DK

ADVARSEL
GENERELT

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 farer 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.

ADVARSEL
FARLIG SPÆNDING

Der må ikke tilsluttes farlig spænding til modulet, eller 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 udskiftning af sikringer må kun foretages af PR electronics A/S.

ADVARSEL
Modulets frontplade må ikke åbnes, da dette vil medføre skade på stikforbindelsen til display- / programmeringsenhederne i PR 4500-serien. Modulerne indeholder ingen DIP-switche eller jumpere.

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 bilvende plads.

Miljøforhold
Undgå direkte solskys, kraftigt støv eller varme, mekaniske rystelser og stød, og udsæt ikke modulet for regn eller kraftig fugt. Om nødvendestar skal opvarmning, uld over de opgivne grænser for omgivelsestemperatur, forhindres ved hjælp af ventilation.
Alle moduler kan anvendes i Måle- / overspændings-kategori II og Forureningsgrad 2. Modulerne er designet til at være sikker mindst op til en højde af 2000 m. Eheden er konstrueret til indendørs brug.

Installation
Modulet må kun tilsluttes af kvalificerede teknikere, som er bekendte med de tekniske udtryk, advarsler og instruktioner i installationsvejledningen, og som vil følge dese.
Hvis der er tvivl om modulets rette håndtering, skal der rettes henvendelse til den lokale forhandler eller alternativt direkte til **PR electronics A/S.**
Det er ikke tilladt at benytte flerkoret ledning ved tilslutning af forsyningsspænding med mindre ledningsenderne er forsynet med ledningstyller.
Flerkoret ledning skal installeres med en afisoleringslængde på 5 mm eller via en egnet isoleret terminal som f.eks. en dupsko.
Beskrivelse af indgang / udgang og forsyningsforbindelser findes i produktmanualen og på sideskiltet.
Modulet er forsynet med skrueterminaler og skal forsynes fra en dobbeltisoleret/ forstærket isoleret spændingsforsyning. En afbryder placeres let 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 forsyningsspændingen 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 el. lignende, så betjeningen ikke medfører fare for liv eller materiel. Dvs., at der ikke er berøringsfare, og at modulet er placeret, så det er let at betjene.

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

Eletriske 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
Isolationsspænding,
test / drift ..... 2.6 kVAC / 300 VAC
Isolation - udgang 1
til udgang 2 ..... 1.5 kVAC / 150 VAC
Isolation - relæ til forsyning... 1.5 kVAC / 150 VAC (forstærket isolation)
Kalibreringstemperatur ..... 20...28°C
EMC-immunitetspåvirkning ..... < ±0.5% af span
Udvidet EMC-immunitet:
NAMUR NE21, A-kriterium, gniststøj..... < ±1% af span
2-trådsforsyning (klemme 44..43)
25...16 VDC / 0...20 mA
Relativ luftfugtighed..... < 95% RH (ikke kond.)
Mål (H x B x D)..... 109 x 23,5 x 104 mm
Kapslingsklasse IP20

Strømindgang
Progr. måleområder..... 0...20 og 4...20 mA
Indgangsmodstand..... Nom. 20 Ω + PTC 50 Ω

Strømudgang
Progr. signalområder ..... 0...20/4...20/20...0/20...4 mA
Belastning..... ≤ 725 Ω
Belastningsstabilitet ..... ≤ 0.01% af span / 100 Ω
Fejlerfejlsreaktion..... 0 / 3.5 / 23 mA / ingen
NAMUR NE43;
Upscale/Downscale..... 23 mA / 3.5 mA
Strømbegrænsning..... ≤ 28 mA
Max. belastning,
strøm / spænding..... 80 mA / 30 VDC

Godkendelser
DNV, Ships & Offshore..... TAA00000JD
ClassNK TA18527M
c UL us. UL 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 & UK SI 2016/1091
LVD ..... 2014/35/EU & UK SI 2016/1101
ATEX ..... 2014/34/EU & UK SI 2016/1107
RoHS ..... 2011/65/EU & UK SI 2012/3032

UK

WARNING
GENERAL

This device is designed for connection to hazardous electric voltage. 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.

WARNING
HAZARDOUS VOLTAGE

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.

WARNING
Do not open the front plate of the device as this will cause damage to the connector for the displays / programming fronts in the PR 4500 series. 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. The device is designed for indoor use.

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.
Stranded wire should be installed with an insulation stripping length of 5 mm or via a suitable insulated terminal such as a bootlace ferrule.
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 (HxWxD)..... 109 x 23.5 x 104 mm
Protection degree IP20

Current input
Progr. 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, Ships & Offshore..... TAA00000JD
ClassNK TA18527M
c UL us, UL 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 & UK SI 2016/1091
LVD ..... 2014/35/EU & UK SI 2016/1101
ATEX ..... 2014/34/EU & UK SI 2016/1107
RoHS ..... 2011/65/EU & UK SI 2012/3032

FR

AVERTISSEMENT
INFORMATIONS GENERALES

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.

