

Rittal – The System.

Faster – better – everywhere.

PSM busbars



7856.005

7856.006

7856.008

7856.010

7856.020

7856.321

7856.323

Assembly and operating instructions

ENCLOSURES

POWER DISTRIBUTION

CLIMATE CONTROL

IT INFRASTRUCTURE

SOFTWARE & SERVICES

FRIEDHELM LOH GROUP



Safety information



DE Bestimmungsgemäßer Betrieb/Anwendungsbereiche

Dieses Produkt dient ausschließlich als Zubehör zur Bereitstellung der elektrischen Energieversorgung und -verteilung in Einrichtungen der Informationstechnik. Vorgesehene Einsatzorte sind Schränke und Schrank-Anreihungen, sowie Rahmengestelle zur Aufnahme von Server- und Netzwerktechnik in Sicherheits- und Technikräumen. Bei abweichender Anwendung ist mit Rittal Rücksprache zu halten. Die Produkte dürfen ausschließlich mit dem von Rittal vorgesehenen Systemzubehör kombiniert und betrieben werden.

Sicherheitshinweise

Das Gehäuse dieses Produktes darf nicht geöffnet werden! Das Produkt darf nur innerhalb der in den technischen Daten spezifizierten Grenzen betrieben werden! Das Produkt darf nicht in Kontakt mit Wasser, aggressiven oder entzündbaren Gasen und Dämpfen geraten! Das Abschalten eines Ausgangssteckplatzes stellt keine sichere Lasttrennung dar!

EN Intended operation/areas of application

Intended operation/areas of application This product serves only as an accessory for the supply and distribution of electrical energy in information technology systems. Envisaged deployment locations are enclosures and enclosure systems, as well as racks for the installation of server and network technology in secure and technology rooms. Please consult Rittal prior to implementing other applications. These products may be combined and operated only with the system accessories envisaged by Rittal.

Safety information

The casing of this product must not be opened! The product may be used only within the limits of the specified technical data! The product must not come into contact with water, aggressive or flammable gases and vapours! Switching off an output slot does not constitute a safe load disconnection!

FR Utilisation conforme/Champs d'application

Ce produit est un accessoire de distribution de courant pour les installations d'infrastructures IT. Les conditions d'intégration prévues sont les baies individuelles ou juxtaposées, les racks pour applications serveurs et réseaux dans des locaux techniques, dédiés et sécurisés. Pour toute autre application, veuillez contacter Rittal. Les produits doivent être combinés et utilisés exclusivement avec les accessoires Rittal prévus.

Consignes de sécurité

Le boîtier du produit ne doit pas être ouvert ! Le produit doit être utilisé uniquement dans les limites spécifiées dans les caractéristiques techniques. Le produit ne doit pas être en contact avec de l'eau, des gaz et des vapeurs agressifs ou inflammables ! La désactivation d'une prise ne constitue pas un sectionnement sécurisé !

NL Beoogd gebruik/toepassingsgebieden

Dit product dient uitsluitend als accessoire voor de elektriciteitsvoorziening en stroomverdeling binnen installaties voor informatietechniek. Beoogde gebruikslocaties zijn kasten en kastsystemen, evenals frames voor de montage van server- en netwerktechniek in beveiligings- en technische ruimten. Bij gebruik dat hiervan afwijkt, dient u contact op te nemen met Rittal. De producten mogen uitsluitend met de door Rittal aangegeven systeemtoebereiden worden gecombineerd en gebruikt.

Veiligheidsvoorschriften

De behuizing van dit product mag niet worden geopend. Het product mag uitsluitend binnen de in de technische gegevens aangegeven grenzen worden gebruikt. Het product mag niet in contact komen met water of met bijtende of ontvlambare gassen en dampen. Het uitschakelen van een uitgaand contact vormt geen veilige ont koppeling van de spanning.

SE Avsedd drift/användningsområden

Denna produkt är endast avsedd som tillbehör, för att ge elektrisk energiförsörjning och -fördelning i anordningar för informationsteknik. Avsedda användningsplatser är skåp eller ihopbyggda skåpsystem samt ramstativ för server- och nätverksteknik i säkerhets- och teknikrum. All annan användning är endast tillåten efter samråd med Rittal. Produkterna får endast kombineras och användas med de systemtillbehör som föreskrivs av Rittal.

Säkerhetsinstruktioner

Denna produkts hölje får inte öppnas! Produkten får endast köras inom de angivna gränser som specificeras i avsnittet om tekniska data! Produkten får inte komma i kontakt med vatten eller aggressiva eller brännbara gaser och ångor! Frånkoppling av en utgångskontakt innebär inte att lasten är säkert fränskild!

IT Uso conforme/campi di applicazione

Questo prodotto può essere utilizzato esclusivamente come accessorio per la fornitura e la distribuzione di energia elettrica nei dispositivi IT. Il suo impiego è previsto all'interno di armadi di comando, anche in batteria, nonché in rack per l'alloggiamento di server e apparecchi di rete nei locali tecnici e di sicurezza. Per un uso diverso da quello specificato, rivolgersi al proprio referente Rittal. I prodotti devono essere combinati e utilizzati unicamente con gli accessori di sistema previsti da Rittal.

Avvertenze di sicurezza

Non aprire l'alloggiamento del prodotto. Il prodotto deve essere utilizzato rispettando i valori limite specificati nei dati tecnici. Evitare che il prodotto venga a contatto con acqua, gas aggressivi o infiammabili e vapore. La disattivazione del circuito di alimentazione di una presa di uscita non rappresenta un modo sicuro per effettuare la separazione del carico.

ES Uso específico co/Aplicaciones

Este producto debe ser utilizado exclusivamente como accesorio para el suministro de energía eléctrica y su distribución en instalaciones de tecnologías de la información. El montaje debe realizarse en armarios de distribución y armarios ensamblados, así como en racks para alojar servidores y equipos de redes en salas técnicas y de seguridad. Para otro tipo de aplicación debe consultarse previamente a Rittal. Estos productos

deben combinarse y utilizarse exclusivamente con los accesorios previstos para ello por parte de Rittal.

Indicaciones de seguridad

¡No abrir la carcasa del producto! ¡El producto debe utilizarse exclusivamente dentro de los límites especificados en los datos técnicos! ¡El producto no debe entrar en contacto con agua, ni con gases y vapores agresivos o inflamables! ¡La desconexión de un punto de conexión de toma no garantiza una separación de la carga!

FI Määräystenmukainen käyttö/käyttöalueet

Tämä tuote on ainoastaan lisävaruste sähköisen virransyötön ja -jakelun valmisteluun informaatioteknisissä laitteissa. Tarkoitettuja käyttöalueita ovat kaapit ja rivitetyt kaapit sekä runkoalustat palvelin- ja verkkotekniikan käyttämiseen turva- ja tekniikkatiloissa. Muunlaisesta käytöstä on sovittava Rittalin kanssa. Näitä tuotteita saa yhdistellä ja käyttää vain Rittalin tarkoitettujen järjestelmälisävarusteiden kanssa.

Turvallisuusohjeet

Älä avaa tämän tuotteen kotelo. Käytä tuotetta vain teknisissä tiedoissa mainittujen rajojen sisällä. Tuote ei saa joutua kosketuksiin veden tai aggressiivisten tai syttyvien kaasujen tai höyryjen kanssa. Lähtöaukkojen katkaiseminen ei ole turvallinen kuorman- katkaisutapa.

DK Korrekt brug/anvendelsesområder

Dette produkt må udelukkende anvendes som tilbehør til etablering af elektrisk energiforsyning og -fordeling i informationsteknologiske anlæg. Anvendelsesstedet er skabe og skabsrækker samt IT-racket til montering af server- og netværkskomponenter i sikkerheds- og teknikrum. Enhver anden anvendelse må kun ske efter aftale med Rittal. Produkterne må kun kombineres og ibrugtages sammen med systemtilbehør, der er godkendt af Rittal.

Sikkerhedsanvisninger

Produktets kabinet må ikke åbnes! Produktet må kun anvendes inden for de grænseværdier, der er angivet i de tekniske data. Produktet må ikke komme i kontakt med vand, skadelige eller letantændelige gasser eller dampe! Afbrydelsen af en udgangs-kortplads udgør ikke en sikker lastfrakobling!

