

TECHNICAL REFERENCE MANUAL

V25-1



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2. About this document

This is the users manual for Network switches available.

Network switches open a vast range of connectivity for Ethernet supported DAQ devices. Power over Ethernet functionality makes it easy to connect with only one cable to power, connect and sync the devices such as XHS-PWR.

2.1. Legend

The following symbols and formats will be used throughout the document.



Important

It gives you important information about the subject.
Please read carefully!



Hint

It gives you a hint or provides additional information about a subject.



Example

Gives you an example of a specific subject.

2.2. Online versions

2.2.1. Device Technical Reference Manual

The most recent version of this manual can be downloaded from our homepage:

<https://download.dewesoft.com/list/manuals-brochures/hardware-manuals>

In the *Hardware Manuals* section click the download link for the *Device® technical reference manual*.

2.2.2. DEWESoft® User Manual

The DEWESoft® User Manual document provides basics and additional information and examples for working with DEWESoft® and certain parts of the program.

The latest version of the DEWESoft® tutorials can be found here:

<https://download.dewesoft.com/list/manuals-brochures/software-manuals>

In the Software Manuals section click the download link of the DEWESoft X User Manual entry.

3. Networks switches

Network switches open a vast range of connectivity for Ethernet supported DAQ devices.

The network switches are used for various applications:

- for bigger systems that have a high channel and system count
- for long distances between the structure and the measurement system
- for high bandwidth applications
- connectivity of various network devices (DAQ systems, cameras...) with PTP synchronization



PTP Synchronization



Up to 10 Gbit/s



Passive Power over Ethernet

3.1. DS-6xLAN

DS-6xLAN is a 6-port GbE network switch with 4 downlink ports on the front panel and 2 uplink ports on the back panel.

3.1.1. Configuring DS-6xLAN

You can configure the network switch by connecting to it via browser. Power setting is not configurable!

IP: 192.168.0.100

Devices shipped before December 2024:

User: admin

Password: admin

Devices shipped after December 2024:

User: admin

Password: Dewesoft20!

3.1.1. DS-6xLAN-L1B

Downlink ports have LEMO 1B Series 8-pin connectors with combined power and data. Uplink ports are RJ45.



Warning

Current limit of DS-6xLAN-L1B is 3 A per channel. Total current limit of DS-6xLAN-L1B is 15 A. Power setting is not configurable!



Image: DS-6xLAN-L1B switch

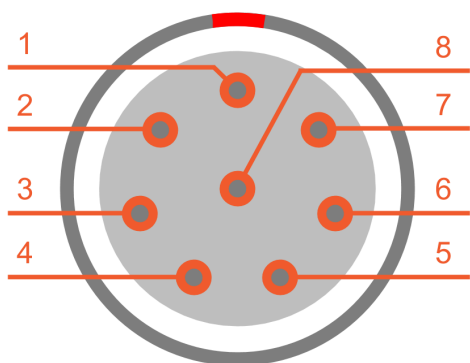
3.1.1.1. DS-6xLAN-L1B: Specifications

Switch	
Internal switch	IGS-5225-4T2S
Downlink ports	Front panel: 4x (1Gb) LEMO 8-pin: (EXG.1B.308.HLN) PWR+DATA
Uplink ports	Back panel: 2x (1Gb) RJ45 DATA only
ESD Protection	Air 8KV, Contact 6KV
Enclosure	IP50 aluminum case
LED Indicator	System: Power (Green) Per 10/100/1000T Ports: 10/100Mbps LNK/ACT (Orange) 1000 LNK/ACT (Green) Per SFP Interface: 100 LNK/ACT (Orange) 1000 LNK/ACT (Green)
Dimensions (W x D x H)	200x139x42 (196x135x35 without click-in mechanism)
Power IN/OUT	9-48 VDC input (LEMO 1B 2-pin) Power IN: EXJ.1B.302.HLD Power OUT: EXG.1B.302.HLN
Power Consumption (limit)	Typ. 13 W per downlink channel Max. 23 W per downlink channel
Current	3 A per channel (15 A total)
Max. cable length	10 m (PWR IN) 10 m (PWR+DATA) 10 m (DATA)
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE EN 55011 (CISPR 11) EN61000
Stability Testing	IEC60068-2-32 (free fall) IEC60068-2-27 (shock) IEC60068-2-6 (vibration)
Standards Compliance	IEEE 1588v2 PTP Peer-to-peer End-to-end
Environment	
Operating Temperature	-40 to 70°C
Storage Temperature	-40 to 85°C
Humidity	5 ~ 95% (non-condensing)

3.1.1.2. DS-6xLAN-L1B Connectors

Name	Connector	Description
FRONT PANEL connectors		
OUT	L1B8f (EXG.1B.308.HLN)	4x GbE downlink ports. Combined power and data outputs. Connection to SIRIUSi-XHS-PWR devices using L1B8m-L1T8f-CAT7-Xm cable.
BACK PANEL connectors		
POWER IN	L1B2m (EXJ.1B.302.HLD)	Power supply 9-48 V DC, LEMO 1B 2-pin male connector.
POWER OUT	L1B2f (EXG.1B.302.HLN)	Daisy-chained power supply, LEMO 1B 2-pin female connector.
UPLINK	RJ45	2x GbE uplink ports, RJ45 connectors on copper transceiver.
GND	4mm safety Banana	Banana socket for grounding. In addition, there is also an M3 insert for grounding.