AVERTISSEMENT
TENSION DANGEREUSE

Tant que le module n'est pas fixé, ne le mettez pas sous tensions dangereuses. 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 et à remplacer les fusibles.

AVERTISSEMENT
Ne pas ouvrir la plaque avant du module au risque d'endommager le connecteur des indicateurs/façades de programmation de la série PR 4500. Les modules ne contiennent ni de commutateurs DIP ni de cavaliers.

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 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. Ils doivent être conçus pour fonctionner en toute sécurité sous une altitude inférieure à 2000 m. L'appareil est conçu pour une utilisation à l'intérieur.

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.**
Pour le raccordement électrique de l'alimentation généralé, il est possible d'utiliser des fils multibrins seulement s'ils possèdent des embouts de câblage. Les fils multibrins doivent être installés avec une longueur de dénudage de 5 mm ou au moyen d'une borne isolée appropriée, par exemple un embout 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.

Étalonnage 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 l'échelle
Immunité CEM améliorée :
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 (HxLxP) ..... 109 x 23,5 x 104 mm
Degré de protection..... IP20

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

Sortie courant
Gammes de signal progr..... 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

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

Compatibilité avec les normes
CEM ..... 2014/30/UE & UK SI 2016/1091
DBT ..... 2014/35/UE & UK SI 2016/1101
ATEX ..... 2014/34/EU & UK SI 2016/1107
RoHS ..... 2011/65/UE & UK SI 2012/3032

DE

WARNUNG
ALLGEMEINES

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 Schutzeinrichtungen des Gerätes beeinträchtigt.

WARNUNG
GEFÄHRLICHE SPANNUNG

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 Verhältnisse 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.

WARNUNG
Die Frontplatte des Gerätes darf nicht geöffnet werden, weil hierdurch die Kontakte zur Kontaktierung der Frontdisplays der PR 4500-Serie beschädigt werden können. Die Geräte enthalten keine internen DIP-Schalter oder Programmierbrücken.

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.
Alle Geräte können für Messe- / Überspannungskategorie II und Verschmutzungsgrad 2 benutzt werden. Das Gerät ist so konzipiert, dass es auch in einer Einsatzhöhe von bis zu 2000 m noch sicher funktioniert. Das Gerät ist auf den Gebrauch in Innenräumen ausgelegt.

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 verdrillter Leitung ist nicht erlaubt außer die Enden sind mit Aderendhülsen versehen. Die Litzendrähte sollten mit einer 5 mm Abisolierlänge oder mit einer entsprechend isolierten Klemme, wie beispielsweise einer Aderendhülse, installiert werden.
Eine Beschreibung von Eingangs- / Ausgangs- und Versorgungsanschlüssen befindet sich a 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 - Ausgang 1
zum Ausgang 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
Erweitere EMV Störfestigkeit:
NAMUR NE21, Kriterium A,
Burst ..... < ±1% d. Messspanne
2-Draht-Versorg. (Kl. 44...43).. 25...16 VDC / 0...20 mA
Relative Luftfeuchtigkeit ..... < 95% RH (nicht kond.)
Abmessungen (HxBxT) ..... 109 x 23,5 x 104 mm
Schutzart..... IP20

Stromeingang
Progr. Messbereiche ..... 0...20 und 4...20 mA
Eingangswiderstand..... Nom. 20 Ω + PTC 50 Ω

Stromausgang
Progr. Signalbereiche ..... 0...20/4...20/20...0/20...4 mA
Belastung..... ≤ 725 Ω
Belastungsstabilität ..... ≤ 0.01% d. Messsp./100 Ω
Fühlerfehlerraktion..... 0 / 3,5 / 23 mA / keine
NAMUR NE43
Upscale / Downscale ..... 23 mA / 3,5 mA
Strombegrenzung..... ≤ 28 mA

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

Eingehaltene Behördenvorschriften
EMV ..... 2014/30/EU & UK SI 2016/1091
LVD ..... 2014/35/EU & UK SI 2016/1101
ATEX ..... 2014/34/EU & UK SI 2016/1107
RoHS ..... 2011/65/EU & UK SI 2012/3032

SN9107_112 (2242)

9107A / 9107B

9107 HART透传驱动器
丹麦製造
佩勒电子（上海）有限公司
云岭东路 651 号 305 室
普陀区, 上海 200062 中国

9107A 9107B

EU DECLARATION OF CONFORMITY
(9107doC_104)

As manufacturer
PR electronics A/S, Lerbakken 10, DK-8410 Rønde
hereby declares that the following products
Type: 9107
Name: **HART transparent driver**

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 Low Voltage Directive 2014/35/EU and later amendments
EN 61010-1 : 2010 + A1 : 2019

