

**DK ADVARSEL**  
 Dette modul er beregnet for tilslutning til livsfarlige elektriske spændinger. Hvis denne advarsel ignoreres, kan det føre til alvorlig legemsbeskadigelse eller mekanisk ødelæggelse.  
 For at undgå faren for elektriske stød og brand skal sikkerhedsreglerne overholdes, og vejledningerne skal følges.  
 Specifikationerne må ikke overskrides, og modulet må kun benyttes som beskrevet i det følgende.  
 Installationsvejledningen skal studeres omhyggeligt, før modulet tages i brug. Kun kvalificeret personale (teknikere) må installere dette modul. Hvis modulet ikke benyttes som beskrevet i denne installationsvejledning, så forringes modulets beskyttelsesforanstaltninger.

**DK ADVARSEL**  
 Der må ikke tilsluttes farlig spænding til modulet, før dette er fastmonteret, og 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 og udskitning af sikringer må kun foretages af PR electronics A/S.

**DK ADVARSEL**  
 Modulets frontplade må ikke åbnes, da dette vil medføre skade på stikforbindelsen til display-/programmeringsfronten PR 4511/4501. Modulerne indeholder ingen DIP-switches eller jumper.

**SIKKERHEDSREGLER**

**Modtagelse og udpakning**  
 Udpak modulet uden at beskadige det. Kontrollér ved modtagelsen, at modultypen svarer til den bestilte. Indpakningen bør fjernes, 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 kraftigt fugt. Om nødvendigt skal opvarmning, ud over de opgivne grænser for omgivelsestemperatur, forhindres ved hjælp af ventilation.  
 Alle moduler kan anvendes i Måle-/overspændingskategorii II og Foreningsgrad 2. Modulerne er designet til at være sikker mindst op til en højde af 2000 m.

**Installation**  
 Modulet må kun tilsluttes af kvalificerede teknikere, som er bekendte med de tekniske udtryk, advarsler og instruktioner i installationsvejledningen, og som vil følge disse.  
 Hvis der er tvivl om modulets rette håndtering, skal det rettes henvendelse til den lokale forhandler eller alternativt direkte til PR electronics A/S.  
 Det er ikke tilladt at benytte flerkeret ledning ved tilslutning af forsyningsledning med mindre ledningsendeme er forsynet med ledningsstik.  
 Beskrivelse af indgang / udgang og forsyningsforbindelser findes i produktmanualen og på sideskiltet.  
 Modulet er forsynet med skrutermineraler og skal forsynes fra en dobbeltisoleret/forstærket isoleret spændingsforsyning. En afbryder placeres til tilgængeligt og tæt ved modulet. Afbryderen skal mærkes således, at der ikke er tvivl om, at den afbryder spændingen til modulet.  
 Ved installation på Power Rail 9400 bliver forsyningsledningen leveret af Power Control Unit type 9410.

**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.  
**Betjening under normal drift**  
 Operatører må kun indstille eller betjene modulerne, når disse er fast installeret på forsvarlig måde i tavler eller lignende, så betjeningen ikke medfører fare for liv eller materiel. Dvs., at der ikke er berøringfare, og at modulet er placeret, så det er let at betjene.

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

**Elektriske specifikationer**  
 Specifikationsområde..... -20°C til +60°C  
 Forsyningsspænding..... 19,2...31,2 VDC  
 Max. forbrug, 1 / 2 kanaler..... ≤ 1,0 W / 1,8 W  
 Max. effekttab, 1 / 2 kanaler..... ≤ 1,0 W / 1,8 W  
 Sikring..... 400 mA T / 250 VAC  
 Isolationspænding, test / drift..... 2,6 kVAC / 300 VAC  
 Isolations-udgang 1 til udgang 2..... 1,5 kVAC / 150 VAC  
 Isolations- relæ til forsyning..... 1,5 kVAC / 150 VAC (forstærket isolation)  
 Kalibreringstemperatur..... 20...28°C  
 EMC-immunitetspåvirking..... < +0,5% af span  
 Udvædet EMC-immunitet:  
 NAMUR NE21, A.krit. gnistelst..... < +1% af span  
 2-trådsforsyning (Klemme 44..43)..... 25..16 VDC / 0..20 mA  
 Relativ luftfugtighed..... < 95% RH (ikke kond.)  
 Mål, med 4501/45xx (H x B x D)..... 109 x 23,5 x 116 / 131 mm  
 Mål, uden 4501/45xx (H x B x D)..... 109 x 23,5 x 104 mm  
 Kapslingsklasse..... IP20

**Strømindgang:**  
 Programmerbare måleområder..... 0..20 og 4..20 mA  
 Indgangsmodstand..... Nom. 20 Ω + PTC 50 Ω

**Strømdugang:**  
 Programmerbare signalområder..... 0..20/4..20/20..0/20..4 mA  
 Belastning..... ≤ 725 Ω  
 Belastningsstabilitet..... ≤ 0,01% af span / 100 Ω  
 Følerfejlsreaktion..... 0 / 3,5 / 23 mA / ingen  
 NAMUR NE43 Upscale/Downscale..... 23 mA / 3,5 mA  
 Strømbegrensning..... ≤ 28 mA  
 Max. belastning, strøm / spænding..... 80 mA / 30 VDC

**Godkendelser:**  
 DNV-GL, Ships & Offshore..... TAA00000JD  
 ClassNK..... TA18527M  
 c UL us, IUL 61010-1..... E314307  
 EAC..... TR-CU 020/2011  
 EAC LVD..... TR-CU 004/2011  
 EAC Ex..... TR-CU 012/2011  
 SIL..... IEC 61508

**Overholdte myndighedskrav**  
 EMC..... 2014/30/EU  
 LVD..... 2014/35/EU  
 ATEX..... 2014/34/EU  
 RoHS..... 2011/65/EU

**DK** Påsætning af PR 4500 kommunikationsinterfaces:  
 1: Indsæt tappene på PR 4500 i hullerne øverst på modulet.  
 2: Sving PR 4500 på plads.  
 Afntagning af PR 4500:  
 3/4: Tryk på udslæsknap i bunden af 45xx og sving 45xx ud.

