

# INSTALLATION INSTRUCTION

## RQB-50Y / RQB-100Y Series DC-DC Converter

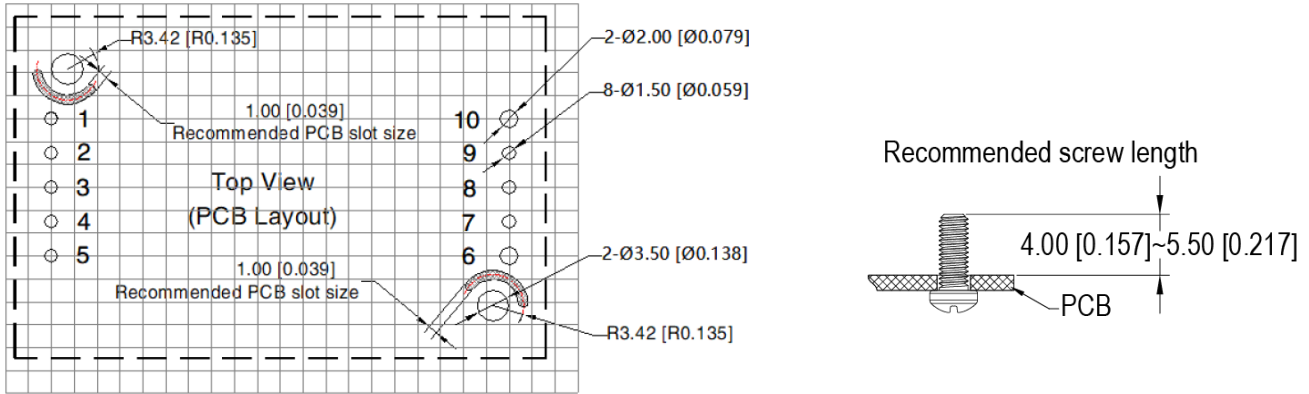
READ THIS CAREFULLY BEFORE INSTALLATION!	VOR DER INSTALLATION BITTE FOLGENDE SICHERHEITSHINWEISE BEACHTEN!	LEGGERE ATTENTAMENTE PRIMA DELL'INSTALLAZIONE!	A LIRE ATTENTIVEMENT AVANT L'INSTALLATION!
<p>Before operating, read this document thoroughly and retain it for future reference. Non-respect of these instructions may reduce performances and safety of the devices and cause danger for people and property. The products must be installed, operated, serviced and maintained by qualified personnel in compliance with applicable standards and regulations. Do not open the device, it does not contain replaceable components, the tripping of the internal fuse (if included) is caused by an internal failure. Do not repair or modify the device, if malfunction or failure should occur during operation, send unit to the factory for inspection. No responsibility is assumed by Bel Power Solutions for any consequences deriving from the use of this material.</p>	<p>Lesen Sie dieses Dokument vor der Inbetriebnahme sorgfältig durch und bewahren Sie es zum späteren Nachschlagen auf. Die Nichtbeachtung dieser Anweisungen kann die Funktion und Sicherheit der Geräte beeinträchtigen und birgt Gefahren für Personen und Eigentum. Die Geräte müssen von qualifiziertem Personal unter Einhaltung der geltenden Normen und Vorschriften installiert, betrieben, gewartet und Instand gehalten werden. Öffnen Sie das Gerät nicht, es enthält keine austauschbaren Komponenten, das Auslösen der internen Sicherung (falls vorhanden) ist stets auf tiefergehende Fehler im Schaltkreis zurück zu führen. Reparieren oder modifizieren Sie das Gerät nicht. Sollte während des Betriebs eine Fehlfunktion oder ein Defekt auftreten, schicken Sie das Gerät zur Überprüfung ins Werk. Bel Power Solutions übernimmt keine Haftung für die Folgen, die sich aus dem Einsatz dieses Gerätes ergeben.</p>	<p>Prima dell'installazione, leggere attentamente questo documento istruzioni e conservarle per future consultazioni. L'inosservanza delle presenti istruzioni può compromettere le caratteristiche e la sicurezza dell'apparecchio e causare pericolo per le persone e le cose. Il prodotto deve essere installato, utilizzato e riparato da personale qualificato e nel rispetto delle normative vigenti. Non aprire il prodotto, esso non contiene componenti sostituibili, il guasto del fusibile interno (se previsto) è causato da un guasto interno. Non tentare di riparare o modificare il prodotto, se durante il funzionamento si verificano guasti o anomalie, inviarlo al produttore per il controllo. Bel Power Solutions non si assume nessuna responsabilità per qualunque conseguenza derivante dall'uso di questo materiale.</p>	<p>Lire ces instructions avant l'installation, conservez ce manuel pour référence future. Défaut de se conformer à ces instructions peut affecter les caractéristiques et la sécurité du dispositif, et causer du danger aux personnes ou aux biens. Les produits doivent être installés, exploités et entretenus par du personnel qualifié et en conformité avec les règlements. N'ouvrez pas le produit, il ne contient aucune pièce réparable, le déclenchement du fusible interne (le cas échéant) est causé par un défaut interne. Ne pas essayer de réparer ou modifier le produit ; si des défaillances se produisent pendant le fonctionnement, retourner le produit au fabricant pour inspection. Bel Power Solutions n'assume aucune responsabilité des conséquences éventuelles découlant de l'utilisation des produits.</p>
CAUTION	ACHTUNG	ATTENZIONE	AVERTISSEMENT
<p><b>RISK OF BURNS, EXPLOSION, FIRE, ELECTRICAL SHOCK, PERSONAL INJURY.</b> Never carry out work on live parts! Danger of fatal injury! The product's enclosure may be hot, allow time for cooling product before touching it. Do not allow liquids or foreign objects to enter into the products. To avoid sparks, do not connect or disconnect the device before having previously turned-off input power and wait for internal capacitors discharge (minimum 2 minutes).</p>	<p><b>GEFAHR VON VERBRENNUNGEN, EXPLOSIONEN, FEUER, STROMSCHLAG, PERSONENSCHÄDEN.</b> Führen Sie niemals Arbeiten an spannungsführenden Teilen durch! Gefahr von tödlichen Verletzungen! Das Gehäuse des Gerätes kann heiß sein, lassen Sie Zeit zum Abkühlen des Gerätes, bevor Sie es berühren. Lassen Sie keine Flüssigkeiten oder Fremdkörper in die Geräte eindringen. Um Überschlüge zu vermeiden, schließen Sie das Gerät nicht an oder trennen Sie es nicht ohne vorher die Eingangsspannung abgeschaltet zu haben, und warten Sie die Entladung der internen Kondensatoren ab (mindestens 2 Minuten).</p>	<p><b>RISCHIO USTIONI, ESPLOSIONE, INCENDIO, SCOSSA, LESIONI GRAVI.