SN9202-113-2634

# 9202A / 9202B

Segurança

DEKRA UCP 0089

Compulsório

INMETRO

9202 脉冲隔离器
丹麥製造
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

9202A

9202B

## 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 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.

### ADVARSEL

**FARLIG SPÆNDING**

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 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 modtypen svarer til den bestilte. Indpakningen bør følge modulet, indtil dette er monteret på bilvende plads.

**Miljøforhold**
Undgå direkte sollys, kraftigt støv eller varme, mekaniske rystelser og stød, og udsæt ikke modulet for regn eller kraftig fugt. Om nødvendigt skal opvarmning, ud over de opgivne grænser for omgivelsestemperatur, forhindres ved hjælp af ventilation.
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 disse.
Hvis der er tvivl om modulets rette håndtering, skal der rettes henvendelse til den lokale forhandler eller alternativt direkte til **PR electronics A/S.**
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.
Enheden skal forsynes fra en spændingsforsyning, som har elektrisk beskyttelsesfunktion SELV, eller som på anden måde er beskyttet med dobbelt eller forstærket isolation. En afbryder placeres let tilgængelig let væk fra 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 kanal, opto / relæ | ≤ 1,1 W / 1,3 W |
| 2 kanaler, opto / relæ | ≤ 1,5 W / 1,9 W |
| Max. effekttab | |
| 1 kanal, opto / relæ | ≤ 1,2 W / 1,2 W |
| 2 kanaler, opto / relæ | ≤ 1,6 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, gnisttest | < ±1% af span |
| 2-trådsforsyning (kl. 44...43) | 25...16 VDC / 0...20 mA |
| Relativ luftfugtighed | < 95% RH (ikke kond.) |
| Mål (HxBxD) | 109 x 23,5 x 104 mm |
| Kapslingsklasse | IP20 |

**NAMUR-indgang**

| | |
|---|---|
| NAMUR-standard | EN 60947-5-6 |
| Frekvensområde | 0...5 kHz |
| Impulslængde | > 0,1 ms |

**Relæudgange**

| | |
|---|---|
| Max. spænding | 250 VAC / 30 VDC |
| Max. strøm | 2 AC / 2 ADC |
| Max. effekt | 500 VA / 60 W |

**Opto, NPN-udgange**

| | |
|---|---|
| Max. frekvens | 5 kHz |
| Max. belastning, strøm / spænding | 80 mA / 30 VDC |

**Godkendelser**

| | |
|---|---|
| DNV, Ships & Offshore | TAA00000JD |
| ClassNK | TA24034M |
| 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 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.

### 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 Categorry 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 must be supplied from a Power Supply with electrical protection feature SELV or otherwise confirmed to have double or 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 channel, opto / relay | ≤ 1.1 W / 1.3 W |
| 2 channels, opto / relay | ≤ 1.5 W / 1.9 W |
| Max. power dissipation | |
| 1 channel, opto / relay | ≤ 1.2 W / 1.2 W |
| 2 channels, opto / relay | ≤ 1.6 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 |

**NAMUR input**

| | |
|---|---|
| NAMUR standard | EN 60947-5-6 |
| Frequency range | 0...5 kHz |
| Pulse length | > 0.1 ms |

**Relay outputs**

| | |
|---|---|
| Max. voltage | 250 VAC / 30 VDC |
| Max. current | 2 AAC / 2 ADC |
| Max. AC power | 500 VA / 60 W |

**Opto, NPN outputs**

| | |
|---|---|
| Max. frequency | 5 kHz |
| Max. load, current / voltage | 80 mA / 30 VDC |

**Approvals**

| | |
|---|---|
| DNV, Ships & Offshore | TAA00000JD |
| ClassNK | TA24034M |
| 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. Ce module est conçu pour être sûr au moins jusqu'à 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 générale, il est possible d'utiliser des fils souples sans embout 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.
L'appareil doit être alimentée par une source de tension dotée d'une fonction de protection électrique PELV / TBTP ou autrement protégée par 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 voie, opto / relais | ≤ 1,1 W / 1,3 W |
| 2 voies, opto / relais | ≤ 1,5 W / 1,9 W |
| Puissance dissipée max. 1 voie, opto / relais | ≤ 1,2 W / 1,2 W |
| 2 voies, opto / relais | ≤ 1,6 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 NAMUR**

| | |
|---|---|
| Standard NAMUR | EN 60947-5-6 |
| Gamme de fréquences | 0...5 kHz |
| Largeur d'impulsions | > 0,1 ms |