IE Modh úsáide beartaithe/raon feidhme

Níl sa táirge seo ach comhpháirt chun fuinneamh leictreach a sholáthar agus a dháileadh i gcóras teicneolaíochta faisnéise. Is iad caibinéid agus córais caibinéid na suíomhanna ina bheartaítear imlonnú, chomh maith le racai chun teicneolaíocht freastalaí agus líonra a shuiteáil i seomraí sábháilteachta agus teicneolaíochta. Téigh i gcomhairle le Rittal sula n-úsáideann tú é ar bhealach eile. Ní féidir na táirgí seo a úsáid agus a feidhmiú ach amháin i dtaca leis na hoiriúintí córais beartaithe ag Rittal.

Faisnéis sábháilteachta

Ní ceart cásáil an táirge seo a oscailt! Ní féidir an táirge a úsáid ach amháin faoi réir na dtéarmaíneacha a shonraítear sna sonraí teicniúla! Ná lig don táirge seo dul i dteagmháil le huisce, gáis agus gala ionsaitheacha nó inadhaite! Ní hionann slótán aschuir a mhúchadh agus dícheangal lódála sábháilte!

PL Użytkowanie zgodnie z przeznaczeniem/Zastosowania

Ten produkt służy wyłącznie jako akcesorium do zapewniania zasilania i rozdzielenia energii elektrycznej w urządzeniach IT. Przewidywanymi miejscami zastosowań są szafy i szereg szaf, a także stelaże ramowe do montażu techniki serwerowej i sieciowej w pomieszczeniach bezpieczeństwa i technicznych. W przypadku innych zastosowań należy skontaktować się z Rittal. Produkty można łączyć i użytkować wyłącznie z przewidzianymi akcesoriami systemowymi Rittal.

Wskazówki dotyczące bezpieczeństwa

Nie wolno otwierać obudowy tego produktu. Produkt może być użytkowany tylko w granicach określonych w danych technicznych. Produkt nie może mieć kontaktu z wodą, agresywnymi lub łatwopalnymi gazami i oparami. Wyłączanie gniazda wyjściowego nie gwarantuje bezpiecznego rozłączenia.

CZ Řádný provoz/oblasti použití

Tento produkt slouží výhradně jako příslušenství pro napájení a rozvod elektrické energie v zařízeních určených pro IT technologie. Instalace a umístění jen výhradně v aplikacích k tomu určených. Jiné použití konzultujte se společností Rittal. Produkty se smí kombinovat a provozovat pouze se systémovým příslušenstvím společnosti Rittal.

Bezpečnostní pokyny

Zařízení se nesmí otevírat! Provozovat se smí pouze v rozsahu určenému technickými parametry! Produkt se nesmí dostat do kontaktu s vodou, agresivními nebo vznititelnými plyny a výpari! Odpojení výstupu nepředstavuje bezpečné odpojení zátěže!

BG Употреба по предназначение/области на приложение

Този продукт служи само като принадлежност за осигуряване на електрозахранване и електроразпределение за информационно-технологично оборудване. Предвидените места на употреба са шкафове и системи от шкафове, както и носещи рамки за поставяне на сървърно и мрежово оборудване в помещения за защита и съхранение на техника. За друго приложение трябва да се консултирате с Rittal. Продуктите може да се комбинират и използват само с предвидените от Rittal принадлежности.

Инструкции за безопасност

Корпусът на този продукт не трябва да се отваря! Продуктът може да се използва само в рамките на определените в техническите данни граници! Продуктът не трябва да влиза в контакт с вода, агресивни или запалими газове и пари! Изключването на изходно гнездо не представлява безопасно отделяне на товара!

RU Использование согласно назначению/области применения

Данный продукт используется исключительно как аксессуар для обеспечения и распределения электропитания для устройств в информационных технологиях. Соответствующими областями применения являются шкафы и ряды шкафов, а также рамные каркасы для размещения серверов и сетевого оборудования в по-

мещениях безопасности и технических помещениях. При иных условиях применения необходимо проконсультироваться с Rittal. Продукты могут комбинироваться и эксплуатироваться исключительно с совместимыми комплектующими Rittal.

Меры безопасности

Корпус продукта открывать нельзя! Продукт можно эксплуатировать только при соблюдении граничных условий, заданных в технических характеристиках! Не допускается контакт продукта с водой, агрессивными или легковоспламеняющимися газами или парами! Отключение розетки не является безопасным отключением нагрузки!

GR Προβλεπόμενη χρήση/πεδία εφαρμογής

Αυτό το προϊόν χρησιμεύει αποκλειστικά ως πρόσθετος εξοπλισμός για τη διάθεση και διανομή της τροφοδοσίας ηλεκτρικής ενέργειας σε εγκαταστάσεις πληροφοριακών συστημάτων. Προβλεπόμενοι χώροι χρήσης είναι ερμάρια και συνδυασμοί ερμαρίων, καθώς και πλαίσια τοποθέτησης συστημάτων διακομιστών και δικτύων σε χώρους εξοπλισμού ασφαλείας και τεχνικού εξοπλισμού. Για χρήση πέραν της προβλεπόμενης απαιτείται συνεννόηση με την Rittal. Τα προϊόντα επιτρέπεται να συνδυαστούν και να χρησιμοποιηθούν αποκλειστικά με τον πρόσθετο εξοπλισμό που προβλέπεται από την Rittal.

Υποδείξεις ασφαλείας

Δεν επιτρέπεται το άνοιγμα του περιβλήματος του συγκεκριμένου προϊόντος! Το προϊόν επιτρέπεται να θεθεί σε λειτουργία μόνον εντός των ορίων που ορίζονται στα τεχνικά χαρακτηριστικά! Το προϊόν δεν επιτρέπεται να έρθει σε επαφή με νερό και δραστικά ή εύφλεκτα αέρια και αναθυμιάσεις! Η απενεργοποίηση μιας υποδοχής εξόδου δεν αποτελεί ασφαλή τρόπο απασύνδεσης φορτίου!

RO Utilizare/domenii de aplicare conform destinației

Acest produs servește exclusiv ca accesoriu pentru asigurarea unor sisteme de furnizare și distribuție a energiei electrice în echipamente de tehnologia informației. Locurile de utilizare prevăzute sunt dulapuri și sisteme de dulapuri precum și rackuri destinate instalării serverelor și rețelei în camere tehnologice sau de securitate. Pentru o utilizare diferită, contactați mai întâi Rittal. Produsele pot fi combinate și exploatate exclusiv cu accesoriile prevăzute de Rittal.

Instrucțiuni de siguranță

Este interzisă deschiderea carcasei acestui produs! Produsul poate fi utilizat doar în limitele specificate în datele tehnice! Produsul nu poate intra în contact cu apă, gaze și vapori agresivi sau inflamabili! Deconectarea unui slot de plecare nu constituie o separare a sarcinii în condiții de siguranță!

HR Predviđena uporaba/područja primjene

Ovaj proizvod služi isključivo kao pribor za osiguravanje opskrbe i raspodjele električne energije u uređajima informacijske tehnike. Predviđena mjesta primjene su ormari i skupine ormara kao i okvira postolja za prihvat serverske i mrežne tehnike u sigurnosnim i tehničkim prostorijama. U slučaju odstupanja od navedene primjene potreban je prethodni dogovor s tvrtkom Rittal. Proizvodi se smiju kombinirati i puštati u rad isključivo uz pribor sustava koji predviđa tvrtka Rittal.

Sigurnosne upute

Kučiče ovog proizvoda ne smije se otvarati! Proizvod se smije puštati u rad isključivo u granicama koje su definirane u tehničkim podacima! Proizvod ne smije doći u dodir s vodom, agresivnim ili zapaljivim plinovima i parama! Isklapanje izlaznog utičnog priključka ne predstavlja sigurno odvajanje od napona!