The ATEX Directive 2014/34/EU and later amendments
EN 60079-0 : 2018, EN 60079-11 : 2012, EN 60079-15 : 2019 and
EN 60079-7 : 2015 + A1 : 2018
ATEX certificate: DEKRA 11ATEX0247 X
ATEX notified body (type approval)
DEKRA Certification B.V.
Meander 1051, 6825 MJ Arnhem
P.O. Box 5185, 6802 ED Arnhem
The Netherlands

The RoHS2 Directive 2011/65/EU and later amendments
EN 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, 3 October 2022

Stig Lindemann, CTO
Manufacturer's signature

UKCA DECLARATION OF CONFORMITY
(9107doC_UKCA_100)

As manufacturer
PR electronics A/S, Lerbakken 10, DK-8410 Rønde
hereby declares that the following product
Type: 9107
Name: **HART transparent driver**

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 Electrical Equipment (Safety) Regulations 2016 (UK SI 2010/1101) and later amendments
EN 61010-1 : 2010 + A1 : 2019

The Equipment and Protective Systems Intended for use in Potentially Explosive Atmospheres Regulations 2016 (UK SI 2016/1107) and later amendments
EN 60079-0 : 2018, EN 60079-7 : 2015 + A1 : 2018, EN 60079-11 : 2012 and
EN 60079-15 : 2019
UK type examination certificate: DEKRA 21UKEX0173 X (9107A & 9107B)
UK type examination certificate: DEKRA 22UKEXYYYY X (9107B - pending)

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

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

Rønde, 3 October 2022

Manufacturer's signature

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

	9107Bx		9107Ax	
IECEx	[Ex ia Ga] IIC/IIB/IIA Ex ec nC IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I	IECEx DEK 11.0088 X Installation Drawing: 9107QI01	Ex ec nC IIC T4 Gc	IECEx DEK 11.0088 X Installation Drawing: 9107QI01
ATEX	II (1) G [Ex ia Ga] IIC/IIB/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: 9107QA01	II 3 G Ex ec nC IIC T4 Gc	DEKRA 11ATEX0247 X Installation Drawing: 9107QA01
UKEX	[Ex ia Ga] IIC/IIB/IIA II 3 G Ex ec nC IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I	DEKRA 21UKEX0173 X *DEKRA 22UKEXYYYY X Installation Drawing: 9107QA01	II 3 G Ex ec nC IIC T4 Gc	DEKRA 21UKEX0173 X Installation Drawing: 9107QA01
FM	Install in CL I, Div. 2, Gr. A-D T4 Provides IS circuits to CL I-III, Div. 1/2, Gr. A-G or CL I, Zn2 AEx/Ex nA nC [ia] IIC T4	FM16US0465X / FM16CA0213X Installation Drawing: 9107QF01	Install in CL I, Div. 2, Gr. A-D T4 or CL I, Zone 2, AEx/Ex nA nC IIC T4	FM16US0465X / FM16CA0213X Installation Drawing: 9107QF01
INMETRO	[Ex ia Ga] IIC/IIB/IIA [Ex ia Da] IIIC / [Ex ia Ma] I Ex nA nC IIC T4 Gc	DEKRA 16.0002X Installation Drawing: 9107QB01	-	-
UL (9107Ax-U9 / 9107Bx-U9)	Install in CL I DIV2 GP A-D T4 provides IS circuits to CL I-III DIV 1 GP E-G or install in CL I Zn2 Gp IIC T4 provides IS circuits to CL I Zn0 Gp IIC/Zn20 Gp IIIC	E233311 Installation Drawing: 9107QU01	Install in CL I, Div. 2, Gr. A-D T4 or CL I, Zone 2, AEx nA nC IIC T4	E233311 Installation Drawing: 9107QU01
CCC	Ex nA nC [Ex ia Ga] IIC T4 Gc Ex nA nC [Ex iaD] IIC T4 Gc [Ex ia Ga] IIC/IIB/IIA [Ex iaD]	2020322304003422	Ex nA nC IIC T4 Gc	2020322304003422
KCs (9107Ax-KCs / 9107Bx-KCs)	[Ex ia Ga] IIC/IIB/IIA [Ex ia] IIC/IIB/IIA [Ex ia D] 20	21-AV4BO-0170X / 21-AV4BO-0171X	Ex nA nC IIC T4 GC Ex nA nC IIC T4	21-AV4BO-0172X

DK * Ansøgt UK * Pending FR * En attente DE * Angefordert

DK Påsætning af PR 4500:
1: Indsæt tappene på PR 4500 i hullerne øverst på modulet.
2: Sving PR 4500 på plads.
Aftagning af PR 4500:
3/4: Tryk på udløserknap i bunden af PR 4500 og sving PR 4500 op.

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

FR Montage du PR 4500 :
1: Insérez les crochets du 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 des PR 4500:
1: Einbringen der beiden Fixierstifte des PR 4500 in die Öffnungen an der oberen Frontplatte des Gerätes.
2: Das Display PR 4500 an der Unterkante einrasten lassen.
Entfernen des PR 4500:
3/4: Die Entriegelung des PR 4500 an der Unterseite betätigen und das PR 4500 vorsichtig abnehmen.