3.1.1.2.1. DS-18xLAN: Connectors: Front LEMO Connector



PWR+DATA+SYNC connector: pin-out (8-pin LEMO female)

Pin	Name	Description
1	P1_p	Pair 1 +
2	P1_n	Pair 1 -
3	P2_p	Pair 2 +
4	P2_n	Pair 2 -
5	P3_p	Pair 3 +
6	P3_n	Pair 3 -
7	P4_p	Pair 4 +
8	P4_n	Pair 4 -

PWR+DATA connector (on the device): EEJ.1T.308.CLDY

Mating connector (for the cable): FGJ.1T.308.CLLC65Z

3.1.2. DS-6xLAN-RJ45

Downlink ports have RJ45 connectors with combined power and data. Uplink ports are RJ45.



Warning

Current limit of DS-6xLAN-RJ45 is 3 A per channel. Total current limit of DS-6xLAN-RJ45 is 15 A. Power setting is not configurable!



Image: DS-6xLAN-RJ45 switch

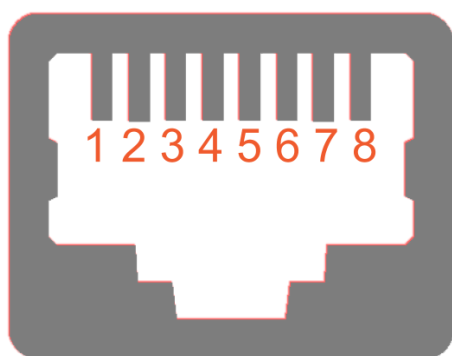
3.1.2.1. DS-6xLAN-RJ45 Specifications

General specifications	
Internal switch	IGS-5225-4T2S
Downlink ports	Front panel: 4x (1Gb) RJ45: (615008142621) PWR+DATA
Uplink ports	Back panel: 2x (1Gb) RJ45 DATA only
ESD Protection	Air 8KV, Contact 6KV
Enclosure	IP20 aluminum case
LED Indicator	System: Power (Green) Per 10/100/1000T Ports: 10/100Mbps LNK/ACT (Orange) 1000 LNK/ACT (Green) Per SFP Interface: 100 LNK/ACT (Orange) 1000 LNK/ACT (Green)
Dimensions (W x D x H)	200x139x42 (196x135x35 without click-in mechanism)
Power IN/OUT	9-48 VDC input (LEMO 1B 2-pin) Power IN: EXJ.1B.302.HLD Power OUT: EXG.1B.302.HLN
Power Consumption (limit)	Typ. 13 W per downlink channel Max. 23 W per downlink channel
Current	3 A per channel (15 A total)
Max. cable length	10 m (PWR IN) 10 m (PWR+DATA) 10 m (DATA)
Standards Conformance	
Regulatory Compliance	FCC Part 15 Class A, CE EN 55011 (CISPR 11) EN61000
Stability Testing	IEC60068-2-32 (free fall) IEC60068-2-27 (shock) IEC60068-2-6 (vibration)
Standards Compliance	IEEE 1588v2 PTP Peer-to-peer End-to-end
Environment	
Operating Temperature	-40 to 70°C
Storage Temperature	-40 to 85°C
Humidity	5 ~ 95% (non-condensing)

3.1.2.2. DS-6xLAN-RJ45 Connectors

Name	Connector	Description
FRONT PANEL connectors		
OUT	RJ45	4x GbE downlink ports. Combined power and data outputs.
BACK PANEL connectors		
POWER IN	L1B2m (EXJ.1B.302.HLD)	Power supply 9-48 V DC, LEMO 1B 2-pin male connector.
POWER OUT	L1B2f (EXG.1B.302.HLN)	Daisy-chained power supply, LEMO 1B 2-pin female connector.
UPLINK	RJ45	2x GbE uplink ports, RJ45 connectors on copper transceivers.
GND	4mm safety Banana	Banana socket for grounding. In addition, there is also an M3 insert for grounding.

