex ic Installation

ATEX Certificate DEKRA 24ATEX0007X
Standards: EN IEC 60079-7:2015 +A1:2018

For safe installation of the 5450A the following must be observed.

Marking  II 3 G Ex ec IIC T6...T4 Gc II 3 G Ex ic IIC T6...T4 Gc II 3 D Ex ic IIC T85°C...T110 °C Dc



Terminal 1,2 Ex ec	Terminal 1,2 Ex ic	Terminal 1,2 (FISCO Field Device)
Vmax = 30 VDC In = 11 mA	Ui: 30 VDC Ii: 380mA Li: 0 µH Ci: 1 nF Pi: Any	Ui: 17.5 VDC Ii: 380mA Li: 0 µH Ci: 1 nF Pi: Any
Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 80°C T6/85°C: -40 sTas 65°C	Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 70°C	Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 74°C

Terminal 3,4,5,6,7,8,9 Ex ec	Terminal Ex ic	Terminal Ex ic
Vmax = 7.2 VDC	Uo: 7.2 VDC Io: 7.3 mA Po: 13.2 mW Lo: 667 mH Co: 13.324 µF	Uo: 7.2 VDC Io: 12.9 mA Po: 23.3 mW Lo: 200 mH Co: 13.324 µF

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 ≥ 60°C, 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.

For multiple wire connection the wires must be crimped together.

For installation in a potentially explosive gas atmosphere, the following instructions apply:
The transmitter shall be mounted in an enclosure form B according to DIN 43729 or equivalent providing a degree of protection of at least IP20 according to EN 60529. The enclosure shall be suitable for the application and correctly installed.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex ec, the transmitter shall be mounted in a certified enclosure providing 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.

For installation in a potentially explosive dust atmosphere, the following instructions apply:
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 a metal enclosure form B according to DIN 43729 or equivalent providing a degree of protection of at least IP54 according to EN IEC 60079-0.

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

IECEX Installation drawing 5450QI01-V10

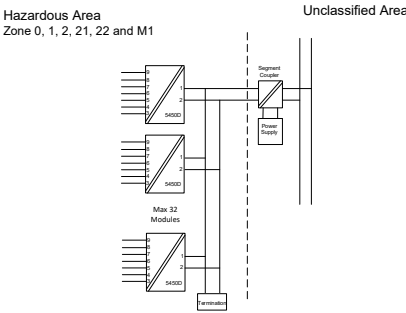
IECEX Certificate IECEX DEK 24.0005X

Standards: IEC 60079-0:2017, IEC 60079-11:2011, IEC 60079-7:2015 + A1:2017

For safe installation of the 5450D... the following must be observed.

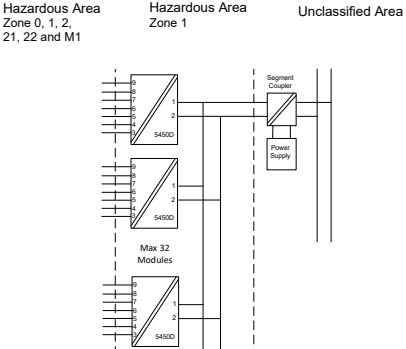
Marking Ex ia IIC T6...T4 Ga or Ex ib [Ga] IIC T6...T4 Gb Ex ia IIIC T85°C...T110 °C Db Ex ia I Ma

Ex ia Installation



Terminal		
3, 4, 5, 6	3, 7, 8, 9	3, 4, 5, 6, 7, 8, 9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Ex ib Installation



Terminal		
3, 4, 5, 6	3, 7, 8, 9	3, 4, 5, 6, 7, 8, 9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Terminal 1,2		FISCO Field Device	
Ex ia and Ex ib installation		Ui: 17.5 VDC	Ui: 17.5 VDC
Li: 380 mA	Li: 380 mA	Li: 380 mA	Li: 380 mA
Lo: 0 µH	Lo: 0 µH	Lo: 0 µH	Lo: 0 µH
Co: 1 nF	Co: 1 nF	Co: 1 nF	Co: 1 nF
Pi: Any	Pi: Any	Pi: Any	Pi: Any
Temperature Range:		Temperature Range:	
Ma	-40 ≤ Ta ≤ 85°C	Ma	-40 ≤ Ta ≤ 86°C
T4/110°C:	-40 ≤ Ta ≤ 85°C	T4/110°C:	-40 ≤ Ta ≤ 85°C
T5/100 °C:	-40 ≤ Ta ≤ 73°C	T5/100 °C:	-40 ≤ Ta ≤ 82°C
T6/85°C:	-40 ≤ Ta ≤ 58°C	T6/85°C:	-40 ≤ Ta ≤ 67°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 wires bare part, shall be at least 3 mm separated from any earthed metal.