**Sorties relais**

| | |
|---|---|
| Tension max. | 250 Vca / 30 Vcc |
| Courant max. | 2 Aca / 2 Acc |
| Puissance ca max. | 500 VA / 60 W |

**Opto, sorties NPN**

| | |
|---|---|
| Fréquence max. | 5 kHz |
| Charge max., courant / tension | 80 mA / 30 Vcc |

**Approbations**

| | |
|---|---|
| DNV, Ships & Offshore | TAA00000JD |
| ClassNK | TA24034M |
| 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 Mess- / 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 muss von einem Netzteil mit elektrischer Schutzfunktion SELV versorgt werden oder auf andere Weise bestätigt werden, dass es über eine doppelte oder verstärkte Isolierung verfügt. 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 Kanal, Opto / Relais | ≤ 1,1 W / 1,3 W |
| 2 Kanäle, Opto / Relais | ≤ 1,5 W / 1,9 W |
| Max. Verlustleistung 1 Kanal, Opto / Relais | ≤ 1,2 W / 1,2 W |
| 2 Kanäle, Opto / Relais | ≤ 1,6 W / 1,8 W |
| Sicherung | 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 |
| Erweiterte 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 |

**NAMUR-Eingang**

| | |
|---|---|
| NAMUR-Norm | EN 60947-5-6 |
| Frequenzbereich | 0...5 kHz |
| Impulslänge | > 0,1 ms |

**Relais-Ausgänge**

| | |
|---|---|
| Maximalspannung | 250 VAC / 30 VDC |
| Maximalstrom | 2 AAC / 2 ADC |
| Max. Wechselstromleistung | 500 VA / 60 W |

**Opto, NPN-Ausgänge**

| | |
|---|---|
| Max. Frequenz | 5 kHz |
| Max. Belast., Strom/Spannung | 80 mA / 30 VDC |

**Zulassungen**

| | |
|---|---|
| DNV, Ships & Offshore | TAA00000JD |
| ClassNK | TA24034M |
| 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 |

### ДЕКЛАРАЦІЯ ПРО ВІДПОВІДНІСТЬ

(9202DoC_UA, V100)

**PR electronics A/S**
(назва Декларанта / виробника або уповноваженого представника виробника)

Lerbakken 10, DK-8410 Rønde, Denmark – Дания
(поштова адреса Декларанта та для встановлених організацій - код EDPTOV)

в особі CTO, Stig Lindemann
(посада, власне ім'я ПРІЗВИЩЕ особи, яка уповноважена підписувати декларацію)

заявляє, що наступна продукція

**Імпульсні ізолятори типів 9202B1*, 9202B2* та 9202B3***
(назва виробника або комерційне свідоцтво, торгова найменування, серія, тип, модель)

виробнича лист є
PR electronics A/S, Lerbakken 10, DK-8410 Rønde, Denmark – Дания
(назва виробника, юридична адреса для встановлених організацій - код EDPTOV)

відповідає вимогам:

**1. Технічного регламенту обладнання та захисних систем, призначених для застосування в потенційно вибухонебезпечних середовищах постановка КМУ від 28 грудня 2016 р. № 1055** та
ДСТУ EN IEC 60079-0:2019, ДСТУ EN 60079-7:2017, ДСТУ EN 60079-11:2017, ДСТУ EN 60079-15:2017
(позначення національного стандарту, який реалізує гармонізований стандарт, назва технічної специфікації)
сертифікат експертизи типу CU.ZB.1127 .X та повідомлений про відповідність типові № CU.26.D.106-1, видані ТОВ "СЕРТІС-ЦЕНТР", UA.TR.115

**2. Технічного з електромагнітної сумісності обладнання (постанова КМУ від 16 грудня 2015 р. № 1077)** та
ДСТУ EN 61326-1:2016
(позначення національних стандартів або технічних умов, назва технічних специфікацій)

** Щодо приміткою рами електромагнітної сумісності, зверніться до електричних характеристик приладів.*

**3. Технічного обмеження використання деяких небезпечних речовин в електричному та електронному обладнанні (Постанова КМУ від 10 березня 2017 р. № 139)** та
ДСТУ EN IEC 63000:2020
(позначення національних стандартів або технічних умов, назва технічних специфікацій)

Ця декларація поширюється на вказану продукцію, яка виготовляється серійно.