3.1.2.2.1. DS-18xLAN: Connectors: RJ45 Connector

*PWR+DATA+SYNC connector: pin-out (RJ45 female)*

Pin	Name	Description
1	P1_p	Pair 1 +
2	P1_n	Pair 1 -
3	P2_p	Pair 2 +
4	P2_n	Pair 2 -
5	P3_p	Pair 3 +
6	P3_n	Pair 3 -
7	P4_p	Pair 4 +
8	P4_n	Pair 4 -

3.2. DS-18xLAN

DS-18xLAN is a 18-port network switch with:

- 12 x 2.5 GbE ports with passive PoE on the front panel,
- 4 x 2.5 GbE ports with RJ45 on the back panel,
- 2 x 10 GbE ports with SFP connectors on the back panel.



Render of the front side of DS-18xLAN-RJ45-L1B



Render of the back side of DS-18xLAN

PTP synchronization provides synchronized data of multiple devices.

Due to Passive PoE functionality and our special connectors and cables with PWR+DATA+SYNC available this device can work with up to twelve SIRIUSi-XHS-PWR devices at 24 V power supply. The switch is by default available with power on 6 downlink front ports, additionally, power control is controllable from the web interface port by port.

3.2.1. DS-18xLAN: Specifications

Switch	
Internal switch	Microchip VSC7546TSN
Front panel ports	2.5 Gbit/s LEMO 8-pin (EXG.1B.308.HLN) PWR + DATA 2.5 Gbit/s RJ45 DATA only Possible front connector configurations: - 12x LEMO - 12 x RJ45 - 6 x LEMO, 6x RJ45
Back panel ports	2x (10 Gbit/s) SFP/mini-GBIC Slots (daisy-chain options) DATA only 4x (2.5 Gbit/s) RJ45 DATA only
SFP Transceivers	Copper: MTB-RJ Fiber: MTB-TSR2
Power over Ethernet	available only on front LEMO connectors Power OUT on PoE is directly Power IN of the device
LED Indicator	System: Power (Green) Per 10/100/1000/2500T Ports: 10/100/1000 LNK/ACT (Orange blinking) 2500 LNK/ACT (Green blinking) Per SFP Interface: 100 LNK/ACT (Orange) 1000 LNK/ACT (Green) 2500 LNK/ACT (Orange) 10000 LNK/ACT (Green)
Max. cable length	10 m (PWR IN), 10 m (PWR + DATA), 10 m (DATA)
Standards Conformance	
Standards Compliance	IEEE 1588v2 PTP Peer-to-peer End-to-end TSN IEEE 802.1AS
Power	
Power IN/OUT (see 1)	9 - 60 VDC input (LEMO 2B 2-pin) Power IN: EEJ.2B.302.CLA Power OUT: EEG.2B.302.CLL
Power Consumption (see 2)	Typ. 20 W, max. 25 W
Current Limit	2.3 A per PWR + DATA port, 25 A total per device
Environment	
Operating Temperature (see 1)	-40 °C to 60 °C
Storage Temperature	-40 °C to 85 °C
Humidity	5 % ~ 95 % (non-condensing)
Enclosure	IP20 aluminum case
Shock & Vibration	IEC 60068-2-32 (free fall) IEC 60068-2-27 (shock) IEC 60068-2-6 (vibration)
ESD Protection	Air 8 kV, Contact 4 kV

Additional Specifications	
Grounding	M4 insert
Dimensions (W x D x H)	266 x 139 x 42 mm (262 x 135 x 36 mm without click-in mechanism)
Weight	1.5 kg
1) Maximum ambient temperature for 9 V power supply is 50 °C	
2) Power consumption not including supply of external devices	

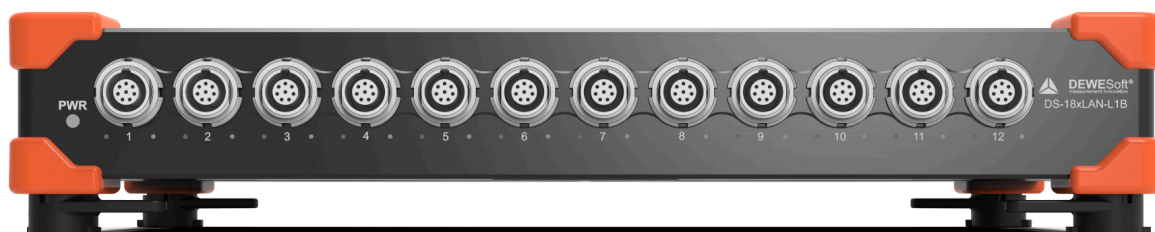
**Warning**

The device can get extremely hot during operation.