HU Rendeltetéseszerű üzemeltetés/Felhasználási területek

Ez a termék kizárólag az elektromos áramellátás rendelkezésre álltásához és elosztásához való tartozékként szolgál informatikai berendezésekben. Rendeltetéseszerű alkalmaszások helyek biztonságos és műszaki teremben a szerver- és hálózati technika rögzítésére szolgáló szekrények és sorolt szekrények, valamint vázkeretek. Ettől eltérő alkalmazás esetén a Rittal-lal kell konzultálni. A termékek kizárólag a Rittal által előírt rendszertartozékkal kombinálhatók és üzemeltethetők.

Biztonsági tudnivalók

A termék házat felnyitni tilos! A termék csak a műszaki adatokban megadott határértékekben belül üzemeltethető! A termék nem léphet érintkezésbe vízzel, agresszív vagy gyúlékony gázokkal és gőzökkel! Egy kimeneti csatlakozó lekapcsolása nem jelent biztonságos terhelésszakaszolást!

LT Tinkamas eksploatavimas / taikymo sritys

Šis produktą galima naudoti tik kaip prietaisą elektros energijai tiekti ir paskirstyti informacinių technologijų sistemose. Šie įrenginiai montuoti skyduose / spintose ir į eilę sujungtuose skyduose / spintose, ar rūmų konstrukcijose, skirtose talpinti duomenų tinklo įrengimus ar serverius, esančiose atskirtose saugumo zonos ir techninėse patalpose. Norėdami produktą naudoti kitaip, nei nurodyta, pasitarkite su „Rittal“ atstovais. Šiuos produktus galima jungti ir eksploatuoti tik su „Rittal“ nurodytais sisteminiiais priedais.

Saugos priemonės

Negalima atidaryti šio produkto gaubto! Eksploatuojant produktą griežtai laikytis techninių duomenų skyriuje nurodytų normų! Ant produkto negali patekti vanduo, negarantuojama neleistinas kontaktas su agresyviomis ar degiomis dujomis, reikia į saugoti nuo garų! Išvesties lizdo atjungimas, kad apkrova bus saugiai atjungta!

EE Ettenähtud rakendus/kasutusvaldkond

Käesolev seade on ettenähtud ainult lisaseadmena elektrienergia jagamiseks ja toite tagamiseks infotehnoloogia seadmetes. Seade on ettenähtud kasutamiseks selleks ettenähtud tehnilistes ruumidesse paigaldatud kappides, kapidades ja avatud raamidetes, mis on ettenähtud serverite ja võrguseadmete paigaldamiseks. Teistes ruumidesse paigaldamine tuleb kooskõlastada Rittal-i ga. Tooteid tohib komplekteerida, kombineerida ja kasutada ainult Rittali lisatarvikutega.

Ohutusteatis

Toote korpuse avamine on keelatud! Toode tohib kasutada vaid tehnilistes andmetes täpsustatud piirides! Toode ei tohi kokku puutuda vee, agressiivsete või tuleohtlike gaaside ja aurudega! Väljundipesast välja lülitamine ei taga ohutut vooluvõrgust eraldamist!

LV Paredzētā lietošana/lietošanas jomas

Šis produkts ir palģierģce elektroenerģijas piegādei un sadalei informācijas tehnikas ierģcēs. To ir paredzģts lietot skapjos un skapju sistģmās, kā arī serveru un tģklu ierģču statnģs droģibas un tehniskajās telpās. Ja lietošanas veids atģskģras, jāsazinās ar Rittal. Šos produktus drģkst kombinģt un lietot tikai ar Rittal norādģtajiem sistģmas piederumiem.

Droģibas norādes

Šģ produkta korpusu nedrģkst atvģrt! Lietojot produktu, nedrģkst pārsniegt tehniskajos datos norādģtās robežvērtģbas! Produkts nedrģkst saskarties ar ūdenģ, agresģvām vai vieglģ uzliesmoģšām gāzģm un tvaikiem! Izslģdzot izejas pieslēgvģtu, slodzes ķģde netiek atvienota!

SI Predvidena uporaba/področja uporabe

Ta izdelek se uporablja izključno kot oprema za oskrbo z električno energijo in distribucijo električne energije v napravah informacijske tehnologije. Predvidena mesta uporabe so omarice in nizi omaric ter ogrodja za opremo strežnikov in omrežij v varnostnih in tehničnih prostorih. Glede uporabe, ki ni v skladu s predvideno, se posvetujte s podjetjem Rittal. Izdelke lahko združujete in uporabljate izključno z dodatno opremo, ki jo za to predvideva podjetje Rittal.

Varnostni napotki

Ohišja tega izdelka ni dovoljeno odpirati. Izdelek lahko uporabljate samo v okviru omejitve, ki so določene v tehničnih podatkih. Izdelek ne sme priti v stik z vodo, agresivnimi in vnetljivimi plini ter parami. Izklp izhodne vtičnice ne zadostuje za varen odklop odjemaleca.

SK Zamýšľaný účel prevádzky/oblasti použitia

Tento produkt slúži výlučne ako príslušenstvo na zabezpečenie dodávky a rozvodu elektrickej energie pre zariadenia informačných technológií. Zamýšľaná oblasť použitia zahŕňa skrine a zostavy skriň, ako aj rámové podstavce pod serverovú a sieťovú techniku v bezpečnostných a technických miestnostiach. Iné použitie je nutné konzultovať so spoločnosťou Rittal. Produkty je povolené kombinovať a prevádzkovať výlučne so systémovým príslušenstvom, ktoré schválila spoločnosť Rittal.

Bezpečnostné pokyny

Nie je povolené otvárať kryt tohto produktu! Produkt je povolené prevádzkovať len v rámci hraničných hodnôt uvedených v technickej špecifikácii! Produkt nesmie prísť do kontaktu s vodou, agresívnymi alebo horľavými plynmi a výparmi! Vypnutím výstupného slotu nie je zaručené bezpečné odpojenie od prívodu elektrickej energie!

PT Funcionamento/áreas de aplicação

Este produto deve ser usado exclusivamente como acessório para a disponibilização de alimentação e distribuição de energia elétrica em instalações de tecnologia da informação. Locais previstos para aplicação são armários e módulos de armários, bem como racks destinados ao acondicionamento de equipamentos de servidores e redes montados em salas de segurança e técnica. Outras aplicações apenas são permitidas após consultar a Rittal. Os produtos só devem ser combinados e utilizados com os acessórios do sistema Rittal.

Instruções de segurança

Não é permitido abrir a carcaça deste produto! O produto só deve ser utilizado nos limites especificados nos dados técnicos! O produto não deve entrar em contato com a água, gases e vapores tóxicos, agressivos ou inflamáveis! O desligamento de uma tomada individual não significa que a corrente elétrica foi interrompida com segurança!

MT L-operat mahsub/Il-kamp ta' applikkazzjoni

Dan il-prodott huwa użat esklussivament bhala aċċessorju għall-provista tal-enerġija u –għad-distribuzzjoni fit-tagħmir tat-teknoloġija informatika. Il-postijiet mahsuba għal dan huma armarji u kabinetti, kif ukoll strutturi li huma mahsuba biex jirċievu s-server u teknoloġija tan-netwerk f'postijiet ta' sigurtà u tat-teknoloġija. Għal applikkazzjoni differenti għandek tikkonsulta ma' Rittal. Il-prodotti għandhom jigu kkombinati u jgħaddmu esklussivament mal-aċċessorji tas-sistema Rittal.

Istruzzjonijiet ta' prekawzjoni

Il-kejsing ta' dan il-prodott ma għandux jinfetah! Il-prodott għandu jgħaddem biss fi hdan il-limiti speċifikati mid-data teknika! Il-prodott ma għandux jigu f'kuntatt mal-ilma, mal-gassijiet aggressivi jew li jgħedu n-nar u mal-fwar! Li wiehed jgħi s-sokkit estem ma jgħurax skonnessjoni sigura tad-domanda!

Foreword

Dear Customer,

Thank you for choosing a PSM busbar from Rittal.

We wish you every success.

Yours,
Rittal GmbH & Co. KG

Rittal GmbH & Co. KG
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We are always happy to answer any technical questions regarding our entire range of products.

