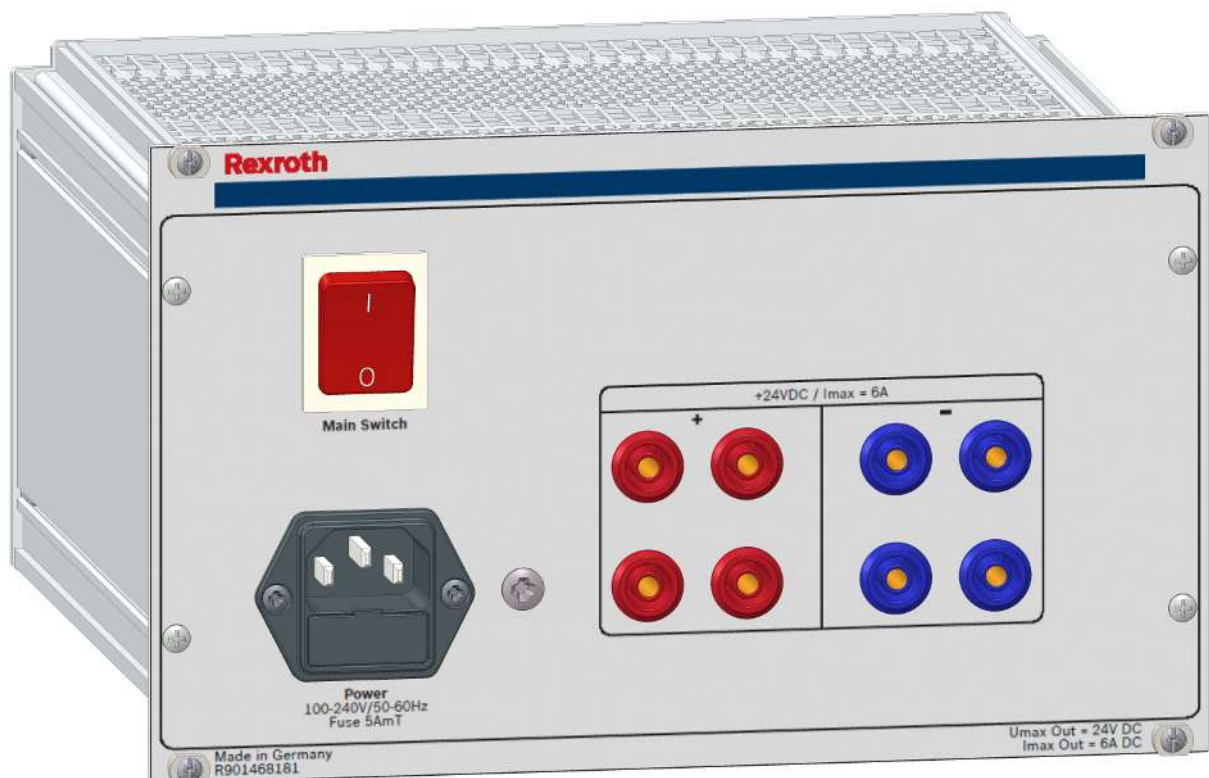


Training system

Power supply unit TS-EC-E-100-240V/50-60HZ-6A

Operating instructions
R901471648

First edition



Title	Power supply unit TS-EC-E-100-240V/50-60HZ-6A
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Proprietary note

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D Deutsch	USA English	F Français
<p>▲ WARNUNG Lebensgefahr bei Nichtbeachtung der nachstehenden Sicherheitshinweise!</p> <p>Nehmen Sie die Produkte erst dann in Betrieb, nachdem Sie die mit dem Produkt gelieferten Unterlagen und Sicherheitshinweise vollständig durchgelesen, verstanden und beachtet haben.</p> <p>Sollten Ihnen keine Unterlagen in Ihrer Landessprache vorliegen, wenden Sie sich an Ihren zuständigen Rexroth-Vertriebspartner.</p> <p>Nur qualifiziertes Personal darf an Antriebskomponenten arbeiten.</p> <p>Nähere Erläuterungen zu den Sicherheitshinweisen entnehmen Sie Kapitel 1 dieser Dokumentation.</p>	<p>▲ WARNING Danger to life in case of non-compliance with the below-mentioned safety instructions!</p> <p>Do not attempt to install or put these products into operation until you have completely read, understood and observed the documents supplied with the product.</p> <p>If no documents in your language were supplied, please consult your Rexroth sales partner.</p> <p>Only qualified persons may work with drive components.</p> <p>For detailed explanations on the safety instructions, see chapter 1 of this documentation.</p>	<p>▲ AVERTISSEMENT Danger de mort en cas de non-respect des consignes de sécurité figurant ci-après !</p> <p>Ne mettez les produits en service qu'après avoir lu complètement et après avoir compris et respecté les documents et les consignes de sécurité fournis avec le produit.</p> <p>Si vous ne disposez pas de la documentation dans votre langue, merci de consulter votre partenaire Rexroth.</p> <p>Seul un personnel qualifié est autorisé à travailler sur les composants d'entraînement.</p> <p>Vous trouverez des explications plus détaillées relatives aux consignes de sécurité au chapitre 1 de la présente documentation.</p>
<p>▲ WARNUNG Hohe elektrische Spannung! Lebensgefahr durch elektrischen Schlag!</p> <p>Betreiben Sie Antriebskomponenten nur mit fest installiertem Schutzleiter.</p> <p>Schalten Sie vor Zugriff auf Antriebskomponenten die Spannungsversorgung aus.</p> <p>Beachten Sie die Entladezeiten von Kondensatoren.</p>	<p>▲ WARNING High electrical voltage! Danger to life by electric shock!</p> <p>Only operate drive components with a permanently installed equipment grounding conductor.</p> <p>Disconnect the power supply before accessing drive components.</p> <p>Observe the discharge times of the capacitors.</p>	<p>▲ AVERTISSEMENT Tensions électriques élevées ! Danger de mort par électrocution !</p> <p>N'exploitez les composants d'entraînement que si un conducteur de protection est installé de manière permanente.</p> <p>Avant d'intervenir sur les composants d'entraînement, coupez toujours la tension d'alimentation.</p> <p>Tenez compte des délais de décharge de condensateurs.</p>
<p>▲ WARNUNG Gefährbringende Bewegungen! Lebensgefahr!</p> <p>Halten Sie sich nicht im Bewegungsbereich von Maschinen und Maschinenteilen auf.</p> <p>Verhindern Sie den unbeabsichtigten Zutritt für Personen.</p> <p>Bringen Sie vor dem Zugriff oder Zutritt in den Gefahrenbereich die Antriebe sicher zum Stillstand.</p>	<p>▲ WARNING Dangerous movements! Danger to life!</p> <p>Keep free and clear of the ranges of motion of machines and moving machine parts.</p> <p>Prevent personnel from accidentally entering the range of motion of machines.</p> <p>Make sure that the drives are brought to safe standstill before accessing or entering the danger zone.</p>	<p>▲ AVERTISSEMENT Mouvements entraînant une situation dangereuse ! Danger de mort !</p> <p>Ne séjournez pas dans la zone de mouvement de machines et de composants de machines.</p> <p>Évitez tout accès accidentel de personnes.</p> <p>Avant toute intervention ou tout accès dans la zone de danger, assurez-vous de l'arrêt préalable de tous les entraînements.</p>
<p>▲ WARNUNG Elektromagnetische / magnetische Felder! Gesundheitsgefahr für Personen mit Herzschrittmachern, metallischen Implantaten oder Hörgeräten!</p> <p>Zutritt zu Bereichen, in denen Antriebskomponenten montiert und betrieben werden, ist für oben genannten Personen untersagt bzw. nur nach Rücksprache mit einem Arzt erlaubt.</p>	<p>▲ WARNING Electromagnetic / magnetic fields! Health hazard for persons with heart pacemakers, metal implants or hearing aids!</p> <p>The above-mentioned persons are not allowed to enter areas in which drive components are mounted and operated, or rather are only allowed to do this after they consulted a doctor.</p>	<p>▲ AVERTISSEMENT Champs électromagnétiques / magnétiques ! Risque pour la santé des porteurs de stimulateurs cardiaques, d'implants métalliques et d'appareils auditifs !</p> <p>L'accès aux zones où sont montés et exploités les composants d'entraînement est interdit aux personnes susmentionnées ou bien ne leur est autorisé qu'après consultation d'un médecin.</p>
<p>▲ VORSICHT Heiße Oberflächen (> 60 °C)! Verbrennungsgefahr!</p> <p>Vermeiden Sie das Berühren von metallischen Oberflächen (z. B. Kühlkörpern). Abkühlzeit der Antriebskomponenten einhalten (mind. 15 Minuten).</p>	<p>▲ CAUTION Hot surfaces (> 60 °C [140 °F])! Risk of burns!</p> <p>Do not touch metallic surfaces (e.g. heat sinks). Comply with the time required for the drive components to cool down (at least 15 minutes).</p>	<p>▲ ATTENTION Surfaces chaudes (> 60 °C)! Risque de brûlure !</p> <p>Évitez de toucher des surfaces métalliques (p. ex. dissipateurs thermiques). Respectez le délai de refroidissement des composants d'entraînement (au moins 15 minutes).</p>

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<p>▲VORSICHT Unsachgemäße Handhabung bei Transport und Montage! Verletzungsgefahr!</p> <p>Verwenden Sie geeignete Montage- und Transporteinrichtungen.</p> <p>Benutzen Sie geeignetes Werkzeug und persönliche Schutzausrüstung.</p>	<p>▲CAUTION Improper handling during transport and mounting! Risk of injury!</p> <p>Use suitable equipment for mounting and transport.</p> <p>Use suitable tools and personal protective equipment.</p>	<p>▲ATTENTION Manipulation incorrecte lors du transport et du montage ! Risque de blessure !</p> <p>Utilisez des dispositifs de montage et de transport adéquats.</p> <p>Utilisez des outils appropriés et votre équipement de protection personnel.</p>
<p>▲VORSICHT Unsachgemäße Handhabung von Batterien! Verletzungsgefahr!</p> <p>Versuchen Sie nicht, leere Batterien zu reaktivieren oder aufzuladen (Explosions- und Verätzungsgefahr).</p> <p>Zerlegen oder beschädigen Sie keine Batterien. Werfen Sie Batterien nicht ins Feuer.</p>	<p>▲CAUTION Improper handling of batteries! Risk of injury!</p> <p>Do not attempt to reactivate or recharge low batteries (risk of explosion and chemical burns).</p> <p>Do not dismantle or damage batteries. Do not throw batteries into open flames.</p>	<p>▲ATTENTION Manipulation incorrecte de piles! Risque de blessure!</p> <p>N'essayez pas de réactiver des piles vides ou de les charger (risque d'explosion et de brûlure par acide).</p> <p>Ne désassemblez et n'endommagez pas les piles. Ne jetez pas des piles dans le feu.</p>

E Español	P Português	I Italiano
<p>▲ADVERTENCIA ¡Peligro de muerte en caso de no observar las siguientes indicaciones de seguridad!</p> <p>Los productos no se pueden poner en servicio hasta después de haber leído por completo, comprendido y tenido en cuenta la documentación y las advertencias de seguridad que se incluyen en la entrega.</p> <p>Si no dispusiera de documentación en el idioma de su país, diríjase a su distribuidor competente de Rexroth.</p> <p>Solo el personal debidamente cualificado puede trabajar en componentes de accionamiento.</p> <p>Encontrará más detalles sobre las indicaciones de seguridad en el capítulo 1 de esta documentación.</p>	<p>▲ATENÇÃO Perigo de vida em caso de inobservância das seguintes instruções de segurança!</p> <p>Utilize apenas os produtos depois de ter lido, compreendido e tomado em consideração a documentação e as instruções de segurança fornecidas juntamente com o produto.</p> <p>Se não tiver disponível a documentação na sua língua, dirija-se ao seu parceiro de venda responsável da Rexroth.</p> <p>Apenas pessoal qualificado pode trabalhar nos componentes de acionamento.</p> <p>Explicações mais detalhadas relativamente às instruções de segurança constam no capítulo 1 desta documentação.</p>	<p>▲AVVERTENZA Pericolo di morte in caso di inosservanza delle seguenti indicazioni di sicurezza!</p> <p>Mettere in funzione i prodotti solo dopo aver letto, compreso e osservato per intero la documentazione e le indicazioni di sicurezza fornite con il prodotto.</p> <p>Se non dovesse essere presente la documentazione nella vostra lingua, siete pregati di rivolgervi al rivenditore Rexroth competente.</p> <p>Solo personale qualificato può eseguire lavori sui componenti di comando.</p> <p>Per ulteriori spiegazioni riguardanti le indicazioni di sicurezza consultare il capitolo 1 di questa documentazione.</p>
<p>▲ADVERTENCIA ¡Alta tensión eléctrica! ¡Peligro de muerte por descarga eléctrica!</p> <p>Active sólo los componentes de accionamiento con el conductor protector firmemente instalado.</p> <p>Desconecte la alimentación eléctrica antes de manipular los componentes de accionamiento.</p> <p>Tenga en cuenta los tiempos de descarga de los condensadores.</p>	<p>▲ATENÇÃO Alta tensão elétrica! Perigo de vida devido a choque elétrico!</p> <p>Opere componentes de acionamento apenas com condutores de proteção instalados.</p> <p>Desligue a alimentação de tensão antes de aceder aos componentes de accionamento.</p> <p>Respeite os períodos de descarga dos condensadores.</p>	<p>▲AVVERTENZA Alta tensione elettrica! Pericolo di morte in seguito a scosse elettriche!</p> <p>Mettere in esercizio i componenti di comando solo con conduttore di messa a terra ben installato.</p> <p>Staccare l'alimentazione prima di intervenire sui componenti di comando.</p> <p>Osservare i tempi di scarica del condensatore.</p>
<p>▲ADVERTENCIA ¡Movimientos peligrosos! ¡Peligro de muerte!</p> <p>No permanezca en la zona de movimiento de las máquinas ni de sus piezas.</p> <p>Impida el acceso accidental de personas.</p> <p>Antes de acceder o introducir las manos en la zona de peligro, los accionamientos se tienen que haber parado con seguridad.</p>	<p>▲ATENÇÃO Movimentos perigosos! Perigo de vida!</p> <p>Não permaneça na área de movimentação das máquinas e das peças das máquinas.</p> <p>Evite o acesso involuntário para pessoas.</p> <p>Antes de entrar ou aceder à área perigosa, imobilize os acionamentos de forma segura.</p>	<p>▲AVVERTENZA Movimenti pericolosi! Pericolo di morte!</p> <p>Non sostare nelle zone di manovra delle macchine e delle loro parti.</p> <p>Impedire un accesso non autorizzato per le persone.</p> <p>Prima di accedere alla zona di pericolo, arrestare e bloccare gli azionamenti.</p>