**UK** Mounting of the PR 4500 communication interfaces:  
 1: Insert the tabs of the PR 4500 into the slots at the top of the device.  
 2: Hinge the PR 4500 down until it snaps into place. Demounting of the PR 45xx  
 3: Push the release button on the bottom of the PR 4500 and hinge the PR 4500 out and up.  
 4: With the PR 4500 hinged up, remove from the slots at the top of the device.

**FR** Montage des interfaces de communication PR 4500:  
 1: Insérer les crochets de PR 4500 dans les trous en haut du module.  
 2: Poussez le bas du PR 4500 vers le module. Démontage du PR 4500:  
 3/4: Appuyez sur le bouton de déclenchement en dessous du PR 4500, puis tirez le PR 4500 vers le haut.

**DE** Anbringen der PR 4500 Kommunikations-schnittstellen:  
 1: Einbringen der beiden Fixierstifte des PR 4500 in die Öffnungen an der oberen Frontplatte des Gerätes.  
 2: Das Display PR 4500 an der Unter-kante einrasten lassen.  
 Entfernen des PR 4500:  
 3/4: Die Entriegelung des PR 4500 an der Unterseite betätigen und das PR 4500 vorsichtig abnehmen.

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

	9107Bxx	9107Axx	
<b>IECEx</b>	[Ex ia Ga] IIC/IIIB/IIA Ex ec nC IIC T4 Gc [Ex ia Ma] I	IECEx DEK 11.0088 X Installation Drawing: 9107Q01	Ex ec nC IIC T4 Gc IECEx DEK 11.0088 X Installation Drawing: 9107Q01
<b>ATEX</b>	II (1) G [Ex ia Ga] IIC/IIIB/IIA II 3 G Ex ec nC IIC T4 Gc II (1) D [Ex ia Da] IIIC I (M1) [Ex ia Ma] I	DEKRA 11ATEX0247 X Installation Drawing: 9107Q01	II 3 G Ex ec nC IIC T4 Gc DEKRA 11ATEX0247 X Installation Drawing: 9107Q01
<b>FM</b>	Install in CL, I, Div. 2, Gr. A-D T4 provides IS circuits to CL-I, Div. 1, Zone 2, Gr. A-G or CL, I, Zn2, AEx/Ex nA nC [ia] IIC T4	FM16GUS0465X / FM16CA0213X Installation Drawing: 9107Q01	Install in CL, I, Div. 2, Gr. A-D T4 or CL, I, Zone 2, AEx nA nC IIC T4 FM16GUS0465X / FM16CA0213X Installation Drawing: 9107Q01
<b>INMETRO</b>	[Ex ia Ga] IIC/IIIB/IIA [Ex ia Da] IIIC [Ex ia Ma] I Ex nA nC IIC T4 Gc	DEKRA 16.0002X Installation Drawing: 9107Q01	
<b>UL (9107Ax-U9 / 9107Bx-U9)</b>	Install in CL, I, Div. 2, Gr. A-D T4 provides IS circuits to CL-I, Div. 1, Zone 2, Gr. A-G or CL, I, Zn2 Gp IIC/IIc/IIc2/20 Gp IIC	E233311 Installation Drawing: 9107Q01	Install in CL, I, Div. 2, Gr. A-D T4 or CL, I, Zone 2, AEx nA nC IIC T4 E233311 Installation Drawing: 9107Q01
<b>CCC</b>	Ex nA nC [Ex ia Ga] IIC T4 Gc Ex nA nC [Ex ia Da] IIC T4 Gc [Ex ia Ga] IIC/IIIB/IIA [Ex ia Da]	2020322304003422	Ex nA nC IIC T4 Gc 2020322304003422

**DK** Dokumentation, godkendelser og yderligere information findes på internettet på [www.prelectronics.dk](http://www.prelectronics.dk)

**UK WARNING**  
 This device is designed for connection to hazardous electric voltages. Ignoring this warning can result in severe personal injury or mechanical damage.  
 To avoid the risk of electric shock and fire, the safety instructions of this guide must be observed and the guidelines followed. The specifications must not be exceeded, and the device must only be applied as described in the following.  
 Prior to the commissioning of the device, this installation guide must be examined carefully. Only qualified personnel (technicians) should install this device. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

**UK WARNING**  
 Until the device is fixed, do not connect hazardous voltages to the device. 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 and replacement of circuit breakers must be done by PR electronics A/S only.

**UK WARNING**  
 Do not open the front plate of the device as this will cause damage to the connector for the display / programming front PR 4511/4501. The SYSTEM 9000 devices contain no DIP-switches or jumpers.

**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.  
 All devices can be used for Measurement / Overvoltage Category II and Pollution Degree 2. The modules are designed to be safe at least under an altitude up to 2000 m.

