SN9116-114-2634

9116A / 9116B

9116A 9116B

DK

ADVARSEL

Dette modul er beregnet for tilslutning til livsfarlige elektriske spændinger. Hvis denne advarsel ignoreres, kan det føre til alvorlig legemsbeskadigelse eller mekanisk ødelæggelse.
For at undgå fare 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

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 bilvendte 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 ledningsstyller.
Flerkoret ledning skal installeres med en afisoleringslængde på 5 mm eller via en egnet isoleret terminal som f.eks. en dugsko.
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 moduletne, 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 beskyttelse, 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.

Elektriske specifikationer

Specifikationsområde	-20°C til +60°C
Forsyningsspænding	19,2...31,2 VDC
Max. forbrug	≤ 2,1 W
Max. effekttab	≤ 1,7 W
Sikring	1,25 A T / 250 VAC
Isolationsspændinger, test / drift:	
Indgang til alle	2,6 kVAC / 300 VAC forstærket
Analog udgang til forsyning	2,6 kVAC / 300 VAC forstærket
Statusrelæ til forsyning	1,5 kVAC / 150 VACforstærket
Kalibreringstemperatur	20...28°C
EMC-immunitetspåvirkning	< ±0,5% af span
Udvidet EMC-immunitet:	
NAMUR NE21,	
A-krit., grinststøj	< ±1% af span
2-trådsforsyning (kl. 44...43)	25...16 VDC / 0...20 mA
Relativ luftfugtighed	< 95% RH (ikke kond.)
Mål (H x D)	109 x 23,5 x 104 mm
Kapslingsklasse	IP20

Indgang for RTD-typer

Pt10, Pt20, Pt50, Pt100, Pt200, Pt250, Pt300, Pt400, Pt500, Pt1000
Ni50, Ni100, Ni120, Ni1000

Indgang for TC-typer

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

Strømindgang

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

Spændingsindgang

Progr. måleområder	0...1 / 0,2...1 / 0...5 / 1...5 / 0...10 og 2...10 VDC

Strømudgang

Progr. signalområder	0...20 / 4...20 / 20...0 / 20...4 mA
Belastning	≤ 600 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

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

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

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 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 must 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	≤ 2.1 W
Max. power dissipation	≤ 1.7 W
Fuse	1.25 A SB / 250 VAC
Isolation - test / working:	
Input to any	2.6 kVAC/300 VAC reinforced
Analog output to supply	2.6 kVAC/300 VAC reinforced
Status relay to supply	1.5 kVAC/150 VAC reinforced
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 (term. 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

Input for RTD types

Pt10, Pt20, Pt50, Pt100, Pt200, Pt250, Pt300, Pt400, Pt500, Pt1000
Ni50, Ni100, Ni120, Ni1000

Input for TC types

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

Current input

Program. measurement ranges	0...20 and 4...20 mA
Input resistance	Nom. 20 Ω + PTC 50 Ω

Voltage input

Program. measurement ranges	0...1 / 0.2...1 / 0...5 / 1...5 / 0...10 and 2...10 VDC

Current output

Programmable signal ranges	0...20 / 4...20 / 20...0 / 20...4 mA
Load	≤ 600 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	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

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

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 correspond à celui que vous avez commandé.

Environnement

N'exposez pas votre module aux rayons directs du soleil et choisissez un endroit à l'humidité modérée et à l'abri de la poussière, des températures élevées, des chocs et des vibrations mécaniques et de la pluie. Le cas échéant, des systèmes de ventilation permettent d'éviter qu'une pièce soit chauffée au-delà des limites prescrites pour les températures ambiantes.
Tous les modules peuvent être installés dans catégorie de mesure / surtension II et degré de pollution 2. Ce module est conçu pour fonctionner en toute sécurité 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 derniéres.
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 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 ferrule 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.

Etalonnage et réglage

Lors des opérations d'étalonnage et de réglage, il convient d'effectuer les mesures et les connexions des tensions externes en respectant les spécifications mentionnées dans ce guide. Les techniciens doivent utiliser des outils et des instruments entretenus et 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.	≤ 2,1 W
Puissance dissipée max.	≤ 1,7 W
Fusible	1,25 A SB / 250 Vca
Tension d'isolation, test / opération :	
Entrée aux autres	2,6 kVca/300 Vca renforcée
Sortie analog. à l'alimen	2,6 kVca/300 Vca renforcée
Relais d'état à l'alimen	1,5 kVca/150 Vca 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 pour types Pt100