DK Sideskilt UK Side label FR Etiquette DE Typenschild

DK Hvis modulet installeres som type Ex ia eller ec, skal installationstypen angives på etiketten med en permanent markering i den tilhørende boks.

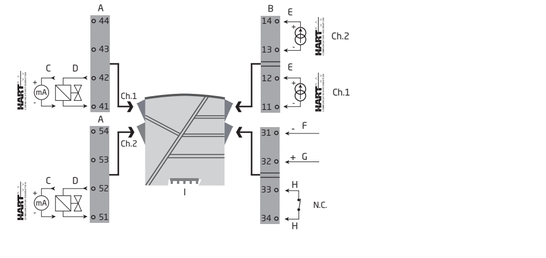
UK When this product has been installed as Ex ia or ec, use a permanent marker in the appropriate box to indicate the type of installation on the label.

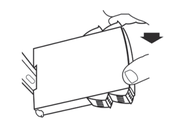
FR Lorsque ce produit est installé selon une protection Ex ia ou ec, utilisez un marqueur indélébile dans la case appropriée pour indiquer le type d'installation sur l'étiquette.

DE Wenn dieses Produkt mit der Schutzart Ex ia oder ec installiert wurde, verwenden Sie einen Permanentmarker im entsprechenden Feld, um die Verwendungsart der Installation auf dem Etikett zu kennzeichnen.

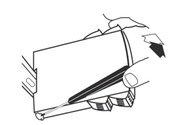
DK Produktionsår fremgår af de to første cifre i serienummeret.
UK Year of manufacture can be taken from the first two digits in the serial number.
FR L'année de production est définie grace aux deux premiers chiffres du numéro de série.
DE Die ersten beiden Ziffern der Seriennummer geben das Produktionsjahr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

	DK	UK	FR	DE
A	Udgangssignaler	Output signals	Signaux de sortie	Ausgangssignale
B	Indgangssignaler	Input signals	Signaux d'entrée	Eingangssignale
C	Strøm, 4...20 mA	Current, 4...20 mA	Courant, 4...20 mA	Strom, 4...20 mA
D	I/P-konverter	I/P converter	Convertisseur I/P	I/P-Wandler
E	4...20 mA udgang	4...20 mA output	Sortie 4...20 mA	4...20 mA Ausgang
F	Forsyning -	Supply -	Alimentation -	Versorgung -
G	Forsyning +19.2...31.2 VDC	Power supply +19.2...31.2 VDC	Alimentation +19.2...31.2 Vcc	Versorgung +19.2...31.2 VDC
H	Modulstatus	Device status	Etat du module	Gerätestatus
I	Forsyning via power rail	Power supply via power rail	Alimentation par rail	Versorgung über Power Rail
Ch.1	Kanal 1	Channel 1	Voie 1	Kanal 1
Ch.2	Kanal 2	Channel 2	Voie 2	Kanal 2
N.C.	Normalt lukket	Normally closed	Normalement fermé	Öffner





DK Montering på power rail / DIN-skinne.
UK Mounting on power rail / DIN rail.
FR Montage sur rail d'alimentation / rail DIN.
DE Montage auf Power Rail / DIN-Schiene.

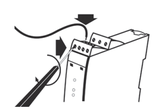


DK **Frigørelse fra power rail / DIN-skinne**
Husk først at demontere tilslutningsklemmerne med farlig spænding. Modulet frigøres fra skinnen ved at løfte i den nederste lås.

UK **Demounting from power rail / DIN rail**
First, remember to demount the connectors with hazardous voltages. Detach the device from the rail by lifting the bottom lock.

FR **Démontage du rail d'alimentation / rail DIN**
Tout d'abord, n'oubliez pas de démonter les connecteurs où règnent des tensions dangereuses. Débloquez le verrou inférieur pour dégager le module du rail.

DE **Lösen von Power Rail / DIN-Schiene**
Zunächst ist gefährliche Spannung von den Anschlussklemmen zu trennen. Das Gerät wird von der Schiene gelöst, indem man den unteren Verschluss löst.



DK En eller to ledninger med (min....max.) ledningskvadrat 0,13...2,08 mm² / AWG 26...14 flerkoret ledning. Max. klemskruedtilspændingsmoment 0,5 Nm.

UK One or two wires with (min....max.) wire size 0.13...2.08 mm² / AWG 26...14 stranded wire. Max. screw terminal torque 0.5 Nm.

FR Une ou deux fils avec taille des fils (min....max.) 0,13...2,08 mm² / AWG 26...14 fils multibrins. Pression max. avant déformation de la vis 0,5 Nm.

DE Ein oder zwei Leiter mit (min....max.) Leitungsquerschnitt 0,13...2,08 mm² / AWG 26...14 Litzendraht. Max. Klemmschraubenanzugsmoment 0,5 Nm.