**Mounting**  
 Only qualified technicians who are familiar with the technical terms, warnings, and instructions in this installation guide and who are able to follow these should connect the device.  
 Should there be any doubt as to the correct handling of the device, please contact your local distributor or, alternatively, PR electronics A/S.  
 The use of stranded wires is not permitted for mains wiring except when wires are fitted with cable ends. Descriptions of input / output and supply connections are shown in the product manual and on the side label.  
 The device is provided with field wiring terminals and shall be supplied from a Power Supply having double / reinforced insulation. A power switch shall be easily accessible and close to the device. The power switch shall be marked as the disconnecting unit for the device. For installation on Power Rail 9400 the power is supplied by Power Control Unit 9410.

**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**  
 Specifications range..... -20°C to +60°C  
 Supply voltage..... 19,2...31,2 VDC  
 Max. required power, 1 / 2 ch..... ≤ 1,0 W / 1,8 W  
 Max. power dissipation, 1 / 2 ch..... ≤ 1,0 W / 1,8 W  
 Fuse..... 400 mA SB / 250 VAC  
 Isolation voltage, test / operation..... 2,6 kVAC / 300 VAC  
 Isolation - output 1 to output 2..... 1,5 kVAC / 150 VAC  
 Isolation - relay to supply..... 1,5 kVAC / 150 VAC (reinforced isolation)  
 Calibration temperature..... 20...28°C  
 EMC immunity influence..... < +0,5% of span  
 Extended EMC immunity:  
 NAMUR NE21, A.criterion, burst..... < +1% of span  
 2-wire supply (terminal 44..43)..... 25..16 VDC / 0..20 mA  
 Relative humidity..... < 95% RH (non-cond.)  
 Dimensions,  
 with 4501/45xx (HxWxD)..... 109 x 23,5 x 116 / 131 mm  
 Dimensions,  
 without 4501/45xx (HxWxD)..... 109 x 23,5 x 104 mm  
 Protection degree..... IP20

**Current input:**  
 Programmable measurement ranges..... 0..20 and 4..20 mA  
 Input resistance..... Nom. 20 Ω + PTC 50 Ω

**Current output:**  
 Programmable signal ranges..... 0..20/4..20/20..0/20..4 mA  
 Load..... ≤ 725 Ω  
 Load stability..... ≤ 0,01% of span / 100 Ω  
 Sensor error detection..... 0 / 3,5 / 23 mA / none  
 NAMUR NE43 Upscale / Downscale..... 23 mA / 3,5 mA  
 Current limit..... ≤ 28 mA

**Approvals:**  
 DNV-GL, Ships & Offshore..... TAA00000JD  
 ClassNK..... TA18527M  
 c UL us, IUL 61010-1..... E314307  
 EAC..... TR-CU 020/2011  
 EAC LVD..... TR-CU 004/2011  
 EAC Ex..... TR-CU 012/2011  
 SIL..... IEC 61508

**Observed authority requirements:**  
 EMC..... 2014/30/EU  
 LVD..... 2014/35/EU  
 ATEX..... 2014/34/EU  
 RoHS..... 2011/65/EU

**Compatibilité avec les normes:**  
 CEM..... 2014/30/UE  
 DBT..... 2014/35/UE  
 ATEX..... 2014/34/UE  
 RoHS..... 2011/65/UE

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

**DK** Typenr. **UK** Side label **FR** Etiquette **DE** Typenschild

**DK** Benforbindelser. **UK** Pin connections. **FR** Raccordement des bornes. **DE** Klemmenanschluss.


**DK** Godkendelser. **UK** Approvals. **FR** Homologations. **DE** Zulassungen.

**DK** HART®-TRANSPARENT DRIVER **9107**

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

Hazardous Substances			
Part Name	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)
Printed circuit board	X	0	0

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 Environmental Friendly Use Period (EFUP) is 50 years 

**FR AVERTISSEMENT**  
 Ce module est conçu pour supporter une connexion à des tensions électriques dangereuses. Si vous ne tenez pas compte de cet avertissement, cela peut causer des dommages corporels ou des dégâts mécaniques. Pour éviter les risques d'électrocution et d'incendie, conformez-vous aux consignes de sécurité et suivez les instructions mentionnées dans ce guide. Vous devez vous limiter aux spécifications indiquées et respecter les instructions d'utilisation de ce module, telles qu'elles sont décrites dans ce guide. Il est nécessaire de lire ce guide attentivement avant de mettre ce module en marche. L'installation de ce module est réservée à un personnel qualifié (techniciens). Si la méthode d'utilisation de l'équipement diffère de celle décrite par le fabricant, la protection assurée par l'équipement risque d'être altérée.

**FR AVERTISSEMENT**  
 Tant que le module n'est pas fixé, ne le mettez pas sous tensions dangereuses. Les instructions mentionnées dans ce guide. Vous devez effectuer 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 et à remplacer les fusibles.

**FR AVERTISSEMENT**  
 Ne pas ouvrir la plaque avant du module au risque d'endommager le connecteur de l'indicateur / la façade de programmation PR 4511/4501. Les modules ne contiennent ni de commutateurs DIP ni de cavaliers.

**CONSIGNES DE SECURITE**

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

**Environnement**  
 N'exposez pas votre module aux rayons directs du soleil et choisissez un endroit à l'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.  
 Tous les modules peuvent être installés dans catégorie de mesure / surtension II et degré de pollution 2. Ce module est conçu pour fonctionner en toute sécurité sous une altitude inférieure à 2000 m.