Ця декларація складена під виключну відповідальність виробника або уповноваженого представника виробника.

CTO PR electronics A/S (посада, організація) — (підпис) — Stig Lindemann (власне ім'я ПРІЗВИЩЕ)

М.П.

Дата: 05.05.2026

### EU DECLARATION OF CONFORMITY

(9202DoC_103)

As manufacturer
**PR electronics A/S, Lerbakken 10, DK-8410 Rønde**
hereby declares that the following products:

**Type:** 9202
**Name:** Pulse isolator
**From serial no.:** 231033351

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: KEMA 07ATEX0146 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 April 2023

Stig Lindemann, CTO
Manufacturer's signature

### UKCA DECLARATION OF CONFORMITY

(9202DoC_UKCA_100)

As manufacturer
**PR electronics A/S, Lerbakken 10, DK-8410 Rønde**
hereby declares that the following product:

**Type:** 9202
**Name:** Pulse isolator
**From serial no.:** 231033351

is in conformity with the following statutory requirements:

The Electromagnetic Compatibility Regulations 2016 (UK SI 2016/1091) 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 2016/1101) 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 60079-11 : 2012, EN 60079-15 : 2019 and EN 60079-7 : 2015 + A1 : 2018**
**UK type examination certificate: DEKRA 21UKEX0179X (9202A & 9202B)**
**UK type examination certificate: DEKRA 21UKEX0105X (9202B)**
**Issued by: UK Approved Body DEKRA Certification UK Ltd. No 0505**

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, 31 July 2023

Stig Lindemann, CTO
Manufacturer's signature

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

| | 9202Bxxx | | 9202Axxx | |
|---|---|---|---|---|
| **IECEx** | [Ex ia Ga] IIC/IIB/IIA<br>Ex ec nC IIC T4 Gc<br>[Ex ia Da] IIIC<br>[Ex ia Ma] I | IECEx KEM 06.0039X<br>Installation Drawing:<br>9202QI01 | Ex ec nC IIC T4 Gc | IECEx KEM 06.0039X<br>Installation Drawing:<br>9202QI01 |
| **ATEX** | II (1) G [Ex ia Ga] IIC/IIB/IIA<br>II 3 G Ex ec nC IIC T4 Gc<br>II (1) D [Ex ia Da] IIIC<br>I (M1) [Ex ia Ma] I | KEMA 07ATEX 0146X<br>DEKRA 23UKEX0105X<br>Installation Drawing:<br>9202QA01 | II 3 G Ex ec nC IIC T4 Gc | KEMA 07ATEX 0146X<br>Installation Drawing:<br>9202QA01 |
| **UKEX** | [Ex ia Ga] IIC/IIB/IIA<br>II 3 G Ex ec nC IIC T4 Gc<br>[Ex ia Da] IIIC<br>[Ex ia Ma] I | DEKRA 21UKEX0179X<br>DEKRA 23UKEX0105X<br>Installation Drawing:<br>9202QA01 | II 3 G Ex ec nC IIC T4 Gc | DEKRA 21UKEX0179X<br>Installation Drawing:<br>9202QA01 |
| **FM** | Install in CL I, Div. 2, Gr. A-D T4<br>Provides IS circuits to<br>CL I-III, Div. 1/2, Gr. A-G or<br>CL I, ZnZ AEx/Ex nA nC [ia] IIC T4 | FM16US0055X /<br>FM16CA0028X<br>Installation Drawing:<br>9202QF01 | Install in CL I, Div. 2,<br>Gr. A-D T4 or<br>CL I, Zone 2, AEx/Ex nA<br>nC IIC T4 | FM16US0055X /<br>FM16CA0028X<br>Installation Drawing:<br>9202QA01 |
| **INMETRO** | [Ex ia Ga] IIC/IIB/IIA<br>[Ex ia Da] IIIC / [Ex ia Ma] I<br>Ex ec nC IIC T4 Gc | DEKRA 23.0007X<br>Installation Drawing:<br>9202QB01 | Ex ec nC IIC T4 Gc | DEKRA 23.0007X<br>Installation Drawing:<br>9202QB01 |
| **UL (9202Axx-U9 / 9202Bxx-U9)** | Install in CL I DIV2 GP A-D T4 provides<br>IS circuits to CL I-III DIV 1 GP A-G or<br>install in CL I ZnZ Gp IIC T4 provides IS<br>circuits to CL I ZnO Gp IIC/ZnZ0 Gp IIIC | E233311<br>Installation Drawing:<br>9202QU01 | Install in CL I, Div. 2, Gr.<br>A-D T4 or<br>CL I, Zone 2, AEx nA nC<br>IIC T4 | E233311<br>Installation Drawing:<br>9202QU01 |
| **CCC** | Ex nA nC [Ex ia Ga] IIC T4 Gc<br>Ex nA nC [Ex iaD] IIIC T4 Gc<br>[Ex ia Ga] IIC/IIB/IIA<br>[Ex iaD] | 2020322309003424 | Ex nA nC IIC T4 Gc | 2020322309003424 |
| **KCs (9202AXx-KCs / 9202Bxx-KCs)** | [Ex ia Ga] IIC/IIB/IIA<br>[Ex ia] IIC/IIB/IIA<br>[Ex ia Da] IIIC<br>[Ex ia D] 20 | 21-AV4BO-0179X<br>21-AV4BO-0180X<br>Installation Drawing:<br>9202QKC01 | Ex nA nC IIC T4 Gc<br>Ex nA nC IIC T4 | 21-AV4BO-0181X<br>Installation Drawing:<br>9202QKC01 |
| **PESO** | Ex ec nC IIC<br>T4 Ga, Gc | P659707/1 | n.a. | n.a. |
| **EAC Ex** | [Ex ia Ga] IIC/IIB/IIA or<br>2Ex nA nC IIC T4 Gc X or<br>2Ex ec nC IIC T4 Gc X | ЕАЕU KZ<br>7500361.01.01.08756 | 2Ex nA nC IIC T4 Gc X or<br>2Ex ec nC IIC T4 Gc X | ЕАЕU KZ<br>7500361.01.01.08756 |
| **UA Ex** | II (1) G [Ex ia Ga] IIC/IIB/IIA<br>II 3 G Ex ec nC IIC T4 Gc<br>II (1) D [Ex ia Da] IIIC<br>I (M1) [Ex ia Ma] I | CLJ 26.1127 X | n.a. | n.a. |