If the transmitter was applied in type of protection Ex ec, it may afterwards not be applied for intrinsic safety.

For multiple wire connection the wires must be crimped together.

For installation in a potentially explosive gas atmosphere, the following instructions apply:
The transmitter shall be mounted in an enclosure form B according to DIN43729 or equivalent providing a degree of protection of at least IP20 according to IEC60529. The enclosure shall be suitable for the application and correctly installed.

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 a certified enclosure providing 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.

For installation in mines the following instructions apply:
The transmitter shall be mounted in a metal enclosure providing a degree of protection of at least IP54 according to EN 60529.

Aluminum enclosures are not allowed for mines.

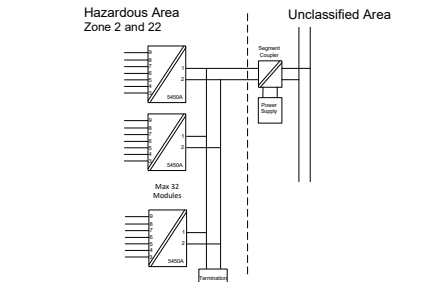
The enclosure shall be suitable for the application and correctly installed.

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

Ex ec / Ex ic Installation

For safe installation of the 5450A the following must be observed.

Marking Ex ec IIC T6...T4 Gc Ex ic IIC T6...T4 Gc Ex ic IIIC T85°C...T110 °C Dc



Terminal 1,2 Ex ec	Terminal 1,2 Ex ic	Terminal 1,2 (FISCO Field Device)
Vmax = 30 VDC In = 11 mA	Ui: 30 VDC Ii: 380mA Li: 0 µH Ci: 1 nF Pi: Any	Ui: 17.5 VDC Ii: 380mA Li: 0 µH Ci: 1 nF Pi: Any
Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 80°C T6/85°C: -40 sTas 65°C	Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 70°C	Temperature Range T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 74°C

Terminal Ex ec	Terminal Ex ic	Terminal Ex ic
Vmax = 7.2 VDC	Uo: 7.2 VDC Io: 7.3 mA Po: 13.2 mW Lo: 667 mH Co: 13.324 µF	Uo: 7.2 VDC Io: 12.9 mA Po: 23.3 mW Lo: 200 mH Co: 13.324 µF

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 ≥ 60°C, 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, including the wires' bare part, shall be at least 3 mm separated from any earthed metal.

For multiple wire connection the wires must be crimped together.

For installation in a potentially explosive gas atmosphere, the following instructions apply:
The transmitter shall be installed in a certified enclosure providing a degree of protection of at least 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 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.

If the transmitter is installed in an explosive atmosphere requiring the use of equipment protection level Gc and applied in type of protection Ex ec, the transmitter shall be mounted in a certified enclosure providing 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.

For installation in a potentially explosive dust atmosphere, the following instructions apply:
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 a certified metal enclosure form B according to DIN 43729 or equivalent providing a degree of protection of at least IP54 according to IEC 60079-0.

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

Instalação INMETRO 5450QB01-V2

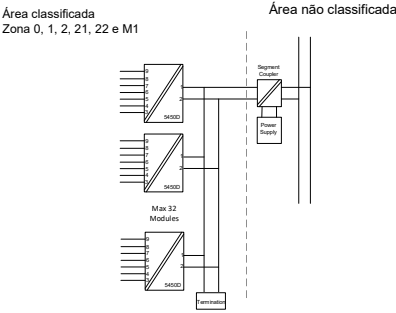
Certificado INMETRO DEKRA 25.0004X

Normas: ABNT NBR IEC 60079-0:2020 Versão Corrigida:2023
ABNT NBR IEC 60079-1:2019 Versão Corrigida:2022
ABNT NBR IEC 60079-11:2013 Versão Corrigida:2017

Para a instalação segura do dispositivo 54500 os seguintes pontos devem ser observados.

