TECHDOCS

WAGO Industrial Lean Managed Switch

Industrial Lean Managed Switch; 8 Ports 1000BASE-T; IP67

852-1832



Product manual
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Every conceivable measure has been taken to ensure the accuracy and completeness of this documentation. However, as errors can never be fully excluded, we always appreciate any information or suggestions for improving the documentation.

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We wish to point out that the software and hardware terms as well as the trademarks of companies used and/or mentioned in the present documentation are generally protected by trademark or patent.

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1 Provisions

1.1 Scope of Applicability

This document applies to the following product:

852-1832 (Industrial Lean Managed Switch; 8 Ports 1000BASE-T; IP67)

From hardware version	01
From firmware version	01
Product detail page	https://www.wago.com/852-1832

Note

Note applicable documents!

The complete operating instructions for the product consists of several, applicable documents. The product must only be installed and operated in accordance with the complete operating instructions. Knowledge of all applicable documents is required for proper use. You can find all documents and information on the product detail page.

Applicable document

Function Manual Industrial Managed Switch
- Functions
- Commissioning
- Service

1.2 Intended Use

This product is for setting up ETHERNET networks.
- This product is intended for installation in automation technology systems.
- The product is intended for indoor and outdoor use.
- Operation of the products in industrial area is permitted.
- Operation of the product in other application areas is only permitted when corresponding approvals and labeling are present.

Improper Use

Improper use of the product is not permitted.

Improper use occurs in particular in the following cases:
- Non-observance of the intended use
- Use without protective measures in an environment in which salt water, salt spray mist, icing, corrosive fumes, explosive gases, direct sunlight and ionizing radiation can occur
- Implementation of a Known Misuse
- Use of the product in areas with special risk that require continuous fault-free operation and in which failure of or operation of the product can result in an imminent risk to life, limb or health or cause serious damage to property or the environment (such as the operation of nuclear power plants, weapons systems, aircraft and motor vehicles)

Warranty and Liability

The provisions of the latest WAGO General Terms and Conditions of Deliveries and Services (GTC) apply as well as the Software License Terms for Standard Software (SW-License) applicable to software products und software embedded in WAGO hardware products, both available at: **www.wago.com**.

In particular, the warranty is void when:
- The product is improperly used.
- The defect is based on (customer-)specific specifications (hardware and software configurations).
- Modifications of the hardware or software by the user or third parties were made that are not described in this documentation and are at least responsible for the occurrence of the defect.

Individual agreements always take precedence.

Obligations of the installer/operator

Installers and operators bear responsibility for the safety of an installation or a system assembled with the product.

The installer/operator is responsible for the proper installation and the safety of the system. It must comply with the laws, standards, guidelines, local regulations, the state and the rules of technology applicable at the time of installation and must observe the guidelines and instructions described in the operating instructions. The installation requirements of the approvals must also be met.

In the event of non-compliance, operation of product within the scope of the approval is not permitted.

1.3 Typographical Conventions

Number Notation

100	Decimals: Normal notation
0x64	Hexadecimals: C-notation
'100'	Binary: In single quotation marks
'0110.0100'	Nibbles separated by a period

Text Markups

italic	Names of paths or files
bold	Menu items, entry or selection fields, emphasis
`Code`	Excerpts from program code
>	Selection of a menu point from a menu
"Value"	Value entries
[F5]	Identification of buttons or keys

Links

	Link to a topic in a document

🕮	Link to a separate document
	Link to a website
	Link to an email address
Glossary	Link to a glossary entry

Sequence of Action

✓ This symbol identifies a precondition.

1. Action step
2. Action step

   ⇨ This symbol identifies an intermediate result.

➡ This symbol identifies the result of an action.

- Individual action step

Lists

- Lists, first level
  – Lists, second level

Figures

Figures in this documentation are for better understanding and may differ from the actual product design.