Pt10, Pt20, Pt50, Pt100, Pt200, Pt250, Pt300, Pt400, Pt500, Pt1000
Ni50, Ni100, Ni120, Ni1000

Entrée pour types TC

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

Entrée courant

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

Entrée tension

Gammes de mesure program.	0...1 / 0,2...1 / 0...5 / 1...5 / 0...10 et 2...10 Vcc

Sortie courant

Gammes de signal program.	0...20 / 4...20 / 20...0 / 20...4 mA
Charge	≤ 600 Ω
Stabilité de charge	≤ 0,01% de l'EC/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	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

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

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 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.	≤ 2,1 W
Max. Verlustleistung	≤ 1,7 W
Sicherung	1,25 A T / 250 VAC
Isolationsspannungen, Test / Betrieb:	
Eingang zu irgenwelchen	2,6 kVAC/300 VAC verstärk.
Analogausgang zur Versorg	2,6 kVAC/300 VAC verstärk.
Statusrelais zur Versorgung	1,5 kVAC/150 VAC verstärk.
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

Eingang für WTH-Typen

Pt10, Pt20, Pt50, Pt100, Pt200, Pt250, Pt300, Pt400, Pt500, Pt1000
Ni50, Ni100, Ni120, Ni1000

Eingang für TE-Typen

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

Stromeingang

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

Spannungseingang

Progr. Messbereiche	0...1 / 0,2...1 / 0...5 / 1...5 / 0...10 und 2...10 VDC

Stromausgang

Progr. Signalbereiche	0...20 / 4...20 / 20...0 / 20...4 mA
Belastung	≤ 600 Ω
Belastungsstabilität	≤ 0,01% d. Messsp. / 100 Ω
Fühlerlieferalarm	0 / 3,5 / 23 mA / keine
NAMUR NE43	
Upscale / Downscale	23 mA / 3,5 mA
Strombegrenzung	≤ 28 mA

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

9116 安全栅 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

EU DECLARATION OF CONFORMITY

(9116DoC_104)

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

Type:	**9116**
Name:	**Universal converter**
From serial no.:	**221697937**

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 IEC 60079-0 : 2018, EN 60079-7 : 2015 + A1 : 2018 EN 60079-11 : 2012 and EN 60079-15 : 2019
ATEX certificate: KEMA 10ATEX0053 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, 20 December 2022

Stig Lindemann, CTO
Manufacturer's signature

UKCA DECLARATION OF CONFORMITY

(9116DoC_UKCA_100)

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

Type:	**9116**
Name:	**Universal converter**
From serial no.:	**221697937**

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 2001/1101) 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 21UKEX0177X (9116A & 9116B)
UK type examination certificate: DEKRA 21UKEX0104X (9116B)
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

ДЕКЛАРАЦІЯ ПРО ВІДПОВІДНІСТЬ

PR electronics A/S
(назва Декларанта – виробника або уповноваженого представника виробника)
Lerbakken 10, DK-8410 Rønde, Denmark – Данія
(юридична адреса Декларанта та для встановлення зв'язку – від ЦДПОУ)

в особі CTO, Stig Lindemann
(посада, прізвище, ім'я уповноваженої особи)

заявляє, що наступна продукція:

Перетворювачі температури / мА типів 9113BA, 9113BB та універсальні перетворювачі типів 9116B1, 9116B2
(назва обладнання або зразків системи, торгова найменування, серія, тип, модель)

виробником якої є

PR electronics A/S, Lerbakken 10, DK-8410 Rønde, Denmark – Данія
(назва виробника, юридична адреса, для встановлення зв'язку – від ЦДПОУ)

відповідає вимогам:

1. Технічного регламенту обладнання та захисних систем, призначених для застосування в потенційно вибухонебезпечних середовищах (постанова КМУ від 28 грудня 2016 р. № 1035) 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 або технічного кодексу усталеної практики, технічної специфікації)

сертифікат експертизи типу CUL20.1128 X та попереджений про відповідність типові № CUL20.0.106-1, 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 кодексів усталеної практики, технічних специфікацій)

** Щодо приладнаного ряме електромагнітної сумісності, зверяється 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 кодексів усталеної практики, 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

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

Part Name	Hazardous Substances					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)
Printed circuit board	X	O	O	O	O	O

This table is prepared in accordance with the provisions of SJ/T 11364
O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.
X: Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.