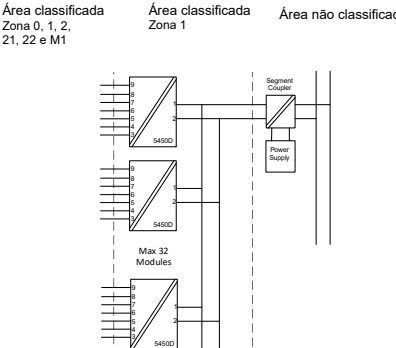
Marcação Ex ia IIC T6...T4 Ga ou Ex ib [ia Ga] IIC T6...T4 Gb Ex ia IIIC T85°C...T110 °C Db Ex ia I Ma

Instalação Ex ia



Terminals		
3,4,5,6	3,7,8,9	3,4,5,6,7,8,9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Instalação Ex ib



Terminals		
3,4,5,6	3,7,8,9	3,4,5,6,7,8,9
Uo: 7.2 VDC	7.2 VDC	7.2 VDC
Io: 7.3 mA	7.3 mA	12.9 mA
Po: 13.2 mW	13.2 mW	23.3 mW
Lo: 667 mH	667 mH	200 mH
Co: 13.324 µF	13.324 µF	13.324 µF

Terminals 1,2		Dispositivo de campo FISCO	
Instalações Ex ia e Ex ib		Ui: 17.5 VDC	Ui: 17.5 VDC
Li: 380 mA	Li: 380 mA	Li: 380 mA	Li: 380 mA
Lo: 0 µH	Lo: 0 µH	Lo: 0 µH	Lo: 0 µH
Ci: 1 nF	Ci: 1 nF	Ci: 1 nF	Ci: 1 nF
Pi: Qualquer	Pi: Qualquer	Pi: Qualquer	Pi: Qualquer

Faixas de temperaturas		Faixas de temperaturas	
Ma	-40 ≤ Ta ≤ 85°C	Ma	-40 ≤ Ta ≤ 85°C
T4/110°C:	-40 ≤ Ta ≤ 85°C	T4/110°C:	-40 ≤ Ta ≤ 85°C
T5/100 °C:	-40 ≤ Ta ≤ 73°C	T5/100 °C:	-40 ≤ Ta ≤ 82°C
T6/85°C:	-40 ≤ Ta ≤ 58°C	T6/85°C:	-40 ≤ Ta ≤ 67°C

Instruções gerais de instalação

Se o invólucro for feito de materiais plásticos não metálicos, devem ser evitadas cargas eletrostáticas no invólucro do transmissor.

Para EPL Ga, se o invólucro for de alumínio, ele deve ser instalado de forma que as fontes de ignição devido a faíscas de impacto e fricção sejam excluídas.

A distância entre terminais, fios inclusivos não isolados, deve ser separada por pelo menos 3 mm de qualquer metal aterrado.

Se o transmissor foi aplicado no tipo de proteção Ex ec, não pode ser aplicado para segurança intrínseca.

Para conexão de múltiplos fios, os fios devem ser crimpados juntos.

Para instalações com uma atmosfera de gás potencialmente explosiva, a seguinte instrução se aplica:
O transmissor deverá ser montado em um invólucro de formato tipo B de acordo com a norma DIN43729 ou equivalente que possibilite um grau mínimo de proteção IP20 de acordo com a ABNT NBR IEC60529.

O invólucro deve ser adequado para a aplicação e instalado corretamente.

Para instalação em uma atmosfera de poeira potencialmente explosiva, as seguintes instruções se aplicam:
Se o transmissor for instalado em uma atmosfera explosiva que exija o uso de nível de proteção de equipamento Db ou Dc e aplicado no tipo de proteção Ex ia ou Ex ic, o transmissor deverá ser montado em invólucro que forneça um grau de proteção de pelo menos IP5X de acordo com ABNT NBR IEC60079-0, e que seja adequado a aplicação e instalado corretamente.

Os dispositivos de entrada de cabos e os elementos de obstrução devem cumprir os mesmos requisitos.

Para instalações em minas, as instruções abaixo se aplicam:
O transmissor deverá ser montado em um invólucro de metal que possibilite um grau mínimo de proteção IP54 de acordo com a ABNT NBR IEC60529.

Invólucros de alumínio não são permitidos para instalações em minas.

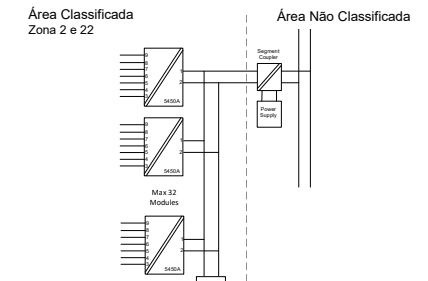
O invólucro deve ser adequado para a aplicação e instalado corretamente.

Os dispositivos de entrada de cabos e os elementos espaçadores devem satisfazer os mesmos requisitos.

Instalações Ex ec / Ex ic

Para a instalação segura do dispositivo 5450A os seguintes pontos devem ser observados.