Warning Messages

⚠ DANGER

Type and source of hazard

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

- Action step to reduce risk

⚠ WARNING

Type and source of hazard

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

- Action step to reduce risk

⚠ CAUTION

Type and source of hazard

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

- Action step to reduce risk

NOTICE

Type and source of malfunction (property damage only)

Indicates a potentially hazardous situation which, if not avoided, may result in damage to property.

- Action step to reduce risk

Information Notices

Note

Information

Indicates information, clarifications, recommendations, referrals, etc.

1.4 Legal Information

Intellectual property

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Third-party products are always mentioned without any reference to patent rights. WAGO GmbH & Co. KG, or the manufacturer of third-party products, retains all rights regarding patent, utility model or design registration.

Third-party trademarks are referred to in the product documentation. The "®" and "™" symbols are omitted hereinafter. The trademarks are listed in the Appendix: **Protected Rights [▸ 32]**.

Subject to Change

The instructions, guidelines, standards, etc., in this manual correspond to state of the art at the time the documentation was created and are not subject to updating service. The installer and operator bear sole responsibility to ensure they are complied with in their currently applicable form. WAGO GmbH & Co. KG retains the right to carry out technical changes and improvements of the products and the data, specifications and illustrations of this manual. All claims for change or improvement of products that have already been delivered – excepting change or improvement performed under guarantee agreement – are excluded.

Licenses

The product contains open-source software. The requisite license information is saved in the product.

This information is also available under: **www.wago.com**.

2 Safety



This section presents hazards that could occur if the product is used. Builders and operators must take all hazards into account when analyzing the risk of their installed systems. Measures to reduce the risk of hazards that are foreseeable from the manufacturer's point of view (i.e., without knowledge of the specific system built) are explained in the respective sections of this documentation (e.g., in "Planning").
Builders and operators must implement explained risk reduction measures and also take their own measures depending on the residual risk.

2.1 General Safety Regulations

- This documentation is part of the product. Therefore, retain the documentation during the entire service life of the product. Pass on the documentation to any subsequent user of the product. In addition, ensure that any supplement to this documentation is included, if necessary.
- The product must only be installed and put into operation by qualified electrical specialists per EN 50110-1/-2 and IEC 60364.
- Changes to switch configurations in the network must always be performed by qualified personnel with sufficient skills.
- Set up permissions management for authorized persons.
  - Physical access may only be made by authorized persons.
  - Digital access may only be made by authorized persons.
- Comply with the laws, standards, guidelines, local regulations and accepted technology standards and practices applicable at the time of installation.

2.2 Electrical Safety

- Make sure the product does not carry any voltage before starting work.

Power Supply

- For non-hazardous live voltages, use SELV/PELV power supplies in accordance with EN/UL/IEC 61010-1.
- Connecting impermissible current or frequency values may destroy the product.

Grounding/Protection/Fuses

- When handling the product, please ensure that environmental factors (personnel, work space and packaging) are properly equalized. Do not touch any conducting parts.
- Protect the product with an appropriate overcurrent protection device.

Cables

- To minimize interference (e.g., by electromagnetic interference), maintain a spatial separation between control, signal and data lines and the power supply lines.
- Always design the connection cables for the maximum anticipated current load.

2.3 Mechanical Safety

- Before startup, please check the product for any damage that may have occurred during shipping. Do not put the product into operation in the event of mechanical damage.

- Do not open the product housing.
- Avoid conductive contamination.
- Use protective caps to cover unused connections.
- Before disconnecting the connectors, clean the product to prevent contamination of the connections.

2.4 Thermal Safety

- The surface of the housing heats up during operation. Under special conditions (e.g., in the event of a fault or increased surrounding air temperature), touching the product may cause burns. Allow the product to cool down before touching it.
- If the surface temperature of the product can exceed 40 °C, wear protective gloves and attach protective covers and/or touch-proof protection.
- Cooling of the product must not be impaired. Ensure that the air circulation is unobstructed.