E Español	P Português	I Italiano
<p>⚠ ADVERTENCIA ¡Campos electromagnéticos/magnéticos! ¡Peligro para la salud de las personas con marcapasos, implantes metálicos o audífonos!</p> <p>El acceso de las personas arriba mencionadas a las zonas de montaje o funcionamiento de los componentes de accionamiento está prohibido, salvo que lo autorice previamente un médico.</p>	<p>⚠ ATENÇÃO Campos eletromagnéticos / magnéticos! Perigo de saúde para pessoas com marcapassos, implantes metálicos ou aparelhos auditivos!</p> <p>Acesso às áreas, nas quais os componentes de acionamento são montados e operados, é proibido para as pessoas em cima mencionadas ou apenas após permissão de um médico.</p>	<p>⚠ AVVERTENZA Campi elettromagnetici / magnetici! Pericolo per la salute delle persone portatrici di pacemaker, protesi metalliche o apparecchi acustici!</p> <p>L'accesso alle zone in cui sono installati o in funzione componenti di comando è vietato per le persone sopra citate o consentito solo dopo un colloquio con il medico.</p>
<p>⚠ ATENCIÓN ¡Superficies calientes (> 60 °C)! ¡Peligro de quemaduras!</p> <p>Evite el contacto con las superficies calientes (p. ej., disipadores de calor). Observe el tiempo de enfriamiento de los componentes de accionamiento (mín. 15 minutos).</p>	<p>⚠ CUIDADO Superfícies quentes (> 60 °C)! Perigo de queimaduras!</p> <p>Evite tocar superfícies metálicas (p. ex. radiadores). Respeite o tempo de arrefecimento dos componentes de acionamento (mín. 15 minutos).</p>	<p>⚠ ATTENZIONE Superfici bollenti (> 60 °C)! Pericolo di ustioni!</p> <p>Evitare il contatto con superfici metalliche (ad es. dissipatori di calore). Rispettare i tempi di raffreddamento dei componenti di comando (almeno 15 minuti).</p>
<p>⚠ ATENCIÓN ¡Manipulación inadecuada en el transporte y montaje! ¡Peligro de lesiones!</p> <p>Utilice dispositivos de montaje y de transporte adecuados.</p> <p>Utilice herramientas adecuadas y equipo de protección personal.</p>	<p>⚠ CUIDADO Manejo incorreto no transporte e montagem! Perigo de ferimentos!</p> <p>Utilize dispositivos de montagem e de transporte adequados.</p> <p>Utilize ferramentas e equipamento de proteção individual adequados.</p>	<p>⚠ ATTENZIONE Manipolazione inappropriata durante il trasporto e il montaggio! Pericolo di lesioni!</p> <p>Utilizzare dispositivi di montaggio e trasporto adatti.</p> <p>Utilizzare attrezzi adatti ed equipaggiamento di protezione personale.</p>
<p>⚠ ATENCIÓN ¡Manejo inadecuado de las pilas! ¡Peligro de lesiones!</p> <p>No trate de reactivar o cargar pilas descargadas (peligro de explosión y cauterización).</p> <p>No desarme ni dañe las pilas. No tire las pilas al fuego.</p>	<p>⚠ CUIDADO Manejo incorreto de baterias! Perigo de ferimentos!</p> <p>Não tente reativar nem carregar baterias vazias (perigo de explosão e de queimaduras com ácido).</p> <p>Não desmonte nem danifique as baterias. Não deite as baterias no fogo.</p>	<p>⚠ ATTENZIONE Utilizzo inappropriato delle batterie! Pericolo di lesioni!</p> <p>Non tentare di riattivare o ricaricare batterie scariche (pericolo di esplosione e corrosione).</p> <p>Non scomporre o danneggiare le batterie. Non gettare le batterie nel fuoco.</p>

S Svenska	DK Dansk	NL Nederlands
<p>⚠ VARNING Livsfara om följande säkerhetsanvisningar inte följs!</p> <p>Använd inte produkterna innan du har läst och förstått den dokumentation och de säkerhetsanvisningar som medföljer produkten, och följ alla anvisningar.</p> <p>Kontakta din Rexroth-återförsäljare om dokumentationen inte medföljer på ditt språk.</p> <p>Endast kvalificerad personal får arbeta med drivkomponenterna.</p> <p>Se kapitel 1 i denna dokumentation för närmare beskrivningar av säkerhetsanvisningarna.</p>	<p>⚠ ADVARSEL Livsfare ved manglende overholdelse af nedenstående sikkerhedsanvisninger!</p> <p>Tag ikke produktet i brug, før du har læst og forstået den dokumentation og de sikkerhedsanvisninger, som følger med produktet, og overhold de givne anvisninger.</p> <p>Kontakt din Rexroth-forhandler, hvis dokumentationen ikke medfølger på dit sprog.</p> <p>Det er kun kvalificeret personale, der må arbejde på drive components.</p> <p>Nærmere forklaringer til sikkerhedsanvisningerne fremgår af kapitel 1 i denne dokumentation.</p>	<p>⚠ WAARSCHUWING Levensgevaar bij niet-naleving van onderstaande veiligheidsinstructies!</p> <p>Stel de producten pas in bedrijf nadat u de met het product geleverde documenten en de veiligheidsinformatie volledig gelezen, begrepen en in acht genomen heeft.</p> <p>Mocht u niet beschikken over documenten in uw landstaal, kunt u contact opnemen met uw plaatselijke Rexroth distributiepartner.</p> <p>Uitsluitend gekwalificeerd personeel mag aan de aandrijvingscomponenten werken.</p> <p>Meer informatie over de veiligheidsinstructies vindt u in hoofdstuk 1 van deze documentatie.</p>
<p>⚠ VARNING Hög elektrisk spänning! Livsfara genom elchock!</p> <p>Använd endast drivkomponenterna med fastmonterad skyddsledare.</p> <p>Koppla bort spänningsförsörjningen före arbete på drivkomponenter.</p> <p>Var medveten om kondensatorernas urladdningstid.</p>	<p>⚠ ADVARSEL Elektrisk højspænding! Livsfare på grund af elektrisk stød!</p> <p>Drive components må kun benyttes med et fast installeret jordstik.</p> <p>Sørg for at koble spændingsforsyningen fra, inden du rører ved drive components.</p> <p>Overhold kondensatorernes afladningstider.</p>	<p>⚠ WAARSCHUWING Hoge elektrische spanning! Levensgevaar door elektrische schok!</p> <p>Bedien de aandrijvingscomponenten uitsluitend met vast geïnstalleerde aardleiding.</p> <p>Schakel voor toegang tot aandrijvingscomponenten de spanningsvoorziening uit.</p> <p>Neem de ontladtid van condensatoren in acht.</p>

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<p>▲VARNING Farliga rörelser! Livsfaral</p> <p>Upphåll dig inte inom maskiners och maskindelars rörelseområde.</p> <p>Förhindra att obehöriga personer får tillträde.</p> <p>Innan du börjar arbeta eller vistas inom drivsystemets riskområde måste maskinen vara stillastående.</p>	<p>▲ADVARSEL Farlige bevægelser! Livsfare!</p> <p>Du må ikke opholde dig inden for maskiners og maskindeles bevægelsesradius.</p> <p>Sørg for, at ingen personer kan få utilsigtet adgang.</p> <p>Stands drevene helt, inden du rører ved drevene eller træder ind i deres fareområde.</p>	<p>▲WAARSCHUWING Risicovolle bewegingen! Levensgevaar!</p> <p>Houdt u niet op in het bewegingsbereik van machines en machineonderdelen.</p> <p>Voorkom dat personen onbedoeld toegang verkrijgen.</p> <p>Voor toegang tot de gevaarlijke zone moeten de aandrijvingen veilig tot stilstand gebracht zijn.</p>
<p>▲VARNING Elektromagnetiska/magnetiska fält! Hälssofaror för personer med pacemaker, implantat av metall eller hörapparat!</p> <p>Det är förbjudet för ovan nämnda personer (eller kräver överläggning med läkare) att beträda områden där drivkomponenter är monterade och i drift.</p>	<p>▲ADVARSEL Elektromagnetiske/ magnetiske felter! Sundhedsfare for personer med pacemakere, metalliske implantater eller høreapparater!</p> <p>For disse personer er der adgang forbudt eller kun adgang med tilladelse fra læge til de områder, hvor drive components monteres og drives.</p>	<p>▲WAARSCHUWING Elektromagnetische / magnetische velden! Gevaar voor de gezondheid van personen met pacemakers, metalen implantaten of hoorapparaten!</p> <p>Toegang tot gebieden, waarin aandrijvingscomponenten worden gemonteerd en bediend, is verboden voor voornoemde personen of uitsluitend toegestaan na overleg met een arts.</p>
<p>▲OBSERVERA Varma ytor (> 60 °C)! Risk för brännskador!</p> <p>Undvik att vidröra metalltytor (t.ex. kyllement). Var medveten om att det tar tid för drivkomponenterna att svalna (minst 15 minuter).</p>	<p>▲FORSIGTIG Varme overflader (> 60 °C)! Risiko for forbrændinger!</p> <p>Undgå at berøre metaloverflader (f.eks. kølelementer). Overhold drive components nedkølingstid (min. 15 min.).</p>	<p>▲VOORZICHTIG Hete oppervlakken (> 60 °C)! Verbrandingsgevaar!</p> <p>Voorcom contact met metalen oppervlakken (bij. Koellichamen). Afkoeltijd van de aandrijvingscomponenten in acht nemen (min. 15 minuten).</p>
<p>▲OBSERVERA Felaktig hantering vid transport och montering! Skaderiskt!</p> <p>Använd passande monterings- och transportanordningar.</p> <p>Använd lämpliga verktyg och personlig skyddsutrustning.</p>	<p>▲FORSIGTIG Fejlhåndtering ved transport og montering! Risiko for kvæstelser!</p> <p>Benyt egnede monterings- og transportanordninger.</p> <p>Benyt egnet værktøj og personlig sikkerhedsudstyr.</p>	<p>▲VOORZICHTIG Onjuist gebruik bij transport en montage! Letselgevaar!</p> <p>Gebruik geschikte montage- en transportinrichtingen.</p> <p>Gebruik geschikt gereedschap en een persoonlijke veiligheidsuitrusting.</p>
<p>▲OBSERVERA Felaktig hantering av batterier! Skaderiskt!</p> <p>Försök inte återaktivera eller ladda upp batterier (risk för explosioner och frätskador).</p> <p>Batterierna får inte tas isär eller skadas. Släng inte batterierna i elden.</p>	<p>▲FORSIGTIG Fejlhåndtering af batterier! Risiko for kvæstelser!</p> <p>Forsøg ikke at genaktivere eller oplade tomme batterier (eksplosions- og ætsningsfare).</p> <p>Undlad at skille batterier ad eller at beskadige dem. Smid ikke batterier ind i åben ild.</p>	<p>▲VOORZICHTIG Onjuist gebruik van batterijen! Letselgevaar!</p> <p>Probeer nooit lege batterijen te reactiveren of op te laden (explosiegevaar en gevaar voor beschadiging van weefsel door cauterisatie).</p> <p>Batterijen niet demonteren of beschadigen. Nooit batterijen in het vuur werpen.</p>

