

de Sicherheitshinweise	
GEFAHR	
	Zur sicheren Installation und zum sicheren Betrieb des Gerätes ist Folgendes zu beachten: ► Das Gerät darf nur von qualifiziertem Fachpersonal montiert werden, das mit nationalen und internationalen Gesetzen, Direktiven und Standards vertraut ist. ► Vor dem Abschluss des festen Einbaus darf am Gerät keine gefährliche Spannung angelegt werden. ► Das Gerät darf nur in einer Umgebung betrieben werden, die nicht mehr als Verschmutzungsgrad 2 gemäß IEC/EN 60664-1 aufweist. ► Das Geräte muss in vertikaler Ausrichtung auf einer DIN-Tragschiene montiert werden. ► Bei Anwendungen, in denen gefährliche Spannungen an den Ein-/Ausgängen des Gerätes angeschlossen sind, ist auf genügend Abstand bzw. Isolation von Leitungen, Anschlussklemmen und Gehäusen zur Umgebung (inkl. Nebengeräten) zu achten, um den Schutz vor elektrischem Schlag zu gewährleisten. ► Das Gerät muss von einer SELV-/PELV-Quelle versorgt werden, gemäß EN/IEC 60950-1, EN/IEC 61010-2-201 oder EN/IEC 62368-1 (ES1).
VORSICHT	
	► Das Gerät erwärmt sich während des Betriebs. Lassen Sie das Gerät abkühlen oder tragen Sie Schutzhandschuhe, wenn Sie Arbeiten durchführen.

en Safety notices	
DANGER	
	For safe installation and safe operation the following must be observed: ► The equipment may be installed only by qualified experts who are familiar with national and international laws, directives and standards. ► Until the device is installed, do not connect hazardous voltages to the device. ► The device may only be operated in an environment with pollution degree 2 or lower acc. to IEC/EN 60664-1. ► The equipment shall be mounted on DIN rail in vertical position. ► In applications where hazardous voltage is connected to in-/outputs of the device, sufficient spacing or isolation from wires, terminals and enclosure to surroundings (incl. neighbouring devices), must be ensured to maintain protection against electric shock. ► Power to this equipment must be supplied from a source compliant with the following: SELV/PELV source approved to EN/IEC60950-1, EN/IEC61010-2-201 or EN/IEC62368-1 (ES1)
CAUTION	
	► The device heats up during operation. Allow the unit to cool down or use protection gloves when carrying out any work.

fr Consignes de sécurité	
DANGER	
	Afin que l'installation et le fonctionnement de l'appareil soient sécurisés, tenir compte de ce qui suit : ► L'appareil doit être monté exclusivement par un personnel qualifié connaissant la législation, les directives et les normes nationales et internationales. ► Avant de terminer le montage fixe, n'appliquer aucune tension dangereuse sur l'appareil. ► L'appareil ne doit fonctionner que dans un environnement présentant un degré de pollution de niveau 2 au maximum selon IEC/EN 60664-1. ► L'appareil doit être monté en position verticale sur un rail support DIN. ► Dans les applications pour lesquelles des tensions dangereuses sont appliquées aux entrées/sorties de l'appareil, il faut veiller à garder une distance ou une isolation suffisante entre les câbles, bornes de connexion et boîtier par rapport à l'environnement (appareils voisins compris) afin de garantir la protection contre les chocs électriques. ► L'appareil doit être alimenté par une source SELV/PELV, selon EN/IEC 60950-1, EN/IEC 61010-2-201 ou EN/IEC 62368-1 (ES1).
ATTENTION	
	► L'appareil chauffe pendant le fonctionnement. Laissez l'appareil refroidir ou portez des gants de protection lorsque vous réalisez des travaux.