PR electronics — 9107QA01
LERBAKKEN 10, 8410 RØNDE DENMARK

ATEX/UKEX Installation drawing

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.
Year of manufacture can be taken from the first two digits in the serial number.

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. Only 4501 modules free of dust and moisture shall be installed.

ATEX Certificate, **UKEX Certificate, 9107Bxx**	DEKRA 11

IECEx Installation drawing

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.
Year of manufacture can be taken from the first two digits in the serial number.

For Installation in Zone 2 the following must be observed.
The 4501 programming module is to be used solely with PRelectronics modules. It is important that the module is undamaged and has not been altered or modified in any way. Only 4501 modules free of dust and moisture shall be installed.

9107BA: 1 channel HART® -transparent driver
9107BB: 2 channel HART® -transparent driver

IECEx Certificate .....
Marking 9107Bx
IECEx DEK 11.0088X
[Ex ia Ga] IIC/IIB/IIA
[Ex ia Da] IIIC
[Ex ia Ma] I

Marking 9107Ax 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	32 VAC / 32 VDC
Power max:	62.5 VA / 32 W	16 VA / 32 W
Current max:	0.5 AAC / 0.3 ADC	0.5 AAC / 1 ADC

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.
Do not mount or remove modules from the Power Rail when an explosive gas mixture is present.
Disconnect power before servicing.
The wiring of unused terminals is not allowed.

In type of protection [Ex ia Da] the parameters for intrinsic safety for gas group IIB are applicable.

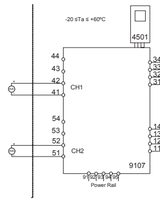
For installation in Zone 2, the module shall be installed in an enclosure in type of protection Ex n or Ex e, providing a degree of protection of at least IP54. Cable entry devices and blanking elements shall fulfill the same requirements.

For installation on Power Rail in Zone 2, only Power Rail type 9400 supplied by Power Control Unit type 9410 (Type Examination Certificate KEMA 07ATEX0152) is allowed.

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

Non Hazardous area
or Zone 2

(terminal 11,12,13,14)
(terminal 31,32,33,34)
(terminal 91,92,93,94,95)
Um: 253 V, max 400 Hz

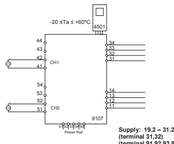


CH1 (terminal 41,42)
CH2 (terminal 51,52)
U_o: 28 V
I_o: 93 mA
P_o: 0.65 W

	IIC	IIB	IIA	I
C_o:	0.080 µF	0.650 µF	2.15 µF	3.76 µF
L_o:	4 mH	16 mH	32 mH	35 mH

9107Ax, 9107Bx Installation:

Hazardous area
Zone 2



Supply: 19.2 – 31.2 VDC
(terminal 31,32)
(terminal 91,92,93,94,95)

Output
CH1 (terminal 41,42)
CH2 (terminal 51,52)

Input:
(terminal 11,12,13,14)

Status Relay. terminal (33,34)

		Zone 2 Installation
Voltage max:	125 VAC / 110 VDC	32 VAC / 32 VDC
Power max:	62.5 VA / 32 W	16 VA / 32 W
Current max:	0.5 AAC / 0.3 ADC	0.5 AAC / 1 ADC

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.

For installation on Power Rail in Zone 2, only Power Rail type 9400 supplied by Power Control Unit type 9410 (Certificate IECEx KEM 08.0025X) is allowed.

For Installation in Zone 2 the following must be observed. The 4501 programming module is to be used solely with PRelectronics modules. It is important that the module is undamaged and has not been altered or modified in any way. Only 4501 modules free of dust and moisture shall be installed.

IECEx 설치 도면

9107의 안전한 설치를 위해 다음 사항을 준수해야 합니다. 이 지침을 선 사 하기에 적용되는 국내 및 국제 법률, 지침 및 표준에 정통한 유자격자만 설치해야 합니다.
제조연도는 일련번호의 처음 두 자리입니다.

구역 2에 설치하려면 다음 사항을 준수해야 합니다.
4501 프로그래밍 모듈은 PR electronics 모듈과 함께만 사용해야 합니다. 모듈이 손상되지 않았고, 어떤 식으로든 변경 또는 수정되지 않는 것이 중요합니다. 먼지와 습기가 없는 상태에서 4501 모듈을 설치해야 합니다.