2.5 Indirect Safety

- Only use a dry or cloth or a clothed dampened with water to clean the product. Do not use cleaning agents, e.g., abrasive cleaners, alcohols or acetone.
- Do not allow the product to come into contact with ketones (e.g., acetone) or chlorinated hydrocarbons (e.g., dichloromethane) under any circumstances.
- Do not use hard objects that could cause scratches for cleaning.
- Clean tools and materials are imperative for handling the product.

3 Overview

3.1 Overview

The product is an industrial, configurable lean-managed ETHERNET switch with 8 × 10/100/1000BASE-T ports.

The product features a robust housing, a redundant power supply, and functional monitoring. It provides streamlined network management, enabling commissioning and diagnostics to be performed intuitively and without extensive IT expertise. The Topology Map provides a clear overview of the switch and all connected devices. Key diagnostic information is visualized in the Diagnostics Dashboard.

Switching Technology

Industrial ETHERNET primarily uses switching technology. This technology allows any network subscriber to send at any time, because the subscriber always has an open peer-to-peer connection to the next switch. The connection is bidirectional, i.e., the subscriber can send and receive at the same time (full duplex operation). Targeted use of switching technology can increase real-time capability, because the peer-to-peer connection prevents collisions in network communication.

Auto-Negotiation

Auto-negotiation allows two interconnected ETHERNET ports to independently set the highest possible transmission rate and transmission type for their communication link. Auto-negotiation is available to ETHERNET subscribers connected to the switch via a twisted pair cable.

Autocrossing

Autocrossing (Auto-MDI/MDI-X, “Medium Dependent Interface”) automatically reconfigures the receive and transmit signals for twisted-pair interfaces as needed. This allow users to use wired and crossover cables in the same manner one-to-one.

Flow Control

Flow control prevents data packets from being lost when a port buffer overflows. When network traffic becomes concentrated on a port, the available port bandwidth decreases and the buffer may overflow. This can result in packet drops and frame loss.

In full-duplex mode, flow control sends a pause signal to the transmitting port, causing it to temporarily stop transmitting and resume once the buffer has been cleared.

In half-duplex mode, back-pressure flow control simulates a packet collision, causing the transmitting port to interrupt transmission.

4 Properties

4.1 View

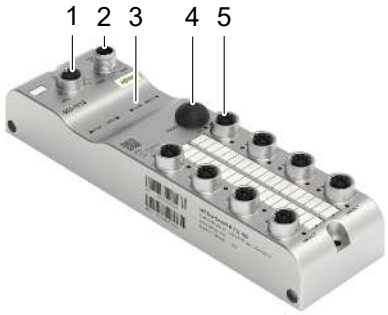


Figure 1: View

1	Power forwarding connector	Supply Voltage [▸ 14]
2	Plug for power consumption	Supply Voltage [▸ 14]
3	Display Elements	Display Elements [▸ 15]
4	Reset button	Operating Elements [▸ 16]
5	10/100/1000BASE-T ports	Network Connections [▸ 15]

4.2 Nameplate

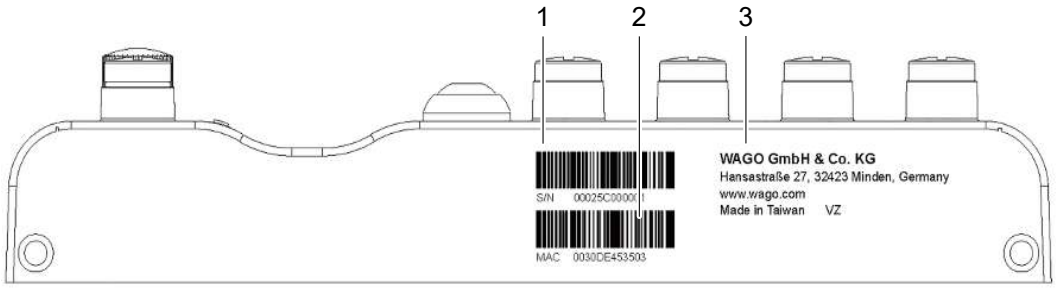


Figure 2: Nameplate, left side (example view)