The product's Environmentally Friendly Use Period (EFUP) is 50 years

DK	Dokumentation, godkendelser og yderligere information findes på internettet på **www.prelectronics.dk**
UK	Documentation, permits and other information can be found on the internet at **www.prelectronics.com**
FR	La documentation et toute autre information peuvent être trouvées sur l'Internet sur notre site: **www.prelectronics.fr**
DE	Dokumentationen, Zulassungen und andere Informationen können auf unserer Internet-Seite unter **www.prelectronics.de** gefunden und abgerufen werden.
BR	Documentações, licenças e outras informações podem ser encontradas no site **www.prelectronics.com**

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

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

	9116Bxx		9116Axx	
IECEx	[Ex ia Ga] IIC/IIB/IIA Ex ec nC IIC T4 Gc [Ex ia Da] IIIC [Ex ia Ma] I	IECEx KEM 10.0022X Installation Drawing: 9116QI01	Ex ec nC IIC T4 Gc	IECEx KEM 10.0022X Installation Drawing: 9116QI01
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	KEMA 10ATEX0053X Installation Drawing: 9116QA01	II 3 G Ex ec nC IIC T4 Gc	KEMA 10ATEX0053X Installation Drawing: 9116QA01
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 21UKEX0177X DEKRA 23UKEX0104X Installation Drawing: 9116QA01	II 3 G Ex ec nC IIC T4 Gc	DEKRA 21UKEX0177X DEKRA 23UKEX0104X Installation Drawing: 9116QA01
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	FM19US0058X / FM19CA0031X Installation Drawing: 9116QF01	Install in CL I, Div. 2, Gr. A-D T4 or CL I, Zone 2, AEx/Ex nA nC IIC T4	FM19US0058X / FM19CA0031X Installation Drawing: 9116QF01
INMETRO	[Ex ia Ga] IIC/IIB/IIA [Ex ia Da] IIIC / [Ex ia Ma] I Ex ec nC IIC T4 Gc	DEKRA 23.0006X Installation Drawing: 9116QB01	Ex ec nC IIC T4 Gc	DEKRA 23.0006X Installation Drawing: 9116QB01
UL **(9116Ax-U9 /** **9116Bx-U9)**	Install in CL I DIV2 GP A-D T4 provides IS circuits for CL I-III DIV 1 GP A-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: 9116QU01	Install in CL I, Div. 2, Gr. A-D T4 or CL I, Zone 2, AEx nA nC IIC T4	E233311 Installation Drawing: 9116QU01
CCC	[Ex ia Ga] IIC/IIB/IIA [Ex ia Da] IIIC Ex ec nC IIC T4 Gc	2024322316005917	Ex ec nC IIC T4 Gc	2024322316005917
KCs **(9116Ax-KCs /** **9116Bx-KCs)**	[Ex ia Ga] IIC/IIB/IIA [Ex ia] IIC/IIB/IIA [Ex ia Da] IIIC [Ex ia D] 20	21-AV4BO-0176X / 21-AV4BO-0177X Installation Drawing: 9116QKC01	Ex nA nC IIC T4 Gc Ex nA nC IIC T4	21-AV4BO-0178X Installation Drawing: 9116QKC01
PESO	Ex ec nC IIC T4 GaGc	P659695/1	n.a.	n.a.
EAC Ex	[

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IECEx Installation drawing

For safe installation of 9116 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.

IECEx Certificate: KEM 10.0022X

Marking 9116Bxx: [Ex ia Ga] IIC/IIB/IIA
[Ex ia Da] IIIC
[Ex ia Ma] I

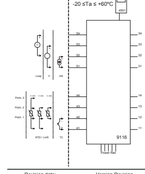
Marking 9116Bxx, 9116Axx: Ex ec nC IIC T4 Gc

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

9116Bxx Installation:

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

Non Hazardous area
or Zone 2



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

Status relay, terminal (33,34)
Zone 2 installation:
Voltage max: 32 VAC/ 32 VDC
Power max: 16 VA / 32 W
Current max: 0.5 A AC / 1 A DC

Relay output, terminal (13,14)
Zone 2 installation
Voltage max: 32 V AC / 30 VDC
Power max: 64 VA / 60 W
Current max: 2 A AC / 2 ADC

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

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Module 9116B1			
Terminal 51-52, 53-54			
Ui	30 V		
Ii	120 mA		
Pi	900 mW		
Ci	3 nF		
Li	2 µH		

Module 9116B1 Terminal 51-52	Group	Co	Lo	Lo/Ro
Uo	28 V	IIC	80 mF	4 mH 54 µH/Ω
Io	93 mA	IIB	640 mF	16 mH 218 µH/Ω
Po	650 mW	IIA	2.1 µF	32 mH 436 µH/Ω