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1 Notes on documentation

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1 Notes on documentation

1.1 CE labelling

Rittal GmbH & Co. KG hereby confirms that the PSM busbar is compliant with the EC EMC Directive 2004/108/EC. An appropriate declaration of conformity has been issued and can be supplied on request.



1.2 Storing the documents

The assembly and operating instructions as well as all other applicable documents are an integral part of the product. They must be passed to those persons who are engaged with the unit and must always be available and on hand for the operating and maintenance personnel.

1.3 Symbols used in these operating instructions

The following symbols are used in this documentation:



Danger!

A hazardous situation which leads directly to death or serious injury if the instructions are not followed.



Warning!

A hazardous situation which may lead directly to death or serious injury if the instructions are not followed.



Caution!

A hazardous situation which may lead to (minor) injuries if the instructions are not followed.



Note:

Identification of situations that can lead to material damage.

- This symbol indicates an "Action Point" and shows that you should perform an operation/procedure.

1.4 Associated documents

- Instruction sheet of the PSM plug-in modules
- Assembly instructions of the mounting kit

2 Safety notes

2.1 General safety instructions

Please observe the following general safety instructions for the installation and operation of the system:

- Assembly and installation of the PSM busbar, especially wiring with mains power, may only be performed by a trained electrician.
- Please observe the valid regulations for the electrical installation in the country in which the PSM busbar is installed and operated, and the national regulations for accident prevention. Please also observe any internal company regulations, such as work, operating and safety regulations.
- Use only original Rittal products or products recommended by Rittal in conjunction with the PSM busbar.
- Please do not make any changes to the PSM busbar that are not described in these assembly and operating instructions or other associated manuals.
- The operating safety of the PSM busbar is only warranted if used properly for the intended use. The technical specifications and limit values stated must not be exceeded under any circumstances. In particular, this applies to the specified ambient temperature range and IP protection category.
- The PSM busbar must not be opened. It does not contain any parts that need servicing.
- Operating the system in direct contact with water, aggressive materials or inflammable gases and vapours is prohibited.
- Other than these general safety instructions, ensure you also observe the specific safety instructions when carrying out the tasks described in the following chapters.



Note:

Further safety instructions in all EU languages can be found on page 2 to 3.

2.2 Operating and technical staff

- The mounting, installation, commissioning, maintenance and repair of this unit must only be performed by qualified, trained personnel.
- Only properly instructed personnel may work on the unit while in operation.

3 Product description

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3 Product description

3.1 Functional description and components

3.1.1 Function

The modular PSM busbar system enables the basic configuration of each IT rack with a vertical support rail and, depending on the variant, a single-phase or 3-phase infeed. The vertical support rail allows the slots to be used flexibly across the entire enclosure height. Depending on the variant, up to 8 socket modules may be snap-fastened into the support rail (corresponding to a maximum of 48 slots with IEC 320 modules). Thanks to the shock-hazard-protected design of the busbar, it is not necessary to fit all slots with socket modules.

Socket modules are available in a range of country versions, including IEC 320 C13 and C19, earthing-pin, F/B, CH. All modules may be used in a mixed configuration in the bar.

3.1.2 Components

The support rail of the PSM busbar consists of an extruded aluminium section.

3.2 Proper use, foreseeable misuse

The PSM busbar is used primarily for distributing power. It is designed for operation in data centres (IT environment).

The unit is state of the art and built according to recognised safety regulations. Nevertheless, improper use can pose a threat to the life and limb of the user or third parties, or result in possible damage to the system and other property.

Consequently, the unit must only be used properly and in a technically sound condition! Any malfunctions which impair safety should be rectified immediately. Follow the operating instructions!

Proper use also includes the observance of the documentation provided, and compliance with the inspection and maintenance conditions.

Rittal GmbH & Co. KG is not liable for any damage which may result from failure to comply with the documentation provided. The same applies to failure to comply with the valid documentation for any accessories used.

Inappropriate use may be dangerous. Examples of inappropriate use include:

- Use of impermissible tools.
- Improper operation.
- Improper rectification of malfunctions.
- Use of accessories not approved by Rittal GmbH & Co. KG.

3.3 Supply includes

- PSM busbar
- Accessories supplied loose (fig. 1, fig. 2 and/or fig. 3)
- Installation Guide and Short User's Guide

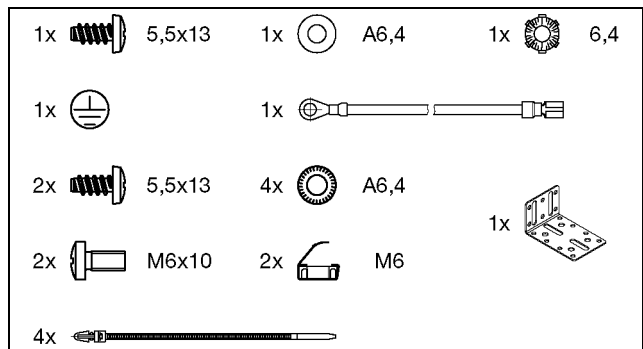


Fig. 1: Accessories supplied loose, PSM busbars 7856.005 and 7856.006

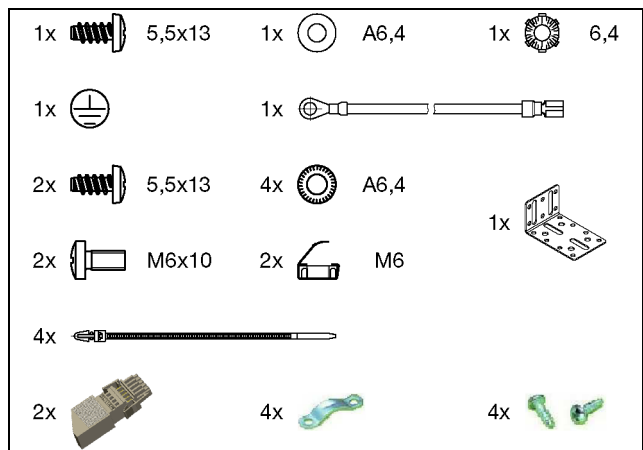


Fig. 2: Accessories supplied loose, PSM busbars 7856.008, 7856.010 and 7856.020

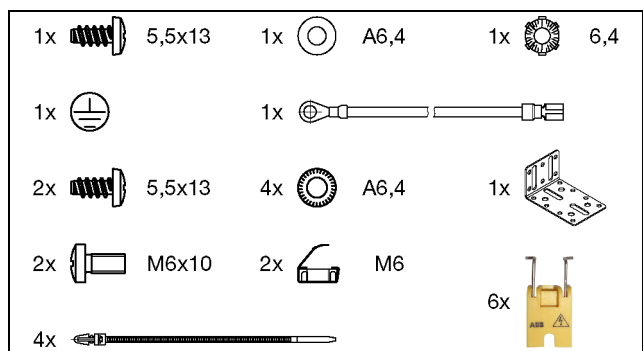


Fig. 3: Accessories supplied loose, PSM busbars 7856.321 and 7856.323

4 Transport and handling

4.1 Transport

The unit is delivered in a cardboard box.

4.2 Unpacking

- Remove the packaging materials from the unit.



Note:

After unpacking, the packaging materials must be disposed of in an environmentally friendly way. They consist of the following materials:

Polyethylene film (PE film), cardboard.

- Check the unit for any damage that may have occurred during transport.



Note:

Damage and other faults, e.g. incomplete delivery, should be reported immediately, in writing, to the shipping company and to Rittal GmbH & Co. KG.

- Take the unit out of the packaging.

5 Assembly and siting

5.1 Installation site requirements

To ensure correct functioning of the unit, the installation site conditions for the unit specified in section 10 "Technical specifications" must be observed.

Electromagnetic interference

- Interfering electrical installations (high frequency) are to be avoided.

5.2 Installation procedure

The PSM busbar may be installed in the following enclosure systems:

- Rittal DK-TS enclosure
- Rittal TS IT enclosure
- Rittal TE 7000 enclosure

The unit is installed in these enclosure systems using the following mounting kits:

Rittal DK-TS

- 7856.011: PSM mounting kit for fixed installation
- 7856.022: PSM mounting kit for fixed installation with additional cable routing
- 7856.023: Adjustable/rotating PSM mounting kit for attachment on the vertical section of the enclosure

Rittal TS IT

- 7856.029: PSM mounting kit for fast installation on the horizontal section of the TS IT rack

Rittal TE 7000

- 7000.684: PSM mounting kit for fixed installation



Note:

One of the above mounting kits is required for each rack.