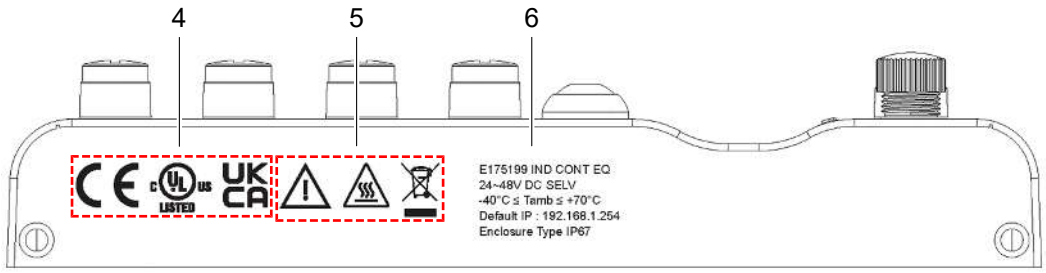


Figure 3: Nameplate, right side (example view)

Pos.	Designation	Description
1	S/N	Product serial number shown as a barcode and in plain text
2	MAC	Product MAC address shown as a barcode and in plain text
3		WAGO address
4	**Approvals**	
		With the CE marking, WAGO declares, in accordance with EU Regulation 765/2008, that the product complies with the applicable requirements set out in the relevant EU harmonization legislation governing its affixing.
		UL Certification Mark for Safety for UL-listed products intended for the U.S. and Canadian markets
		The UKCA marking (UK Conformity Assessed) indicates conformity with the applicable requirements of the Great Britain market.
5	**Warning and information symbols**	
		**Warning:** Do not touch hot surfaces! During operation, the housing surface may become hot. If the product has been operated at high ambient temperatures, allow it to cool before touching it.
		**Caution:** Observe the product documentation! Applicable information and documentation for the product must be observed.
		**Note:** Electrical and electronic equipment must not be disposed of with household waste! Electrical and electronic equipment may contain materials, substances, and components that can be harmful to the environment and human health. Electrical and electronic equipment must be disposed of properly at the end of its service life. For additional information, see **Disposal and Recycling [▸ 26]**
6	E175199 ...	UL marking

4.3 Connections

4.3.1 Supply Voltage

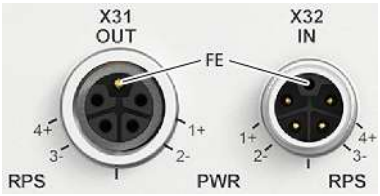


Figure 4: Power Supply Connections

Table 1: Supply Voltage Output X31 OUT, M12 Female Connector, 4 Pins + FG, L-Coded

Connection	Description
1+ (PWR)	Primary DC output: positive potential
2- (PWR)	Primary DC output: negative potential
3- (RPS)	Secondary DC output: negative potential
4+ (RPS)	Secondary DC output: positive potential
FG	Functional ground

Table 2: Supply Voltage Input X32 IN, M12 Male Connector, 4 Pins + FG, L-Coded

Connection	Description
1+ (PWR)	Primary DC input: positive potential
2- (PWR)	Primary DC input: negative potential
3- (RPS)	Secondary DC input: negative potential
4+ (RPS)	Secondary DC input: positive potential
FG	Functional ground

Each pin of connector X32 (IN) is connected to the corresponding pin of socket X31 (OUT), enabling the supply voltage to be forwarded to the next device.

4.3.2 Network Connections

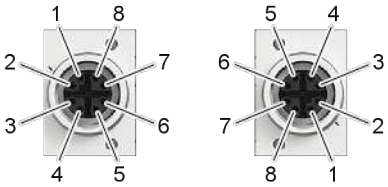


Figure 5: 10/100/1000BASE-T Ports, M12 Female Connector, 8-Pin, X-Coded

Connection	Description	
	10BASE-T, 100BASE-TX	1000BASE-T
1	TX+	DA+
2	TX-	DA-
3	RX+	DB+
4	RX–	DB-
5	–	DD+
6	–	DD-
7	–	DC-
8	–	DC+

All ports support Autonegotiation and Auto-Crossing.