Module 9116B1 Terminal 53-54	Group	Co	Lo	Lo/Ro
Uo	21.4 V	IIC	0.16 µF	4 mH 54 µH/Ω
Io	93 mA	IIB	1.13 µF	16 mH 218 µH/Ω
Po	650 mW	IIA	4.15 µF	32 mH 436 µH/Ω

Module 9116B1 Terminal 51-53	Group	Co	Lo	Lo/Ro
Uo	28 V	IIC	80 nF	4 mH 54 µH/Ω
Io	93 mA	IIB	640 nF	16 mH 218 µH/Ω
Po	650 mW	IIA	2.1 µF	32 mH 436 µH/Ω

Module 9116B1 Terminal 52-54	Group	Co	Lo	Lo/Ro
Uo	21.4 V	IIC	0.16 µF	4 mH 54 µH/Ω
Io	93 mA	IIB	1.13 µF	16 mH 218 µH/Ω
Po	650 mW	IIA	4.15 µF	32 mH 436 µH/Ω

Module 9116B2 Terminal 61-62, 63-64			
Ui, Vmax	8.3 V		
Ii, Imax	13.1 mA		
Pi	27.3 mW		

Module 9116B2 Terminal 61-62, 63-64	Group	Co	Lo	Lo/Ro
Uo, Voc	8.3 V	IIC	2 µF	207 mH 1 mH/Ω
Io, Isc	13.1 mA	IIB	10 µF	828 mH 5 mH/Ω
Po	27.3 mW	IIA	1000 µF	1000 mH 10 mH/Ω

Module 9116B2 Terminal 61-62, 63-64	Group	Co	Lo	Lo/Ro
Uo, Voc	8.3 V	IIC	2 µF	207 mH 1 mH/Ω
Io, Isc	13.1 mA	IIB	10 µF	828 mH 5 mH/Ω
Po	27.3 mW	IIA	1000 µF	1000 mH 10 mH/Ω

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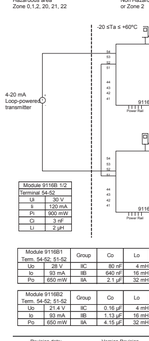
9116Bxx Installation:

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

Non Hazardous area
or Zone 2



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

Status relay, terminal (33,34)
Zone 2 installation:
Voltage max: 32 VAC/ 32 VDC
Power max: 16 VA / 32 W
Current max: 0.5 A AC / 1 A DC

Relay output, terminal (13,14)
Zone 2 installation
Voltage max: 32 V AC / 30 VDC
Power max: 64 VA / 60 W
Current max: 2 A AC / 2 ADC

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

Installation notes:
For group I (mines), the parameters for group IIA apply.

Install in pollution degree 2, overvoltage category II as defined in IEC60664-1

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 10ATEX0152 X) is allowed.

Max. screw terminal torque 0.5 Nm.
Stranded wire should be installed with an insulation stripping length of 5 mm or via a suitable insulated terminal such as a bootlace ferrule.

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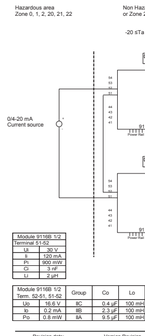
9116Bxx Installation:

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

Non Hazardous area
or Zone 2



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

Status relay, terminal (33,34)
Zone 2 installation:
Voltage max: 32 VAC/ 32 VDC
Power max: 16 VA / 32 W
Current max: 0.5 A AC / 1 A DC

Relay output, terminal (13,14)
Zone 2 installation
Voltage max: 32 V AC / 30 VDC
Power max: 64 VA / 60 W
Current max: 2 A AC / 2 ADC

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

Module 9116B 1/2 Terminal 54-52			
Ui	30 V		
Ii	120 mA		
Pi	900 mW		
Ci	3 nF		
Li	2 µH		

Module 9116B 1/2 Term. 54-52, 51-52	Group	Co	Lo	Lo/Ro
Uo	16.6 V	IIC	0.4 µF	100 mH 25mH/Ω
Io, Ioc	0.2 mA	IIB	2.3 µF	100 mH 100mH/Ω
Po	0.8 mW	IIA	9.5 µF	100 mH 200mH/Ω

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Module 9116B1			
Terminal 51-52, 53-54			
Ui	30 V		
Ii	120 mA		
Pi	900 mW		
Ci	3 nF		
Li	2 µH		

Module 9116B1 Terminal 51-52	Group	Co	Lo	Lo/Ro
Uo	28 V	IIC	80 nF	4 mH 54 µH/Ω
Io	93 mA	IIB	640 nF	16 mH 218 µH/Ω
Po	650 mW	IIA	2.1 µF	32 mH 436 µH/Ω