- deBedienungsanleitung
Unmanaged Switch
- enOperating instructions
Unmanaged switch

IE-SW-BLB-05-1TX-4POE2908200000

IE-SW-BLB-05-1GT-4GTPOE2908210000

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it Indicazioni di sicurezza	
PERICOLO	
	Per un'installazione e un esercizio sicuri dell'apparecchio occorre attenersi a quanto segue: ► Il dispositivo può essere montato solo da personale tecnico qualificato a conoscenza delle leggi, delle direttive e degli standard nazionali e internazionali. ► Non dare tensione elettrica pericolosa all'apparecchio prima della conclusione dell'installazione fissa. ► Il dispositivo può essere utilizzato solo in un ambiente che non supera una gravità di inquinamento 2 secondo la norma IEC/EN 60664-1. ► Il dispositivo deve essere montato in posizione verticale su una guida di montaggio DIN. ► Per le applicazioni in cui vengono collegate tensioni pericolose agli ingressi/alle uscite dell'apparecchio, occorre mantenere una distanza di assicurare un isolamento sufficienti in relazione ai cavi, ai morsetti di collegamento e alle custodie rispetto all'ambiente circostante (compresi gli apparecchi accessori), al fine di garantire la protezione dalle scosse elettriche. ► Il dispositivo deve essere alimentato da una sorgente SELV/PELV, secondo EN/IEC 60950-1, EN/IEC 61010-2-201 o EN/IEC 62368-1 (ES1).
ATTENZIONE	
	► Il dispositivo si surriscalda durante il funzionamento. Lasciare raffreddare il dispositivo oppure indossare guanti protettivi durante l'esecuzione dei lavori.

es Indicaciones de seguridad	
PELIGRO	
	Para una instalación y funcionamiento seguros del equipo debe tener presente lo siguiente: ► El dispositivo debe ser instalado exclusivamente por personal cualificado, familiarizado con las leyes, directivas y normas nacionales e internacionales. ► Antes de finalizar el montaje fijo, el aparato no debe exponerse a tensiones peligrosas. ► El dispositivo debe utilizarse únicamente en un ambiente que no supere el grado de polución 2 según la norma IEC/EN 60664-1. ► El dispositivo debe montarse en posición vertical sobre un carril DIN. ► En aplicaciones en las que hay tensiones peligrosas conectadas a las entradas/salidas del aparato, debe procurar una distancia o aislamiento suficiente entre cables, bornes de conexión y carcasas y el entorno (incluidos aparatos secundarios) para asegurar la protección frente a posibles electrocuciones. ► El dispositivo debe alimentarse a través de una fuente SELV/PELV conforme a las normas EN/IEC 60950-1, EN/IEC 61010-2-201 o EN/IEC 62368-1 (ES1).
ATENCIÓN	
	► El dispositivo se calienta durante su funcionamiento. Deje que el dispositivo se enfríe o utilice guantes protectores cuando realice trabajos.

zh 安全规程	
危险	
	为保证安装和操作安全, 请务必遵守下列规程: ► 设备必须由具备资质的、熟悉国内国际法律、规定和标准的专业电气技术人员进行安装、操作和维护。 ► 在装置安装受当前, 切勿将危险电压接通至装置。 ► 只允许在依据 IEC/EN 60664-1 有不超过 2 级污染等级的环境中运行设备。 ► 必须在垂直方向中将设备安装到 DIN 支承轨上。 ► 在应用中, 装置的输入/输出如果要接入危险电压, 必须保证导线、端子和外壳与四周 (包括相邻的装置) 之间有充分的空间间隔或隔离, 以确保防触电保护有效。 ► 必须由 SELV/PELV 电源为设备供电, 依据 EN/IEC 60950-1、EN/IEC 61010-2-201 或 EN/IEC 62368-1 (ES1)。
注意	
	► 设备在运行期间会升温。使设备冷却, 或者在执行作业时佩戴防护手套。 ► [甲類警語] 警告：為避免電磁干擾, 本產品不應安裝或使用於住宅環境。