4.4 Display Elements

4.4.1 Status LEDs

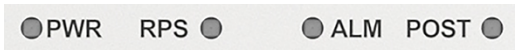


Figure 6: Status LEDs

LED	Name	Status	Description
PWR	Primary Power LED	Green	Primary power supply in use
		OFF	Primary power supply switched OFF or error
RPS	Redundant Power LED	Green	Use of the secondary power supply
		Off	Secondary power supply switched off or error
ALM	Alarm LED	Red	There is no power supply to the primary or secondary (PWR or RPS) power supply.
		OFF	No alarm reported
POST	Power-On-Self-Test LED	Green	The POST is completed.
		Flashing	The POST is executed.
		OFF	No power supply, or error detected in the POST function.

4.4.2 LED Indicators – Network Connections

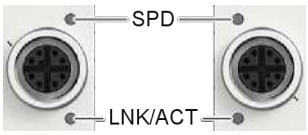


Figure 7: Network Connection LED Indicators

Designation	Color	State	Description
SPD	Green	On	Link established at 1000 Mbps.
		Off	Link established at 10 Mbps or 100 Mbps, or no link present.
LNK/ACT	Green	On	Port is running at 10, 100 or 1000 Mbit/s.
		Flickering	Data packet transfer is active.
		Off	There is no connection.

4.5 Operating Elements



Figure 8: Reset Button

The reset button is used to restart the product and to restore the factory settings.

Actuation	Function
5 seconds	Restarts the product.
> 10 seconds	Restores the product to its factory default settings.

The reset button can be disabled in the WBM to prevent accidental operation (see 🕮 **Function Manual Industrial Managed Switch**).

5 Planning

5.1 Data Security

Professional planning and design is an important requirement for securing data confidentiality, availability and integrity.

Random Influences

Data transmission and processing can be disrupted by random influences, such as temporary electromagnetic disturbances. Proper setup can significantly reduce the likelihood of corruption or destruction of data.

For additional information see: EMC Installations [▸ 18].

Deliberate Influences

Use in ETHERNET Areas

ETHERNET products are designed for use in local networks. Please note the following when using ETHERNET products in your system:

- Do not connect control components and control networks to an open network such as the Internet or an office network.
  WAGO recommends putting control components and control networks behind a firewall.
- In the control components, close all ports and services not required by your application to minimize the risk of cyber attacks and to enhance cybersecurity.
  Only open the ports and services for the duration of the commissioning/configuration.
- Limit physical and electronic access to all automation components to authorized personnel only.
- To reduce the risk of unauthorized access to your system, change the default passwords during initial commissioning.
- To reduce the risk of unauthorized access to your system, regularly change the passwords used.
- To verify that the measures taken meet your security requirements, regularly perform threat analyses.
- To restrict access to and control of individual products and networks, employ a “defense-in-depth” mechanism in your system’s security configuration.

Additional document

- White Paper Cybersecurity in Production Facilities

All the documentation and information is available at: www.wago.com.

5.2 Safety Measures at the Installation Location

The product does not require an additional enclosure.

Observe the following points when selecting the installation location:

- Under high load conditions, the temperature-related operating range of the product can be extended by mounting it on metal surfaces, metal profiles, or similar structures, or by installing it in a ventilated environment. The product's internal temperature monitoring can be used to optimize this effect.
- To protect the product from potential tensile forces, it must not be used to bridge gaps.
- The product must not be mounted in shear zones of moving machine or system components.
- Cables must not enter the shear zone of moving machine parts.

5.3 Functional Ground

In general, two grounding options are available, which may also be used simultaneously:
- Via the power supply cable
- Via the housing

The product operates within the extra-low voltage range (SELV/PELV). Interference is discharged via the functional ground contact of the power supply connections. The functional ground contact of the M12 connector is not designed as a protective earth conductor connection in accordance with Protection Class I and serves exclusively as the product's functional ground (FG) to ensure interference-free operation.