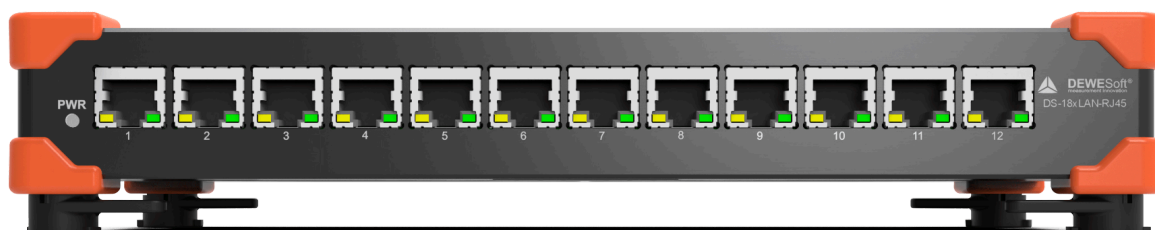
**Caution**

The power out on passive Power over Ethernet on the front LEMO ports of the device is directly connected to the power-in of the device. For example, in case of powering the device with 24 V, the power-out on passive PoE is also 24 V.

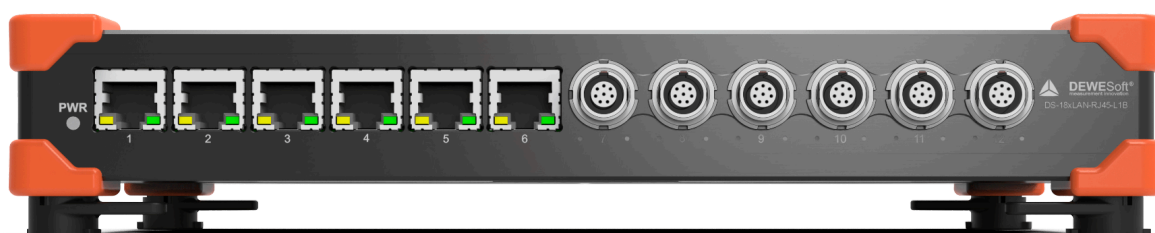
3.2.2. DS-18xLAN: Front connectors configurations



DS-18xLAN-L1B front render



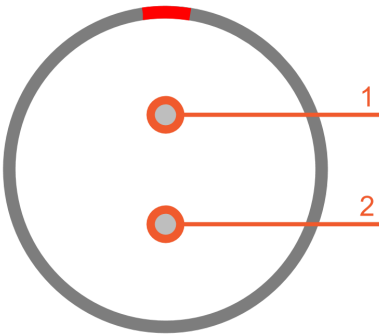
DS-18xLAN-RJ45 front render



DS-18xLAN-RJ45-L1B front render

3.2.2.1. DS-18xLAN: Connectors

3.2.2.1.1. DS-18xLAN: Connectors: Power IN connector

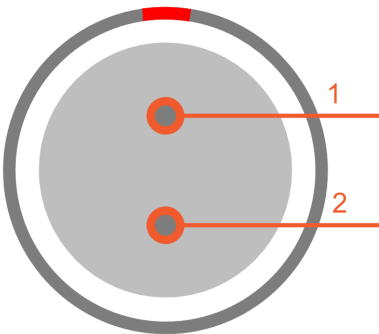


Pin	Name	Description
1	V +	Supply
2	V -	Ground

Power in connector: pin-out (2-pin LEMO male)

Power In connector (on the device): ECJ.2B.302.CLA
Mating connector (for the cable): FGJ.2B.302.CLLD52Z

3.2.2.1.2. DS-18xLAN: Connectors: Power OUT connector

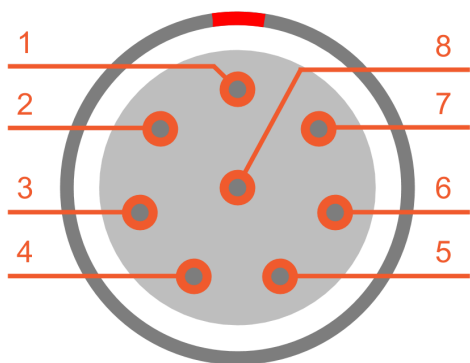


Pin	Name	Description
1	V+	Supply
2	V-	Ground

Power out connector: pin-out (2-pin LEMO female)

Power Out connector (on the device): ECG.2B.302.CLL
Mating connector (for the cable): FGG.2B.302.CLAD82

3.2.2.1.3. DS-18xLAN: Connectors: Front LEMO Connector

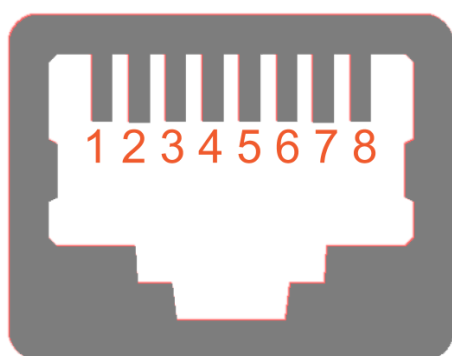


PWR+DATA+SYNC connector: pin-out (8-pin LEMO female)