These mounting kits may not support installation in racks made by other manufacturers.

6 Installation

6.1 Safety notes



Warning!

Work on electrical systems or equipment may only be carried out by an electrician or by trained personnel under the guidance and supervision of an electrician. All work must be carried out in accordance with electrical engineering regulations.

The unit may only be connected after the aforementioned personnel have read this information!

Use only insulated tools.

The connection regulations of the appropriate electricity supply company must be followed.

- Please observe the valid regulations for the electrical installation in the country in which the PSM busbar is installed and operated, and the national regulations for accident prevention. Please also observe any internal company regulations, such as work, operating and safety regulations.
- The technical specifications and limit values stated must not be exceeded under any circumstances. In particular, this applies to the specified ambient temperature range and IP protection category.
- If a higher IP protection category is required for a special application, the PSM busbar must be installed in an appropriate housing or in an appropriate enclosure with the required IP protection category.

6.2 Connection requirements

- The electrical connection may only be made to a TN-S network in accordance with the prescribed technical specifications (see section 10 "Technical specifications").
- Depending on the PSM busbar variant, a pre-fuse of 16 A or 32 A per phase should be provided.
- Conductively connect the PSM busbar's housing earthing point (fig. 4, item 1) in the vicinity of the infeed to the enclosure frame.

6.3 Installation procedure for PSM busbars 7856.008, 7856.010, 7856.020



Warning!

Rittal recommends using the pre-assembled connection cables available as accessories.

Ensure the correct positioning of the cables for the connection.

An incorrect connection can cause an electrical shock and damage the connected equipment.

The connector supplied loose with the unit must only be installed by an experienced electrician!

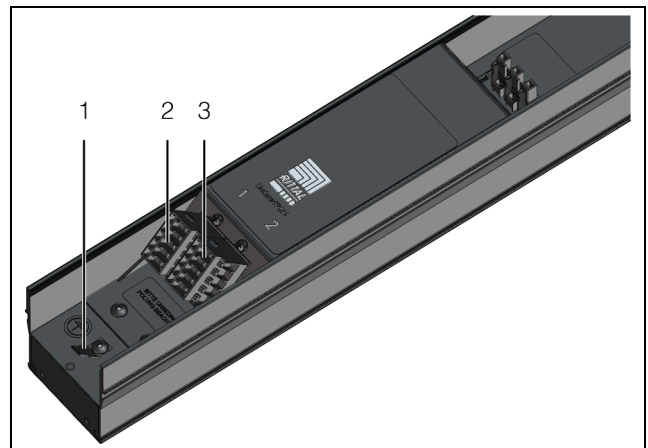


Fig. 4: Connections

Key

- 1 Enclosure earthing point
- 2 "Infeed 1" connection
- 3 "Infeed 2" connection

6.3.1 Connection using a pre-assembled connection cable

Both infeeds of the PSM busbar are connected to the power supply using a DK 7856.025 connection cable from the Rittal accessories (see section 11 "Accessories").

- Connect a connection cable to the "Infeed 1" connection (fig. 4, item 2) or to the "Infeed 2" connection (fig. 4, item 3) of the PSM busbar and to the mains power supply.
- If required, connect a second connection cable to the unused infeed connection of the PSM busbar and to the mains power supply in the same way.

6.3.2 Connection using the connector supplied loose with the unit

As an alternative to connection using the pre-assembled connection cable, the connector supplied loose with the unit may also be used.



Warning!

The connector supplied loose with the unit must only be installed by an experienced electrician!

The connector does not serve as a fuse-switch disconnecter!

The following conductors may be used:

- Single-wire
- Multi-wire
- Fine-wire
 - with tin-plated single cores
 - compacted strands
 - with wire end ferrule, crimped gas-tight
 - with pin-type cable socket, crimped gas-tight
- Max. cross-section 4 mm² or 12 AWG
- Bared length 8 mm (0.33 inch)



Note:

When wire end ferrules are used, the next-smallest cross-section must be chosen.

- Note the terminal assignment when assembling the connector.
- Connect the connection cable to the connection of a pre-assembled cable on the PSM busbar and to the mains power supply in the same way (section 6.3.1 "Connection using a pre-assembled connection cable").

6.3.3 Regardless of connection type

- For a single-phase infeed with 32 A, fuse both circuits with a 16 A, class C circuit-breaker.
- Install a PSM plug-in module on the PSM busbar (see section 6.5.1 "Installation of a PSM plug-in module").
- Connect equipment to the connections of the PSM plug-in module.

6.4 Installation procedure for PSM busbars 7856.005, 7856.006, 7856.321, 7856.323

The PSM busbar is connected to the power supply using the permanently attached connection cable with CEE connector. The PSM busbar 7856.006 has two in-feeds, and two connection cables are therefore fitted here.

- 7856.005: 16 A, 3-phase IEC 60 309
- 7856.006: 16 A, 3-phase IEC 60 309 (2x)
- 7856.321: 32 A, 1-phase IEC 60 309
- 7856.323: 32 A, 3-phase IEC 60 309
- Connect the connection cable(s) to the power supply.
- Install a PSM plug-in module on the PSM busbar (see section 6.5.1 "Installation of a PSM plug-in module").
- Connect equipment to the connections of the PSM plug-in module.

6.5 Installation and uninstallation of PSM plug-in modules



Note:

Only Rittal PSM plug-in modules may be used for the PSM busbar. The use of other plug-in modules is not permitted and will void the warranty.



Note:

Because the bar is designed with shock-hazard protection, it is not necessary to fit the maximum possible number of PSM busbars.

The PSM plug-in modules may be installed in the PSM busbar and removed with the system operational.

6.5.1 Installation of a PSM plug-in module

- Ensure that no equipment is connected to the PSM plug-in module that you want to install.
- Place the PSM plug-in module centred on the two plug connectors.



Note:

The wiring diagrams for the various PSM busbar variants may be found in section 10 "Technical specifications".

- Snap the PSM plug-in module into the PSM busbar by applying light pressure in the required direction and position. The PSM plug-in module is mounted correctly when all four retaining lugs at the end faces have locked into the PSM busbar.
- Observe the following notes for the various different PSM busbar variants.

Version 7856.005

- Rotating a PSM plug-in module does **not** change the power supply, regardless of whether it occupies one or two slots.

Versions 7856.006, 7856.008, 7856.010, 7856.020

- If **both** infeeds are connected, the orientation of the PSM plug-in module allows infeed 1 or infeed 2 to be selected.
- If only connecting **one** infeed, ensure that the PSM plug-in module is oriented appropriately for the selected infeed and is supplied with power.

The red arrow points away from the power connection of the PSM busbar: Infeed 1

The black arrow points away from the power connection of the PSM busbar: Infeed 2

Version 7856.321

- Rotating a PSM plug-in module allows you to select which circuit-breaker supplies it with power via the orientation, regardless of whether it occupies one or two slots.

The red arrow points away from the power connection of the PSM busbar: Circuit-breaker 2

The black arrow points away from the power connection of the PSM busbar: Circuit-breaker 1

Version 7856.323

- Each slot is supplied with power via its own circuit-breaker.

Module 1: Circuit-breaker 6

Module 2: Circuit-breaker 5

Module 3: Circuit-breaker 4

Module 4: Circuit-breaker 3

Module 5: Circuit-breaker 2

Module 6: Circuit-breaker 1

- The orientation of a PSM plug-in module that occupies just one slot does not have any effect on which circuit-breaker supplies it with power.
- Active PSM plug-in modules occupy two slots in the busbar. Rotating an active PSM plug-in module allows you to select which circuit-breaker supplies it with power via the orientation.

6.5.2 Removing a PSM plug-in module

- First disconnect all connected equipment from the PSM plug-in module you wish to uninstall.
- Press all four retaining lugs located on the end faces of the PSM plug-in module.
- Carefully remove the PSM plug-in module from the PSM busbar without tilting.