**Montage**  
 Il est conseillé de réserver le raccordement du module aux techniciens qualifiés qui connaissent les termes techniques, les avertissements et les instructions de ce guide et qui sont capables d'appliquer ces dernières. Si vous avez un doute quelconque quant à la manipulation du module, veuillez contacter votre distributeur local. Vous pouvez également vous adresser à PR electronics SARL.  
 Le raccordement électrique de l'alimentation générale, il est possible d'utiliser des fils multibrins seulement s'ils possèdent des embouts de câblage. Les connexions des alimentations et des entrées / sorties sont décrites dans le manuel du produit et sur l'étiquette de la face latérale du module.  
 Les appareils sont équipés de borniers à vis et doivent être raccordés à une alimentation qui a une isolation double ou renforcée. L'interrupteur doit être à proximité du module et facile d'accès. Ce bouton doit être étiqueté avec la mention : peut couper la tension du module. Pour une installation sur le rail d'alimentation 9400, le module sera alimenté par le contrôleur d'alimentation 9410.

**Etalonnage et réglage**  
 Lors des opérations d'étalonnage et de réglage, il convient d'effectuer les mesures et les connexions des tensions externes en respectant les spécifications mentionnées dans ce guide. Les techniciens doivent utiliser des outils et des instruments pouvant être manipulés en toute sécurité.  
**Maintenance et entretien**  
 Une fois le module hors tension, prenez un chiffon imbibé d'eau distillée pour le nettoyer.

**Spécifications**  
 Plage de température..... -20° à +60°C  
 Tension d'alimentation..... 19,2...31,2 Vcc  
 Puissance nécessaire max., 1 / 2 voies..... ≤ 1,0 W / 1,8 W  
 Puissance dissipée max., 1 / 2 voies..... ≤ 1,0 W / 1,8 W  
 Fusible..... 400 mA SB / 250 Vca  
 Tension d'isolation, test/opération..... 2,6 kVca / 300 Vca  
 Isolation - sortie 1 à sortie 2..... 1,5 kVca / 150 Vca  
 Isolation - relais à l'alimentation..... 1,5 kVca / 150 Vca (isolation renforcée)  
 Température d'étalonnage..... 20...28°C  
 Immunité CEM..... < +0,5% de fêchelle

**Spécifications**  
 NAMUR NE21, critère A, burst..... < +1% de l'échelle  
 Alimentation 2-fils (bornes 44..43)..... 25..16 Vcc / 0..20 mA  
 Humidité relative..... < 95% HR (sans cond.)  
 Dimensions,  
 avec 4501/45xx (HxLxP)..... 109 x 23,5 x 116 / 131 mm  
 Dimensions,  
 sans 4501/45xx (HxLxP)..... 109 x 23,5 x 104 mm  
 Degré de protection..... IP20

**Entrée courant:**  
 Gammes de mesure program..... 0..20 et 4..20 mA  
 Résistance d'entrée..... Nom. 20 Ω + PTC 50 Ω

**Sortie courant:**  
 Gammes de signal program..... 0..20/4..20/20..0/20..4 mA  
 Charge..... ≤ 725 Ω  
 Stabilité de charge..... ≤ 0,01% de l'échelle/100 Ω  
 Action en cas d'erreur capteur..... 0 / 3,5 / 23 mA / aucune  
 NAMUR NE43 haut / bas d'échelle..... 23 mA / 3,5 mA  
 Limite de courant..... ≤ 28 mA

**Approvals:**  
 DNV-GL, Ships & Offshore..... TAA00000JD  
 ClassNK..... TA18527M  
 c UL us, IUL 61010-1..... E314307  
 EAC..... TR-CU 020/2011  
 EAC LVD..... TR-CU 004/2011  
 EAC Ex..... TR-CU 012/2011  
 SIL..... IEC 61508

**Approvals:**  
 EMC..... 2014/30/EU  
 LVD..... 2014/35/EU  
 ATEX..... 2014/34/EU  
 RoHS..... 2011/65/EU

**DK** Typenr. **UK** Side label **FR** Etiquette **DE** Typenschild

**DK** Benforbindelser. **UK** Pin connections. **FR** Raccordement des bornes. **DE** Klemmenanschluss.


**DK** Godkendelser. **UK** Approvals. **FR** Homologations. **DE** Zulassungen.

**DK** HART®-TRANSPARENT DRIVER **9107**

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

Hazardous Substances			
Part Name	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)
Printed circuit board	X	0	0

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 Environmental Friendly Use Period (EFUP) is 50 years 

**DE WARNUNG**  
 Dieses Gerät ist für den Anschluss an lebensgefährliche elektrische Spannungen gebaut. Missachtung dieser Warnung kann zu schweren Verletzungen oder mechanischer Zerstörung führen. Um eine Gefährdung durch Stromstöße oder Brand zu vermeiden müssen die Sicherheitsregeln der Installationsanleitung eingehalten, und die Anweisungen befolgt werden. Die Spezifikationswerte dürfen nicht überschritten werden, und das Gerät darf nur gemäß folgender Beschreibung benutzt werden. Diese Installationsanleitung ist sorgfältig durchzulesen, ehe das Gerät in Gebrauch genommen wird. Nur qualifizierte Personen (Techniker) dürfen dieses Gerät installieren. Wenn das Gerät nicht wie in dieser Installationsanleitung beschrieben benutzt wird, werden die Schutzvorrichtungen des Gerätes beeinträchtigt.