Additional grounding for personnel protection against electric shock can be provided via the metal housing:
- Use conductive mounting screws in the mounting holes and ensure good electrical contact.
- Ensure that the mounting surface is flat.

5.4 Mounting Position and Clearances

The product can be installed in all mounting positions.

When installing multiple products, or when installing a product adjacent to a cabinet door or cover, the installation clearances specified in the technical data must be maintained to ensure that a sufficiently large surface area is available for heat dissipation to the ambient air.

The required installation clearances are also determined by the connectors and cables used, as well as their minimum bend radii. Depending on its design, a field-attachable connector may extend beyond the edge of the housing.

5.5 EMC Installations

- **Use shielded cables for data and signal lines.**
  Electromagnetic interference is reduced and signal quality increased. Measurement errors, data transmission faults and interference due to excessive voltage can be prevented!
- **Keep data and signal lines separate from interference sources.**
  Route data and signal lines separately from all power supply cables and other sources of high electromagnetic emissions (e.g., frequency converters or drives).

- **Improve shielding performance with a large contact area.**
  A low-impedance connection between shielding and ground achieves better shielding performance. For this purpose, connect the shielding over a large surface area, e.g., using the WAGO Series 790 Shield Connection System. This is especially recommended for large-scale systems where equalizing or high impulse currents may occur.

5.6 Requirements for Wiring and Accessories

Use copper conductors only for all connection cables.

The connection cables must be rated for a continuous operating temperature of at least 105°C.

The maximum total current of the product, including power forwarded through the power supply connections, must not exceed 2.5 A. If additional modules are connected to PWR OUT (X31), the maximum total current may need to be monitored by the external power management system.

6 Transport and Storage

The original packaging offers optimal protection during transport and storage.

- Store the product in suitable packaging, preferably the original packaging.
- Only transport the product in suitable containers/packaging.
- Make sure the product contacts are not contaminated or damaged during packing or unpacking.
- Observe the specified ambient climatic conditions for transport and storage.

Long-Term Storage

- For long-term storage, power must be applied to the product for five minutes at least every two years.

7 Installation and Removal

7.1 Mounting

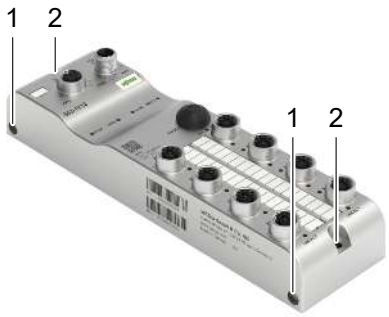


Figure 9: Mounting Holes

1	Mounting hole for side mounting
2	Mounting hole for front mounting

The product is designed for screw mounting on a load-bearing, flat surface.

The mounting method must not cause mechanical stress on the M12 connection parts. Depending on the conditions of use, it may also be necessary to protect the product against mechanical stresses (shock/vibration) through appropriate mounting.

During installation, ensure that the connections do not become contaminated. Contamination can damage the contacts and impair contact reliability.

To mount the product, proceed as follows:

1. De-energize the system.
2. nsure adequate equipotential bonding within the system.
3. Mount the product in the desired position. Observe the tightening torque specified in **Technical Data, Approvals, Guidelines and Standards [▸ 27]**.

➡ Mounting is complete.

7.2 Removal

⚠ CAUTION

Hot Surface!

The surface of the housing heats up during operation. Under special conditions (e.g., in the event of a fault or increased surrounding air temperature), touching the product may cause burns.

- Allow the product to cool down before touching it!

1. Disconnect the system from the power supply.
2. Clean the product, especially dirty screw-clamp connections.
3. Unscrew all screw connections on the connectors and disconnect the cables.
4. Unscrew the two M4 cylinder head screws.
5. Remove the product.

➡ Removal is complete.

8 Connecting

The tightening torques given in section **Technical Data, Approvals, Guidelines and Standards [▸ 27]** apply to the pluggable connectors of the connecting cables.