Module 9116B1 Terminal 53-54	Group	Co	Lo	Lo/Ro
Uo	21.4 V	IIC	0.16 µF	4 mH 54 µH/Ω
Io	93 mA	IIB	1.13 µF	16 mH 218 µH/Ω
Po	650 mW	IIA	4.15 µF	32 mH 436 µH/Ω

Module 9116B1 Terminal 51-53	Group	Co	Lo	Lo/Ro
Uo	28 V	IIC	80 nF	4 mH 54 µH/Ω
Io	93 mA	IIB	640 nF	16 mH 218 µH/Ω
Po	650 mW	IIA	2.1 µF	32 mH 436 µH/Ω

Module 9116B1 Terminal 52-54	Group	Co	Lo	Lo/Ro
Uo	21.4 V	IIC	0.16 µF	4 mH 54 µH/Ω
Io	93 mA	IIB	1.13 µF	16 mH 218 µH/Ω
Po	650 mW	IIA	4.15 µF	32 mH 436 µH/Ω

Module 9116B2 Terminal 61-62, 63-64			
Ui, Vmax	8.3 V		
Ii, Imax	13.1 mA		
Pi	27.3 mW		

Module 9116B2 Terminal 61-62, 63-64	Group	Co	Lo	Lo/Ro
Uo, Voc	8.3 V	IIC	2 µF	207 mH 1 mH/Ω
Io, Isc	13.1 mA	IIB	10 µF	828 mH 5 mH/Ω
Po	27.3 mW	IIA	1000 µF	1000 mH 10 mH/Ω

Module 9116B2 Terminal 61-62, 63-64	Group	Co	Lo	Lo/Ro
Uo, Voc	8.3 V	IIC	2 µF	207 mH 1 mH/Ω
Io, Isc	13.1 mA	IIB	10 µF	828 mH 5 mH/Ω
Po	27.3 mW	IIA	1000 µF	1000 mH 10 mH/Ω

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Instalação 9116B.

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

Área de não classificada
ou Zona 2

Supply terminais (31,32)
Voltagem: 19.2 – 31.2 VDC

Relé de estado, terminais (33,34)
Instalação em Zona 2:
Voltagem máx.: 32 VAC/ 32 VDC
Potência máx.: 16 VA / 32 W
Corrente máx.: 0.5 A AC / 1 A DC

Relé de estado, terminais (13,14)
Instalação em Zona 2:
Voltagem máx.: 32 VAC / 30 VDC
Potência máx.: 64 VA / 60 W
Corrente máx.: 2 A AC / 2 ADC

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

Module 9116B 1/2 Terminal 51-52			
Ui	30 V		
Ii	120 mA		
Pi	900 mW		
Ci	3 nF		
Li	2 µH		

Module 9116B 1/2 Term. 54-52, 51-52	Group	Co	Lo	Lo/Ro
Uo	16.6 V	IIC	0.4 µF	100 mH 25mH/Ω
Io, Ioc	0.2 mA	IIB	2.3 µF	100 mH 100mH/Ω
Po	0.8 mW	IIA	9.5 µF	100 mH 200mH/Ω

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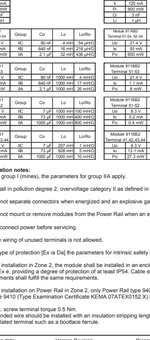
Instalação 9116A. :

Área de não classificada
ou Zona 2



Supply terminais (31,32)
Voltagem: 19.2 – 31.2 VDC

Relé de estado, terminais (33,34)
Instalação em Zona 2:
Voltagem máx.: 32 VAC/ 32 VDC
Potência máx.: 16 VA / 32 W
Corrente máx.: 0.5 A AC / 1 A DC

Relé de estado, terminais (13,14)
Instalação em Zona 2:
Voltagem máx.: 32 VAC / 30 VDC
Potência máx.: 64 VA / 60 W
Corrente máx.: 2 A AC / 2 ADC

Para instalação na Zona 2, o módulo deverá ser instalado em um invólucro no tipo de proteção Ex e, proporcionando um grau de proteção de pelo menos IP54. Os dispositivos de entrada de cabos e os elementos de obturação devem cumprir os mesmos requisitos.

Para instalação no Power Rail na Zona 2, somente o Power Rail tipo 9400 fornecido pela Unidade de Controle de Potência tipo 9410 (Certificado de Exame de Tipo IECEx KEM 08.0020X) é permitido.