6.6 Fitting a strain relief

Regardless of the type of infeed, strain relief must be fitted for the connection cables of the PSM busbar.

Strain relief for the connection cable must be fitted in the immediate vicinity of the PSM busbar connector. If the strain relief bracket cannot be attached to the base frame, a suitable punched section must be installed for fitting a strain relief bracket.



Note:

The pictures in this section illustrate the PSM busbar 7856.010. For other PSM busbar variants, strain relief is fitted in the same way.

6.6.1 Standard mounting of the cable clamp bracket

Strain relief for the connection cable must be created using the bracket provided.

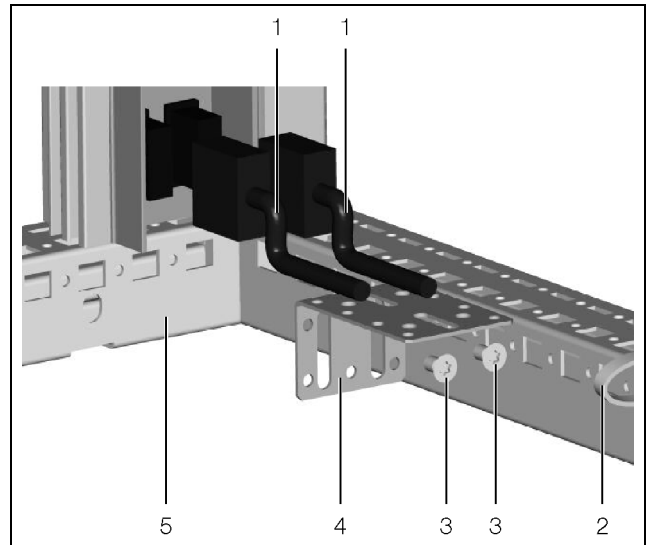


Fig. 5: Example of strain relief installation

Key

- | | |
|---|---------------------|
| 1 | Connection cable |
| 2 | Cable ties |
| 3 | Assembly screws |
| 4 | Cable clamp bracket |
| 5 | Base frame |

- Secure the bracket (fig. 5, item 4) to the base frame (fig. 5, item 5) using the screws provided (fig. 5, item 3).
- Secure the connection cable (fig. 5, item 1) to the cable clamp bracket using the cable ties provided (fig. 5, item 2).

6.6.2 Alternative possibilities for fitting a cable clamp bracket**Alternative 1:**

- Alternatively, secure the bracket (fig. 6, item 4) to the side base frame (fig. 6, item 2) from the side using the screws provided (fig. 6, item 5).

6 Installation

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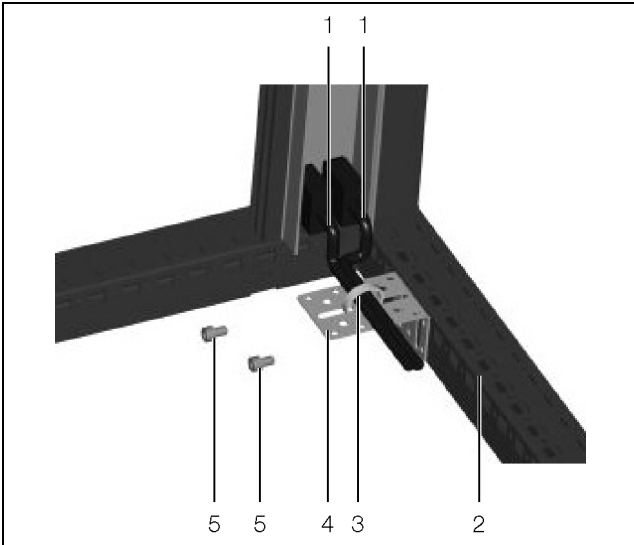


Fig. 6: Fitting the strain relief (alternative 1)

Key

- 1 Connection cable
- 2 Side base frame
- 3 Cable ties
- 4 Cable clamp bracket
- 5 Assembly screws

Alternative 2

■ Alternatively, secure the bracket (fig. 7, item 2) to the side base frame (fig. 7, item 4) from above using the screws provided (fig. 7, item 1).

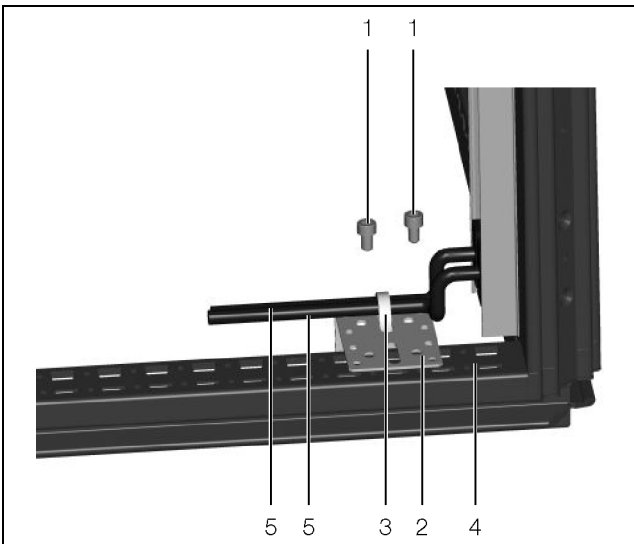


Fig. 7: Fitting the strain relief (alternative 2)

Key

- 1 Assembly screws
- 2 Cable clamp bracket
- 3 Cable ties
- 4 Side base frame
- 5 Connection cable

6.7 Fitting the lockout to the PSM busbar 7856.321, 7856.323

The PSM busbars 7856.321 and 7856.323 offer the option of preventing unintentional activation of the circuit-breakers by fitting the lockouts included with the supply.



Note:

Fitting the lockout does not affect the actual operation of the circuit-breaker.

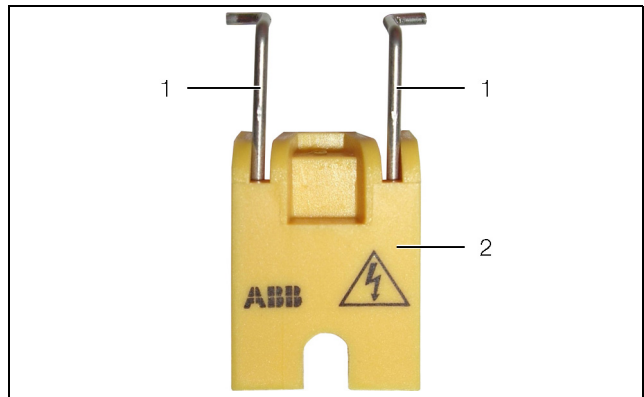


Fig. 8: Lockout included with the supply

Key

- 1 Clips
- 2 Plastic cap

- Gently press the two lockout clips (fig. 8, item 1) together.
- Insert the lockout into the two openings (fig. 9, item 2) of the circuit-breaker case from the inside.

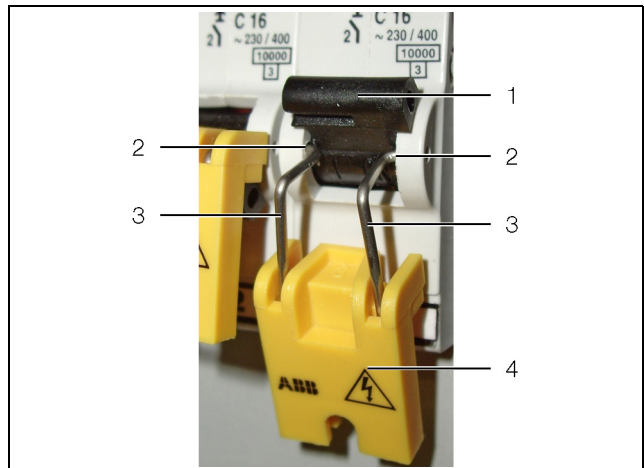


Fig. 9: Correctly fitted lockout

Key

- 1 Circuit-breaker switch
- 2 Holes
- 3 Clips
- 4 Plastic cap

- If necessary, push the plastic cap (fig. 10, item 2) of the lockout upwards, and secure it by inserting a padlock or a chain into the bottom opening (fig. 10, item 3) to prevent unauthorised opening.