9 Commissioning

To open the Web-Based Management (WBM), use a Web browser.

Table 3: Default setting

Setting	Default Setting
IP adress	192.168.1.254
User	admin
Password	wago

10 Service

10.1 Zubehör

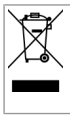
Table 4: M12 protective caps

Item No.	Product
756-8102	M12 protective cap; for unused sockets
756-8103	M12 protective cap; for unused connector plugs

System wiring components can be found at www.wago.com.

11 Decommissioning

11.1 Disposal and Recycling

	**WEEE Mark** Electrical and electronic equipment may not be disposed of with household waste. This also applies to products without this mark.

Electrical and electronic equipment contain materials and substances that can be harmful to the environment and health. Electrical and electronic equipment must be disposed of properly after use. Environmentally friendly disposal benefits health, protects the environment from harmful substances in electrical and electronic equipment and enables sustainable and efficient use of resources.

- Observe the national and local regulations for the disposal of electrical and electronic equipment, lithium-ion batteries, lead–acid batteries and packaging.
- Clear any data stored on electrical and electronic equipment.
- Remove lithium-ion batteries, lead–acid batteries or memory cards that are added to the electrical and electronic equipment.
- Wear appropriate personal protective equipment when removing the lithium-ion batteries/lead–acid batteries.
- Dispose of the removed lithium-ion batteries/lead–acid batteries according to your local waste regulations (e. g. collection boxes at the retail or local collection points).
- Have electrical and electronic equipment sent to a local collection point.
- Dispose of all types of packaging to ensure a high level of recovery, reuse and recycling.
- Transport packages from the B2B area can be taken back free of charge via a return system in accordance with the Packaging Act. Please contact our service provider Interseroh directly. The corresponding certificate can be found at: **corporate-certificates**.
- Throughout Europe, Directives 2006/66/EC, 94/62/EC and 2012/19/EU (WEEE) apply. National directives and laws may differ.

12 Appendix

12.1 Technical Data, Approvals, Guidelines and Standards

Note

Subject to changes!

Please also observe the further product documentation! You can generate the current datasheet at any time at: www.wago.com /<item number>.

Supplementary Technical Data for the Data Sheet

Table 5: Supplementary Technical Data

Power supply	
Temperature rating	≥ 105 °C
Conductor size	12 … 18 AWG (1 … 4 mm²)

See also

D08521832_00000000_de [▸ 28]

Data Sheet | Item Number: 852-1832

Lean Managed Switch; 8 Ports 1000Base-T; IP67

https://www.wago.com/852-1832



The 852-1832 is an industrial, configurable Lean Managed ETHERNET Switch with 8 M12 ports 10/100/1000BASE-T. The product has a robust housing and a redundant power supply. The switch is dust-proof according to protection type IP67 and protected against temporary immersion in water. This makes it possible to operate the switch outside a control cabinet. The switch offers lean network management: Commissioning and diagnostics are intuitive and can be performed without extensive IT knowledge. The topology map clearly shows the switch and the connected devices. Important diagnostic information is visualized in the diagnostics dashboard.

Safety:

Network segmentation per IEEE802.1Q (max. 5 VLANs), authentication of network devices per IEEE802.1X, packet-based firewall functions using the access control list (max. 32 entries)/service control, port security

Availability:

Rapid Spanning Tree Protocol (RSTP) for meshed and ring networks, ETHERNET Ring Protection Switching (ERPS) for up to two rings per switch, loop detection and storm control on each port

Configuration/diagnostics/maintenance:

Port mirroring, Modbus register, SNMP v3, SNMP traps, Alarm Threshold, Port Statistic, Backup and Restore, System Log, Syslog Server, Command Line Interface with SSH/Telnet, Topology Map and Dashboard