DK Sideskilt — UK Side label — FR Étiquette — DE Typenschild

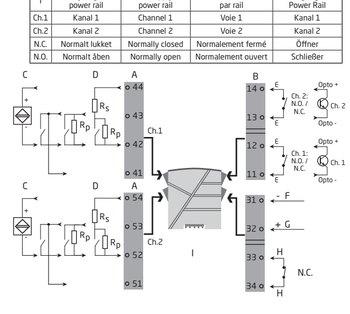
- (1) Typenr. / Type no. / No. de type. / Typenrr.
- (2) Produktionsår fremgår af de to første cifre i serienummeret. / Year of manufacture can be taken from the first two digits in the serial number. / L'année de production est définie grace aux deux premiers chiffres du numéro de série. / Die ersten beiden Ziffern der Seriennummer geben das Produktionsjahr an. Tag/Dat 24.

DK Hvis modulet installeres som type Ex ia eller ec, skal installationstyppen 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 Påsætning af PR 4500:
1: Sæt stikket 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 

# FM Installation drawing

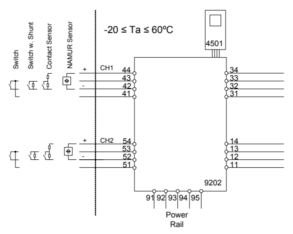
For safe installation of 9202B the following must be observed. The module shall only be installed by qualified personnel who are familiar with the national and international laws, directives and standards that apply to this area.

For Installation in Zone 2 / Division 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.