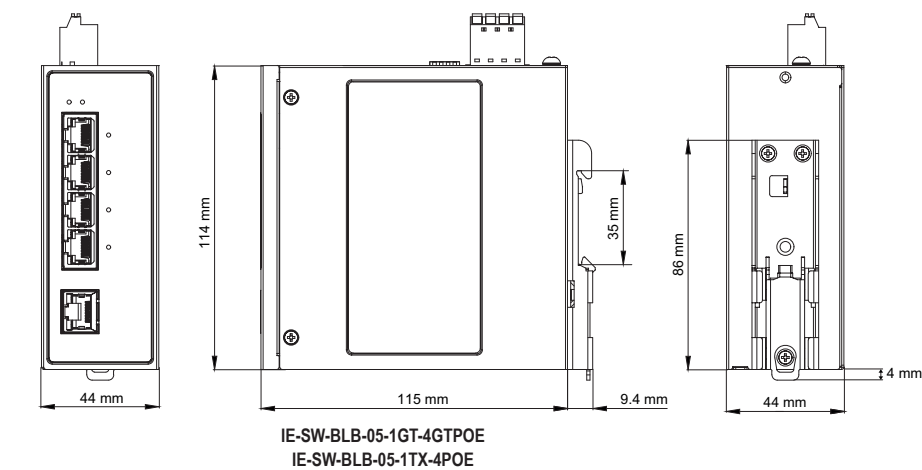
Zulassungen / Approvals / Agréments / Omologazioni / Homologaciones / 认证

c UL us	Normen / Standards / Normes / Norme / Normas / 适用标准 UL 61010-1 UL 61010-2-201 (NRAQ) CSA C22.2 NO. 61010-2-201 (NRAQ7) UL 12.12.01 (NRAG) CSA C22.2 No. 213-M1987 (NRAG7) Datei / File / Fichier / File / Archivo / 文件: E141197 (Ord. Loc.)
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Technische Daten / Technical Specifications