 Suomi	 Polski	 Český
<p>VAROITUS Näiden turvaohjeiden noudattamatta jättämisestä on seurauksena hengenvaara!</p> <p>Ota tuote käyttöön vasta sen jälkeen, kun olet lukenut läpi tuotteen mukana toimitetut asiakirjat ja turvallisuusohjeet, ymmärtänyt ne ja ottanut ne huomioon.</p> <p>Jos asiakirjoja ei ole saatavana omalla äidinkielelläsi, ota yhteys asianomaiseen Rexrothin myyntiedustajaan.</p> <p>Käyttölaitteiden komponenttien parissa saa työskennellä ainoastaan valtuutettu henkilöstö.</p> <p>Lisätietoa turvaohjeista löydät tämän dokumentaation luvusta 1.</p>	<p>OSTRZEŻENIE Zagrożenie życia w razie nieprzestrzegania poniższych wskazówek bezpieczeństwa!</p> <p>Nie uruchamiać produktów przed uprzednim przeczytaniem i pełnym zrozumieniem wszystkich dokumentów dostarczonych wraz z produktem oraz wskazówek bezpieczeństwa. Należy przestrzegać wszystkich zawartych tam zaleceń.</p> <p>W przypadku braku dokumentów w Państwa języku, prosimy o skontaktowanie się z lokalnym partnerem handlowym Rexroth.</p> <p>Przy zespołach napędowych może pracować wyłącznie wykwalifikowany personel.</p> <p>Bliższe objaśnienia wskazówek bezpieczeństwa znajdują się w Rozdziale 1 niniejszej dokumentacji.</p>	<p>VAROVÁNÍ Nebezpečí života v případě nedodržení níže uvedených bezpečnostních pokynů!</p> <p>Před uvedením výrobků do provozu si přečtěte kompletní dokumentaci a bezpečnostní pokyny dodávané s výrobkem, pochopte je a dodržujte.</p> <p>Nemáte-li k dispozici podklady ve svém jazyce, obraťte se na příslušného obchodního partnera Rexroth.</p> <p>Na komponentách pohonu smí pracovat pouze kvalifikovaný personál.</p> <p>Podrobnější vysvětlení k bezpečnostním pokynům naleznete v kapitole 1 této dokumentace.</p>
<p>VAROITUS Voimakas sähköjännite! Sähköiskun aiheuttama hengenvaara!</p> <p>Käytä käyttölaitteen komponentteja ainoastaan maadoitusjohtimen ollessa kiinteästi asennettuna.</p> <p>Katkaise jännitteensyöttö ennen käyttölaitteen komponenteille suoritettavien töiden aloittamista.</p> <p>Huomioi kondensaattoreiden purkausajat.</p>	<p>OSTRZEŻENIE Wysokie napięcie elektryczne! Zagrożenie życia w wyniku porażenia prądem!</p> <p>Zespoły napędu mogą być eksploatowane wyłącznie z zainstalowanym na stałe przewodem ochronnym.</p> <p>Przed uzyskaniem dostępu do podzespołów napędu należy odłączyć zasilanie elektryczne.</p> <p>Zwracać uwagę na czas rozładowania kondensatorów.</p>	<p>VAROVÁNÍ Vysoké elektrické napětí! Nebezpečí života při zasažení elektrickým proudem!</p> <p>Komponenty pohonu smí být v provozu pouze s pevně nainstalovaným ochranným vodičem.</p> <p>Než začnete zasahovat do komponent pohonu, odpojte je od elektrického napájení. Dodržujte vybíjecí časy kondenzátorů.</p>
<p>VAROITUS Vaarallisia liikkeitä! Hengenvaara!</p> <p>Älä oleskele koneiden tai koneenosien liikealueella.</p> <p>Pidä huolta siitä, ettei muita henkilöitä pääse alueelle vahingossa.</p> <p>Pysäytä käyttölaitteet varmasti ennen vaara-alueelle koskemista tai menemistä.</p>	<p>OSTRZEŻENIE Niebezpieczne ruchy! Zagrożenie życia!</p> <p>Nie wolno przebywać w obszarze pracy maszyny i jej elementów.</p> <p>Nie dopuszczają osób niepowołanych do obszaru pracy maszyny.</p> <p>Przed dotknięciem urządzenia/maszyny lub zbliżeniem się do obszaru zagrożenia należy zgodnie z zasadami bezpieczeństwa wyłączyć napędy.</p>	<p>VAROVÁNÍ Nebezpečné pohyby! Nebezpečí života!</p> <p>Nezdržujte se v dosahu pohybu strojů a jejich součástí.</p> <p>Zabraňte náhodnému přístupu osob.</p> <p>Před zásahem nebo vstupem do nebezpečného prostoru bezpečně zastavte pohony.</p>
<p>VAROITUS Sähkömagneettisia/ magneettisia kenttiä! Terveystieteiden haavoittelu vaara henkilöille, joilla on sydämentahdistin, metallinen implantti tai kuulolaitte!</p> <p>Yllä mainituilta henkilöiltä on pääsy kielletty alueille, joilla asennetaan tai käytetään käyttölaitteen komponentteja, tai heidän on ensin saatava tähän suostumus lääkäriltään.</p>	<p>OSTRZEŻENIE Pola elektromagnetyczne / magnetyczne! Zagrożenie zdrowia dla osób z rozrusznikiem serca, metalowymi implantami lub aparatami słuchowymi!</p> <p>Wstęp na teren, gdzie odbywa się montaż i eksploatacja napędów jest dla ww. osób zabroniony względnie dozwolony po konsultacji z lekarzem.</p>	<p>VAROVÁNÍ Elektromagnetická/ magnetická pole! Nebezpečí pro zdraví osob s kardiostimulátory, kovovými implantáty nebo naslouchadly!</p> <p>Výše uvedené osoby mají zakázán přístup do prostorů, kde jsou montovány a používány komponenty pohonu, resp. ho mají povolen pouze po poradě s lékařem.</p>
<p>HUOMIO Kuumia pintoja (> 60 °C)! Palovammojen vaara!</p> <p>Vältä metallipintojen koskettamista (esim. jäähdytyslevyt). Noudata käyttölaitteen komponenttien jäähtymisaikoja (väh. 15 minuuttia).</p>	<p>PRZESTROGA Gorące powierzchnie (> 60 °C)! Niebezpieczeństwo poparzenia!</p> <p>Unikać kontaktu z powierzchniami metalowymi (np. radiatorami). Przestrzegać czasów schładzania podzespołów napędów (min. 15 minut).</p>	<p>UPOZORNĚNÍ Horké povrchy (> 60 °C)! Nebezpečí popálení!</p> <p>Nedotýkejte se kovových povrchů (např. chladičích těles). Dodržujte dobu ochlazení komponent pohonu (min. 15 minut).</p>

FIN Suomi	PL Polski	CZ Český
<p>▲HUOMIO Epäasianmukainen käsittely kuljetuksen ja asennuksen yhteydessä! Loukkaantumisvaara!</p> <p>Käytä soveltuvia asennus- ja kuljetuslaitteita.</p> <p>Käytä omia työkaluja ja henkilökohtaisia suojavarusteita.</p>	<p>▲PRZESTROGA Niewłaściwe obchodzenie się podczas transportu i montażu! Ryzyko urazu!</p> <p>Stosować odpowiednie urządzenia montażowe i transportowe.</p> <p>Stosować odpowiednie narzędzia i środki ochrony osobistej.</p>	<p>▲UPOZORNĚNÍ Nesprávné zacházení při přepravě a montáži! Nebezpečí zranění!</p> <p>Používejte vhodná montážní a dopravní zařízení.</p> <p>Používejte vhodné nářadí a osobní ochranné vybavení.</p>
<p>▲HUOMIO Paristojen epäasianmukainen käsittely! Loukkaantumisvaara!</p> <p>Älä yritä saada tyhjiä paristoja toimimaan tai ladata niitä uudelleen (räjähdys- ja syöpymisvaara).</p> <p>Älä hajota paristoja osiin tai vaurioita niitä. Älä heitä paristoja tullen.</p>	<p>▲PRZESTROGA Niewłaściwe obchodzenie się z bateriami! Ryzyko urazu!</p> <p>Nie próbować reaktywować i nie ładować zużytych baterii (niebezpieczeństwo wybuchu oraz poparzenia żrącą substancją).</p> <p>Nie demontować i nie niszczyć baterii. Nie wrzucać baterii do ognia.</p>	<p>▲UPOZORNĚNÍ Nesprávné zacházení s bateriemi! Nebezpečí zranění!</p> <p>Nepokoušejte se znovu aktivovat nebo dobíjet prázdné baterie (nebezpečí výbuchu a poleptání).</p> <p>Nerozebírejte ani nepoškozujte baterie. Neházejte baterie do ohně.</p>

SLO Slovensko	SK Slovenčina	RO Română
<p>▲OPOZORILO Življenjska nevarnost pri neupoštevanju naslednjih napotkov za varnost!</p> <p>Izdelke začnite uporabljati šele, ko v celoti preberete, razumete in upošteвате izdelkom priloženo dokumentacijo in varnostne napotke.</p> <p>Če priložena dokumentacija ni na voljo v vašem materem jeziku, se obrnite na pristojnega distributerja Rexroth.</p> <p>Samo kvalificirano osebje sme delati na pogonskih komponentah.</p> <p>Podrobnejša pojasnila o varnostnih navodilih najdete v poglavju 1 v tej dokumentaciji.</p>	<p>▲VAROVANIE Nebezpečnostv ohrozenia života pri nedodržiavaní nasledujúcich bezpečnostných pokynov!</p> <p>Výrobky uvádzajte do prevádzky až potom, čo ste úplne prečítali, pochopili a zobrali do úvahy podklady a bezpečnostné pokyny dodané s výrobkom.</p> <p>Ak by ste nemali k dispozícii žiadne podklady v jazyku svojej krajiny, obráťte sa prosím na svojho príslušného predajcu Rexroth.</p> <p>Na komponentoch pohonu smie pracovať iba kvalifikovaný personál.</p> <p>Bližšie vysvetlenia k bezpečnostným pokynom zistíte z kapitoly 1 tejto dokumentácie.</p>	<p>▲AVERTIZARE Pericol de moarte în cazul nerespectării următoarelor instrucțiuni de siguranță!</p> <p>Punerea în funcțiune a produselor trebuie efectuată după citirea, înțelegerea și respectarea documentelor și instrucțiunilor de siguranță, care sunt livrate împreună cu produsele.</p> <p>În cazul în care documentele nu sunt în limba dumneavoastră maternă, vă rugăm să contactați partenerul de vânzări Rexroth.</p> <p>Numai un personal calificat poate lucra cu componentele de acționare.</p> <p>Explicații detaliate privind instrucțiunile de siguranță găsiți în capitolul 1 al acestei documentații.</p>
<p>▲OPOZORILO Visoka električna napetost! Življenjska nevarnost zaradi električnega udara!</p> <p>Pogonske komponente uporabljajte samo s fiksno nameščenim zaščitnim vodnikom.</p> <p>Pred dostopom do pogonske komponente odklopite napajanje.</p> <p>Upošteвайте čase praznjenja kondenzatorjev.</p>	<p>▲VAROVANIE Vysoké elektrické napätie! Nebezpečnostv ohrozenia života v dôsledku zásahu elektrickým prúdom!</p> <p>Komponenty pohonu prevádzkujte iba s pevne nainštalovaným ochranným vodičom.</p> <p>Pred prístupom na komponenty pohonu odpojte zdroj napätia.</p> <p>Rešpektujte časy vybitia kondenzátorov.</p>	<p>▲AVERTIZARE Tensiune electrică înaltă! Pericol de moarte prin electrocutare!</p> <p>Exploatați componentele de acționare numai cu împământarea instalată permanent.</p> <p>Înainte de intervenția asupra componentelor de acționare, deconectați alimentarea cu tensiune electrică.</p> <p>Țineți cont de timpii de descărcare ai condensatorilor.</p>
<p>▲OPOZORILO Nevarni premiki! Življenjska nevarnost!</p> <p>Ne zadržujte se v območju delovanja strojev.</p> <p>Preprečite nenadzorovan dostop oseb.</p> <p>Pred prijemom ali dostopom v nevarno območje varno zaustavite vse gnane dele.</p>	<p>▲VAROVANIE Pohyby prinášajúce nebezpečnostv! Nebezpečnostv ohrozenia života!</p> <p>Nezdržiavajte sa v oblasti pohybu strojov a častí strojov.</p> <p>Zabráňte nepovolnému prístupu osôb.</p> <p>Pred zásahom alebo prístupom do nebezpečnej oblasti uveďte pohony bezpečne do zastavenia.</p>	<p>▲AVERTIZARE Mișcări periculoase! Pericol de moarte!</p> <p>Nu staționați în zona de mișcare a mașinilor și a componentelor în mișcare a mașinilor.</p> <p>Împiedicați accesul neintenționat al persoanelor în zona de lucru a mașinilor.</p> <p>Înainte de intervenția sau accesul în zona periculoasă, opriți în siguranță componentele de acționare.</p>

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<p>▲ OPOZORILO Elektromagnetna / magnetna polja! Nevarnost za zdravje za osebe s spodbujevalniki srca, kovinskimi vsadki ali slušnimi aparati!</p> <p>Dostop do območij, v katerih so nameščene delujoče pogonske komponente, je za zgoraj navedene osebe prepovedan oz. dovoljen samo po posvetu z zdravnikom.</p>	<p>▲ VAROVANIE Elektromagnetické/ magnetické polia! Nebezpečenstvo pre zdravie osôb s kardioštimulátormi, kovovými implantátmi alebo načúvacími prístrojmi!</p> <p>Pristup k oblastiam, v ktorých sú namontované a prevádzkujú sa komponenty pohonu, je pre hore uvedené osoby zakázaný resp. je dovolený iba po konzultácii s lekárom.</p>	<p>▲ AVERTIZARE Câmpuri electromagnetice / magnetice! Pericol pentru sănătatea persoanelor cu stimulatori cardiace, implanturi metalice sau aparate auditive!</p> <p>Intrarea în zone, în care se montează sau se exploatează componente de acționare, este interzisă pentru persoanele sus numite respectiv este permisă numai cu acordul medicului.</p>
<p>▲ POZOR Vroče površine (> 60 °C)! Nevarnost opeklin!</p> <p>Izogibajte se stiku s kovinskimi površinami (npr. hladilnimi telesy). Upoštevajte čas hlajenja pogonskih komponent (najm. 15 minut).</p>	<p>▲ UPOZORNENIE Horúce povrchy (> 60 °C)! Nebezpečenstvo popálenia!</p> <p>Zabráňte kontaktu s kovovými povrchmi (napr. chladiacimi telesami). Dodržiavajte čas vychladenia komponentov pohonu (min. 15 minút).</p>	<p>▲ ATENȚIE Suprafețe fierbinți (> 60 °C)! Pericol de arsură!</p> <p>Nu atingeți suprafețele metalice (de ex. radiatoare de răcire). Respectați timpii de răcire ai componentelor de acționare (min. 15 minute).</p>
<p>▲ POZOR Nestrokovno ravnanje med transportom in namestitvijol! Nevarnost poškodb!</p> <p>Uporabljajte ustrezne pripomočke za nameščanje in transport.</p> <p>Uporabite ustrezno orodje in osebno zaščitno opremo.</p>	<p>▲ UPOZORNENIE Neodborná manipulácia pri transporte a montáži! Nebezpečenstvo poranenia!</p> <p>Používajte vhodné montážne a transportné zariadenia.</p> <p>Používajte vhodné náradie a osobné ochranné prostriedky.</p>	<p>▲ ATENȚIE Manipulare necorespunzătoare la transport și montaj! Pericol de vătămare!</p> <p>Utilizați dispozitive adecvate de montaj și transport.</p> <p>Folosiți instrumente corespunzătoare și echipament personal de protecție.</p>
<p>▲ POZOR Nepravilno ravnanje z baterijami! Nevarnost poškodb!</p> <p>Ne poskušajte ponovno aktivirati ali napolniti praznih baterij (Nevarnost zaradi eksplozije ali jedkanja).</p> <p>Ne razstavljajte ali poškodujte nobenih baterij. Baterij ne mečite v ogenj.</p>	<p>▲ UPOZORNENIE Neodborná manipulácia s batériami! Nebezpečenstvo poranenia!</p> <p>Nepokúšajte sa reaktivovať alebo nabíjať prázdne batérie (nebezpečenstvo výbuchu a poleptania).</p> <p>Batérie nerozoberajte ani nepoškodujte. Nehádzte batérie do ohňa.</p>	<p>▲ ATENȚIE Manipulare necorespunzătoare a bateriilor! Pericol de vătămare!</p> <p>Nu încercați să reactivați sau să încărcați bateriile goale (pericol de explozie și pericol de arsuri).</p> <p>Nu dezasamblați și nu deteriorați bateriile. Nu aruncați bateriile în foc.</p>