9107BA: 1채널 HART - 투명 드라이버
9107BB: 2채널 HART - 투명 드라이버

IECEx 인증서: IECEx DEK 11.0088X
마킹 9107Bx [Ex ia Ga] IIC/IIB/IIA
[Ex ia Da] IIIC
[Ex ia Ma] I

마킹 9107Ax, 9107Ax Ex ec nC IIC T4 Gc

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

공급 단자(31,32)
전압: 19.2 – 31.2 VDC

상태 릴레이, 단자(33,34)

		구역 2 설치
최대 전압:	125 VAC / 110 VDC	32 VAC / 32 VDC
최대 출력:	62.5 VA / 32 W	16 VA / 32 W
최대 전류:	0.5 AAC / 0.3 ADC	0.5 AAC / 1 ADC

설치 참고 사항:
IEC 60664-1에 정의된 대로 오염 등급 2, 과전압 범주 II에 설치하십시오.
전원이 공급되고 폭발성 가스 혼합물이 있는 경우, 커넥터를 분리하지 마십시오.
폭발성 가스 혼합물이 있는 경우, 파워 레일에 모듈을 장착하거나 제거하지 마십시오.
수리하기 전에 전원을 분리하십시오.
사용하지 않는 단자의 배선은 허용되지 않습니다.

보호 유형 [Ex ia Da]에서는 가스 그룹 IIB에 본질 안전 매개변수를 적용할 수 있습니다.

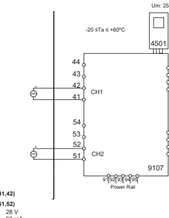
구역 2에 설치하는 경우, 모듈을 보호 유형 Ex n 또는 Ex e인 인클로저에 설치하고, 최소한 IP54의 보호 수준을 제공해야 합니다. 케이블 인입 장치와 블랭킹 요소는 동일한 요구 사항을 충족해야 합니다.

구역 2의 파워 레일에 설치하는 경우, 전력 제어 장치 유형 9410(인증서 IECEx KEM 08.0025X)로 공급된 것만 파워 레일 유형 9400만 허용됩니다.

위험 지역
구역 0,1,2, 20, 21, 22

비위험 지역
또는 구역 2

(단자 11,12,13,14)
(단자 31,32,33,34)
(단자 91,92,93,94,95)
Um: 253 V, 최대 400 Hz

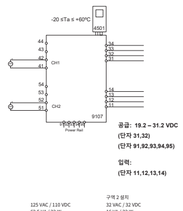


CH1(단자 41,42)
CH2(단자 51,52)
U_o: 28 V
I_o: 93 mA
P_o: 0.65 W

	IIC	IIB	IIA	I
C_o:	0.080 µF	0.650 µF	2.15 µF	3.76 µF
L_o:	4 mH	16 mH	32 mH	36 mH

9107Ax, 9107Bx 설치:

위험 지역
구역 2



공급: 19.2 – 31.2 VDC
(단자 31,32)
(단자 91,92,93,94,95)

출력
CH1(단자 41,42)

CH2(단자 51,52)

입력:
(단자 11,12,13,14)

상태 릴레이, 단자(33,34)

		구역 2 설치
최대 전압:	125 VAC / 110 VDC	32 VAC / 32 VDC
최대 출력:	62.5 VA / 32 W	16 VA / 32 W
최대 전류:	0.5 AAC / 0.3 ADC	0.5 AAC / 1 ADC

구역 2에 설치하는 경우, 모듈을 보호 유형 Ex n 또는 Ex e인 인클로저에 설치하고, 최소한 IP54의 보호 수준을 제공해야 합니다. 케이블 인입 장치와 블랭킹 요소는 동일한 요구 사항을 충족해야 합니다.

구역 2의 파워 레일에 설치하는 경우, 전력 제어 장치 유형 9410(인증서 IECEx KEM 08.0025X)로 공급된 것만 파워 레일 유형 9400만 허용됩니다.

구역 2에 설치하려면 다음 사항을 준수해야 합니다. 4501 프로그래밍 모듈은 PR electronics 모듈과 함께만 사용해야 합니다. 모듈이 손상되지 않았고, 어떤 식으로든 변경 또는 수정되지 않는 것이 중요합니다. 먼지와 습기가 없는 상태에서 4501 모듈을 설치해야 합니다.

FM Installation drawing

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.
Year of manufacture can be taken from the first two digits in the serial number.

For Installation in Zone 2 the following must be observed.
The 4501 programming module is to be used solely with PRelectronics modules. It is important that the module is undamaged and has not been altered or modified in any way. Only 4501 modules free of dust and moisture shall be installed.

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:	125VAC / 110VDC
Power max:	62.5VA / 32W
Current max:	0.5A AC / 0.3ADC
Zone 2 installation:	
Voltage max:	32VAC / 32VDC
Power max:	16VA / 32W
Current max:	0.5A AC / 1ADC

Installation notes:

In Class I, Division 2 installations, the subject equipment shall be mounted within a tso-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). Where installed in outdoor or potentially wet locations, the enclosure shall, at a minimum, meet the requirements of IP54.

Install in environments rated Pollution Degree 2 or better; overvoltage category I or II.

The equipment shall be installed in an enclosure with a minimum ingress protection rating of IP54 unless the apparatus is intended to be afforded an equivalent degree of protection by location.
The module is galvanically isolated and does not require grounding.