**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 Intrinsically safe apparatus with entity parameters:
Vmax (Ui) ≥ Vt (Uo)
Imax (Ii) ≥ It (Io)
Pi ≥ Pt(Po)
Ca(Co) ≥ Ccable + Ci
La(Lo) ≥ Lcable + Li




$U_o$ / Vt: 10.6 V
$I_o$ / Isc: 12 mA
$P_o$/$P_t$: 32 mW
Lo/Ro La/Ra: 1150 µH/Ω

| Group | IIC | IIB | IIA |
| --- | --- | --- | --- |
| Group | A,B | C,E,F | D,G |
| $C_o$/$C_a$ | 2.0 µF | 6.0 µF | 18 µF |
| $L_o$/$L_a$ | 260 mH | 780 mH | 1000 mH |

**Terminal CH1(44,42) CH2(54,52)**

$U_m$: 253 V max. 400 Hz

**Supply / Output**
**(terminal 11,12,13,14)**
**(terminal 31,32,33,34)**
**(terminal 91,92,93,94,95)**





**Terminal (31,32)**
**Supply:**

| | |
| --- | --- |
| Voltage | 19.2 – 31.2 VDC |
| Power | max. 3 W |

**Terminal (33,34)**

| **Status Relay:** | **Non Hazardous location:** | **Division 2 or Zone 2 installation:** |
| --- | --- | --- |
| Voltage max. | 125 VAC / 110 VDC | 32 VAC / 32VDC |
| Power max. | 62.5 VA / 32 W | 16 VA / 32 W |
| Current max. | 0.5 AAC / 0.3 ADC | 0.5 AAC / 1 ADC |

**Terminal CH1(11,12) CH2(13,14)**

| **Digital output:** | **NPN output:** |
| --- | --- |
| Voltage max. | 30 VDC |
| Current max. | 80 mA |

**Terminal CH1(11,12) CH2(13,14)**

| **Relay output:** | **Non Hazardous location:** | **Division 2 or Zone 2 installation:** |
| --- | --- | --- |
| Voltage max. | 250 VAC / 30VDC | 32 VAC / 30VDC |
| Power max. | 500 VA / 60W | 64 VA / 60 W |
| Current max. | 2 AAC / 2ADC | 2 AAC / 2 ADC |

**Installation notes:**

In Class I, Division 2 installations, the subject equipment shall be mounted within a too-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 the 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 the Canadian Electrical Code (C22.1). Where installed in outdoor or potentially wet locations, the enclosure shall, at a minimum, meet the requirements of IP54.

In Class I, Zone 2 installations, the installer shall ensure protection of supply terminals against transient voltages exceeding 140% of the rated supply voltage.

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

The installation and wiring shall be in accordance with the Canadian Electrical Code for Canada and National Electrical Code NFPA 70, Article 500 or 505 for installation in USA.

The module must be supplied from a Power Supply having double or reinforced insulation.

The use of stranded wires is not permitted for mains wiring except when wires are fitted with cable ends.

For installation on the 9400 Power Rail the power must be supplied from Power Control Module Unit 9410.





The module must be installed in an enclosure suitable for the environment for which it is used.

The module is galvanically isolated and does not require grounding.

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

**Warning:** Substitution of components may impair intrinsic safety and / or suitability for Div. 2 / Zone 2.

**Warning:** To prevent ignition of explosive atmospheres, disconnect power before servicing and do not separate connectors when energized and an explosive gas mixture is present.
**Warning:** Do not mount or remove modules from the Power Rail when an explosive gas mixture is present.





# UL Installation drawing

For safe installation of the Process Control Equipment (Associated Apparatus) 9202 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. Only 4501 modules free of dust and moisture shall be installed

9202A1A-U9 and 9202B1A-U9: One channel Opto output
9202A1B-U9 and 9202B1B-U9: Two channel Opto output
9202A2A-U9 and 9202B2A-U9: One channel N.O. Relay output
9202A2B-U9 and 9202B2B-U9: Two channel N.O. Relay output
9202A3A-U9 and 9202B3A-U9: One channel N.C. Relay output
9202A3B-U9 and 9202B3B-U9: Two channel N.C. Relay output

9202abc-U9 where
a: A or B See below
b: 1=Opto, 2=N.O. Relay, 3= N.C. Relay
c: A= One Channel, B= Two Channel

**Marking:**

c UL us LISTED
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
E233311 circuits for CL I Zn0 Gp IIC/Zn20 Gp IIIC
Um=253V [Exia] Installation Drawing: 9202QU01

The 9202Bxx 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.

c UL us LISTED
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: 9202QU01

The 9202Axx 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 9202Axx and 9202Bxx**

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 ºC 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 9202Bxx:**

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 withTable 1 below.