H Magyar	BG Български	LV Latviski
<p>▲ FIGYELMEZTETÉS! Az alábbi biztonsági útmutatások figyelmen kívül hagyása életveszélyes helyzethez vezethet!</p> <p>Üzembe helyezés előtt olvassa el, értelmezze, és vegye figyelembe a csomagban található dokumentumban foglaltakat és a biztonsági útmutatásokat.</p> <p>Amennyiben a csomagban nem talál az Ön nyelvén írt dokumentumokat, vegye fel a kapcsolatot az illetékes Rexroth-képviselővel.</p> <p>A hajtás alkatrészein kizárólag képzett személy dolgozhat.</p> <p>A biztonsági útmutatókkal kapcsolatban további magyarázatot ennek a dokumentumnak az első fejezetében találhat.</p>	<p>▲ ПРЕДУПРЕЖДЕНИЕ Опасност за живота при неспазване на посочените до-долу инструкции за безопасност!</p> <p>Използвайте продуктите след като сте се запознали подробно с приложената към продукта документация и указания за безопасност, разбрали сте ги и сте се съобразили с тях.</p> <p>Ако текстът не е написан на Вашия език, моля обърнете се към Вашия компетентен търговски представител на Rexroth.</p> <p>Със задвижващите компоненти трябва да работи само квалифициран персонал.</p> <p>Подробни пояснения към инструкциите за безопасност можете да видите в Глава 1 на тази документация.</p>	<p>▲ BRĪDINĀJUMS Turpinājumā doti drošības norādījumi neievērošana var apdraudēt dzīvību!</p> <p>Sāciet lietot izstrādājumu tikai pēc tam, kad esat pilnībā izlasījuši, sapratuši un pēmuši vēlā kopā ar izstrādājumu piegādātos dokumentus.</p> <p>Ja dokumenti nav pieejami Jūsu valsts valodā, vērsieties pie pilnvarotā Rexroth izplatītāja.</p> <p>Darbus pie piedziņas komponentiem drīkst veikt tikai kvalificēts personāls.</p> <p>Detalizētus paskaidrojumus attiecībā uz drošības norādījumiem skatiet šī dokumenta 1. nodaļā.</p>
<p>▲ FIGYELMEZTETÉS! Magas elektromos feszültség! Életveszély áramütés miatt!</p> <p>A hajtás alkatrészeit csak véglegesen telepített védővezetékkel üzemeltesse!</p> <p>Mielőtt hozzányúl a hajtás alkatrészeihez, kapcsolja ki az áramellátást.</p> <p>Ügyeljen a kondenzátorok kisülési idejére!</p>	<p>▲ ПРЕДУПРЕЖДЕНИЕ Високо електрическо напрежение! Опасност за живота от удар от електрически ток!</p> <p>Работете със задвижващите компоненти само при здраво закрепен заземяващ проводник.</p> <p>Преди работа по задвижващите компоненти, изключете захранващото напрежение.</p> <p>Обърнете внимание на времето за разреждане на кондензаторите.</p>	<p>▲ BRĪDINĀJUMS Augsts elektriskais spriegums! Dzīvības apdraudējums elektriskā trieciena dēļ!</p> <p>Piedziņas komponentus darbiniet tikai ar fiksēti uzstādītu zemējumvadu.</p> <p>Pirms darba pie piedziņas komponentiem atslēdziet elektroapgādi.</p> <p>Nemiet vēlā kondensatoru izlādes laikus.</p>

H Magyar	BG Български	LV Latviski
<p>▲ FIGYELMEZTETÉS! Veszélyes mozgás! Életveszély!</p> <p>Ne tartózkodjon a gépek és a gépalkatrészek mozgási területén belül!</p> <p>Illetéktelen személyeket ne engedjen a gép közelébe!</p> <p>Mielőtt beavatkozik, vagy a veszélyes zónába belép a hajtásokat biztonságosan állítsa le.</p>	<p>▲ ПРЕДУПРЕЖДЕНИЕ Опасни движения! Опасност за живота!</p> <p>Не стойте в обсега на движение на машините и частите на машините.</p> <p>Не допускайте непреднамерен достъп на хора.</p> <p>Преди работа или влизане в опасната зона, спрете надеждно приводния механизъм.</p>	<p>▲ BRĪDINĀJUMS Bīstamas kustības! Dzīvības apdraudējums!</p> <p>Neuzturieties mašīnu un mašīnas detaļu kustību zonā.</p> <p>Novērsiet nepiederošu personu piekļūšanu.</p> <p>Pirms darba bīstamajās zonās pilnībā apstādiniet piedziņu.</p>
<p>▲ FIGYELMEZTETÉS! Elektromágneses / mágneses mező! Káros hatással lehet a szívritmus-szabályozó készülékkel, fémbesüléssel vagy hallókészülékkel rendelkezők egészségére!</p> <p>Azokra a területekre, ahol hajtások alkatrészeit szerelik és üzemeltetik, a fent említett személyeknek tilos a belépés, illetve csak orvosi konzultációt követően szabad az adott területekre lépniük.</p>	<p>▲ ПРЕДУПРЕЖДЕНИЕ Електромагнитни / магнитни полета! Опасност за здравето на хора със сърдечни стимулатори, метални импланти или слухови апарати!</p> <p>Достъпът за гореспенатите лица до зони, в които ще се монтират и ще работят задвижващи компоненти се забранява, или разрешава само след консултация с лекар.</p>	<p>▲ BRĪDINĀJUMS Elektromagnētiskais / magnētiskais lauks! Veselības apdraudējums personām ar sirds stimulatoriem, metāliskiem implantiem vai dzirdes aparātiem!</p> <p>Tuvošanās zonām, kurās tiek montēti un darbināti piedziņas komponenti, iepriekš minētajām personām ir aizliegta, respektīvi, atļauta tikai pēc konsultēšanās ar ārstu.</p>
<p>▲ VIGYÁZAT! Forró felületek (> 60 °C)! Égésveszély!</p> <p>Ne érjen hozzá fémfelületekhez (pl. hűtőtestekhez)! Vegye figyelembe a hajtás alkatrészeinek kihűlési idejét (min. 15 perc)!</p>	<p>▲ ВНИМАНИЕ Горещи повърхности (> 60 °C)! Опасност от изгаряне!</p> <p>Не докосвайте метални повърхности (например радиатори). Съблюдавайте времето на охлаждане на задвижващите компоненти (мин. 15 минути).</p>	<p>▲ UZMANĪBU Karstas virsmas (> 60 °C)! Apdedzināšanās risks!</p> <p>Neskarīeties pie metāliskām virsmām (piemēram, dzesētāja). Ļaujiet piedziņas komponentiem atdzist (min. 15 minūtes).</p>
<p>▲ VIGYÁZAT! Szakszerűtlen kezelés szállításkor és szereléskor! Sérülésveszély!</p> <p>A megfelelő beszerelési és szállítási eljárásokat alkalmazza!</p> <p>Használjon megfelelő szerszámokat és személyes védőfelszerelést!</p>	<p>▲ ВНИМАНИЕ Неправилно боравене по време на транспорт и монтаж! Опасност от нараняване!</p> <p>Използвайте подходящо монтажно и транспортно оборудване.</p> <p>Използвайте подходящи инструменти и лични предпазни средства.</p>	<p>▲ UZMANĪBU Nepareizi veikta transportēšana un montāža! Traumu gūšanas risks!</p> <p>Izmantojiet piemērotas montāžas un transportēšanas ierīces.</p> <p>Izmantojiet piemērotus instrumentus un individuālos aizsardzības līdzekļus.</p>
<p>▲ VIGYÁZAT! Akkumulátorok szakszerűtlen kezelése! Sérülésveszély!</p> <p>Üres akkumulátorokat ne aktiváljon újra, illetve ne töltsön fel (robbanás- és marásveszély)!</p> <p>Az akkumulátorokat ne szedje szét, és ne rongálja meg! Az akkumulátort ne dobja tűzbe!</p>	<p>▲ ВНИМАНИЕ Неправилно боравене с батерии! Опасност от нараняване!</p> <p>Не се опитвайте да активирате отново или да зареждате разредени батерии (Опасност от експлозия и напръскване с агресивен агент).</p> <p>Не разглобявайте и не повреждайте батерии. Не хвърляйте батерии в огън.</p>	<p>▲ UZMANĪBU Nepareiza bateriju lietošana! Traumu gūšanas risks!</p> <p>Nemēģiniet no jauna aktivizēt vai uzlādēt tukšas baterijas (eksplodziju un ķīmisko apdegumu draudi).</p> <p>Neizjauciet un nesabojājiet baterijas. Nemetiet baterijas ugunī.</p>

LT Lietuviškai	EST Eesti	GR Ελληνικά
<p>▲ PERSPĖJIMAS Netinkamas darbas transportuojant ir montuojant! Susižalojimo pavojus!</p> <p>Naudokite tinkamus montavimo ir transportavimo įrenginius.</p> <p>Naudokite tinkamus įrankius ir asmens saugos priemones.</p>	<p>▲ ETTEVAATUST Asjatundmatu käsitsemine transportimisel ja montaažil! Vigastusoht!</p> <p>Kasutage sobivaid montaaži- ja transpordiseadiseid.</p> <p>Kasutage sobivaid tööriistu ja isiklikku kaitsevarustust.</p>	<p>▲ ΠΡΟΣΟΧΗ Ακατάλληλος χειρισμός κατά τη μεταφορά και συναρμολόγηση! Κίνδυνος τραυματισμού!</p> <p>Χρησιμοποιείτε κατάλληλους μηχανισμούς συναρμολόγησης και μεταφοράς.</p> <p>Χρησιμοποιείτε κατάλληλα εργαλεία και ατομικό εξοπλισμό προστασίας.</p>
<p>▲ PERSPĖJIMAS Netinkamas darbas su baterijomis! Susižalojimo pavojus!</p> <p>Nebandykite tuščių baterijų reaktyvuoti arba įkrauti (sprogimo ir išsėdinimo pavojus).</p> <p>Neardykite ir nepažeiskite baterijų.</p> <p>Nemeskite baterijų į ugnį.</p>	<p>▲ ETTEVAATUST Patareide asjatundmatu käsitsemine! Vigastusoht!</p> <p>Ärge üritage kunagi tühje patareisid reaktiveerida või täis laadida (plahvatus- ja sõõvitusoht).</p> <p>Ärge demonteerige ega kahjustage patareisid. Ärge visake patareisid tulle.</p>	<p>▲ ΠΡΟΣΟΧΗ Ακατάλληλος χειρισμός μπαταριών! Κίνδυνος τραυματισμού!</p> <p>Μην επιδιώκετε να ενεργοποιήσετε ξανά ή να φορτίσετε κενές μπαταρίες (κίνδυνος έκρηξης και διάβρωσης).</p> <p>Μην διαλύετε ή καταστρέφετε τις μπαταρίες. Μην απορρίπτετε τις μπαταρίες στη φωτιά.</p>

CN 中文
<p>▲ 警告 如果不按照下述指定的安全说明使用，将会导致人身伤害！</p> <p>在没有阅读，理解随本产品附带的文件并熟知正当使用前，不要安装或使用本产品。</p> <p>如果没有您在国家官方语言文件说明，请与 Rexroth 销售伙伴联系。</p> <p>只允许有资格人员对驱动器部件进行操作。</p> <p>安全说明的详细解释在本文档的第一章。</p>
<p>▲ 警告 高电压！电击导致生命危险！</p> <p>只有在安装了永久良好的设备接地导线后才可以对驱动器的部件进行操作。</p> <p>在接触驱动器部件前先将驱动器部件断电。</p> <p>确保电容放电时间。</p>
<p>▲ 警告 危险运动！生命危险！</p> <p>保证设备的运动区域内和移动部件周围无障碍物。</p> <p>防止人员意外进入设备运动区域内。</p> <p>在接近或进入危险区域之前，确保传动设备安全停止。</p>
<p>▲ 警告 电磁场/磁场！对佩戴心脏起搏器、金属植入物和助听器的人员会造成严重的人身伤害！</p> <p>上述人员禁止进入安装及运行的驱动器区域，或者必须事先咨询医生。</p>
<p>▲ 小心 热表面（大于 60 度）！灼伤风险！</p> <p>不要触摸金属表面（例如散热器）。驱动器部件断电后需要时间进行冷却（至少 15 分钟）。</p>
<p>▲ 小心 安装和运输不当导致受伤危险！当心受伤！</p> <p>使用适当的运输和安装设备。</p> <p>使用适合的工具及用适当的防护设备。</p>
<p>▲ 小心 电池操作不当！受伤风险！</p> <p>请勿对低电量电池重新激活或重新充电（爆炸和腐蚀的危险）。</p> <p>请勿拆解或损坏电池。请勿将电池投入明火中。</p>

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1 About this documentation

1.1 Validity of the documentation

This documentation applies to the power supply unit TS-EC-E-100-240V/50-60HZ-6A (material number R901468181)

This documentation is intended for assemblers, operators, service engineers and the system end-user.