Use 60 / 75 °C copper conductors with wire size AWG: (26-14)

Warning: Substitution of components may impair intrinsic safety.

Warning: To prevent ignition of the explosive atmospheres, disconnect power before servicing and do not separate connectors when energized and an explosive gas mixture is present.

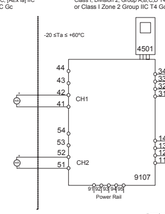
Warning: Do not install or remove modules from the Power Rail when an explosive gas mixture is present.

Hazardous Classified Location
Class I/II/III, Division 1, Group A,B,C,D,E,F,G
or Class I, Zone 0/1 Group IIC, [AEx ia] IIC
or Group IIC, [Ex ia Ga] IIC Gc

Unclassified Location or Hazardous Classified Location
Class I, Division 2, Group A,B,C,D T4
or Class I Zone 2 Group IIC T4 Gc

Simple Apparatus or
Intrinsic safe apparatus
with entity parameters:

Vmax (Ui) ≥ Vt (Uo)
Imax (Ii) ≥ It (Io)
Pi ≥ Pt (Po)
Ca ≥ Ccable + Ci
La ≥ Lcable + Li



CH1 (terminal 41,42)
CH2 (terminal 51,52)
U_o,Voc: 28 V
I_o, Isc: 93 mA
P_o: 0.65 W

	IIC or A,B	IIB or C,E,F	IIA or D,G
C_o:	0.08uF	0.650uF	2.15 µF
L_o:	4 mH	16 mH	32 mH

(terminal 11,12,13,14)
(terminal 31,32,33,34)
(terminal 91,92,93,94,95)
Um: 253V, max 400Hz

UL Installation drawing

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 PRelectronics modules. It is important that the module is undamaged and has not been altered or modified in any way. Only 4501 modules free of dust and moisture shall be installed.

9107AA-U9: 1 channel HART® -transparent driver
9107BA-U9: 1 channel HART® -transparent driver
9107AB-U9: 2 channel HART® -transparent driver
9107BB-U9: 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-III DIV 1 GP A-G or CL I ZN2 Gp IIC T4 provides IS circuits for CL I ZnO Gp IIC/ZnO2 Gp IIIC
Um=250V (Exia) Installation Drawing: 9107QU01
E233311

The 9107Bxx is galvanically isolating associated apparatus intended for installation in non-hazardous locations or Class I, Division 2, Groups A – D hazardous locations with intrinsically safe connections to Class I, II and III hazardous locations.

Proc. Cont. Eq. for Use in Haz. Loc.
Install in CL I DIV2 GP A,D T4 or CL I ZN2 Gp IIC T4
E233311 Installation Drawing: 9107QU01

The 9107Axx equipment is intended for installation in non-hazardous locations or Class I,Division 2, Groups A – D or Zone 2 Croup 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
- UL 913 STANDARD FOR INTRINSICALLY SAFE APPARATUS AND ASSOCIATED APPARATUS FOR USE IN CLASS I, II, III, DIVISION 1, HAZARDOUS (CLASSIFIED) LOCATIONS- Edition 8 - Revision Date 2015/10/16
- CSA C22.2 NO. 60079-0 EXPLOSIVE ATMOSPHERES — PART 0: EQUIPMENT — GENERAL REQUIREMENTS- Edition 3 - Issue Date 2015/10/01
- CSA C22.2 NO. 60079-11:14 EXPLOSIVE ATMOSPHERES — PART 11: EQUIPMENT PROTECTION BY INTRINSIC SAFETY "I"- Edition 2 - Issue Date 2014/02/01

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.

Install in pollution degree 2, overvoltage category II in accordance with IEC 60664-1.

Use minimum 75 °C copper conductors with wire size AWG: (26-14)

Warning: Substitution of components may impair intrinsic safety.
Avertissement : La substitution des composants peut nuire à la sécurité intrinsèque'.

There are no serviceable parts in the equipment and no component substitution is permitted

Warning: To prevent ignition of the explosive atmospheres, 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.

Avertissement : Pour éviter l'inflammation d'atmosphères explosibles, déconnectez l'alimentation avant les opérations d'entretien. Ne montez pas ou n'enlevez pas les connecteurs quand le module est sous tension et en présence d'un mélange de gaz. Ne montez pas ou n'enlevez pas les modules du rail d'alimentation en présence 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 entity parameters conforming with Table 1 below.

TABLE 1:

UL Equipment		Associated Apparatus
V max (or Ui)	≥	Voc or Vt (or Uo)
I max (or Ii)	≥	Isc or It (or Io)
P max, Pi	≥	Po
Ci + Ccable	≤	Ca (or Co)
Li + Lcable	≤	La (or Lo)

The module may also be connected to a simple apparatus as defined in Article 504.2 and installed and temperature classified in accordance with Article 504.10(D) of the National Electrical Code (ANSI/NFPA 70), or other local codes, as applicable.