Fig. 10: Securing the lockout

Key

- 1 Circuit-breaker switch
- 2 Plastic cap
- 3 Opening for securing the lockout

7 Inspection and maintenance

EN

7 Inspection and maintenance

7.1 Safety notes

- The unit does not need to be opened and this is therefore prohibited.

7.2 Required work

7.2.1 Inspection

The system must be checked regularly for its complete correct functioning. Rittal recommends a regular function test when required. The intervals between the tests should be no longer than one year.

7.2.2 Cleaning



Caution! Risk of damage!

Do not use aggressive substances such as cleaner's naphtha, acids, etc., for cleaning as they may cause damage to the plastic surface.

- Clean the unit in regular intervals using a lightly moistened cloth.

7.2.3 Maintenance

Because the unit is largely maintenance-free, maintenance of the unit is limited to the "inspection" and "cleaning" tasks.

8 Storage and disposal

8.1 Storage

If the device is not used for a long period, Rittal recommends that it be disconnected from the mains power supply and protected from damp and dust.

8.2 Disposal

Because the PSM busbar consists mainly of the "housing" and "circuit board" parts, the device must be given to the electronic waste recycling system for disposal.

9 Troubleshooting

9.1 Tripping a circuit-breaker

Circuit-breakers are fitted on PSM busbars 7856.321 and 7856.323. These circuit-breakers may trip in the event of a malfunction.

- First fix the malfunction that caused the circuit-breaker to trip.
- Then switch the circuit-breaker back on.

9.2 Tripping a thermal overcurrent protection

(Some of) the installed PSM plug-in modules have an integral thermal overcurrent protection. This overcurrent protection may trip in the event of a malfunction.

- First fix the malfunction that caused the overcurrent protection to trip.
- Then reset the thermal overcurrent protection by pressing the yellow pin on the PSM plug-in module back in.

10 Technical specifications

10.1 General technical specifications

Technical specifications	PSM busbar
Design	Extruded aluminium section, anodised
Width x depth	Approx. 60 mm x 55 mm
Potential equalisation	Yes
Earthing	Separate housing earthing point (6.3 mm flat-pin connector), min. 2.5 mm ² cross-section
Maximum cable length	50 m
IP protection category	IP 20 to IEC 60 529
Storage temperature	-25°C...+55°C
Ambient temperature (operation)	0°C...+45°C
Operating humidity range	20 %...90 % relative humidity, non-condensing

Tab. 1: General technical specifications

10.2 PSM busbars 7856.008, 7856.010, 7856.020

Technical specifications	PSM busbar
Height	Model No. 7856.008: Enclosure height 2200 mm Model No. 7856.010: Enclosure height 1200 mm Model No. 7856.020: Enclosure height 2000 mm
Weight	Approx. 1.5 kg (without packing and without modules)
No. of infeeds	2
Phases per infeed	3
Power supply	Infeed I: 400 V AC / N + PE Infeed II: 400 V AC / N + PE
Frequency	50 Hz / 60 Hz
Input current for each phase and infeed	16 A
Pre-fuse provided by the customer	16 A for each phase and infeed
Connector	Tension spring terminal, plug-type
Maximum no. of module slots	Model No. 7856.008: 8 Model No. 7856.010: 4 Model No. 7856.020: 7

Tab. 2: Technical specifications for PSM busbars 7856.008, 7856.010, 7856.020

10 Technical specifications

EN

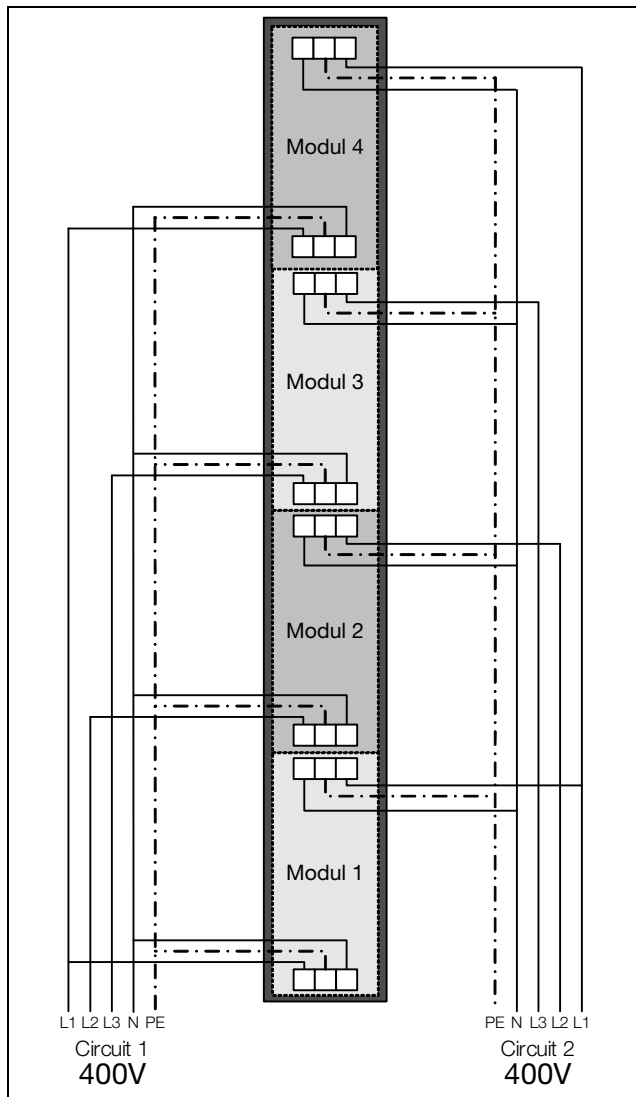


Fig. 11: Wiring diagram for PSM busbar 7856.010



Note:

The PSM busbars 7856.008 and 7856.020 are wired according to the same diagram, but with four and three additional module slots respectively.

10.3 PSM busbars 7856.005, 7856.006

Technical specifications	PSM busbar
Height	Enclosure height 2000 mm
Weight	Approx. 1.6 kg (without packing and without modules)
No. of infeeds	Model No. 7856.005: 1 Model No. 7856.006: 2
Phases per infeed	3
Power supply	Infeed I: 400 V AC / N + PE Infeed II (only for Model No. 7856.006): 400 V AC / N + PE
Frequency	50 Hz / 60 Hz
Input current for each phase and infeed	16 A
Pre-fuse provided by the customer	16 A for each phase and infeed
Connector	CEE connector (16 A, 3P+N+PE, 6 h, IEC 60 309)
Maximum no. of module slots	7

Tab. 3: Technical specifications for PSM busbars 7856.005, 7856.006

**Note:**

The wiring diagram for PSM busbar 7856.005 is the same as for PSM busbar 7856.020, but with seven module slots and without the integral circuit-breaker (fig. 13).
The wiring diagram for PSM busbar 7856.006 is the same as for PSM busbar 7856.010, but with a total of seven module slots (fig. 11).