Pin	Name	Description
1	P1_p	Pair 1 +
2	P1_n	Pair 1 -
3	P2_p	Pair 2 +
4	P2_n	Pair 2 -
5	P3_p	Pair 3 +
6	P3_n	Pair 3 -
7	P4_p	Pair 4 +
8	P4_n	Pair 4 -

PWR+DATA connector (on the device): EEJ.1T.308.CLDY
Mating connector (for the cable): FGJ.1T.308.CLLC65Z

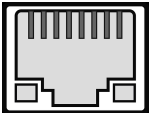
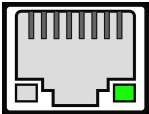
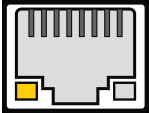
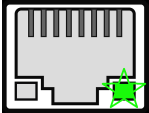
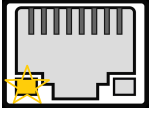
3.2.2.1.4. DS-18xLAN: Connectors: RJ45 Connector



PWR+DATA+SYNC connector: pin-out (RJ45 female)

Pin	Name	Description
1	P1_p	Pair 1 +
2	P1_n	Pair 1 -
3	P2_p	Pair 2 +
4	P2_n	Pair 2 -
5	P3_p	Pair 3 +
6	P3_n	Pair 3 -
7	P4_p	Pair 4 +
8	P4_n	Pair 4 -