Technical data

Switching mode	Store-and-forward; non-blocking
Number of 1 Gb/s ports	8
Communication standards	IEEE 802.3i 10BASE-T IEEE 802.3u 100BASE-TX/FX IEEE 802.3ab 1000BASE-T IEEE 802.3x Flow Control IEEE 802.1d Spanning Tree Protocol (STP) IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) IEEE 802.1Q VLAN Tagging IEEE 802.1p Prioritization IEEE 802.1X Port Authentication IEEE 802.1ab Link Layer Discovery Protocol (LLDP) IEEE 802.3az Energy Efficient Ethernet ITU-T G8032v1/v2 Ethernet Ring Protection Switching (ERPS) Auto-MDI/MDIX Auto-Negotiation
Redundancy function	Redundant DC power supply; STP; RSTP; ERPSv1/v2 (max. 2 rings per switch, max. 16 switches per ring, switching time < 800 ms)
Configuration options	Web-Based Management Command Line Interface SNMPv1/v2c/v3
Diagnostics	Modbus TCP; Port Status; Port Statistics; Port Utilization; Traffic Monitor; Syslog; SNMPTraps, Loop Detection; Diagnostics Dashboard; Topology Map
Security	Access-control list with max. 32 entries; port security; IEEE 802.1X authentication
MAC table (size)	8192 addresses
Jumbo frame size	10000 bytes
Switching Fabric	16 Gbit/s
Protection	Short circuit protection; overload protection; reverse voltage protection
Supply voltage	12 … 48 VDC; DC 24 … 48 V (UL)
Power consumption (max.)	8 W
Transmission rate	Copper cable: 10/1000 Mbit/s

Continued on next page

Technical data

Transmission medium (communication/fieldbus)	Copper cable: Cat. 5e or higher, 100 m maximum cable length
VLAN	Port-based and tag-based (max. 5 VLANs)
Packet buffer	4.1 Mbit
Indicators	Device: LED (PWR, RPS) green: Status of the supply voltage (primary, secondary); LED (ALM) red: Alarm; LED (POST) green: Ready for operation; per port: LED (1000, LNK/ACT) green: Connection, data transmission

Connection Data

Connection technology: communication/fieldbus	8 x Ethernet (X1..X8): M12 plug (socket installed in the device) X-coded, 8-pole, tightening torque: 1.0 Nm
Connection technology: supply	2 x M12 L-coded; PWR IN (X32): 5-pole, socket (plug installed in device); PWR OUT (X31): 5-pole, plug (socket installed in device)

Physical data

Width	60 mm / 2.362 inches
Height	30 mm / 1.181 inches
Depth	210 mm / 8.268 inches

Mechanical data

Mounting type	Screw connection, 2 x M4
Mounting (note)	Tightening torque: M4: 1.2 Nm; Mounting holes: diameter: 4.5 mm, distance from each other: 198.0 mm ± 0.2 mm

Material data

Weight	450.2 g
Conformity marking	CE; UKCA; UL

Environmental requirements

Ambient temperature (operation)	-40 … +70 °C (ventilation distance to adjacent devices: ambient temperature ≥ 30 °C: 1 cm, ambient temperature ≥ 50 °C: 2 cm, ambient temperature ≥ 60 °C: 3 cm)
Ambient temperature (storage)	-40 … +80 °C
Protection type	IP67
Note on protection type	Use per UL 61010: No UL50E certification for damp environments
Pollution degree	2 per UL 61010
Relative humidity (without condensation)	95 %
Vibration resistance	Per IEC 60068-2-6
Shock resistance	per IEC 60068-2-27
EMC immunity to interference	per EN 61000-6-2
EMC emission of interference	per EN 61000-6-4

Commercial data

PU (SPU)	1 pcs
Packaging type	Box
Country of origin	TW
GTIN	4066966928631
Customs tariff number	85176200000

Continued on next page

Environmental Product Compliance

RoHS Compliance Status	Compliant,No Exemption

12.2 Installation Regulations Specified by Approvals

Because the following information refers to language-specific regulations, standards or certifications applicable to the specific installation and operation location, it is presented in the respective original language.

FCC Part 15.19

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

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