O módulo de programação 4501 deve ser usado somente com módulos da PR Electronics. É importante que o módulo não esteja danificado e não tenha sido alterado ou modificado de forma alguma.
Somente módulos 4501 livres de poeira e umidade deverão ser instalados.

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9116Bxx Installation:

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

Non Hazardous area
or Zone 2

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

Status relay, terminal (33,34)
Zone 2 installation:
Voltage max: 32 VAC/ 32 VDC
Power max: 16 VA / 32 W
Current max: 0.5 A AC / 1 A DC

Relay output, terminal (13,14)
Zone 2 installation
Voltage max: 32 V AC / 30 VDC
Power max: 64 VA / 60 W
Current max: 2 A AC / 2 ADC

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

Installation notes:
For group I (mines), the parameters for group IIA apply.

Install in pollution degree 2, overvoltage category II as defined in IEC60664-1

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 10ATEX0152 X) is allowed.

Max. screw terminal torque 0.5 Nm.
Stranded wire should be installed with an insulation stripping length of 5 mm or via a suitable insulated terminal such as a bootlace ferrule.

Module 9116B 1/2 Terminal 51-52			
Ui	30 V		
Ii	120 mA		
Pi	900 mW		
Ci	3 nF		
Li	2 µH		

Module 9116B 1/2 Term. 54-52, 51-52	Group	Co	Lo	Lo/Ro
Uo	16.6 V	IIC	0.4 µF	100 mH 25mH/Ω
Io, Ioc	0.2 mA	IIB	2.3 µF	100 mH 100mH/Ω
Po	0.8 mW	IIA	9.5 µF	100 mH 200mH/Ω

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Instalação 9116B.

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

Área de não classificada
ou Zona 2

Supply terminais (31,32)
Voltagem: 19.2 – 31.2 VDC

Relé de estado, terminais (33,34)
Instalação em Zona 2:
Voltagem máx.:32 VAC/ 32 VDC
Potência máx.: 16 VA / 32 W
Corrente máx.: 0.5 A AC / 1 A DC

Relé de estado, terminais (13,14)
Instalação em Zona 2:
Voltagem máx.: 32 VAC / 30 VDC
Potência máx.: 64 VA / 60 W
Corrente máx.: 2 A AC / 2 ADC

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

Notas de instalação:

Para o grupo I (minas), aplicam-se os parâmetros do grupo IIA.
Instalação em grau de poluição 2, categoria de sobretensão II conforme definido no IEC 60664-1.
Os circuitos não intrinsecamente seguros só pode ser conectado para sobretensão limitado ao categoria III 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.

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 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.

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.

Module 9116B 1/2 Terminal 51-52			
Ui	30 V		
Ii	120 mA		
Pi	900 mW		
Ci	3 nF		
Li	2 µH		

Module 9116B 1/2 Term. 54-52, 51-52	Group	Co	Lo	Lo/Ro
Uo	16.6 V	IIC	0.4 µF	100 mH 25mH/Ω
Io, Ioc	0.2 mA	IIB	2.3 µF	100 mH 100mH/Ω
Po	0.8 mW	IIA	9.5 µF	100 mH 200mH/Ω

Revision date:	Version Revision	Prepared by:	Page:
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LERBAKKEN 10, 8410 ROENDE DENMARK

KC 설치 도면

9116의 안전한 설치를 위해 다음 사항을 준수해야 합니다. 이 모듈은 이 지역에 적용되는 국내 및 국제 법률, 지침 및 표준에 정통한 공격자만이 설치해야 합니다.
제조연도는 일련번호 첫 자리 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 않은 것이 중요합니다. 먼지와 습기가 없는 상태에서 4501 모듈을 설치해야 합니다.

KC 인증서: 21-AVHBO-0177X
마킹 9116Bxx: [Ex ia Ga] IIC/IIB/IIA

KC 인증서: 21-AVHBO-0177X
마킹 9116Bxx: [Ex ia Da] IIIC

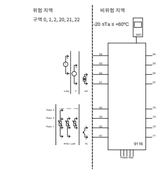
KC 인증서: 21-AVHBO-0178X
마킹 9116Axx: Ex nA nC IIC T4 Gc

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

9116Bxx 설치:

위험 지역
구역 0,1,2,20,21,22

비위험 지역
또는 구역 2



공급, 단자 (31,32)
전압: 19.2 – 31.2 VDC

상태 릴레이, 단자(33,34)
구역 2 설치:
최대 전압: 32 VAC / 32 VDC
최대 출력: 16 VA / 32 W
최대 전류: 0.5 A AC / 1 A DC