This documentation contains important information on the safe and proper assembly, transport, commissioning, operation, use, maintenance, disassembly and simple troubleshooting of the product.

You should read this documentation thoroughly and in particular the [Safety instructions](#) [▶ 20] and [General information on damage to property and damage to the product](#) [▶ 33] chapters before using this product.

1.2 Required and amending documentation

In addition to these operating instructions, more documents regarding the components used are available. In the following tables, amending documentation is provided sorted by components. This documentation supports you in the safe and proper handling of this power supply unit.

1.2.1 Online documentation



You can find these operating instructions as well as the related documents and data sheets in the Rexroth media directory at

<http://www.boschrexroth.com/various/utilities/mediadirectory/>

The current training offer and other knowledge products of the Drive & Control Academy are available on the Internet at:

<http://www.boschrexroth.de/academy>

1.2.2 Further documents

Title	Documentation type	Document number	Material number
Hydraulics training system WS290	Operating instructions	RE 00225-B	
Rexroth IndraControl VAP 01.1 power supply unit	Operating instructions	DOK-SUPPL* VAP*01.1H*-IT	R911339612

Table 1: Required and amending documentation

About this documentation

1.2.3 Other languages

These assembly instructions are available in the languages indicated here. Other languages on request. They come in a hard copy (print) or a PDF file (media) that can be downloaded at: <http://www.boschrexroth.com/various/utilities/mediadirectory/>

	Title	Documentation type	Document number	M.-no.
DE	Netzteil TS-EC- E-100-240V/50-60HZ-6A	Betriebsanleitung	BETRIEBSANLEITUNG TS-1/X-EN EC-E-100-2&	R901470286
ES	Fuente TS-EC- E-100-240V/50-60HT-6A	Instrucciones de servicio	OPERATING INSTRUCT TS-1/X-ES EC-E-100-2&	R901471650

Table 2: Other languages

1.3 Illustration of information

1.3.1 Safety instructions

Uniform safety instructions, symbols, terms and abbreviations are used so that you can quickly and safely work with your product using this documentation. For better understanding, they are explained in the following sections.

In this documentation, safety instructions are included whenever sequences of actions are explained which bear the danger of personal injury or damage to property. The measures described for the hazard avoidance must be observed.





 SIGNAL WORD
Type and source of danger
Consequences of non-compliance
– Hazard avoidance measures
– Enumeration

Table 3: Setup of safety instructions

Warning symbol with signal word	Risk class according to ANSI Z535.6-2006
 DANGER	Death or serious injuries will occur.
 WARNING	Death or serious injuries may occur.
 CAUTION	Injuries or damage to property may occur.
NOTICE	Indicates damage to property: The product or the environment could be damaged.

The following figures are a symbolic form of illustration of the above-mentioned safety instructions in this documentation.

**⚠ DANGER**

Death or serious injuries will occur.

**⚠ WARNING**

Death or serious injuries may occur.

**⚠ CAUTION**

Injuries or damage to property may occur.





About this documentation



NOTICE

Indicates damage to property: The product or the environment could be damaged.

1.3.2 Symbols in this documentation

Symbol	Meaning
	This notice provides you with important information that you should observe
	Indicates useful information for the perfect use and operation of the product
	Required and amending documentation
	This is a tip.
–	Individual, independent action
1. 2. 3.	Numbered instruction: The numbers indicate that the actions must be carried out one after the other

1.3.3 Designations

Designations	Meaning
NETZTEIL TS-EC- E-100-240V/50-60HZ-6A	Device kit designation according to type code
ARBEITSSTATION WS290	Workstation WS290

Table 4: Designations

1.3.4 Abbreviations

The following abbreviations are used in this documentation:

Abbreviation	Unit	Meaning
U	V	Electrical voltage
I	A	Electric current intensity
R	Ω	Electrical resistance
P	W	Electric power
F	Hz	Frequency
H	%	Air humidity
T	$^{\circ}\text{C}$	Temperature
B	mm	Width
H	mm	Height
T	mm	Depth
m	kg	Weight
TN network	- - -	TN system (French Terre Neutre)

Abbreviation	Unit	Meaning
TT network	- - -	TT system (French Terre Terre)
IT network	- - -	IT system (French Isolé Terre)

Table 5: Generally valid abbreviations

Test marks

The following test marks are used.


Test mark	Meaning
	<p>The letters C and E stand for "Communautés Européennes". The CE mark only indicates conformity of a product with the relevant EC directives.</p> <p>For the power supply unit TS-EC-E-100-240V/50-60HZ-6A, conformity according to the Low-Voltage Directive 2014/35/EU is confirmed.</p>

Table 6: Meaning of the test mark

2 Safety instructions

2.1 General information on this chapter

The product has been manufactured according to the generally accepted rules of technology. However, there is still the danger of personal injury and damage to property if you do not observe this chapter and the safety instructions in this documentation.

- Before the commissioning, the operating, maintenance and safety instructions are to be read. If you have not clearly understood the documentation in the available language, please contact your responsible Rexroth sales partner.
- Keep this documentation in a location where it is accessible to all users at all times.
- Always include the required documentation when you pass the product on to third parties.
- The unobjectionable and safe operation of this device requires appropriate and proper transport, storage, assembly and installation as well as careful operation and maintenance.

2.2 Intended use

Bosch Rexroth products are developed and produced according to the relevant state-of-the-art. Before their delivery, they are checked for their operationally safe condition.

The products may only be used as intended. If not used as intended, situations may arise which result in damage to property and personal injury



NOTICE

Bosch Rexroth as manufacturer will not provide any warranty, assume any liability and pay any damages for damage caused by the products not being used as intended. Any risks resulting from the products not being used as intended are the sole responsibility of the user

Before using the Bosch Rexroth products, the following prerequisites must be complied with in order to guarantee intended use of the products:

- Everyone who in any way deals with our products must read and understand the corresponding safety regulations and notes regarding the intended use.
- If the products are hardware, they must be kept in their original state, i.e. no constructional modifications must be made. Software products must not be decompiled; their source codes must not be modified.
- Damaged or defective products must not be installed or commissioned.

- It must be guaranteed that the products have been installed according to the instructions given in the documentation.



NOTICE

The Bosch Rexroth power supply unit TS-EC-E-100-240V/50-60HZ-6A is intended and designed for the voltage supply from TN, TT and IT networks.

The Bosch Rexroth power supply unit TS-EC-E-100-240V/50-60HZ-6A is intended for use in the technical basic and further education, for the electric supply of components from the areas hydraulics, pneumatics and mechatronics.

The power supply unit TS-EC-E-100-240V/50-60HZ-6A may only be operated with components from the Bosch Rexroth AG product portfolio.

The power supply unit TS-EC-E-100-240V/50-60HZ-6A may only be operated under the assembly and installation conditions specified in this documentation, in the specified operating position and under the specified environmental conditions (temperature, protection class, humidity, EMC, etc.).

Regarding the fields of use and application of the relevant components also refer to the related documents.

The product is only intended for academic and industrial use and not for private use.

Intended use also includes having read and understood this documentation completely, especially the chapter "Safety instructions" and the chapter "General information on damage to property and damage to the product".

2.3 Improper use

Any use deviating from the intended use is improper and thus not admissible.

Use of the devices in fields of application other than those specified above or under operating conditions other than those described in the documentation and technical data is considered as "improper".

The power supply unit TS-EC-E-100-240V/50-60HZ-6A must not be used if it

- is not combined with modules which have been explicitly released by Bosch Rexroth AG.
- is not used for applications which have been released by Bosch Rexroth AG. In this connection, please imperatively observe the statements in the general safety instructions!
- is exposed to operating conditions which do not satisfy the prescribed environmental conditions. Examples of prohibited operation include operation under water, under extreme temperature variations or extreme maximum temperatures.

Any use deviating from the intended use is improper and thus not admissible. The installation or use of inappropriate products in safety-relevant applications could result in unintended operating conditions when being used which in turn could cause personal injuries and/or damage to property. Therefore, only use a product for safety-relevant applications if this use is expressly specified and permitted in the documentation of the product, e.g. in explosion protection areas or in safety-related parts of control systems (functional safety). Bosch Rexroth AG does not assume any liability for damage caused by improper use. The user assumes all risks involved with improper use.

2.4 Qualification of personnel

2.4.1 General information

Basic mechanical and electric knowledge as well as knowledge of corresponding technical terms is required for assembly, commissioning, maintenance (incl. service, inspection, repair) and disassembly. To ensure operational reliability, these activities may therefore only be performed by a qualified expert or an instructed person under the supervision of an expert.

Experts are those who are able to recognize potential dangers and apply the appropriate safety measures due to their professional training, knowledge and experience, as well as their understanding of the relevant conditions pertaining to the work to be undertaken. An expert must observe the relevant specific professional rules.

2.4.2 Teaching

Trainees may only work with the power supply unit TS-EC-E-100-240V/50-60HZ-6A:

- under direct supervision of an instructor or trained personnel.
- under the appropriate guidance of an instructor or trained personnel.

Trainer

The trainer must be a skilled and qualified expert having experience in the field to be taught.

The trainer has to:

- give clear instructions if trainees or persons participating in further training are supposed to complete project exercises with the device set,
- check the installation and functional consequences of the control circuit, before they are switched on, in order to ensure safe operation.

Trained personnel

For the supervision during the exercises, trained personnel may also be used.

These are qualified people who were instructed and briefed in relation to:

- tasks ordered,
- possible dangers in the event of improper use,
- safeguards and protective measures.

2.4.3 Transport, set-up, installation and commissioning

Any work carried out at the power supply unit TS-EC-E-100-240V/50-60HZ-6A such as set-up, connection, maintenance and repair, may only be performed by authorized experts or persons being sufficiently qualified and entitled.

Persons authorized to perform work at the power supply unit TS-EC-E-100-240V/50-60HZ-6A have to be able to follow the information provided in this documentation and to perform, in addition and independently, any information possibly missing due to their personal professional qualification.

2.4.4 Troubleshooting, maintenance and repair

Maintenance and repair works as well as fault finding and troubleshooting measures require special knowledge and must only be carried out by qualified experts!

- Work on the electric equipment may only be performed by an electrically qualified person.

Electrically qualified persons are those who are able to recognize potential dangers and apply the appropriate safety measures due to their professional training and experience, as well as their understanding of the relevant conditions pertaining to the work to be undertaken.

Bosch Rexroth AG offers measures supporting the training. An overview of the training contents is available online at:

<http://www.boschrexroth.de/academy>

2.5 General safety instructions

- Observe the valid regulations on accident prevention and environmental protection.
- Observe the safety regulations and provisions of the country where the product is implemented/used.
- Exclusively use Bosch Rexroth products in good technical order and condition.
- Observe all notes on the product.
- Persons who assemble, operate, disassemble or maintain Bosch Rexroth products must not consume any alcohol, drugs or medication that may affect their ability to react.
- Only use accessories and spare parts approved by the manufacturer in order to exclude hazards to persons due to unsuitable spare parts.
- Comply with the technical data and environmental conditions specified in the product documentation.
- The installation or use of inappropriate products in safety-relevant applications could result in unintended operating states when being used which in turn could cause personal injuries and/or damage to property. Therefore, only use a product for safety-relevant applications if this use is expressly specified and permitted in the documentation of the product.

2.6 Product- and technology-dependent safety instructions

2.6.1 Introduction

The following notes must be read before the first commissioning of the system to avoid physical injury and/or damage to property. These safety instructions must be observed at all times.

Do not attempt to install or commission the device set or the contained components without first reading all documentation provided with the system. Read and understand these safety instructions and all user information prior to working with the device set. Please contact your responsible Bosch Rexroth sales partner in case you are not provided with any user information. Ask for these documents to be sent immediately to the person or persons responsible for the safe operation of the device set.

If the device set is resold, rented and/or passed on to others in any other form, these safety instructions must be handed over, as well.



⚠ WARNING

Improper use of these devices, failure to observe the warnings in this document as well as improper intervention with the safety equipment may result in damage to property, injuries, electric shock or - in the extreme case - even death.

2.6.2 Hazards by improper use



⚠ DANGER

High electric voltage and high operating current! Danger to life or severe bodily injury by electric shock!



⚠ WARNING

High electric voltage by incorrect connection! Danger to life or bodily injury by electric shock!



⚠ CAUTION

Hot surfaces possible on device housings! Risk of injury! Risk of burning!



⚠ CAUTION

Risk of injury by improper handling! Bodily injury by bruising, shearing, cutting, hitting!

2.6.3 General information

- In case of damage due to non-compliance with the warnings in these operating instructions, Bosch Rexroth AG will not accept any liability.
- Before the commissioning, the operating, maintenance and safety instructions are to be read. If you have not clearly understood the documentation in the available language, please ask the supplier and inform the latter.
- The unobjectionable and safe operation of this device requires appropriate and proper transport, storage, assembly and installation as well as careful operation and maintenance.
- For handling electric systems, use trained and qualified personnel:
 - Only accordingly trained and qualified personnel should work at this device or close to it. The personnel are qualified if they are sufficiently familiar with the assembly, installation and operation of the products and with all warnings and preventive measures according to these operating instructions.
 - They are moreover trained, instructed or entitled to switch electric circuits and devices on and off according to the safety technology provisions, to ground them and to mark them properly according to the work requirements. They must have appropriate safety equipment and be trained with regard to first aid.
- Only use spare parts and accessories approved by the manufacturer.
- You must observe the safety regulations and provisions of the country where the device is used.
- The environmental conditions specified in the product documentation must be observed.
- Safety-relevant applications are only admissible if they have been explicitly and clearly specified in the project planning documents. If this is not the case, they are excluded.

Commissioning of the supplied components is prohibited until it has been ensured that the machine or system into which they are installed complies with the country-specific provisions, safety regulations and standards of application.

- Operation is only admissible if the national EMC regulations for the present application are complied with.
- Technical data as well as connection and installation conditions are available in the product documentation and must imperatively be observed.