**TABLE 1:**

| I.S. 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.

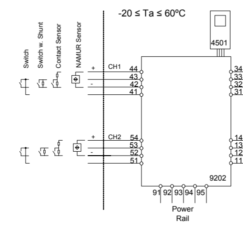




**9202Bxx Installation:**

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

**Unclassified Location or**
**Hazardous Classified Location**
Class I, Division 2, Group ABCD T4
Class I Zone 2 Group IIC 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 / 0.3Adc

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

**9202B1x**
**Terminal CH1(11,12) CH2(13,14)**

| **Digital output:** | **NPN output:** |
| --- | --- |
| Voltage max. | 30 VDC |
| Current max. | 80 mA |

**9202B2x and 9202B3x**
**Relay output:**
**Terminal CH1(11,12) CH2(13,14)**
**Class I, Division 2**
**Zone 2 installation**

| | |
| --- | --- |
| Voltage max. | 32 V AC / 30 VDC |
| Power max. | 64 VA / 60 W |
| Current max. | 2 AAC / 2 ADC |

**Ex input:**
**CH1 (terminal 41,42,43,44)**
**CH2 (terminal 51,52,53,54)**

Uo: 10.6 VDC
Io: 12 mADC
Po: 32 mW
Lo/Ro: 1150µH/Ω

| | IIC or A,B | IIB or C,E,F | IIA or D,G |
| --- | --- | --- | --- |
| **Ca or $C_o$.** | 2.0 µF | 6.0 µF | 18 µF |
| **La or $L_o$.** | 260 mH | 780 mH | 1000 mH |





# KC 설치 도면

9202의 안전한 설치를 위해 다음 사항을 준수해야 합니다. 이 모듈은 이 지역에 적용되는 국내 및 국제 법률, 지침 및 표준에 정통한 유자격자만 설치해야 합니다.
제조연도는 일련번호의 처음 두 자리입니다.

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

| | |
| --- | --- |
| **KC 인증서:** | 21-AV4BO-0179X |
| **마킹 9202Bxx:** | [Ex ia Ga] IIC/IIB/IIA |
| **KC 인증서:** | 21-AV4BO-0180X |
| **마킹 9202Bxx:** | [Ex ia Da] IIIC |
| **KC 인증서:** | 21-AV4BO-0181X |
| **마킹 9202Axx:** | Ex nA nC IIC T4 Gc |
| **표준** | IEC60079-0:2017, IEC60079-11:2011, 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 | 16V A / 32 W |
| 최대 전류: | 0.5 AAC / 0.3 ADC | 0.5 AAC / 1 ADC |





**s설치 참고 사항**
IEC60664-1에 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 IIB의 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 밀폐 요소는 동일한 요구 사항을 충족해야 합니다.

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

연선은 5mm의 절연 피복을 제거 후 사용을 하거나 부트레이스 페룰과 같은 적절한 절연 단자를 통해 설치해야 합니다

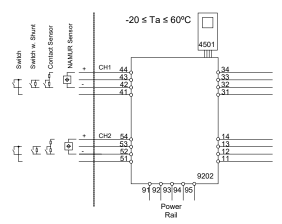




**9202Bxx 설치:**

위험 지역
구역 0,1,2, 20, 21, 22

비위험 지역




**Ex 입력:**
**CH1(단자 41,42,43,44)**
**CH2(단자 51,52,53,54)**

$U_o$:10.6 VDC
$I_o$: 12 mADC
$P_o$: 32 mW
Lo/Ro:1150 µH/Ω

| | IIC | IIB | IIA | I |
| --- | --- | --- | --- | --- |
| $C_o$. | 2.0 µF | 6.0 µF | 18 µF | 90 µF |
| $L_o$. | 260 mH | 780 mH | 1000 mH | 1000 mH |