de	en	fr	it	es	zh	IE-SW-BLB-05-1TX-4POE 2908200000	IE-SW-BLB-05-1GT-4GTPOE 2908210000
Elektrische Daten	Electrical data	Caractéristiques électriques	Dati elettrici	Datos eléctricos	电气数据		
Eingangsspannung (redundante Doppelgänge)	Input voltage (redundant dual inputs)	Tension d'entrée (entrées doubles redondantes)	Tensione di ingresso (doppi ingressi ridondanti)	Tensión de entrada (entradas dobles redundantes)	输入电压（冗余双输入端）	12/24/48 V DC	
Betriebsspannung	Operating voltage	Tension de fonctionnement	Tensione d'esercizio	Tensión de servicio	工作电压	12 ... 57 V DC	
Max. Leistungsaufnahme	Max. power consumption	Consommation de puissance max.	Potenza assorbita massima	Consumo de potencia máx.	最大功率消耗	With PoE: 5.3 A at 24 V DC = 150 W No PoE: 0.20 A at 24 V DC = 4.8 W	With PoE: 5.12 A at 24 V DC = 150 W No PoE: 0.19 A at 24 V DC = 4.56 W
Überlastschutz vorhanden	Overload current protection present	Protection contre les surcharges disponible	Protezione contro il sovraccarico presente	Protección contra sobrecarga disponible	有过载保护	✓	
Verpolungsschutz vorhanden	Reverse polarity protection present	Protection contre les inversions de polarité disponible	Protezione contro l'inversione di polarità presente	Protección contra polarización inversa disponible	有反极性保护	✓	
PoE-Leistungsbudget	PoE power budget	Budget de puissance PoE	Budget di potenza PoE	Presupuesto de potencia PoE	PoE 功率预算	Max. 144 W at 48 ... 57 V DC input Max. 120 W at 24 ... 47.9 V DC input Max. 60 W at 12 ... 23.9 V DC input	
Umgebungsbedingungen	Environmental conditions	Conditions ambiantes	Condizioni ambientali	Condiciones del entorno	环境条件		
Betriebstemperatur	Operating temperature	Température de fonctionnement	Temperatura d'esercizio	Temperatura de servicio	工作温度	-40 °C ... 75 °C	
Lagertemperatur	Storage temperature	Température de stockage	Temperatura di magazzino	Temperatura de almacenamiento	存储温度	-40 °C ... 85 °C	
Feuchtigkeit	Humidity	Humidité	Umidità	Humedad	湿度	5% ... 95%, no condensation	
Max. Einsatzhöhe ohne Derating	Max. altitude without derating	Hauteur d'utilisation max. sans déclassement	Altezza di impiego massima senza derating	Altura máx. de funcionamiento sin derating	无降额的最大使用高度	2000 m	
Min. Schutzabstand zum Magnet-Regelkompass / Magnet-Steuerkompass	Min. safe distance to the standard-magnetic-compass / steering-magnetic-compass	Distance de protection minimale par rapport au compas de contrôle magnétique / compas de direction magnétique	Distanza minima di protezione dalla bussola di controllo magnetico / bussola di governo magnetica	Distancia mínima de protección a la brújula de control magnético/brújula de dirección magnética	磁控罗盘/磁操舵罗盘的最小防护距离	0.70 m / 0.50 m	
Reduzierter Schutzabstand zum Magnet-Regelkompass / Magnet-Steuerkompass	Reduced safe distance to the standard-magnetic-compass / steering-magnetic-compass	Distance de protection réduite par rapport au compas de contrôle magnétique / compas de direction magnétique	Distanza di protezione ridotta dalla bussola di controllo magnetico / bussola di governo magnetica	Distancia de protección reducida a la brújula de control magnético / brújula de dirección magnética	减小磁控罗盘/磁操舵罗盘的防护距离	0.45 m / 0.30 m	
Allgemeine Daten	General data	Données générales	Dati generali	Datos generales	常规数据		
Höhe x Breite x Tiefe	Height x Width x Depth	Hauteur x largeur x profondeur	Altezza x Larghezza x Profondità	Altura x anchura x profundidad	高度 x 宽度 x 深度	114 x 44 x 115 mm	
Gewicht	Weight	Poids	Peso	Peso	重量	490 g	
Verschmutzungsgrad	Pollution degree	Degré de pollution	Livello di inquinamento	Grado de polución	污染等级	2	
Schutzart	Protection class	Degré de protection	Classe di protezione	Tipo de protección	防护等级	IP30	
Anschlussdaten	Connection data	Données de connexion	Dati di collegamento	Datos de conexión	联接数据		
Anzahl Anschlussstecker	Number of terminal blocks	Nombre de prises de raccordement	Numero di spine di collegamento	Número de clavijas de conexión	连接插头数量	1	
Leiterquerschnitt	Wire cross-section	Diamètre du câble	Sezione del conduttore	Sección del conductor	导体横截面	0.5 ... 2.5 mm² (AWG 12 ... AWG 20)	
Abisolierlänge	Insulation stripping length	Longueur de dénudage	Lunghezza di spellatura	Longitud de desaislado	剥皮长度	10 mm	
Schnittstellen	Interfaces	Interfaces	Interfacce	Interfaces	接口	4 x RJ45 ports (10/100Base-TX PoE PSE (Power Source Equipment), Auto MDI/MDIX) 1 x RJ45 port (10/100Base-TX, Auto MDI/MDIX)	4 x RJ45 ports (10/100/1000Base-T(X) PoE PSE (Power Source Equipment), Auto MDI/MDIX) 1 x RJ45 port (10/100/1000Base-T(X), Auto MDI/MDIX)
Technologie	Technology	Technologie	Tecnologia	Tecnología	技术		
Ethernet Standard	Ethernet Standards	Ethernet standard	Standard Ethernet	Estándar Ethernet	标准以太网	IEEE 802.3 for 10Base-T IEEE 802.3u for 100Base-TX IEEE 802.3ab for 1000Base-T IEEE 802.3X for flow control IEEE 802.3az for energy efficient ethernet IEEE 802.1p/q for quality of service IEEE 802.3 af/at/bt PoE standard	
MAC-Tabelle	MAC Table	Tableau MAC	Tabella MAC	Tabla MAC	MAC 表	2 K	4 K
Prioritätswarteschlangen	Priority Queues	Files d'attente prioritaires	Coda di priorità	Colas de espera prioritarias	优先级队列	4	8
Größe des Paketpuffers	Packet Buffer Size	Taille du tampon du paquet	Dimensione del buffer di pacchetto	Tamaño del búfer de paquetes	程序包缓存大小	768 Mbits	1.5 MBit
Verarbeitung	Processing	Traitement	Lavorazione	Procesamiento	处理	Store-and-Forward	
Jumbo frame	Jumbo frame	Jumbo frame	Jumbo frame	Bastidor Jumbo	巨型帧	-	9 KB
Normen	Standards	Normes	Norme	Normas	标准		
EMV	EMC	CEM	EMC	EMC	电磁兼容性	Contact 6 kV, Air 8 kV acc. to EN 61000-4-2 (ESD)	
						10 V/m with 1 kHz sine-wave 80 % AM from 80 ... 1000 MHz acc. to EN 61000-4-3 (RS)	
						Power: ±4 kV at 5 kHz Signal: ±2 kV at 5 kHz acc. to EN 61000-4-4 (EFT)	
						AC/DC power lines Line/Earth: 2 kV 1.2/50 µs Line/Line: 1 kV 1.2/50 µs Data communication Line/Earth: 2 kV 1.2/50 µs acc. to EN 61000-4-5 (Surge)	
						10 V rms with 1 kHz sine-wave 80 % AM from 150 kHz ... 80 MHz acc. to EN 61000-4-6 (CS)	
						EN 61000-4-8 (PFMF)	
						1 g acc. to IEC 60068-2-6	
Vibrationsfestigkeit	Vibration resistance	Tenue aux vibrations	Resistenza alle vibrazioni	Resistencia a las vibraciones	抗震动性	15 g acc. to IEC 60068-2-27	
Schockfestigkeit	Shock resistance	Résistance aux chocs	Resistenza agli urti	Resistencia a choques	抗冲击性	IEC 60068-2-31	
Freier Fall	Free fall	Chute libre	Caduta libera	Caída libre	自由落体		
MTBF	MTBF	MTBF	MTBF	MTBF	MTBF（平均故障间隔时间）		
Zeit	Time	Durée	Tempo	Tiempo	时间	841841.42 hrs	776841.22 hrs
Datenbank	Database	Base de données	Banca dati	Base de datos	数据库	Telcordia SR332	