2.6.4 Protection against contact with electric parts



NOTICE

This section only concerns devices and components with voltages of more than 50 Volt.

Touching parts with voltages greater than 50 volt can be dangerous to people and lead to electric shock. When operating electrical equipment, it is unavoidable that some parts of the units conduct dangerous voltage.

**⚠ DANGER**

High electrical voltage! Danger to life, risk of injury caused by electric shock or severe injury!

- a) Only those trained and qualified to work with or on electrical equipment are permitted to operate, maintain and repair this device.
- b) Follow general construction and safety regulations when working on electrical power installations.
- c) Before switching on the device, the protective earthing conductor must have been permanently connected to all electrical equipment in accordance with the connection diagram.
- d) Do not operate electrical equipment at any time, even for brief measurements or tests, if the protective earthing conductor is not permanently connected to the mounting points of the components provided for this purpose.
- e) Unplug the device from the power supply or power supply unit before accessing electric parts with voltages above 50 volt. Secure against restarting.
- f) Wait 30 minutes after switching off power to allow capacitors to discharge before beginning to work. Measure the voltage in the capacitors before beginning work to preclude the risk of injuries if the device is touched.
- g) Never touch the electrical connection points of a component while power is turned on.
- h) Before switching on, attach the covers and guards provided for the touch guard. Before switching the equipment on, cover and safeguard live parts safely to prevent contact with those parts.
- i) For installation devices, protection against direct contact with electric parts has to be ensured by means of an external housing such as a control cabinet.

European countries: in accordance with EN 50178/ 1998, Section 5.3.2.3.

USA: see National Electric Code (NEC), National Electric Manufacturers Association (NEMA) and any regional building codes. The operator must comply with all the above points at all times.

For electrical drive and filter components, observe the following:

**⚠ DANGER**

High electrical voltage! Danger to life, risk of injury by electric shock.

- a) Do not put any objects through the ventilation openings of the system
- b) Do not put vessels filled with liquid (such as beverage) onto the device
- c) The device may only be operated with an undamaged housing

2.6.5 Protection by means of protective extra low voltage (PELV) against electric shock

All connections and terminals with voltages from 5 to 50 Volt at Bosch Rexroth products are protective extra low voltages which are designed in a contact-protected form according to the product standards.



⚠ WARNING

High electric voltage by incorrect connection! Danger to life, risk of injury by electric shock!

- a) At all connections and terminals with voltages from 0 to 50 Volt only devices, electric components and lines with protective extra low voltage (PELV) may be connected.
- b) Only connect voltages and electric circuits provided with safe isolation from dangerous voltages. Safe isolation can be achieved with isolation transformers, safe optocouplers or mains-free battery operation.

2.6.6 Protection against contact with hot parts



⚠ CAUTION

Hot surfaces possible on device housings! Risk of injury! Risk of burning!

- a) Do not touch housing surfaces near sources of heat! Risk of burning!
- b) Before touching, first allow devices to cool down for 10 minutes after switching off.
- c) Touching hot equipment parts such as device housings in which cooling elements and resistors are located can lead to burns!

2.6.7 Protection during handling and assembly

In unfavorable conditions, handling and assembling certain parts and components in an improper way can cause injuries.



⚠ CAUTION

Risk of injury by improper handling! Bodily injury by bruising, shearing, cutting, hitting!

- a) Observe the general construction and safety regulations on handling and assembly.
- b) Use suitable assembly and transport equipment.
- c) Avoid jamming and bruising by appropriate measures.
- d) Always use suitable tools. Use special tools if specified.
- e) Use lifting equipment and tools in the correct manner.
- f) If necessary, use suitable protective equipment (for example safety goggles, safety shoes, protective gloves).
- g) Do not stand under hanging loads.
- h) Immediately clean up any spilled liquids because of the slip hazard.

2.7 Obligations of the operator

2.7.1 General information

The operator of the Bosch Rexroth power supply unit TS-EC-E-100-240V/50-60HZ-6A is bound to provide for personnel training on a regular basis regarding the following subjects:

- Observation and use of the operating instructions as well as the legal provisions.
- Intended operation of the Bosch Rexroth product.
- Observation of the instructions from the factory security offices as well as the operator's operating instructions.
- Behavior in case of emergency.

The operator has to guarantee the required prerequisites for the set-up and the installation of the power supply unit TS-EC-E-100-240V/50-60HZ-6A and provides for:

- safe set-up by their personnel and/or the persons authorized by them
- compliance with the accident prevention regulations (UVV)
- compliance with the safety regulations of the professional unions as well as further internal and local requirements

The operator will instruct their employees and/or those of third party companies on possible dangers at the place of installation.


The operator has to make available sufficient lighting in the area of use of the power supply unit TS-EC-E-100-240V/50-60HZ-6A.

2.7.2 Safety signs



Depending on the installation conditions, it may be necessary to attach warnings at the place of installation. The operator is responsible for attaching the safety signs.

For a recommendation regarding the mandatory signs, prohibitory signs or warnings, please refer to the following table.

Mandatory signs according to DIN 4844-2

Symbol	Description
	Observe the instructions for use

Warning signs according to DIN 4844-2

Symbol	Description
	Hot surface warning
	Electrostatically endangered components

2.8 Safety equipment

To protect people, the power supply unit TS-EC-E-100-240V/50-60HZ-6A is equipped with the following safety equipment:

- Main switch
- Fuse protection of the mains input voltage
- Safety sockets for 24VDC output

The facilities set out are described in more detail below.

Main switch

The main switch separates the power supply unit at all poles from the applied mains input voltage.

Fuse protection of the mains input voltage

Fuse protection of the mains input voltage is effected by means of a micro-fuse in the mains input socket. When exchanging the micro-fuse, the technical data (250V/5AmT) must imperatively be observed.

Safety instructions

Safety sockets for 24VDC output To avoid malfunctions and overheating of the power supply unit as a consequence of short-circuit, contact-protected safety sockets have been used for the connection of the 24VDC control voltage.

3 General information on damage to property and damage to the product



NOTICE

Danger due to improper handling!

Damage to property!

- a) The product may only be operated according to the [Intended use](#) [▶ 20].
- b) Avoid impacts against functionally relevant areas and add-on modules.



NOTICE

Danger due to improper handling!

Contamination by foreign bodies!

- a) Premature wear and malfunctions!
 - ⇒ During assembly, provide for cleanliness in order to prevent foreign bodies from getting into the power supply unit TS-EC-E-100-240V/50-60HZ-6A and causing malfunctions.
 - ⇒ Before commissioning, ensure that all electric and mechanical connections have been made.



NOTICE

Energized system!

Damage to property!

- a) Do not connect any electric connections as long as the power supply unit TS-EC-E-100-240V/50-60HZ-6A and the exercise set-up are connected to the electric supply.
- b) Make sure that excess-current protection equipment is available.

The warranty only applies to the supplied configuration.

The claim to warranty expires if the product is assembled, commissioned and operated incorrectly, not used as intended and/or handled improperly.

4 Scope of delivery

The scope of delivery of the power supply unit TS-EC-E-100-240V/50-60HZ-6A includes

Quantity	Mat. no.:	Denomination
1	R901468181	NETZTEIL TS-EC-E-100-240V/50-60HZ-6A
1	- - -	Cold device connecting cable (safety plug and cold-device socket C13).
1	R901470286	BETRIEBSANLEITUNG TS-1/X-DE EC-E-100-2&
1	R901471648	OPERATING INSTRUCT TS-1/X-EN EC-E-100-2&

Table 7: Scope of delivery of the power supply unit



You can find further language versions of the operating instructions in the Rexroth media directory at

<http://www.boschrexroth.com/various/utilities/mediadirectory/>

5 About this product

5.1 Performance description

The Bosch Rexroth power supply unit TS-EC-E-100-240V/50-60HZ-6A is intended for use in the technical basic and advanced training, as electric supply (24VDC) of components from the areas hydraulics, pneumatics and mechatronics.

5.2 Product description

The 24V supply of the power supply unit is made available on four safety sockets (+24VDC and 0VDC) each. The outputs are short-circuit and overload-protected. The dimensions of the power supply unit are designed for installation in the 19" assembly carrier of the WS290 workstation. For fastening, 4 captive screws are installed. In this connection, horizontal installation position is imperatively prescribed.

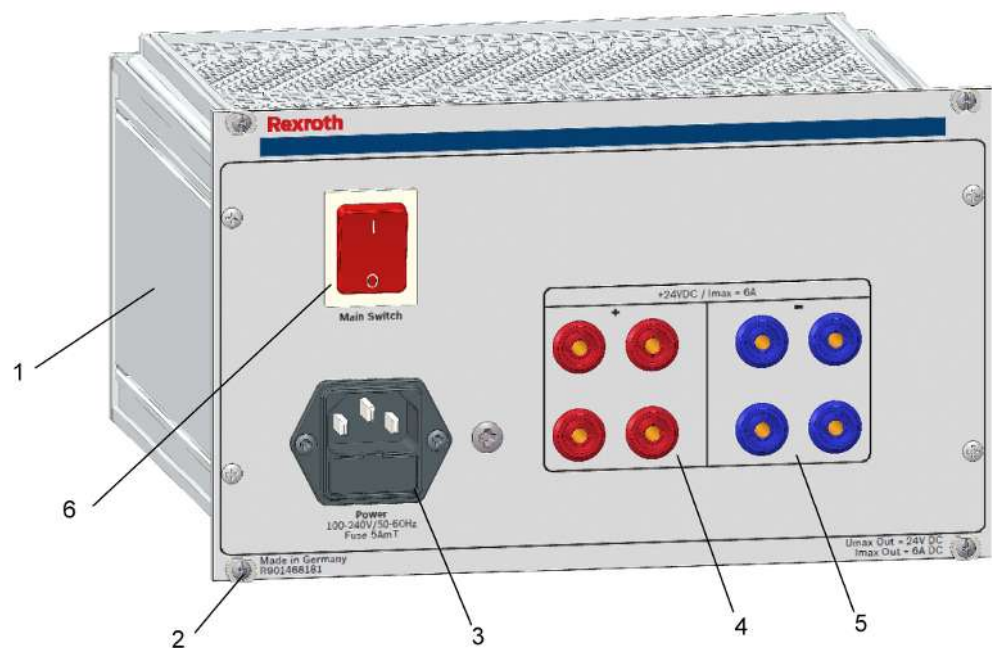


Illustration 1: Product description

1	Power supply unit TS-EC-E-100-240V-50-60Hz-6A	2	4x mounting screws
3	Fuse protection, mains input	4	4x safety socket red (+24VDC)
5	4x safety socket blue (0VDC)	6	Main switch

Peak current resistance

The power supply unit TS-EC-E-100-240V/50-60HZ-6A is able to generate peak current that is higher than the specified short-time current. In this way, the current consumption load can be started or more power switches can be safely operated. The output capacitor in the power supply unit provides the additional current. During this process, the capacitors are discharged which leads to a voltage dip at the output.

About this product

Solenoid coils, switching contactors and pneumatic modules are often only equipped with a stationary coil and a transducer coil. The switch-on current demand of a transducer coil is much higher than that of the stationary coil. The electricity demand is normally higher than the nominal output current (including the power supply). This is also true if a capacitive load is started.

Branch circuits are often protected by means of circuit breakers or fuses. In case of a short-circuit or overload in the branch circuit, a certain overcurrent is necessary for the fuse to trip. The peak current resistance ensures safe operation of the downstream power switches.

Provided that the input voltage is switched on before such event occurs, the installed output capacitors in the power supply unit can provide additional current. Discharge of a capacitor leads to a voltage dip at the output.

Charging accumulators



NOTICE

Damage to property

- a) The power supply unit TS-EC-E-100-240V/50-60HZ-6A must **not** be used for charging accumulators!

Refeeding load

Devices such as motors running out and inductors may feed back voltage to the power supply unit. This property is also referred to as “Return voltage interference resistance” – EMF (electromotive force).

The power supply unit TS-EC-E-100-240V/50-60HZ-6A is interference-resistant. There will not be any malfunctions if voltage is fed back to the power supply unit no matter whether the power supply unit is switched on or off.

5.3 Product identification

5.3.1 Type code

The type code is printed onto the type plate of the product. The following information allows for the assignment of the meaning of the type code.

6 Transport and storage

6.1 Transporting the product



NOTICE

Do not touch electrostatically endangered components, connection points!

Installed components (e.g. KTY84, encoder) may contain electrostatically endangered parts (ESD).

- a) Observe the ESD protective measures.

Transport

The power supply unit TS-EC-E-100-240V/50-60HZ-6A is to be transported in its original packaging observing DIN EN 60721-3-2.

Observe the following restrictions of the classifications:

- Transport temperature range -20 ... +80 °C
- Relative air humidity max. 75% (at +30°C)
- No occurrence of saline mist

No special lifting tools are required to transport the power supply unit TS-EC-E-100-240V/50-60HZ-6A.

6.2 Storing the product



NOTICE

Risk of damage caused by humidity and dampness!

- a) Protect the power supply unit TS-EC-E-100-240V/50-60HZ-6A from humidity by means of covers.
- b) Only store it in dry rooms, protected from rain.
- c) Protect the power supply unit TS-EC-E-100-240V/50-60HZ-6A against strong temperature variations, strong solar radiation and strong cooling in order to prevent the formation of condensation water and thus corrosion.

Denomination	Unit	Value
Storage temperature range	°C	-20 ... +60
Relative air humidity	%	5 ... 75
Absolute air humidity	g/m ³	1 ... 29
No condensation	---	---
No ice formation/icing	---	---
No occurrence of saline mist	---	---

Table 8: Observe the following restrictions of the classification:

How to store the power supply unit TS-EC-E-100-240V/50-60HZ-6A.

Transport and storage

- Protect the power supply unit TS-EC-E-100-240V/50-60HZ-6A by means of corresponding packaging against dust and humidity.
- Protect the power supply unit TS-EC-E-100-240V/50-60HZ-6A against strong temperature variations, strong solar radiation and strong cooling in order to prevent the formation of condensation water and thus corrosion.
- Only store it in weather-protected areas.