$U_m$: 253 V 최대 400 Hz

**공급 / 출력:**
**(단자 11,12,13,14)**
**(단자 31,32,33,34)**
**(단자 91,92,93,94,95)**

**단자 CH1 (11,12) CH2 (13,14)**

| **디지털 출력:** | **NPN 출력:** |
| --- | --- |
| 최대 전압 | 30 VDC |
| 최대 전류 | 80 mA |

**단자 CH1 (11,12) CH2 (13,14)**

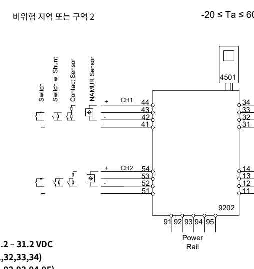
| **릴레이 출력:** | **비위험 장소** | **구역 2 설치** |
| --- | --- | --- |
| 최대 전압 | 250 VAC / 30 VDC | 32 VAC / 30 VDC |
| 최대 출력 | 500 VA / 60 W | 64 VA / 60 W |
| 최대 전류 | 2 AAC / 2 ADC | 2 AAC / 2 ADC |





**9202Axx 설치:**

비위험 지역 또는 구역 2




**공급: 19.2 – 31.2 VDC**
**(단자 31,32,33,34)**
**(단자 91,92,93,94,95)**

**입력: NAMUR 센서, 접촉 센서, 스위치**
**CH1(단자 41,42,43,44)**
**CH2(단자 51,52,53,54)**

**출력:**
**단자 CH1 (11,12) CH2 (13,14)**

| **디지털 출력:** | **NPN 출력:** |
| --- | --- |
| 최대 전압 | 30 VDC |
| 최대 전류 | 80 mA |

**단자 CH1 (11,12) CH2 (13,14)**

| **릴레이 출력:** | **비위험 장소** | **구역 2 설치** |
| --- | --- | --- |
| 최대 전압 | 250 VAC / 30 VDC | 32 VAC / 30 VDC |
| 최대 출력 | 500 VA / 60 W | 64 VA / 60 W |
| 최대 전류 | 2 AAC / 2 ADC | 2 AAC / 2 ADC |

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

구역 2의 파워 레일에 설치하는 경우, 전력 제어 장치 유형 9410(유형 시험 인증서 IECEx 08.0052X)의 공급을 받는 파워 레일 유형 9400만 허용됩니다.

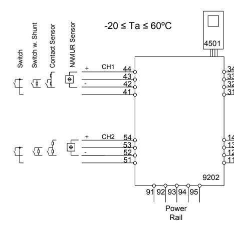
구역 2 / 디비전 2에 설치하려면 다음 사항을 준수해야 합니다.
4501 프로그래밍 모듈은 PR 제품의 모듈과 함께 사용해야 합니다. 모듈이 손상되지 않았고, 어떤 식으로든 변경 또는 수정되지 않는 것이 중요합니다. 먼지와 습기가 없는 상태에서 4501 모듈을 설치해야 합니다.





**9202Axx and 9202Bxx Installation:**

Non Hazardous area or
Class I, Division 2, Group ABCD T4
or Zone 2 Group IIC 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 / 0.3Adc

**(terminal 11,12,13,14)**
**(terminal 31,32,33,34)**
**(terminal 91,92,93,94,95)**

**9202x1x**
**Terminal CH1(11,12) CH2(13,14)**

| **Digital output:** | **NPN output:** |
| --- | --- |
| Voltage max. | 30 VDC |
| Current max. | 80 mA |

**9202x2x and 9202x3x**
**Terminal CH1(11,12) CH2(13,14)**

| **Relay output:** | **Class I Division 2 Zone 2 installation** |
| --- | --- |
| Voltage max. | 32 V AC / 30 VDC |
| Power max. | 64 VA / 60 W |
| Current max. | 2 AAC / 2 ADC |





# INMETRO Desenhos para Instalação

Para instalação segura do 9202B.. e 9202A.. 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 PR-electronics. 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.

**INMETRO Certificado ………… DEKRA 23.0007X**

**Marcas: 9202B..** [Ex ia Ga] IIC/IIB/IIA
[Ex ia Da] IIIC
[Ex ia Ma] I

**Marcas: 9202B.., 9202A..** Ex ec nC IIC T4 Gc

**Normas:**
**ABNT NBR IEC 60079-0:2020 Versão Corrigida:2023**
**ABNT NBR IEC 60079-7:2018 Versão Corrigida:2022**
**ABNT NBR IEC 60079-11:2013 Versão Corrigida:2017**
**ABNT NBR IEC 60079-15:2019**