**DE WARNUNG**  
 Vor dem abgeschlossenen festen Einbau des Gerätes darf daran keine gefährliche Spannung angeschlossen werden, und 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 und Austausch von Sicherungen dürfen nur von PR electronics A/S vorgenommen werden.

**DE WARNUNG**  
 Die Frontplatte des Gerätes darf nicht geöffnet werden, weil hierdurch die Kontakte zur Kontaktierung des Frontdisplays 4511/4501 beschädigt werden können. Die Geräte enthalten keine internen DIP-Schalter oder Programmierbrücken.

**SICHERHEITSREGELN**

**Empfang und Auspacken**  
 Packen Sie das Gerät 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.  
 Alle Geräte können für Mess- / Überspannungskategorie II und Verschmutzungsgrad 2 benutzt werden. Das Gerät ist so konzipiert, dass es auch in einer Einsetzhöhe von bis zu 2000 m noch sicher funktioniert.

**Installation**  
 Das Gerät darf nur von qualifizierten Technikern angeschlossen werden, die mit den technischen Ausdrücken, Warnungen und Anweisungen in dieser Installationsanleitung vertraut sind und diese befolgen.  
 Sollten Zweifel bezüglich der richtigen Handhabung des Gerätes bestehen, sollte man mit dem Händler vor Ort Kontakt aufnehmen. Sie können aber auch direkt mit PR electronics GmbH Kontakt aufnehmen.  
 Der Einsatz von verdrehter Leitung ist nicht erlaubt außer die Enden sind mit Aderendhülsen versehen. Eine Beschreibung von Eingangs- / Ausgangs- und Versorgungsanschlüssen befindet sich im Produktmanual und auf dem Typenschild.  
 Das Gerät ist mit Feldverdrahtungsklemmen ausgestattet und wird von einem Netzteil mit doppelter / verstärkter Isolierung versorgt. Der Netzschalter sollte leicht zugänglich und in der Nähe des Gerätes sein. Der Netzschalter sollte mit einem Schild gekennzeichnet sein, auf dem steht, dass durch Betätigung dieses Schalters das Gerät vom Netz genommen wird. Für den Anschluss auf der Power Rail 9400 wird das Gerät über das Power Control Unit 9410 versorgt.

**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.

**Elektrische Daten**  
 Umgebungstemperatur..... -20°C bis +60°C  
 Versorgungsspannung..... 19,2...31,2 VDC  
 Leistungsbedarf, max., 1 / 2 Kan..... ≤ 1,0 W / 1,8 W  
 Max. Verlustleistung, 1 / 2 Kan..... ≤ 1,0 W / 1,8 W  
 Sicherung 9106..... 400 mA T / 250 VAC  
 Isolationsspannung, Test/Betrieb..... 2,6 kVAC / 300 VAC  
 Isolierung - Ausg. 1 zum Ausg. 2..... 1,5 kVAC / 150 VAC  
 Isolierung - Relais zur Versorg..... 1,5 kVAC / 150 VAC (erhöhte Isolation)  
 Kalibrierungstemperatur..... 20...28°C  
 EMV Störspannungseinfluss..... < +0,5% d. Messspanne  
 Erweiterer EMV Störfähigkeit:  
 NAMUR NE21, Kriterium A Burst..... < +1% d. Messspanne  
 2-Draht-Versorg. (Klemme 44..4



### ATEX Installation drawing – V4R0

For safe installation of 9107 the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

For installation in Zone 2 the following must be observed. The 4501 programming module is to be used solely with PR electronics modules. It is important that the module is undamaged and has not been altered or modified in any way.

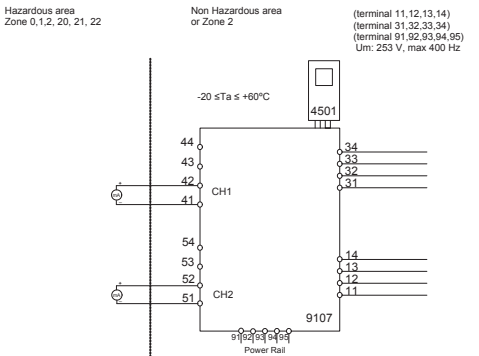
9107BA: 1 channel HART-transparent driver
9107BB: 2 channel HART-transparent driver
ATEX Certificate: DEKRA 11 ATEX0247X
Marking 9107Bx: II (I) G [Ex ia Ga] IIC/IIA/IIIB
Marking 9107Ax, 9107Bx: II 3 G Ex ec nC IIC T4 Gc

Standards: EN 60079-0:2018, EN 60079-11:2012, EN 60079-15:2019, EN 60079-7:2015+A1:2018

Supply terminal (31,32) Voltage: 19.2 – 31.2 VDC
Status Relay terminal (33,34) Zone 2 Installation Voltage max: 125 VAC / 110 VDC

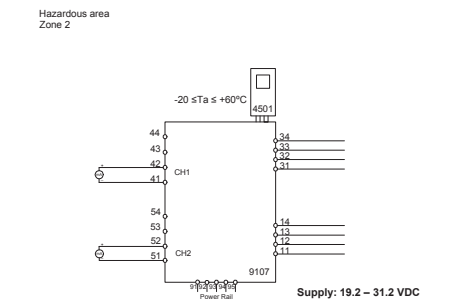
Installation notes: Install in pollution degree 2, overvoltage category II as defined in EN 60664-1. Do not separate connectors when energized and an explosive gas mixture is present.