7 Assembly

7.1 Unpacking the product



CAUTION

Danger due to parts falling out!

If the packaging is opened improperly, parts may fall out and cause damage or injuries.

- a) Put the packaging on level, bearing ground.



CAUTION

Risk of injury!

In case of improper handling, sharp and pointed parts of the packaging may cause injuries.

- a) Open the packaging using suitable aids.
- b) Do not use sharp blades. Internal parts might be damaged!

For opening it, put the packaging on a bearing table or work bench. Open the packaging carefully in order not to damage the power supply unit TS-EC-E-100-240V/50-60HZ-6A. Remove the power supply unit TS-EC-E-100-240V/50-60HZ-6A from the packaging without force.

- Dispose of the packaging material in accordance with the national regulations in your country and your internal specifications.



Damage caused during transportation and defects shall be promptly recorded and notified in writing to the Bosch Rexroth customer service by way of a notification of claim.

7.2 Necessary tools

For the assembly of the power supply unit TS-EC-E-100-240V/50-60HZ-6A at the 19" assembly carrier of the WS290 workstation, a slotted screwdriver (size 1) is required.

7.3 Assembling the product

7.3.1 Installing the power supply unit TS-EC-E-100-240V/50-60HZ-6A into the system

To assemble the power supply unit TS-EC-E-100-240V/50-60HZ-6A, complete the subsequently described work steps.

1. Remove possible blind plates at the 19" assembly carrier (1) in order to provide the installation space required for the power supply unit TS-EC-E-100-240V/50-60HZ-6A (2). (Observe the horizontal installation position).
2. Carefully push the power supply unit into the 19" assembly carrier (1).
 - Make sure that no cables or lines are damaged.
3. Use the 4 mounting screws (2a) to fix the power supply unit TS-EC-E-100-240V/50-60HZ-6A at the 19" assembly carrier.

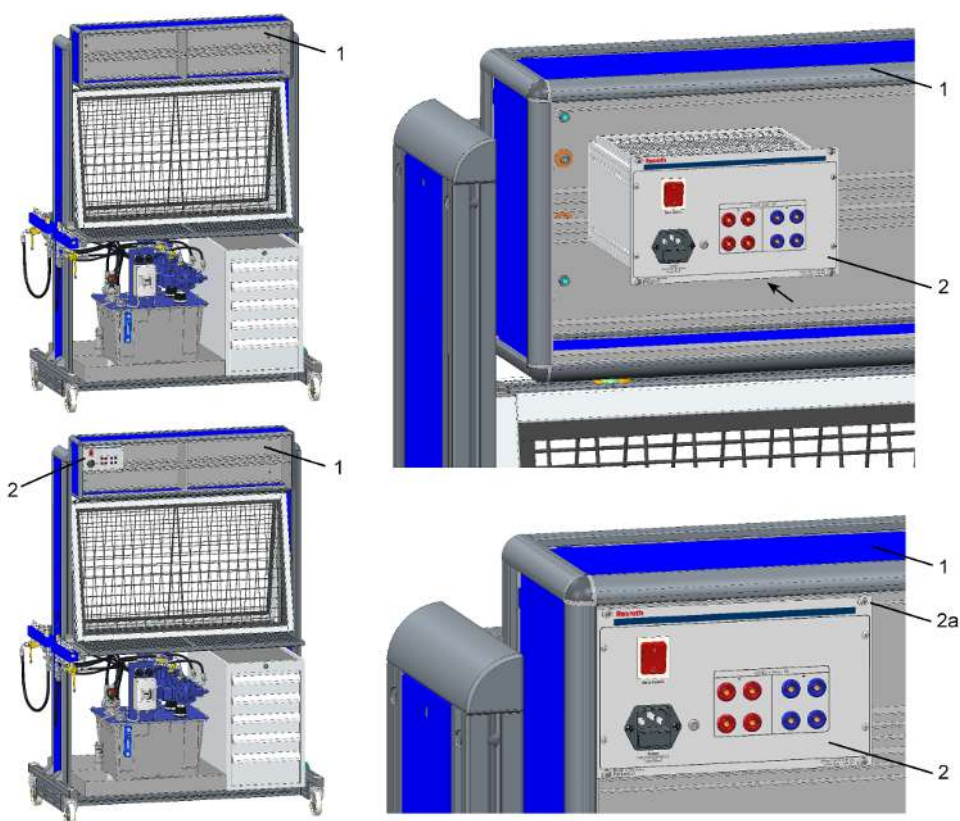


Illustration 4: Assembly in assembly carrier

- | | | | |
|----|----------------------|---|---|
| 1 | 19" assembly carrier | 2 | Power supply unit TS-EC-E-100-240V/50-60HZ-6A |
| 2a | 4x mounting screws | | |

7.3.2 Connecting the power supply



WARNING

Danger to life due to electrical voltage! Working in the area of live parts poses a danger to life.

- a) Works at the electric system may only be carried out by electrically qualified persons. Electrician tools (VDE tools) are imperatively necessary.

Before the work:

- b) De-energize (also auxiliary circuits).
 c) Secure against restarting.
 d) Ensure that there is no voltage.
 e) Ground and short-circuit.
 f) Cover or shield adjacent live parts.



NOTICE

Do not touch electrostatically endangered components, connection points!

Installed components (e.g. KTY84, encoder) may contain electrostatically endangered parts (ETUC).

- a) Observe the ETUC protective measures.

Establish the mains connection



The Bosch Rexroth power supply unit TS-EC-E-100-240V/50-60HZ-6A is intended and designed for the voltage supply from TN, TT and IT networks.

1. Make sure that the main switch of the power supply unit TS-EC-E-100-240V/50-60HZ-6A is switched off.
2. Connect the supplied mains connection cable at the power supply unit and, via a safety plug, connect it to a grounded supply network. Information on possible supply voltages is provided in the chapter [Technical data and dimensions](#) [▶ 54]

8 Commissioning

Preparation for commissioning.

- Environmental conditions are to be guaranteed according to the safety instructions. Also refer to chapter: Workplaces of the operators
- Ensure the installation prerequisite according to the product description
- Workplace regulation, accident prevention regulations, personal protective equipment, etc. of the relevant country of operation are to be observed. The responsibility is incumbent on the operator.

8.1 First commissioning



⚠ WARNING

High electrical voltage! Danger to life, risk of injury by electric shock.

Live parts are dangerous.

- a) Do not open any covers or device sockets during operation.
- b) Do not separate or connect plug-in connectors when energized.



⚠ CAUTION

Overheating

Risk of fire

- a) Ventilation slots are important functional elements at the devices. So with devices with ventilation slots, it must imperatively be ensured that they are not covered or overbuilt in no case. You should moreover ensure extensively dimensioned air circulation around the device. You can thus prevent possible damage at the device as well as risk of fire due to overheating.



For the first commissioning of the power supply unit TS-EC-E-100-240V/50-60HZ-6A it is imperatively necessary to completely and correctly perform the actions described in the Assembly chapter.

Testing the 24VDC output voltage

1. Switch on the main switch of the power supply unit TS-EC-E-100-240V/50-60HZ-6A.
 - The control lamp in the main switch is illuminated.
2. Use a multimeter to check the 24VDC control voltage at the “Red” and “Blue” safety sockets. Refer to chapter: Product description
 - Here, the measured voltage must be 24VDC.

9 Operation



CAUTION

Overheating

Risk of fire

- a) Ventilation slots are important functional elements at the devices. So with devices with ventilation slots, it must imperatively be ensured that they are not covered or overbuilt in no case. You should moreover ensure extensively dimensioned air circulation around the device. You can thus prevent possible damage at the device as well as risk of fire due to overheating.

Operation of the power supply unit is only possible in connection with the Rexroth WS290 workstations. To the operation, the notes in the relevant operating instructions of the workstations apply.

In order to ensure safe operation of the power supply unit, the following prerequisites should be satisfied:

- Visual inspection of the power supply unit for damage or defective mechanical components
- Check that all protective covers are attached and in an unobjectionable condition
- Check of the electric cables and connections for functionality
- Check for correct assembly of the power supply unit
- Check of the protective equipment and safeguards required for the operation
- Check of the safety-relevant equipment, e.g. fuses, main switches, etc.
- Initial commissioning was successfully completed. See Commissioning chapter



10 Maintenance and repair



⚠ WARNING

Danger to life due to electrical voltage! Working in the area of live parts poses a danger to life.

a) Works at the electric system may only be carried out by electrically qualified persons. Electrician tools (VDE tools) are imperatively necessary.

Before the work:

- b) De-energize (also auxiliary circuits).
- c) Secure against restarting.
- d) Ensure that there is no voltage.
- e) Ground and short-circuit.
- f) Cover or shield adjacent live parts.



⚠ WARNING

Personal injuries and damage to property in the event of maintenance works during on-going operation!

- a) Never carry out maintenance works at running systems.
- b) During the maintenance works, secure the system against restart and unauthorized use.

If during operation or a test, irregularities, variations, faults or wear are identified, the following shall be observed in any case:

- Immediately decommission the power supply unit.
- Determine the cause and remedy the defects. If you are not successful, inform the Bosch Rexroth customer service.
- Replace the defective component.
- Where appropriate, do not put the power supply unit back into operation.

Exchanging the mains input fuse

Exchange any defective mains input fuse.

1. Switch off the main switch of the power supply unit.
 - The control lamp of the main switch goes out.
2. Separate the power supply unit from the supply voltage by unplugging the mains connection cable.
3. Use a suitable tool to carefully disengage the fuse holder of the mains inlet connector to the front.

Maintenance and repair

4. Remove the defective fuse from the fuse holder.
5. When selecting the replacement fuse, the fuse specification must imperatively be observed. See chapter Technical data and dimensions
6. Insert the new fuse into the fuse holder.
7. Without applying any force, push the fuse holder into the mains inlet connector.
8. Complete another first commissioning. See chapter First commissioning

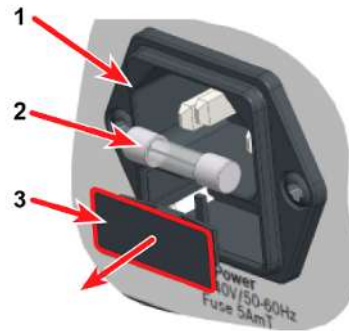


Illustration 5: Fuse replacement

- | | | | |
|---|-----------------------|---|------|
| 1 | Mains inlet connector | 2 | Fuse |
| 3 | Fuse holder | | |

10.1 Cleaning and care



⚠ WARNING

Danger to life due to electrical voltage! Working in the area of live parts poses a danger to life.

- a) Works at the electric system may only be carried out by electrically qualified persons. Electrician tools (VDE tools) are imperatively necessary.

Before the work:

- b) De-energize (also auxiliary circuits).
- c) Secure against restarting.
- d) Ensure that there is no voltage.
- e) Ground and short-circuit.
- f) Cover or shield adjacent live parts.



⚠ WARNING

Personal injuries and damage to property in the event of maintenance works during on-going operation!

- a) Never carry out maintenance works at running systems.



⚠ CAUTION

Burns due to hot surfaces with temperatures exceeding 70°C!

- a) Allow the power supply unit to cool down before starting the cleaning works.
- b) Do not work at hot surfaces.

Cleaning components made of plastic.

- Ensure during cleaning that no liquids enter the housing of the power supply unit.
- With minor contamination (e.g. with dust), it is sufficient to wipe the component with a damp cloth
- With heavy contamination (e.g. with oil-containing residues), we recommend using a special plastic cleaning agent. Never use solvents or aggressive cleaning agents which might attack the plastic.



Before using any cleaning agent, obtain information about the usability and possible dangers by referring to the user information on the packaging of the cleaning agent.

10.2 Inspection



⚠ WARNING

Fatal electric shock when touching live parts!

- a) Defective cables are to be replaced, the system must be immediately decommissioned.
- b) Do not carry out provisional repairs at the connection lines.

In order to ensure long and reliable functioning of the system, Bosch Rexroth recommends complying with the following inspection plan.

Works to be carried out	Interval
Overall training system	Check for loose and defective components. Before operation
Electric lines	Check for visible damage (cracks, abrasions, embrittlement,..). Before operation

Table 9: Inspection plan

10.3 Maintenance



WARNING

Fatal electric shock when touching live parts!

- a) Defective cables are to be replaced, the power supply unit must be immediately de-commissioned.
- b) Do not carry out provisional repairs at the connection lines.

Before performing any maintenance works, you must imperatively read and comply with the Safety instructions and --- FEHLENDER LINK --- chapters. Maintenance works may only be carried out when the system is switched off.

Spare parts

Only use genuine Bosch Rexroth spare parts; otherwise, functional safety cannot be guaranteed and you will forfeit your claim to warranty.

When ordering spare parts, the material number and the material short text are required. The data is available from the relevant type plate. After maintenance and before commissioning, the following is to be checked by a qualified expert:

- Whether the works were carried out properly.
- Whether the workstation is ready for operation without any restrictions.

10.4 Spare parts

There are no spare and wear parts or accessories for the TS-EC-E-100-240V/50-60HZ-6A power supply unit.

11 Disassembly and replacement



⚠ WARNING

Danger to life due to electrical voltage! Working in the area of live parts poses a danger to life.

a) Works at the electric system may only be carried out by electrically qualified persons. Electrician tools (VDE tools) are imperatively necessary.

Before the work:

- b) De-energize (also auxiliary circuits).
- c) Secure against restarting.
- d) Ensure that there is no voltage.
- e) Ground and short-circuit.
- f) Cover or shield adjacent live parts.

The power supply unit is disassembled in reverse assembly order. See chapter Assembling the product.

Environmental protection and disposal

12 Environmental protection and disposal

Manufacturing process

The products are manufactured using production processes that are energy- and raw material-optimized and at the same time allow for the reuse and recycling of the occurring waste materials. We regularly try to replace polluted raw and auxiliary materials and supplies with environmentally compatible alternatives.