Marcação Ex ec IIC T6...T4 Gc Ex ic IIC T6...T4 Gc Ex ic IIIC T85°C...T110 °C Dc



Terminals 1,2 Ex ec	Terminals 1,2 Ex ic	Terminals 1,2 (dispositivo de campo FISCO)
Vmáx. = 30 VDC In = 11 mA	Ui: 30 VDC Ii: 380mA Li: 0 µH Ci: 1 nF Pi: Qualquer	Ui: 17.5 VDC Ii: 380mA Li: 0 µH Ci: 1 nF Pi: Qualquer
Faixas de temperaturas T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 80°C T6/85°C: -40 sTas 65°C	Faixas de temperaturas T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 70°C	Faixas de temperaturas T4/110°C:-40 sTas 85°C T5/100°C:-40 sTas 85°C T6/85°C: -40 sTas 74°C

Terminals Ex ec	Terminals Ex ic
Vmáx. = 7.2 VDC	Uo: 7.2 VDC Io: 7.3 mA Po: 13.2 mW Lo: 667 mH Co: 13.324 µF

Instruções gerais de instalação

Se o invólucro for feito de materiais plásticos não metálicos, devem ser evitadas cargas eletrostáticas no invólucro do transmissor.

Para uma temperatura ambiente ≥ 60°C, devem ser utilizados cabos resistentes ao calor com uma classificação de pelo menos 20 K acima da temperatura ambiente.

O invólucro 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.

Para conexão de múltiplos fios, os fios devem ser crimpados juntos.

Para instalações em uma atmosfera de gás potencialmente explosiva, as seguintes instruções se aplicam:
O transmissor deverá ser instalado em um invólucro que possibilite um grau de proteção de no mínimo IP54 de acordo com a ABNT NBR IEC 60079-0 e seja adequado para a aplicação e instalado corretamente, por exemplo em um invólucro que esteja no tipo de proteção Ex e.

Em adição, o invólucro deverá possibilitar um grau de poluição interna de 2 ou melhor, como definido na ABNT NBR IEC60664-1.

Os dispositivos de entrada de cabos e os elementos espaçadores devem satisfazer os mesmos requisitos.

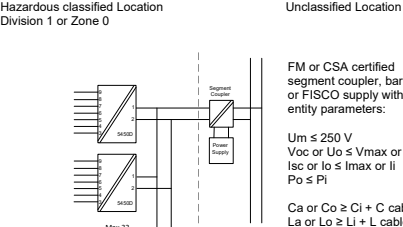
Para a instalação em uma atmosfera de poeira potencialmente explosiva, as seguintes instruções se aplicam:
Se o transmissor for fornecido com um sinal intrinsecamente seguro "ic" e fizer interface com um sinal intrinsecamente seguro "ic" (por exemplo, um dispositivo passivo), o transmissor deverá ser montado em um invólucro metálico certificado forma B de acordo com DIN 43729 ou equivalente que forneça um grau de proteção de pelo menos IP54 conforme ABNT NBR IEC 60079-0.

Os dispositivos de entrada de cabos e os elementos de obstrução devem cumprir os mesmos requisitos.

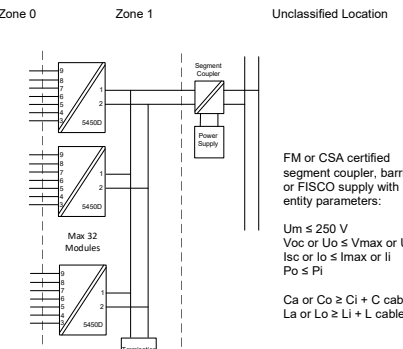
cFMus Installation drawing 5450QF01-V4R0

FM Certificates FM25US0051X; FM25CA0022X

IS Class I, Division 1 Groups A,B,C,D T6...T4 or Class I, Zone 0 AEx ia IIC T6...T4 Ga or Ex ia IIC T6...T4 Ga



IS Class I, Zone 1 AEx ib [ia] IIC T6...T4 Gb Ex ib [ia Ga] IIC T6...T4 Gb



Loop input, terminal 1,2 parameter limits	
DIV1, ABCD or AEx ia, AEx ib or Ex ia, Ex ib Field Device	FISCO Field Device
Ui: 30 VDC Ii: 380 mA Ii: 0 µH Qi: 1 nF Pi: Any	Ui: 17.5 VDC Ii: 380 mA Ii: 0 µH Qi: 1 nF Pi: Any
Temperature range: T4: -40 ≤ Ta ≤ 85°C T5: -40 ≤ Ta ≤ 73°C T6: -40 ≤ Ta ≤ 58°C	Temperature range: T4: -40 ≤ Ta ≤ 85°C T5: -40 ≤ Ta ≤ 82°C T6: -40 ≤ Ta ≤ 67°C