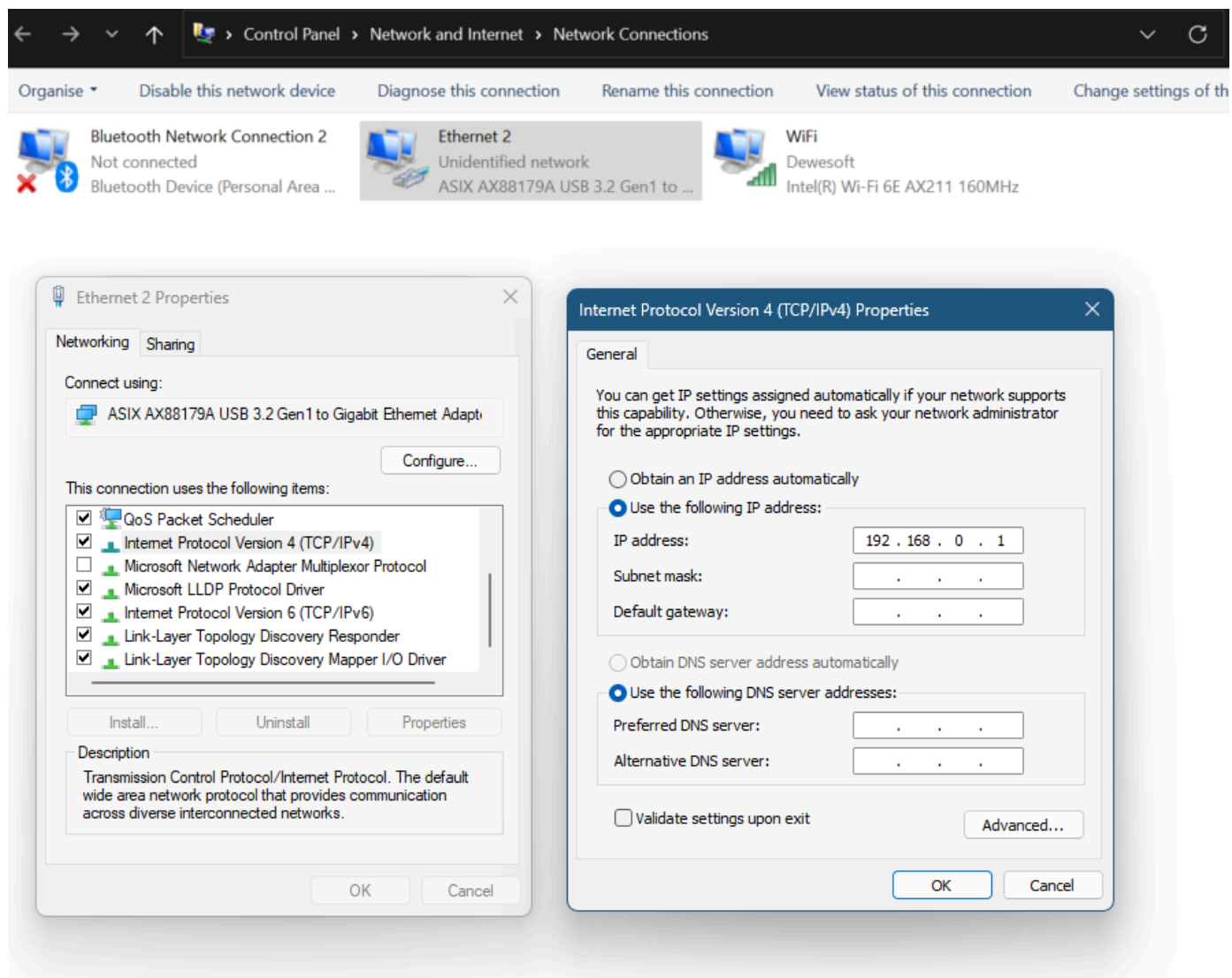
3.2.3. DS-18xLAN: LED indication

LED blinking	Indication
	All off
	SFP: Green on: 10 Gbit link is up (LED might be slightly blinking, depending on the traffic)
	SFP: Yellow on: 2.5 Gbit link is up (LED might be slightly blinking, depending on the traffic)
	Front connector: Green blinking: 2.5 Gbit link is up
	Front connector: Yellow blinking: 1 Gbit/100 Mbit/10Mbit link is up

3.2.4. DS-18xLAN: Configuration setup

3.2.4.1. DS-18xLAN: Web interface

1. Set static IP of the port connected to the network switch.



2. Connect to the following address.

Connection to a switch:
<http://192.168.0.100/index.htm>
Username: admin
Password: /

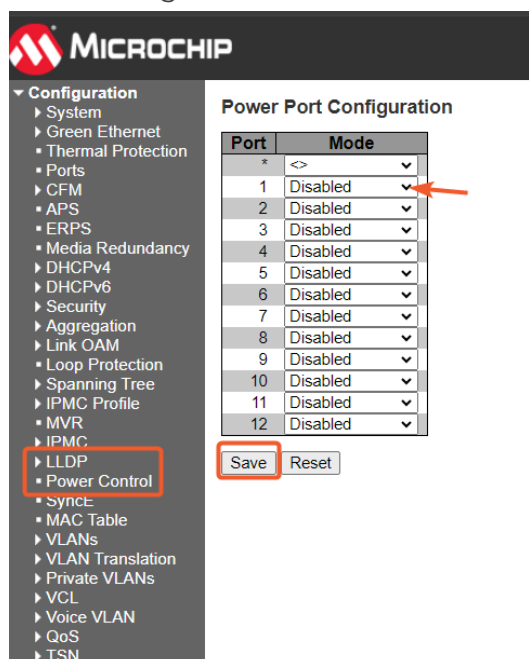
3.2.4.2. DS-18xLAN: Power port configuration

Default Configuration is:

- RJ45: SYNC + DATA
- LEMO: SYNC + DATA + PWR

If you would like to change the default configuration please see instructions below.

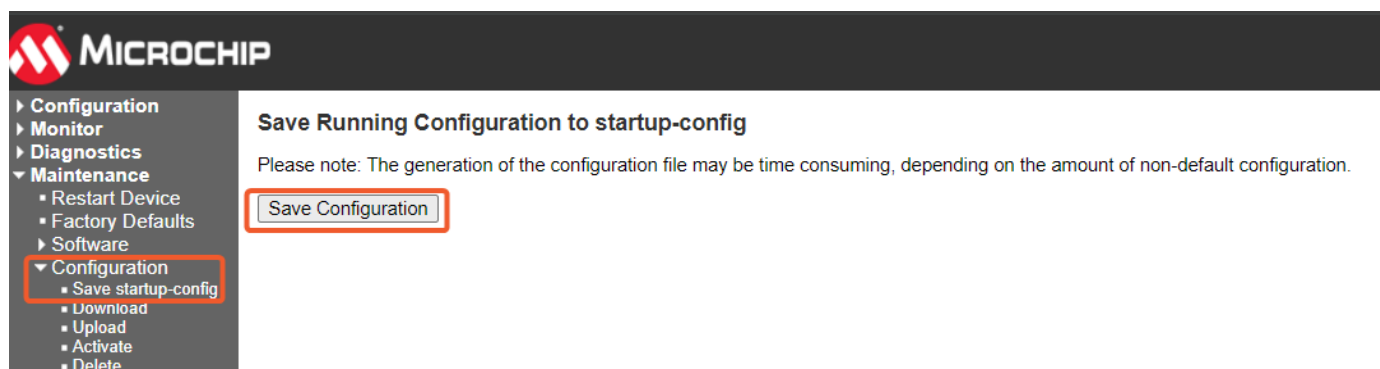
1. Navigate to the Power Control where you can reset the Power Port Configuration settings.