10.4 PSM busbar 7856.321

Technical specifications	PSM busbar
Height	Enclosure height 2000 mm
Weight	Approx. 3.5 kg (without packing and without modules)
No. of infeeds	1
Phases per infeed	1
Power supply	230 V AC / N + PE
Frequency	50 Hz / 60 Hz
Input current	32 A
Integral circuit-breaker	2 x 16 A type C
Pre-fuse provided by the customer	32 A
Connector	CEE connector (32 A, 1P+N+PE, 6 h, IEC 60 309)
Maximum no. of module slots	6

Tab. 4: Technical specifications for PSM busbar 785.321

10 Technical specifications

EN

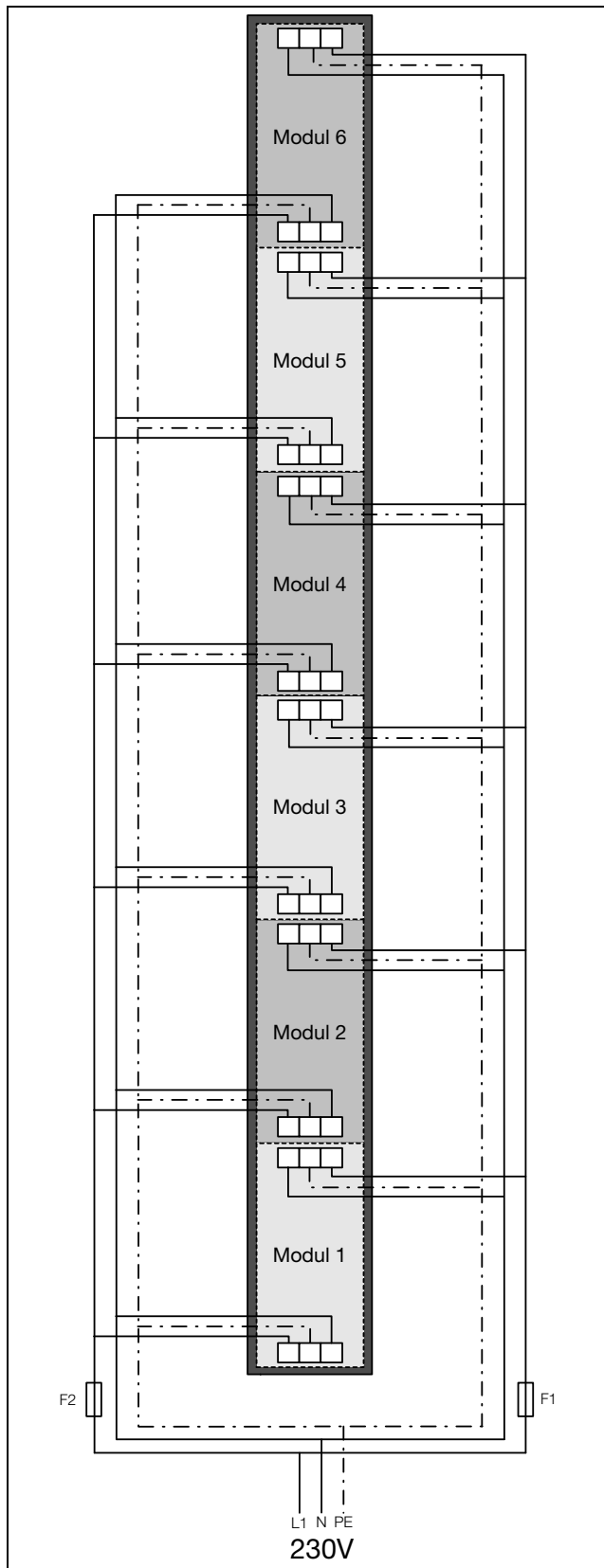


Fig. 12: Wiring diagram for PSM busbar 7856.321

10.5 PSM busbar 7856.323

Technical specifications	PSM busbar
Height	Enclosure height 2000 mm
Weight	Approx. 4.0 kg (without packing and without modules)
No. of infeeds	1
Phases per infeed	3
Power supply	400 V AC / N + PE
Frequency	50 Hz / 60 Hz
Input current per phase/	32 A
Integral circuit-breaker	6 x 16 A type C
Pre-fuse provided by the customer	32 A per phase
Connector	CEE connector (32 A, 3P+N+PE, 6 h, IEC 60 309)
Maximum no. of module slots	6

Tab. 5: Technical specifications for PSM busbar 7856.323

10 Technical specifications

EN

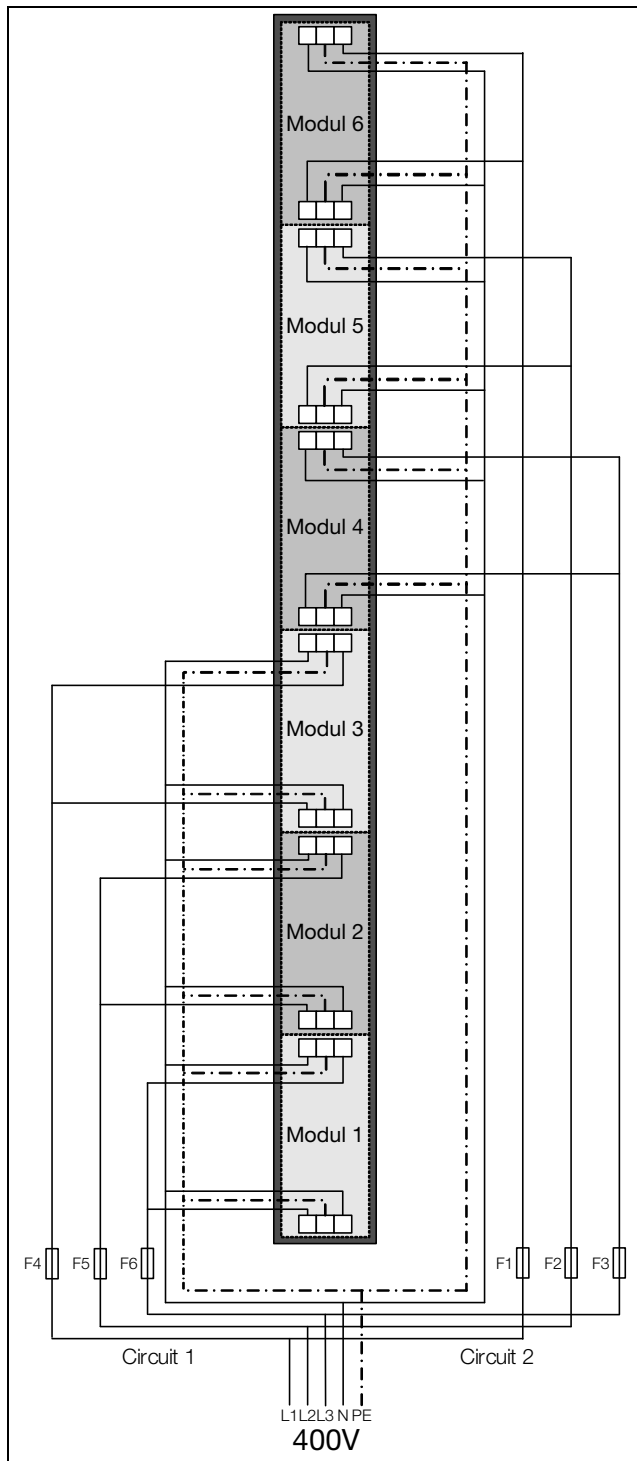


Fig. 13: Wiring diagram for PSM busbar 7856.323

11 Accessories

In our range of accessories, you will find the components for connecting and assembly of the PSM busbars listed below.

A detailed listing of the complete range of accessories is available on the website specified in section 12 "Customer service addresses".

11.1 Connection cable for PSM busbars 7856.008, 7856.010 and 7856.020

Description	Model No.
3-phase connection cable with CEE connector (IEC 60 309), length 3 m	7856.025
1-phase connection cable with CEE connector (IEC 60 309), length 3 m	7856.026
1-phase connection cable with C14 connector (IEC 60 309), length 3 m	7856.027
1-phase connection cable with C20 connector (IEC 60 309), length 3 m	7856.030

Tab. 6: Connection cable for PSM busbars 7856.008, 7856.010 and 7856.020



Note:

Two connection cables are required in order to use both infeeds.

11.2 Mounting kits

Description	Model No.
Mounting kit for fixed installation (Rittal DK-TS)	7856.011
PSM mounting kit for fixed installation with additional cable routing (Rittal DK-TS)	7856.022
Movable/rotating PSM mounting kit for attachment to the vertical section of the enclosure (Rittal DK-TS)	7856.023
PSM mounting kit for fast installation on the horizontal section (Rittal TS IT)	7856.029
PSM mounting kit for fixed installation (Rittal TE 7000)	7000.684

Tab. 7: Mounting kits for PSM busbars



Note:

One of the above mounting kits is required for each rack.

11.3 Overvoltage protection

Description	Model No.
3-phase overvoltage protection	7856.170

Tab. 8: Overvoltage protection

12 Customer service addresses

EN

12 Customer service addresses

For technical queries, please contact:

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