In type of protection [Ex ia Da] the parameters for intrinsic safety for gas group IIB are applicable. For installation in Zone 2, the module shall be installed in an enclosure in type of protection Ex n or Ex e, providing a degree of protection of at least IP54.



Tables for CH1 and CH2 terminal parameters (Uc, Uc, Lc, Pc) and component values (Cn, Ln, Cc, Lc).

#### 9107Bx, 9107Ax Installation:



Output CH1 (terminal 41,42) CH2 (terminal 51,52)
Status Relay terminal (33,34) Zone 2 Installation Voltage max: 125 VAC / 110 VDC

For installation in Zone 2, the module shall be installed in an enclosure in type of protection Ex n or Ex e, providing a degree of protection of at least IP54. Cable entry devices and blanking elements shall fulfill the same requirements.

### IECEx Installation drawing – V4R0

For safe installation of 9107 the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

For installation in Zone 2 the following must be observed. The 4501 programming module is to be used solely with PR electronics modules. It is important that the module is undamaged and has not been altered or modified in any way.

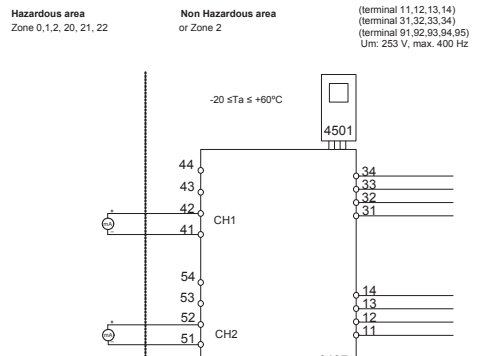
9107BA: 1 channel HART-transparent driver
9107BB: 2 channel HART-transparent driver
IECEx Certificate: IECEx DEK 11.0088X
Marking 9107Bx: [Ex ia Ga] IIC/IIA/IIIB
Marking 9107Ax, 9107Bx: Ex ec nC IIC T4 Gc

Standards: IEC60079-11:2011, IEC60079-0:2017, IEC60079-15:2017, IEC60079-7:2015+A1:2017

Supply terminal (31,32) Voltage: 19.2 – 31.2 VDC
Status Relay terminal (33,34) Zone 2 Installation Voltage max: 125 VAC / 110 VDC

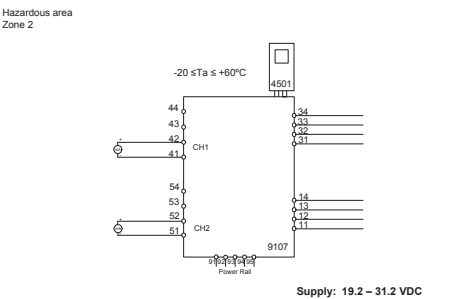
Installation notes: Install in pollution degree 2, overvoltage category II as defined in IEC 60664-1. Do not separate connectors when energized and an explosive gas mixture is present.

In type of protection [Ex ia Da] the parameters for intrinsic safety for gas group IIB are applicable. For installation in Zone 2, the module shall be installed in an enclosure in type of protection Ex n or Ex e, providing a degree of protection of at least IP54.



Tables for CH1 and CH2 terminal parameters (Uc, Uc, Lc, Pc) and component values (Cn, Ln, Cc, Lc).

#### 9107Ax, 9107Bx Installation:



Output CH1 (terminal 41,42) CH2 (terminal 51,52)
Status Relay terminal (33,34) Zone 2 Installation Voltage max: 125 VAC / 110 VDC

For installation in Zone 2, the module shall be installed in an enclosure in type of protection Ex n or Ex e, providing a degree of protection of at least IP54. Cable entry devices and blanking elements shall fulfill the same requirements.

### FM Installation drawing – V3R0

For safe installation of 9107B the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

For installation in Zone 2 the following must be observed. The 4501 programming module is to be used solely with PR electronics modules. It is important that the module is undamaged and has not been altered or modified in any way.

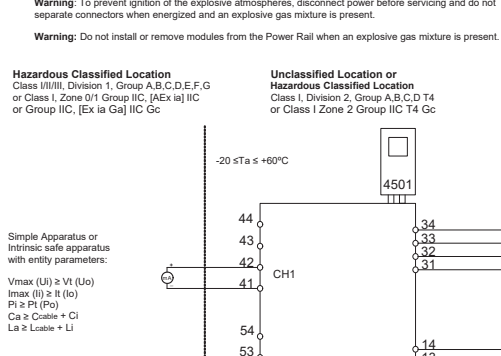
9107BA: 1 channel HART-transparent driver
9107BB: 2 channel HART-transparent driver
Supply terminal (31,32) Voltage: 19.2 – 31.2 VDC
Status Relay terminal (33,34) Voltage max: 125 VAC / 110 VDC

Standards: IEC60079-11:2011, IEC60079-0:2017, IEC60079-15:2017, IEC60079-7:2015+A1:2017

Zone 2 installation: Voltage max: 32 VAC / 32 VDC
Power max: 18 VA / 32 W
Current max: 0.5 A AC / 1 A DC

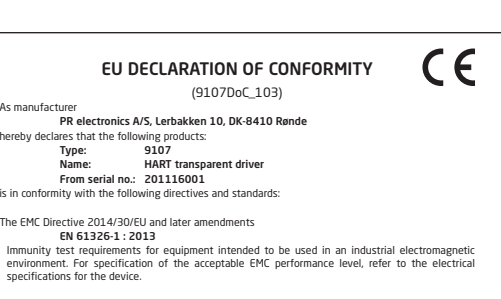
Installation notes: In Class I, Division 2 installations, the subject equipment shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I, Division 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70) or Canadian Electrical Code (C22.1).