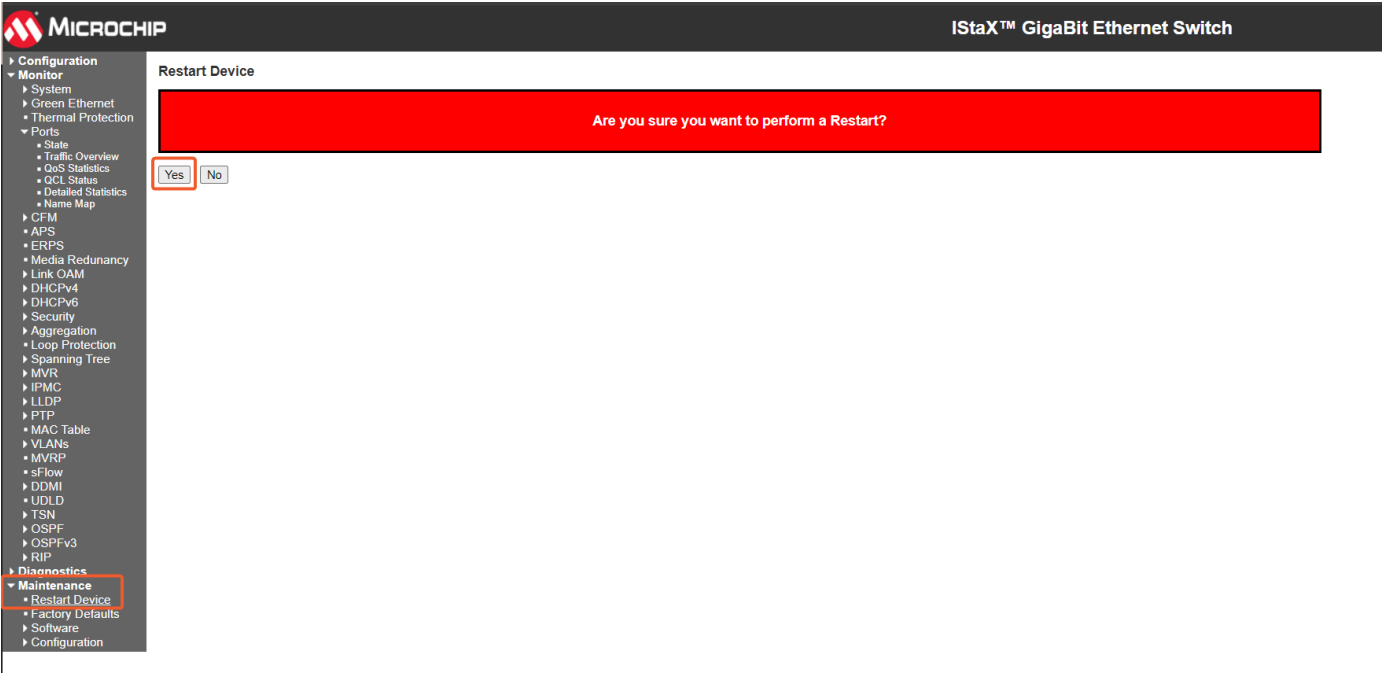
To change the Power Port Configuration, decide on the configuration and click Save.

2. Permanently save the configuration.

After, you need to save all the settings to be permanently saved (1) and the switch needs to be manually restarted (2) and not get overwritten upon power cycle.



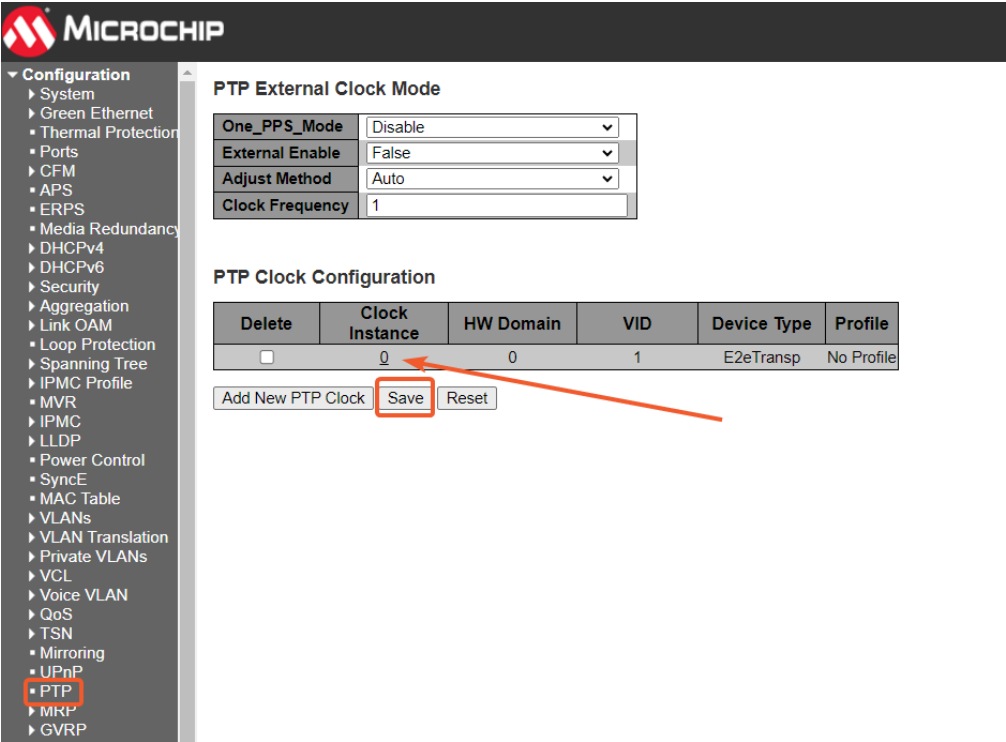
Saving the configuration (1)