</b> Non effettuare mai operazioni sulle parti sotto tensione! Pericolo di lesioni letali! Il contenitore può scottare, lasciar quindi raffreddare il dispositivo prima di toccarlo. Non far entrare liquidi o oggetti estranei nel dispositivo. Per evitare scintille, non collegare o scollegare l'apparecchiatura prima di avere tolto tensione di ingresso e prima che sia avvenuta la scarica dei condensatori interni (min. 2 minuti).</p>	<p><b>RISQUE DE BRULURES, EXPLOSION, INCENDIE, ELECTROCUTION, DOMMAGE AUX PERSONNES.</b> Ne jamais effectuer des opérations sur les parties sous tension! Danger de mort! Le boîtier peut produire des brûlures, le laisser refroidir avant de toucher l'appareil. Ne faire pas pénétrer des liquides ou des corps étrangers dans l'appareil. Pour éviter des étincelles, ne pas connecter ou déconnecter l'équipement jusqu'à ce que la tension d'entrée a été supprimée et avant qu'il n'ait eut lieu la décharge des condensateurs internes (minimum 2 minutes).</p>
INTENDED USE	BESTIMMUNGSGEMÄSSER BETRIEB	USO PREVISTO	UTILISATION
<p>These are component type devices for internal installation within system equipment. They are isolated from hazardous voltages and with outputs under 60 Vdc or connected to protective earth. The devices can be used for general applications such as ITE network/servers, industrial and medical. This product may cause interference if used in residential areas. Such use must be avoided unless the user takes special measures to reduce electromagnetic emissions to prevent interference to the reception of radio and television broadcast. Do not use these devices in applications where malfunction may cause injury or death. Please see full spec of unit for further details.</p>	<p>Dies sind Komponenten für die interne Installation in Systemgeräten. Sie sind gegen gefährliche Spannungen isoliert und haben Ausgänge unter 60 VDC oder sind mit Schutzerde verbunden. Die Geräte können für allgemeine Anwendungen wie ITE-Netzwerke / Server, Industrie und Medizin verwendet werden. Dieses Gerät ist nicht für den Betrieb in Wohnräumen konzipiert. Für den Betrieb in solchen Umgebungen müssen zusätzliche EMV Schutzmassnahmen erbracht werden. Verwenden Sie diese Geräte nicht in Anwendungen, bei denen eine Fehlfunktion zu Verletzungen oder zum Tod führen kann. Weitere Informationen finden Sie in der vollständigen Spezifikation des Gerätes.</p>	<p>I dispositivi sono di tipo componente per l'installazione all'interno dell'apparecchiatura. Sono isolati da una tensione pericolosa e hanno tensione in uscita sotto 60Vdc o sono collegati a terra protettiva. I dispositivi son per l'utilizzo generale per applicazioni come rete ITE/ server, industriali e medici. Questo prodotto può causare interferenze se usato in aree residenziali. Tale uso deve essere evitato a meno che l'utente non prenda misure speciali per ridurre le emissioni elettromagnetiche atte ad evitare interferenze alla ricezione alle trasmissioni radiotelevisive. Non utilizzare in applicazioni in cui un eventuale guasto può comportare rischio di lesioni o di morte. Vedere le specifiche complete del dispositivo per ulteriori dettagli</p>	<p>Ce sont des types de composant pour une installation interne d'équipement de système. Ils sont isolés des tensions dangereuses et avec des sorties inférieures à 60 Vdc ou connectés au terre de protection. Les appareils peuvent être utilisés pour des applications générales telles que les réseaux / serveurs ITE, industriels et médicaux. Ce produit peut provoquer des interférences s'il est utilisé dans un environnement résidentielles. Nous ne recommandons pas son utilisation dans de telles conditions à moins que l'utilisateur prenne des mesures spécifiques pour réduire les émissions électromagnétiques afin d'éviter les interférences avec les systèmes à réception tel que radio et de télévision. Ne pas utiliser ces dispositifs dans une application où un dysfonctionnement pourrait entraîner le risque des blessures ou de mort. Pour de plus amples informations, se référer à la fiche technique du produit</p>
ENVIRONMENTAL CHARACTERISTICS	UMGEBUNGSBEDINGUNGEN	CARATTERISTICHE AMBIENTALI	CARACTÉRISTIQUES ENVIRONNEMENTALES
<p>Installation in a Pollution Degree 2 environment. Do not use in wet area or subject to moisture. Carefully recycle the product and related batteries according to local regulations.</p>	<p>Installation in einer Umgebung mit Verschmutzungsgrad 2. Nicht in nassen Bereichen oder unter Feuchtigkeit verwenden. Das Gerät und die zugehörigen Batterien sind entsprechend den lokalen Vorschriften zu recyceln bzw. zu entsorgen.</p>	<p>Usare in ambienti con Grado di Inquinamento 2. Non far funzionare l'apparecchio in un ambiente umido o soggetto a formazione di condensa. Riciclare il prodotto e le batterie collegate, nel rispetto delle normative locali vigenti.</p>	<p>Utiliser les produits dans des environnements avec degré de pollution 2. Ne pas employer l'appareil dans un environnement humide ou soumis à la condensation. Recycler les produits et les batteries, conformément à la réglementation locale.</p>