In Class I, Zone 2 installations, the subject equipment shall be mounted within a tool-secured enclosure which is capable of accepting one or more of the Class I, Zone 2 wiring methods specified in the National Electrical Code (ANSI/NFPA 70) or Canadian Electrical Code (C22.1).



Tables for CH1 and CH2 terminal parameters (Uc, Uc, Lc, Pc) and component values (Cn, Ln, Cc, Lc).

#### 9107Bx, 9107Ax Installation:



Output CH1 (terminal 41,42) CH2 (terminal 51,52)
Status Relay terminal (33,34) Zone 2 Installation Voltage max: 125 VAC / 110 VDC

For installation in Zone 2, the module shall be installed in an enclosure in type of protection Ex n or Ex e, providing a degree of protection of at least IP54. Cable entry devices and blanking elements shall fulfill the same requirements.

### INMETRO - Desenhos para Instalação

#### 9107QB01 – V3R0

Para instalação segura do 9107B o manual seguinte deve ser observado. O módulo deve ser instalado somente por profissionais qualificados que estão familiarizados com as leis nacionais e internacionais, diretivas e normas que se aplicam a esta área.

Para instalação na Zona 2 o seguinte deve ser observado. O módulo de programação de 4501, deve ser utilizado apenas com os módulos PR electronics. É importante que o módulo esteja intacto e não tenha sido alterado ou modificado de qualquer maneira.

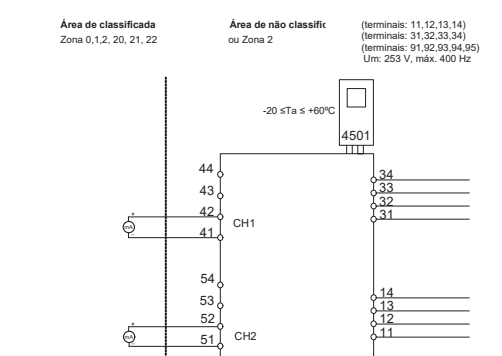
9107BA: 1 canal HART - driver transparente
9107BB: 2 canais HART - driver transparente
INMETRO Certificado: DEKRA 16.0002X
Marcas: [Ex ia Ga] IIC/IIA/IIIB

Normas: ABNT NBR IEC 60079-0:2013, ABNT NBR IEC 60079-11:2013, ABNT NBR IEC 60079-15:2012

Terminal de fonte de alimentação (31,32) Voltagem: 19.2 – 31.2 VDC
Relé de estado terminal (33,34) Instalação Zona 2 Voltagem máx.: 125 VAC / 110 VDC

Notas de instalação: Instalação em grau de poluição 2, categoria de sobretensão II conforme definido no IEC 60664-1. Os circuitos não intrinsecamente seguros só podem ser conectados a sobretensão limitada ao categoria III como definido na IEC 60664-1.

Em tipo de proteção [Ex ia Da] os parâmetros para uma segurança intrínseca para grupo de gás IIB são aplicáveis. Para a instalação em Zona 2, o módulo deve ser instalado em um invólucro conformidade com o tipo de proteção Ex n ou Ex e, fornecendo no mínimo grau de proteção IP54.



Tables for CH1 and CH2 terminal parameters (Uc, Uc, Lc, Pc) and component values (Cn, Ln, Cc, Lc).

#### 9107Bx, 9107Ax Installation:



Output CH1 (terminal 41,42) CH2 (terminal 51,52)
Status Relay terminal (33,34) Zona 2 Installation Voltagem máx.: 125 VAC / 110 VDC

For installation in Zone 2, the module shall be installed in an enclosure in type of protection Ex n or Ex e, providing a degree of protection of at least IP54. Cable entry devices and blanking elements shall fulfill the same requirements.

### EU DECLARATION OF CONFORMITY



(9107DoC\_103)
As manufacturer PR electronics A/S, Lerbakken 10, DK-8410 Rønde hereby declares that the following products: Type: 9107 Name: HART transparent driver From serial no.: 201116001 is in conformity with the following directives and standards: The EMC Directive 2014/30/EU and later amendments EN 61326-1:2013

### UL Installation drawing 9107QU01 – V1R0

For safe installation of the Process Control Equipment (Associated Apparatus) 9107 the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

For installation in Div2 / Zone2 the following must be observed. The 4501 programming module is to be used solely with PR electronics modules. It is important that the module is undamaged and has not been altered or modified in any way.

9107AA-US: 1 channel HART-transparent driver
9107BA-US: 1 channel HART-transparent driver
9107AB-US: 2 channel HART-transparent driver
9107BB-US: 2 channel HART-transparent driver

Marking: Proc. Cont. Eq. for Use in Haz. Loc. Install in CL I, DIV2 GP A-D T4 provide IS circuits to CL I, DIV1 DIV 1 GP A-G or CL I, ZN2 GP IIC T4 provides IS circuits for CL I, ZN2 GP IIC/IIA/IIIB or IIC hazardous locations.