No release of dangerous substances

Our products do not contain any hazardous substances that could be released during intended use. So in the normal case, no negative effects on the environment have to be expected.

Material components

Our products basically comprise the following components:

- Steel
- Aluminum
- Copper
- Plastics
- Electronic components and assemblies

Take-back

The products manufactured by us can be returned to us for disposal purposes free of charge. One prerequisite is, however, that there are no disturbing adherences such as oils, greases or any other contamination.

In addition, there must be no inappropriate foreign substances or third-party components when products are returned.

The products have to be sent free to the door to the following address:

Bosch Rexroth AG
 Electric Drives and Controls
 Bürgermeister-Dr.-Nebel-Straße 2
 97816 Lohr am Main, Germany

Packaging

The packaging materials consist of paper, wood and polystyrene. They can be recycled everywhere without problems.

Due to ecological reasons, the products should not be returned.

Batteries and accumulators



The symbol of the crossed-out wheeled bin means that batteries have to be collected separately.

The end-user is legally obliged to return used batteries within the EU. Outside the validity of the EU directive 2006/66/EC, the relevant provisions are to be observed.

Old batteries may contain pollutants that might damage the environment or the human health if they are stored or disposed of improperly.

After their use, the batteries or accumulators contained in Bosch Rexroth products must be supplied to the country-specific return systems for proper disposal.

Recycling

Due to the high metal share, the products can mostly be recycled. In order to achieve an ideal metal recovery, disassembly into individual assemblies is required.

Metals contained in electric and electronic assemblies can be recovered by means of special separation procedures as well.

Plastic parts of the products may contain flame retardants. These plastic parts are marked according to EN ISO 1043 and are to be recycled or disposed of separately according to the valid legal provisions, if applicable.

13 Extension and modification

For the extension of the TS-EC-E-100-240V/50-60HZ-6A power supply unit, you may only use assemblies and modules that have been explicitly released by Bosch Rexroth AG.

For more information, please refer to: <https://www.boschrexroth.com/de/de/training/trainings-systeme/training-systeme>

14 Troubleshooting

This chapter is a summary of information for the localization of errors and faults at this product. Error removal and troubleshooting measures are derived therefrom.

14.1 How to proceed for troubleshooting

In case of faults, you should generally observe the information in the project planning descriptions and commissioning instructions. If necessary, please contact the manufacturer.

Fault	Cause of error	Measures
The power supply unit cannot be mounted in the 19" assembly carrier	Mechanical damage of the power supply unit housing	Manufacturer repair
	Mounting screws defective	Renew mounting screws
The control lamp of the main switch is not illuminated	Mains input voltage not available	Check voltage supply
	Micro-fuse in the mains input socket defective	Renew micro-fuse. (Observe the technical data of the micro-fuse)
	Supply cable defective	Renew supply cable
24VDC output voltage not available	Mains input voltage not available	Check voltage supply
	Micro-fuse in the mains input socket defective	Renew micro-fuse. (Observe the technical data of the micro-fuse)
	Supply cable defective	Renew supply cable
	Power supply unit overloaded	Switch off the power supply unit, separate it from the voltage supply and allow it to cool down. Then switch it on again.
	Power supply unit defective	Manufacturer repair

Table 10: Measures in case of faults at the device set

15 Technical data and dimensions

Denomination		Unit	Value
Dimension	Height	HE	3
	Width	TE	42
	Depth	mm	172
Weight		kg	2.5
Min. operating temperature		°C	-25
Max. operating temperature		°C	+70
Place of installation			closed room
Ambient temperature		°C	+ 5 to +55
Max. relative air humidity		%	5 to 95
Max. installation height		m	0-6000 above sea level ¹⁾
Supply	AC input voltage (Auto Select)	V	100-120 / 200-240 ± 10%
	AC input current	A	4.34 / 2.33
	Input frequency	Hz	50-60 ± 6%
	Mains input fuse	A mT	5
	DC output voltage nom.	V	24 ± 0.2%
	DC output current nom.	A	6
	DC output power	W	134
	Efficiency typ.	%	90 / 70

Table 11: Technical data of the power supply unit

Power supply unit	Technical features
Manufacturer	Bosch Rexroth AG Bahnhofplatz 2 97070 Würzburg / Germany
Type	TS-EC-E-100-240V/50-60HZ-6A
Operating temperature	-25 °C to +70 °C (-13 °F to 158 °F)
Protection class	IP20
Shocking	30 g 6 ms, 20 g 11 ms 3 continuous shocks per direction, 3 continuous shocks per direction,
Height	0 to 6,000 m (0 to 20,000 ft) Reduce output power or ambient temperature over 2000 m above sea level
Overvoltage category	III / EN 50178, heights up to 2000 m II / EN 50178, heights from 2000 m to 6000 m

Table 12: Technical features

¹⁾ Reduce output power or ambient temperature over 2000 m above sea level.



The output voltage is free-of-ground and has no ohmic connection to the ground.

Power reduction output current (for height): 15 W/1000 m or 5 °C/1000

Output

Output voltage	nom.	24 V	
Factory setting		24.1 V	±0.2%, with full load, cold unit
Output power	nom.	172 W	At < 45 °C ambient temperature
		144 W	At < 60 °C ambient temperature
Short-circuit current	min.	14 A	Load resistance 100 mOhm
	max.	18 A	Load resistance 100 mOhm

Peak current resistance (up to several milliseconds)

The power supply unit TS-EC-E-100-240V/50-60HZ-6A is able to generate peak current that is higher than the specified short-time current. In this way, the current consumption load can be started or more power switches can be safely operated. The output capacitor in the power supply unit provides the additional current. During this process, the capacitors are discharged which leads to a voltage dip at the output.

Protection properties

Output protection	Electrically protected against overload, idling and short circuits	
Output overvoltage protection	typ. DC 35 V max. DC 39 V	If an internal power supply unit error occurs, a redundant switching circuit will limit the maximum output voltage. The output is shut down and the power supply unit attempts a restart.
Output excess-current protection	Electronically limited	
Protection class	IP20	EN/IEC 60529
Protection against ingress	> 3.5 mm	E.g. screws, small parts
Protection against overtemperature	Yes	Shut-down of the output with automatic restart
Transient protection at the input	MOV	Metal oxide varistor
Input protection at the mains input connector	MT5A	Can be exchanged by the user.

Safety

Input, output separation	Safety extra-low voltage (SELV)	IEC/EN 60950-1
	Functional low voltage with secure separation (PELV)	EN 60204-1, EN 50178, IEC 60364-4-41
	Functional low voltage with secure separation (PELV)	
Protection class	I	PE (protective earthing) connection required
Insulation resistance	> 5MΩ	Input to output, DC 500 V
Protective earthing conductor resistance	< 0.1Ω	Between housing and protective earthing conductor terminal
Touch current (leakage current)	typ. 0.36 mA typ. 0.50 mA typ. 0.64 mA	AC 100 V, 50 Hz, TN network AC 120 V, 60 Hz, TN network AC 230 V, 50 Hz, TN network

Technical data and dimensions

< 0.45 mA	AC 110 V, 50 Hz, TN network
< 0.62 mA	AC 132 V, 60 Hz, TN network
< 0.85 mA	AC 264 V, 50 Hz, TN network

16 Appendix

16.1 Circuit diagram

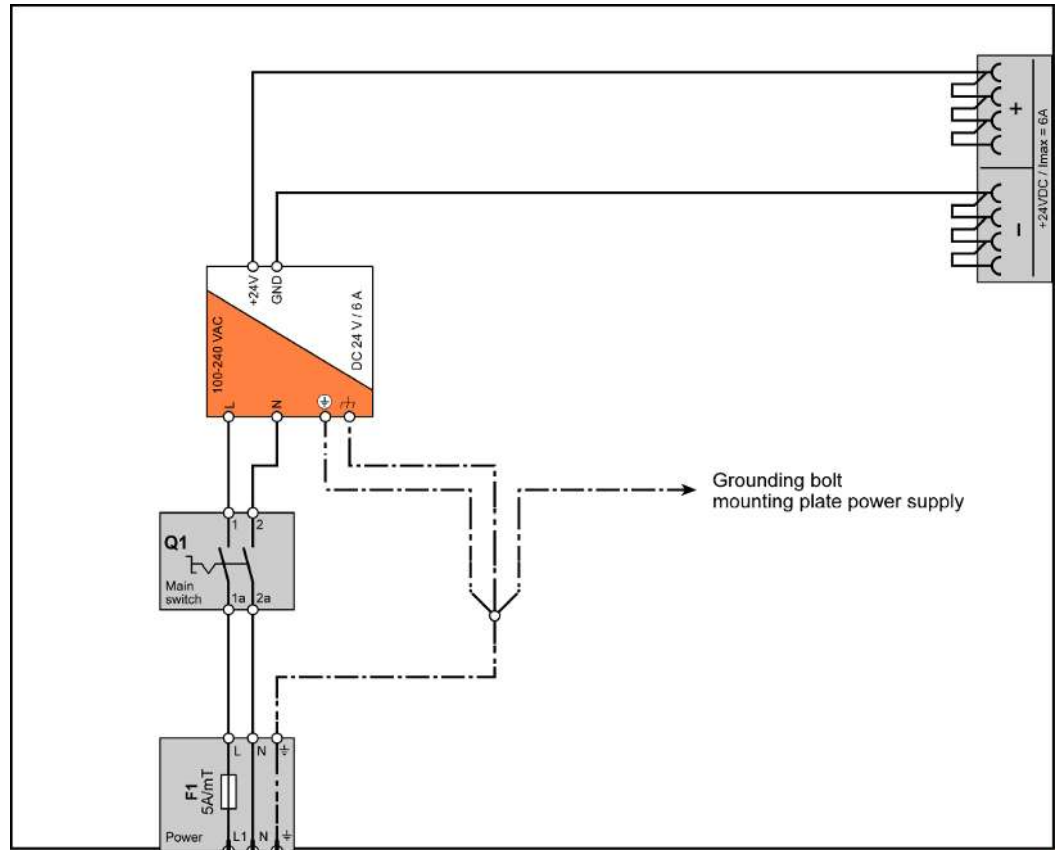


Illustration 6: Circuit diagram

16.2 Directory of addresses

The addresses of our country representatives can be found at

<http://www.boschrexroth.com>

Contact for repair and spare parts

Bosch Rexroth AG
Bürgermeister-Dr.-Nebel-Straße 8
97816 Lohr am Main
Germany

Phone: +49 (9352) 18-11 64

Fax: +49 (9352) 18-33 63

Headquarters
Bosch Rexroth AG
Hydraulics
Zum Eisengießer 1
97816 Lohr am Main
Germany

Phone: +49 (9352) 18-0

Fax: +49 (9352) 18-40

Respectively the responsible sales companies.

Addresses can be found on the Internet at:

<http://www.boschrexroth.de>

16.3 Certification



The electronic products described in these operating instructions comply with the requirements and target of the following EU directive and with the harmonized European standards:



NOTICE

Loss of the CE conformity due to changes at the device.

The CE mark only applies to the device in the delivery condition. After changes at the device, the CE conformity has to be verified.



EC/EU declaration of conformity

Doc. No.: TC 20170308

(Translation of the original EC/EU declaration of conformity)

Date: 2017-03-08

- in accordance with Machinery Directive 2006/42/EC
- in accordance with Low Voltage Directive 2014/35/EU
- in accordance with EMC Directive DIN EN 61000
- in accordance with Pressure Equipment Directive 2014/68/EU
- in accordance with ATEX Directive 2014/34/EU
- in accordance with RoHS Directive 2011/65/EU
-

The manufacturer
 Bosch Rexroth AG
 Drive & Control Academy
 Bahnhofplatz 2
 97070 Würzburg

hereby declares that the product below

Name: Power stage
 Type: TS-EC-E-100-240V/50-60Hz-6A
 Material number: R901468181
 Trade name: POWER STAGE TS-EC-E-100-240V/50-60Hz-6A
 Year of construction: 2017

was developed, designed and manufactured in compliance with the above-mentioned directive(s).

Harmonized Standards applied:

Standard	Name	Issue
DIN EN 61000-6-2	Electromagnetic Compatibility (EMC)	March 2006
DIN EN 61000-6-4	Electromagnetic Compatibility (EMC)	September 2007
2014/35/EU	DIRECTIVE 2014/35/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits	2014-02-26

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 DCTC-xxxx-xxx_KOE_M_EN_2016-xx-xx.docx

The individual below is authorized to compile the relevant technical files:

Name: Elmar Glassen
 Address: Bahnhofplatz 2, 97070 Würzburg

Further explanations:

The assembling and installation instructions according to the manual have to be followed.
 OPERATING INSTRUCT TS-BA-EN-R901468181

Place/date/signature as indicated in the original declaration.

We reserve the right to make changes to the content of the EC/EU Declaration of Conformity. Current issue on request.

17 Service and support

Our service helpdesk at our headquarters in Lohr, Germany, will assist you with all kinds of enquiries. Out of helpdesk hours please contact our German service department directly.

	Helpdesk	Service hotline Germany	Service hotline worldwide
Time ¹⁾	Mon.-Fri. 7:00 am - 6:00 pm CET	Mon.-Fri. 6:00 pm - 7:00 am CET Sat. - Son. 0:00 am - 12:00 pm CET	Outwith Germany please contact our sales/service office in your area first. For hotline numbers refer to the sales office addresses on the Internet.
Phone	+49 (0) 9352 40 50 60	+49 (0) 171 333 88 26 or +49 (0) 172 660 04 06	
Fax	+49 (0) 9352 40 49 41	---	
Email	service.svc@boschrexroth.de	---	
Internet	http://www.boschrexroth.com You will also find additional notes regarding service, maintenance (e.g. delivery addresses) and training.		

Preparing Information

For quick and efficient help please have the following information ready:

- detailed description of the fault and the circumstances
- information on the type plate of the affected products, especially type codes and serial numbers
- your phone, fax numbers and e-mail address so we can contact you in case of questions.

Bosch Rexroth AG

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