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, Ccable, 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 504.30(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 of Ci plus cable capacitances and the sum of all of the Li plus cable inductances in the circuit respectively.

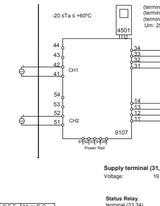
9107Bx Installation:

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 Zone 20 / 21

Unclassified Location or Hazardous Classified Location
Class I, Division 2 Group A,B,C,D T4
Class I, Zone 2, Group IIC, IIB, IIA T4

Simple Apparatus or
Intrinsic safe apparatus
with entity parameters:

Vmax (Ui) ≥ Vt (Uo)
Imax (Ii) ≥ It (Io)
Pi ≥ Pt (Po)
Ca ≥ Ccable + Ci
La ≥ Lcable + Li



(terminal 11,12,13,14)
(terminal 31,32,33,34)
(terminal 91,92,93,94,95)
Um: 253V, max 400Hz

CH1 (terminal 41,42)
CH2 (terminal 51,52)
Voc or U_o: 28 Vdc
Isc or I_o: 93 mA
P_o: 0.65 W

	IIC or A,B	IIB or C,E,F	IIA or D,G
C_a or C_o:	0.08µF	0.650µF	2.15 µF
L_a or L_o:	4 mH	16 mH	32 mH

Supply terminal (31,32)
Voltage: 19.2 – 31.2 VDC

Status Relay
terminal (33,34)
Voltage max: 32Vac / 32Vdc
Current max: 0.5Aac / 0.3Adc

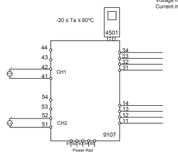
Class I Division 2 or Zone 2 Installation
Voltage max: 32Vac / 32Vdc
Current max: 0.5Aac / 0.3Adc

9107Ax and 9107Bx Installation:

Unclassified Location or Hazardous Classified Location
Class I, Division 2 Group A,B,C,D T4
Class I, Zone 2, Group IIC, IIB, IIA T4

Supply terminal (31,32)
Voltage: 19.2 – 31.2 VDC

Status relay, terminal (33,34)
Class I Division 2 or Zone 2 installation:
Voltage max: 32 Vac/ 32 Vdc
Current max: 0.5 Aac / 0.3 Adc



INMETRO - Desenhos para Instalação

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, diretrizes e normas que se aplicam a esta área.
Ano de fabricação pode ser obtido a partir dos dois primeiros dígitos do número de série.

Para a instalação na Zona 2 o seguinte deve ser observado. O módulo de programação de 4501, deve ser utilizado apenas com os módulos PRelectronics. É importante que o módulo esteja intacto e não tenha sido alterado ou modificado de qualquer maneira.
Apenas os módulos 4501 livres de poeira e umidade devem ser instalados.

9107BA: 1 canal HART® - driver transparente
9107BB: 2 canais HART® - driver transparente

INMETRO Certificado ..... **DEKRA 16.0002X**

Marcas [Ex ia Ga] IIC/IIB/IIA
Ex nA nC IIC T4 Gc
[Ex ia Da] IIIC
[Ex ia Ma] I

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)

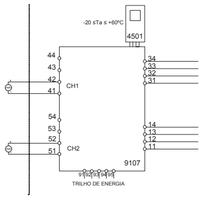
		Instalação Zone 2
Voltagem máx.:	125 VAC / 110 VDC	32 VAC / 32 VDC
Potencia máx.:	62.5 VA / 32 W	16 VA / 32 W
Corrente máx.:	0.5 AAC / 0.3 ADC	0.5 AAC / 1 ADC

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 pode ser connectado para sobretensão limitado ao categoria I/II como definido na IEC 60664-1
Não separe conectores quando energizado ou quando uma mistura de gás explosivo estiver presente.
Não monte ou remova módulos do trilho de alimentação quando uma mistura explosiva de gás estiver presenta.
Desligue a alimentação antes da manutenção.
A fiação de terminais sem uso não é permitida.
Em tipo de proteção [Ex ia Da] os parâmetros para a segurança intrinseca para grupo de gás IIB são aplicáveis.
Para 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.
Dispositivos de entrada de cabo e elementos de vedação devem cumprir com os mesmos requisitos.
Para a instalação de trilho de energia na Zona 2, apenas o trilho de alimentação Rail 9400 fornecido pela Unidade de Controle de Potência 9410 é permitido.

Área de classificada
Zona 0,1,2, 20, 21, 22

Área de não classificada
ou Zona 2

(terminais: 11,12,13,14)
(terminais: 31,32,33,34)
(terminais: 91,92,93,94,95)
Um: 253 V, máx. 400 Hz



CN1 (terminais 41,42)
CN2 (terminais51,52)
U_o: 28 V
I_o: 93 mA
P_o: 0.65 W

	IIC	IIB	IIA	I
C_o:	0,080uF	0,650uF	2,15 µF	3,76 µF
L_o:	4 mH	16 mH	32 mH	35 mH