릴레이 출력, 단자 (13,14)
구역 2 설치
최대 전압: 32 V AC / 30 VDC
최대 출력: 64 VA / 60 W
최대 전류: 2 A AC / 2 ADC

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

9116B 1/2 단자대	
51-52	
Ui	30 V
Ii	120 mA
Pi	900 mW
Ci	3 nF
Li	2 µH

9116B 1/2 단자대 54-52, 51-52	그룹	Co	Lo	Lo/Ro
Uo	16.6 V	IIC	0.4 µF	100 mH 25mH/Ω
Io, Ioc	0.2 mA	IIB	2.3 µF	100 mH 100mH/Ω
Po	0.8 mW	IIA	9.5 µF	100 mH 200mH/Ω

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9116B1 단자대	
51-52, 53-54	
Ui	30 V
Ii	120 mA
Pi	900 mW
Ci	3 nF
Li	2 µH

9116B1 단자대 51-52	그룹	Co	Lo	Lo/Ro
Uo	28 V	IIC	80 nF	4 mH 54 µH/Ω
Io	93 mA	IIB	640 nF	16 mH 218 µH/Ω
Po	650 mW	IIA	2.1 µF	32 mH 436 µH/Ω

9116B1 단자대 53-54	그룹	Co	Lo	Lo/Ro
Uo	21.4 V	IIC	0.16 µF	4 mH 54 µH/Ω
Io	93 mA	IIB	1.13 µF	16 mH 218 µH/Ω
Po	650 mW	IIA	4.15 µF	32 mH 436 µH/Ω

9116B1 단자대 51-53	그룹	Co	Lo	Lo/Ro
Uo	28 V	IIC	80 nF	4 mH 54 µH/Ω
Io	93 mA	IIB	640 nF	16 mH 218 µH/Ω
Po	650 mW	IIA	2.1 µF	32 mH 436 µH/Ω

9116B1 단자대 52-54	그룹	Co	Lo	Lo/Ro
Uo	21.4 V	IIC	0.16 µF	4 mH 54 µH/Ω
Io	93 mA	IIB	1.13 µF	16 mH 218 µH/Ω
Po	650 mW	IIA	4.15 µF	32 mH 436 µH/Ω

9116B2 단자대 61-62, 63-64	
Ui, Vmax	8.3 V
Ii, Imax	13.1 mA
Pi	27.3 mW

9116B2 단자대 61-62, 63-64	그룹	Co	Lo	Lo/Ro
Uo, Voc	8.3 V	IIC	2 µF	207 mH 1 mH/Ω
Io, Isc	13.1 mA	IIB	10 µF	828 mH 5 mH/Ω
Po	27.3 mW	IIA	1000 µF	1000 mH 10 mH/Ω

9116B2 단자대 61-62, 63-64	그룹	Co	Lo	Lo/Ro
Uo, Voc	8.3 V	IIC	2 µF	207 mH 1 mH/Ω
Io, Isc	13.1 mA	IIB	10 µF	828 mH 5 mH/Ω
Po	27.3 mW	IIA	1000 µF	1000 mH 10 mH/Ω

설치 참고 사항:
그룹 I(광산)의 경우 그룹 IIA의 매개변수가 적용됩니다.

오염 등급 2, 과전압 범주 II에 대한 IEC 60664-1에 정의된 대로 설치합니다.

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]에 따는 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 밀폐 요소는 동일한 요구 사항을 충족해야 합니다.

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

나사 단자대 토크 0.5 Nm.
연선은 5mm의 절연 피복을 제거 후 사용하거나 부트페룰스 페룰과 같은 적절한 절연 단자를 통해 설치해야 합니다.

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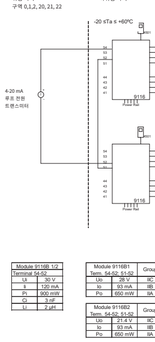
9116Bxx 설치:

위험 지역
구역 0,1,2, 20, 21, 22

비위험 지역
또는 구역 2



공급, 단자 (31,32)
전압: 19.2 – 31.2 VDC

상태 릴레이, 단자 (33,34)
구역 2 설치:
최대 전압: 32 VAC/ 32 VDC
최대 출력: 16 VA / 32 W
최대 전류: 0.5 A AC / 1 A DC

릴레이 출력, 단자 (13,14)
구역 2 설치
최대 전압: 32 V AC / 30 VDC
최대 출력: 64 VA / 60 W
최대 전류: 2 A AC / 2 ADC