Abmessungen / Dimensions



A Montage und Demontage / Mounting and demounting

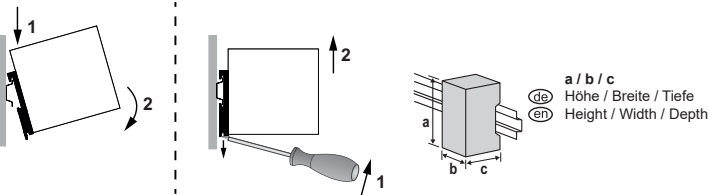
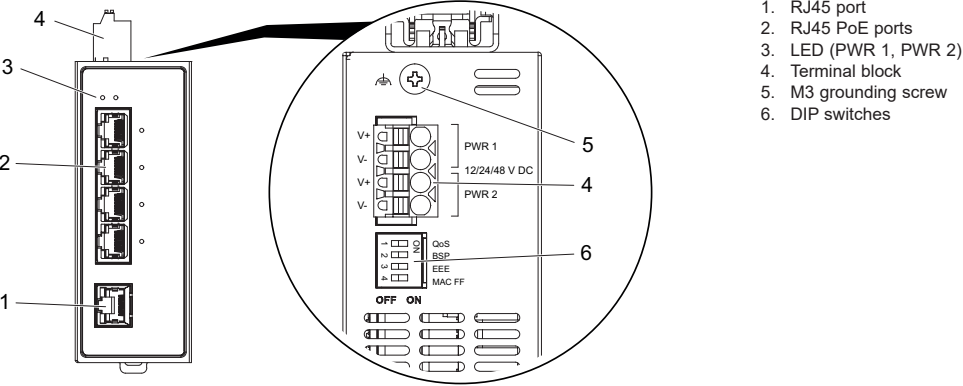