Standards: UL 121201 NONINCENDIVE ELECTRICAL EQUIPMENT FOR USE IN CLASS I AND II, DIVISION 2 AND CLASS III, DIVISIONS 1 AND 2 HAZARDOUS (CLASSIFIED) LOCATIONS Edition 9 - Revision Date 2018/08/31

CSA C22.2 NO. 213 NONINCENDIVE ELECTRICAL EQUIPMENT FOR USE IN CLASS I AND II, DIVISION 2 AND CLASS III, DIVISIONS 1 AND 2 HAZARDOUS (CLASSIFIED) LOCATIONS - Edition 3 - Issue Date 2017/09/01

Installation notes 9107Ax and 9107Bx: The module must be installed in a tool-secured enclosure suitable for the application in accordance with the National Electrical Code (ANSI/NFPA 70) for installation in the United States, the Canadian Electrical Code for installations in Canada, or other local codes, as applicable.

The module is galvanically isolated and does not require grounding. Terminal 41, 42, 43, 44 are internally connected to CH1. Terminal 51, 52, 53, 54 are internally connected to CH2.

Warning: Substitution of components may impair intrinsic safety. Avvertimento: La sostituzione dei componenti può nuocere alla sicurezza intrinseca. There are no serviceable parts in the equipment and no component substitution is permitted.

Warning: To prevent ignition of the explosive atmosphere, disconnect power before servicing and do not separate connectors, install or remove module from Power Rail when energized and an explosive gas mixture is present.

Avvertimento: Per evitare l'infiammazione di atmosfere esplosive, sconnettere l'alimentazione avanti le operazioni d'entrata. Non montare né s'innestano i connettori quando il modulo è sotto tensione e in presenza d'un mélange de gaz.

Installation notes 9107Bx: Associated Equipment (Appareillage Associé) [Ex ia] The Ex output current of this associated apparatus is limited by a resistor such that the output voltage-current plot is a straight line drawn between open-circuit voltage and short-circuit current.

Selected intrinsically safe equipment must be third party listed as intrinsically safe for the application, and have intrinsically safe parameters conforming with Table 1 below.

Table 1: Associated Apparatus parameters (Uc, Uc, Lc, Pc) and component values (Cn, Ln, Cc, Lc).

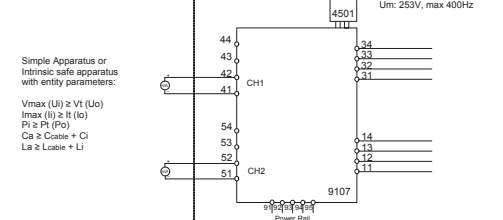
Capacitance and inductance of the field wiring from the intrinsically safe equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown in Table 1. Cable capacitance, Cable, plus intrinsically safe equipment capacitance, Ci must be less than the marked capacitance, Ca (or Co), shown on any associated apparatus used. The same applies for inductance (Lcable, Li and La or Lo, respectively). Where the cable capacitance and inductance per foot are not known, the following values shall be used: Ccable = 60 pF/ft., Lcable = 0.2 µH/ft.

Where multiple circuits extend from the same piece of associated apparatus, they must be installed in separate cables or in one cable having suitable insulation. Refer to Article 504.35(B) of the National Electrical Code (ANSI/NFPA 70) and Instrument Society of America Recommended Practice ISA RP12.06 for installing intrinsically safe equipment.

Intrinsically safe circuits must be wired and separated in accordance with Article 504.20 of the National Electrical Code (ANSI/NFPA 70) or other local codes, as applicable. The module has not been evaluated for use in combination with another associated apparatus.

For installations in which both the Ci and Li of the intrinsically safe apparatus exceeds 1% of the Ca (or Co) and La (or Lo) parameters of the associated apparatus (excluding the cable), then 50% of Ca (or Co) and La (or Lo) parameters are applicable and shall not be exceeded. The reduced capacitance shall not be greater than 1 µF for Groups C and/or D, and 600 nF for Groups A and B. The values of Ca (or Co) and La (or Lo) determined by this method shall not be exceeded by the sum of all Ci plus cable capacitances and the sum of all Li plus cable inductances in the circuit respectively.

9107Bx Installation: Hazardous Classified Location Class I / II / III, Division 1, Group A,B,C,D,E,F,G Class I Zone 0 / 1 / 2 Group IIC, IIB, IIA or T4 Zone 20 / 21



Output CH1 (terminal 41,42) CH2 (terminal 51,52)
Supply terminal (31,32) Voltage: 19.2 – 31.2 VDC
Status Relay terminal (33,34) Zone 2 Installation Voltage max: 125 VAC / 110 VDC

For installation in Zone 2, the module shall be installed in an enclosure in type of protection Ex n or Ex e, providing a degree of protection of at least IP54. Cable entry devices and blanking elements shall fulfill the same requirements.

Warning: To prevent ignition of the explosive atmosphere, disconnect power before servicing and do not separate connectors, install or remove module from Power Rail when energized and an explosive gas mixture is present.

Avvertimento: Per evitare l'infiammazione di atmosfere esplosive, sconnettere l'alimentazione avanti le operazioni d'entrata. Non montare né s'innestano i connettori quando il modulo è sotto tensione e in presenza d'un mélange de gaz.

Installation notes 9107Bx: Associated Equipment (Appareillage Associé) [Ex ia] The Ex output current of this associated apparatus is limited by a resistor such that the output voltage-current plot is a straight line drawn between open-circuit voltage and short-circuit current.

Selected intrinsically safe equipment must be third party listed as intrinsically safe for the application, and have intrinsically safe parameters conforming with Table 1 below.

Table 1: Associated Apparatus parameters (Uc, Uc, Lc, Pc) and component values (Cn, Ln, Cc, Lc).