**Terminais de fonte de alimentação** (31,32)
Voltagem: 19,2 – 31,2 VDC

| **Relê de estado.** terminais (33,34) | | Instalação Zona 2 |
| --- | --- | --- |
| Voltagem máx.: | 125 VAC / 110 VDC | 32 VAC / 32 VDC |
| Potência máx.: | 62,5 VA / 32 W | 16 VA / 32 W |
| Corrente máx.: | 0,5 A AC / 0,3 ADC | 0,5 A AC / 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 de gás explosivo estiver presente.
Desligue a alimentação antes da manutenção.
A fiação de terminais sem uso não é permitida.
A fonte de Loop e terminais de entrada de corrente para o mesmo canal não deve ser aplicada ao mesmo tempo.
Em tipo de proteção [Ex ia Da] os parâmetros para a 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 e', fornecendo no mínimo grau de proteçao 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.

Máx. torque terminal de parafuso 0,5 Nm. O fio trançado deve ser instalado com um comprimento de isolamento de 5 mm ou através de um terminal isolado adequado, como um terminal de cadarço.

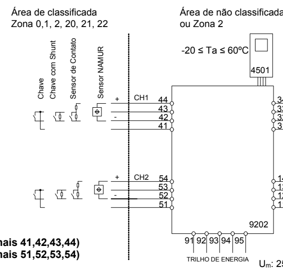




**Instalação 9202B..:**

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

Área de não classificada
ou Zona 2




**entrada Ex:**
**CN1 (terminais 41,42,43,44)**
**CN2 (terminais 51,52,53,54)**

$U_o$:10,6 VDC
$I_o$: 12 mADC
$P_o$: 32 mW
Lo/Ro:1150 µH/Ω

| | IIC | IIB | IIA | I |
| --- | --- | --- | --- | --- |
| $C_o$. | 2,0 µF | 6,0 µF | 18 µF | 90 µF |
| $L_o$. | 260 mH | 780 mH | 1000 mH | 1000 mH |

$U_m$: 253 V máx. 400 Hz

**Fonte / Saída:**
**(terminais 11,12,13,14)**
**(terminais 31,32,33,34)**
**(terminais 91,92,93,94,95)**

**Terminais CN1(11,12) CN2(13,14)**

| **Saída Digital:** | **Saída NPN:** |
| --- | --- |
| Voltagem máx. | 30 VDC |
| Corrente máx. | 80 mA |

**Terminais CN1(11,12) CN2(13,14)**

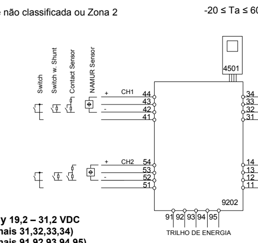
| **Saída relê:** | **Área de não classificada** | **Instalação ZONA 2** |
| --- | --- | --- |
| Voltagem máx. | 250 VAC / 30 VDC | 32 V AC / 30 VDC |
| Potência máx. | 500 VA / 60 W | 64 VA / 60 W |
| Corrente máx. | 2 AAC / 2 ADC | 2 AAC / 2 ADC |





**Instalação 9202A..:**

Área de não classificada ou Zona 2




**Supply 19,2 – 31,2 VDC**
**(terminais 31,32,33,34)**
**(terminais 91,92,93,94,95)**

**Entrada: Sensor de contato**
**CN1 (terminais 41,42,43,44)**
**CN2 (terminais 51,52,53,54)**

**Fonte / Saída:**
**Terminais CN1(11,12) CN2(13,14)**

| **Saida Digital:** | **Saída NPN:** |
| --- | --- |
| Voltagem máx. | 30 VDC |
| Corrente máx. | 80 mA |

**Terminais CN1(11,12) CN2(13,14)**

| **Saída relê:** | **Área de não classificada** | **Instalação ZONA 2** |
| --- | --- | --- |
| Voltagem máx. | 250 VAC / 30 VDC | 32 V AC / 30 VDC |
| Potência máx. | 500 VA / 60 W | 64 VA / 60 W |
| Corrente máx. | 2 AAC / 2 ADC | 2 AAC / 2 ADC |

Para a instalação em Zona 2, o módulo deve ser instalado em um invólucro conformidade com o tipo de proteção 'Ex e', fornecendo no mínimo grau de proteçao 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.

Máx. torque terminal de parafuso 0,5 Nm. O fio trançado deve ser instalado com um comprimento de isolamento de 5 mm ou através de um terminal isolado adequado, como um terminal de cadarço.