## OPERATION RANGE

Refer to product rating label for input and output ratings.

## INSTALLATION

After the converter and the PCB board are soldered, we need to use screws to connect the PCB and the converter and apply screw glue (anaerobic glue) on the screws to prevent the screws from loosening. The case and input/output have insulation withstand voltage. For safety, the pad of the lock screw can be grounded, which means that the metal case of the converter will be grounded.



Note: Grid 2.54\*2.54mm

## CLEANING LIQUIDS AND PROTECTION DEGREE

The inside of the converter uses a vacuum potting process. To avoid the failure of the module, please prevent any liquid from infiltrating. The converter is designed for applications in Pollution degree PD3 environments.

## CAUTIONS

This product is specially used in railways and some industrial fields and requires professional personnel to install it. It needs to strictly abide by the relevant safety standards and requirements during use and installation.

The diagonal screw holes of the converter and the metal heat dissipation shell are connected. Please pay attention to the corresponding safety distance during the PCB wiring process of the system.

Pin 4 is an external capacitor charging pin, and the voltage is about 85 VDC during normal operation, which needs to be focused on in the application. In a residential environment this product may cause radio interference in which case the user may be required to take adequate measures.

## PROTECTIVE EARTHING

If the product is grounded to the system through screws, make sure that the screws and holes are in good contact.

## ISOLATION

The electric strength test is performed in the factory as routine test. It should not be repeated in the field. The Company will not honor warranty claims resulting from incorrectly executed electric strength tests.

## FUSING

The railway standard EN 50155 does not allow fuses in the converters. Consequently, the installer must add an external fuse or corresponding type of circuit breaker. However, when this is not possible, an incorporated fuse is available. This fuse is not accessible and will not trip, except if the converter is defect.

## SERVICING

The product(s) must be returned to the Authorized Bel Service Center for repair with a pre-assigned RMA number.

## LIMITED WARRANTY

For all models the company warrants each power supply of its manufacture for a period of three years from the date of original shipment. This warranty applies to defects in materials and workmanship that result in non-performance to published specifications. The product must be returned to the Authorized Service Center for repair with a pre-assigned RMA number. The company assumes no liabilities for consequential damages of any kind through the use or misuse of its products by any user. No other obligations are expressed or implied. Please note that the specifications, terms, and conditions stated are subject to change without notice.

## ALLOWED MOUNTING POSITION

Make sure that there is sufficient airflow available for convection cooling and that the temperature of the bottom plate is within the specified range. This should be verified by measuring the case temperature at the specified measuring point when the converter is operated in the end-use application. Tc max defined in RQB Series datasheets should not be exceeded. Ensure that a failure of the converter does not result in a hazardous condition.

## NUCLEAR AND MEDICAL APPLICATIONS

These products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

## TECHNICAL REVISIONS

The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice. For further details refer to [RQB-100Y Series](#) and [RQB-50Y Series](#) datasheets.



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