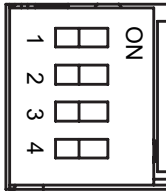
Abb. / Fig. A1

Abb. / Fig. A2

B Anschlüsse / Connections



C DIP-Schalter / DIP switches

	No.	Function	Default	Setting				
	1	Quality of service (QoS)	on	on: Enables QoS				
				DSCP/TOS	27, 31, others	43, 47	55	59
				COS (802.1P)	0.1.2.3.4	5	6	7
				Priority	lowest	third highest	second highest	highest
				WRR	1	2	4	8
				Queues	0	1	2	3
				off: Disables QoS				
	2	Broadcast storm protection (BSP)	off	on: Enables BSP for each Ethernet port. Only a maximum of 2000 broadcast packets per second is allowed. off: Disables BSP for each Ethernet port				
	3	Energy-Efficient Ethernet (EEE)	off	on: Enables EEE off: Disables EEE				
	4	MAC frame filtering (MAC FF)	off	on: Enables MAC FF to drop messages with destination MAC in the range of 01-80-C2-00-00-02 to 01-80-C2-00-00-0F. This range includes LLDP (Link Layer Discovery Protocol) messages acc. to IEEE 802.1AB. off: Disables MAC FF				

D LED Anzeige / LED indicator

PWR 1	green	PWR 1 supply voltage OK
PWR 2	green	PWR 2 supply voltage OK
PoE	Dual colour LED	
	yellow	PoE device connected by IEEE 802.3 af/at (15W/30W) standard
	green	PoE device connected by IEEE 802.3 bt (60 W) standard
	green blinking	at/af/bt overload or short circuit is detected on port output lines
	off	No PoE power output or no PoE device connected
IE-SW-BLB-05-1TX-4POE		
10/100Base-TX RJ45 Port	Upper LED	
	green	Port Link UP
	blinking	Transmitting data
	off	Port Link DOWN
	Lower LED	
	yellow	Port speed 100 Mbps
	off	Port speed 10 Mbps
IE-SW-BLB-05-1GT-4POE		
10/100/1000Base-TX RJ45 Port	Upper LED	
	green	Port Link UP
	blinking	Transmitting data
	off	Port Link DOWN
	Lower LED	
	green	Port speed 1000 Mbps
	yellow	Port speed 100 Mbps
	off	Port speed 10 Mbps

E Pinbelegung / Pinouts

10/100Base TX RJ45 Pinouts				8-pin RJ45
MDI Port Pinouts	MDI-X Port Pinouts	Pin	Signal	
Pin		Pin	Signal	
1	Tx+	1	Rx+	
2	Tx-	2	Rx-	
3	Rx+	3	Tx+	
6	Rx-	6	Tx-	

1000BaseT RJ45 Pinouts				8-pin RJ45
Pin	MDI	MDI-X		
1	BI_DA+	BI_DB+		
2	BI_DA-	BI_DB-		
3	BI_DB+	BI_DA+		
4	BI_DC+	BI_DD+		
5	BI_DC-	BI_DD-		
6	BI_DB-	BI_DA-		
7	BI_DD+	BI_DC+		
8	BI_DD-	BI_DC-		

en

Intended use

The device is intended for setting up communication networks within an industrial environment, it is intended to be used in a secure and restricted access location. The device forwards IEEE802.3 Ethernet standard packets without any encryption or additional security functionality. The device may only be used within the scope of the specified technical data. Observing the documentation is part of the intended use.