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

9116B 1/2 단자대	
51-52	
Ui	30 V
Ii	120 mA
Pi	900 mW
Ci	3 nF
Li	2 µH

9116B 1/2 단자대 54-52, 51-52	그룹	Co	Lo	Lo/Ro
Uo	16.6 V	IIC	0.4 µF	100 mH 25mH/Ω
Io, Ioc	0.2 mA	IIB	2.3 µF	100 mH 100mH/Ω
Po	0.8 mW	IIA	9.5 µF	100 mH 200mH/Ω

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9116B1 단자대	
51-52, 53-54	
Ui	30 V
Ii	120 mA
Pi	900 mW
Ci	3 nF
Li	2 µH

9116B1 단자대 51-52	그룹	Co	Lo	Lo/Ro
Uo	28 V	IIC	80 nF	4 mH 54 µH/Ω
Io	93 mA	IIB	640 nF	16 mH 218 µH/Ω
Po	650 mW	IIA	2.1 µF	32 mH 436 µH/Ω

9116B1 단자대 53-54	그룹	Co	Lo	Lo/Ro
Uo	21.4 V	IIC	0.16 µF	4 mH 54 µH/Ω
Io	93 mA	IIB	1.13 µF	16 mH 218 µH/Ω
Po	650 mW	IIA	4.15 µF	32 mH 436 µH/Ω

9116B1 단자대 51-53	그룹	Co	Lo	Lo/Ro
Uo	28 V	IIC	80 nF	4 mH 54 µH/Ω
Io	93 mA	IIB	640 nF	16 mH 218 µH/Ω
Po	650 mW	IIA	2.1 µF	32 mH 436 µH/Ω

9116B1 단자대 52-54	그룹	Co	Lo	Lo/Ro
Uo	21.4 V	IIC	0.16 µF	4 mH 54 µH/Ω
Io	93 mA	IIB	1.13 µF	16 mH 218 µH/Ω
Po	650 mW	IIA	4.15 µF	32 mH 436 µH/Ω

9116B2 단자대 61-62, 63-64	
Ui, Vmax	8.3 V
Ii, Imax	13.1 mA
Pi	27.3 mW

9116B2 단자대 61-62, 63-64	그룹	Co	Lo	Lo/Ro
Uo, Voc	8.3 V	IIC	2 µF	207 mH 1 mH/Ω
Io, Isc	13.1 mA	IIB	10 µF	828 mH 5 mH/Ω
Po	27.3 mW	IIA	1000 µF	1000 mH 10 mH/Ω

9116B2 단자대 61-62, 63-64	그룹	Co	Lo	Lo/Ro
Uo, Voc	8.3 V	IIC	2 µF	207 mH 1 mH/Ω
Io, Isc	13.1 mA	IIB	10 µF	828 mH 5 mH/Ω
Po	27.3 mW	IIA	1000 µF	1000 mH 10 mH/Ω

설치 참고 사항:
그룹 I(광산)의 경우 그룹 IIA의 매개변수가 적용됩니다.

오염 등급 2, 과전압 범주 II에 대한 IEC 60664-1에 정의된 대로 설치합니다.

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]에 따는 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 밀폐 요소는 동일한 요구 사항을 충족해야 합니다.

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

4501 프로그래밍 모듈은 PR electronics 모듈과 함께만 사용해야 합니다. 모듈이 손상되지 않았고, 어떤 식으로든 변경 또는 수정되지 않은 것이 중요합니다. 먼지와 습기가 없는 상태에서 4501 모듈을 설치해야 합니다.

개정일:	버전 개정	제작:	페이지:
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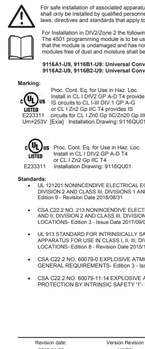
9116Axx 설치:

비분류 지역 또는 구역 2



공급, 단자(31,32)
전압: 19.2 – 31.2 VDC

상태 릴레이, 단자(33,34)
구역 2 설치:
최대 전압: 32 VAC / 32 VDC
최대 출력: 16 VA / 32 W
최대 전류: 0.5 A AC / 1 A DC

릴레이 출력, 단자 (13,14)
구역 2 설치
최대 전압: 32 V AC / 30 VDC
최대 출력: 64 VA / 60 W
최대 전류: 2 A AC / 2 ADC

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

9116B 1/2 단자대	
51-52	
Ui	30 V
Ii	120 mA
Pi	900 mW
Ci	3 nF
Li	2 µH

| 9116B 1/2 단자대 54-52, 51-