The devices are equipped with 1 x RJ45 port and 4 x RJ45 Power over Ethernet ports in Fast Ethernet Speed (2908200000) or Gigabit Ethernet Speed (2908210000).

The DIP switches can be used to configure the following features: Quality of service (QoS), Broadcast storm protection (BSP), Energy-Efficient Ethernet (EEE) and MAC frame filtering (MACFF).

For maritime applications applies: The switch is a device with IP30 protection. Depending on the installation site, additional protection against salt spray must be ensured through installation in a suitable enclosure (e.g. control cabinet, control box, console or similar). Also observe the compass safe distance. The device may only operate on DC grids. In maritime applications the PoE function is not operational at voltages above 57 V DC.

Assembly and installation may only be carried out by an electrician.

Cyber security

You can find the following information on the Weidmüller Industrial Security website:
– Industrial Product Security Guideline

Scope of delivery

- Ethernet switch
- Installation instructions
- Terminal block (1013470000)

Mounting the device

Dangerous contact voltage!
► Carry out mounting and wiring work only when the power supply is disconnected.
► Make sure that the place of installation (switch cabinet etc.) has been disconnected from the power supply.

NOTICE

Material damage!
► To prevent the switch from overheating, observe the following minimum clearances:
– Top and bottom: 51 mm (2.0 ")
– Sides: 51 mm (2.0 ")
– Front: 64 mm (2.50 ")

► Clip the device on to a 35 mm DIN mounting rail, e.g. Weidmüller TS 35x7.5 (see Fig. A1).

► Alternatively, you can screw the device directly to a wall or mounting plate. To do this, you will need the wall mount kit, see accessories in the online catalogue.

Installing the device

NOTICE

Material damage!
The supply voltage may not be greater than the voltage indicated on the product label.
► Check the voltage of your power source to make sure you are using the correct voltage.

Wiring the device

- When wiring the device observe the following aspects:
- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.
 - Do not run signal or communications wiring and power wiring in the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.
 - You can use the type of signal transmitted through a wire to determine which wires should be kept separate. Wiring with similar electrical characteristics can be bundled together.
 - Keep input wiring and output wiring separated.

It is strongly advised to label the wiring for all devices in the system.

Grounding the device

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the M3 grounding screw to the grounding surface prior to connecting devices.

This product must be mounted to a well-grounded mounting surface, such as a metal panel. For functional grounding use at least cable type 1 mm² (AWG 18).

Wiring the redundant power inputs

The two power inputs can be connected to different power sources. If one power source fails, the second one acts as a back up and enables the continuous supply of the device. The terminal block connector on top of the device is used for the two inputs, see Fig. B.

NOTICE

Material damage!
Before connecting the Ethernet Switch to the power inputs, make sure the power source voltage is stable.
► Use a copper conductor with the cable type 0.5 to 2.5 mm² (AWG 12 to 20) and the corresponding pin type cable terminals.
The wire must be able to withstand at least 105 °C (221 °F). There should only be one individual conductor in a clamping point.

- Insert the negative/positive AC/DC wires into the V-/V+ terminals.
- Insert the plastic terminal block connector prongs into the terminal block receptor, which is located on top of the device.

DIP switches

For the DIP switch settings, see Fig. C.

LED indicators

LEDs indicating the status of power supply, PoE and the Ethernet connection are placed on the front of the device, see Fig. B. The LED behaviour is described in Fig. D. The power fault indication depends on the DIP switch settings.

Pinouts

For pinouts for MDI (NIC-type) ports and MDIX (HUB/Switch-type) ports, see Fig. E.

Disassembly

- Remove all cables and lines.
- Remove the device from the DIN rail, see Fig. A2.

Disposal

Observe the notes for proper disposal of the product. You can find the notes here: www.weidmueller.com/disposal.