Manually restarting the device (2)

3.2.4.3. DS-18xLAN: PTP synchronization configuration

1. Navigate to the Configuration → PTP where you can set the PTP Clock Configuration.



To change the PTP Configuration, press on the number in the column Clock instance.

2. Set the preferred PTP type under Clock Default Data Set → Protocol, and choose from the dropdown options.
 - a. Ethernet: compatible with X line devices
 - b. IPv4Multi: compatible with SIRIUS-XHS and OBSIDIAN devices

Configuration

- System
- Green Ethernet
- Thermal Protection
- Ports
- CFM
- APS
- ERPS
- Media Redundancy
- DHCPv4
- DHCPv6
- Security
- Aggregation
- Link OAM
- Loop Protection
- Spanning Tree
- IPMC Profile
- MVR
- IPMC
- LLDP
- Power Control
- SyncE
- MAC Table
- VLANs
- VLAN Translation
- Private VLANs
- VCL
- Voice VLAN
- QoS
- TSN
- Mirroring
- UPnP
- PTP
- MRP
- GVRP
- sFlow
- DDMI
- UDLD
- Router
- OSPF
- OSPFv3
- RIP
- Monitor
- Diagnostics
- Maintenance

PTP Clock's Configuration and Status**Clock Type and Profile**

Clock Instance	HW Domain	Device Type	Profile	Apply Profile Defaults	Filter Type
0	0	Ord-Bound	No Profile	n/a	ACI_BASIC_PHASE_LOW ▾

Port Enable and Configuration

Port Enable																		Configuration
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Ports Configuration
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Virtual Port Enable and Configuration

Enable	Class	Accuracy	Variance	Pri1	Pri2	Local Prio	
False ▾	6	33	65535	128	128	128	
Mode	inp-pin	out-pin	Tod	Pim-port	pps-delay	alarm	
none ▾	2 ▾	1 ▾	none ▾	1 ▾	0	False ▾	
UtcOffset	Valid	leap59	leap61	Time Trac	Freq Trac	ptp Time Scale	Time Source
0	False ▾	False ▾	False ▾	True ▾	True ▾	True ▾	32
Leap Pending			Leap Date		Leap Type		
False ▾			1970-01-01		leap61 ▾		

Local Clock Current Time

PTP Time	Clock Adjustment method
1970-01-01T00:08:23+00:00 850,277,309	Internal Timer Synchronize to System Clock

Clock Current Data Set

stpRm	Offset From Master	Mean Path Delay
0	0.000,000,000,000	0.000,000,000,000

Clock Parent Data Set

Parent Port ID	port	PStat	Var	Rate	GrandMaster ID	GrandMaster Clock Quality	Pri1	Pri2
02:00:c1:ff:fe:37:ae:02	0	False	0	0	02:00:c1:ff:fe:37:ae:02	Cl:248 Ac:Unknwn Va:65535	128	128

Clock Default Data Set

Device Type	One-Way	2 Step Flag	Ports	Clock Identity	Dom	Clock Quality	
Ord-Bound	False ▾	False ▾	18	02:00:c1:ff:fe:37:ae:02	0	Cl:248 Ac:Unknwn Va:65535	
Pri1	Pri2	Local Prio	Protocol			PCP	DSCP
128	128	128	Ethernet ▾			0 ▾	0

Clock Time Properties Data Set

UtcOffset	Valid	leap59	leap61	Time Trac	EthernetMixed	ptp Time Scale	Time Source
0	False	False	False	False	IPv4Multi	True	160
Leap Pending				Lea		Leap Type	
False				1970-	IPv4Mixed	leap61	

Save Reset

- Save the settings.

Clock Default DataSet

Device Type	One-Way	2 Step Flag	Ports	Clock Identity	Dom	Clock Quality
Ord-Bound	False ▾	False ▾	18	02:00:c1:ff:fe:37:ae:02	0	Cl:248 Ac:Unknwn Va:65535

Clock Time Properties DataSet

Pri1	Pri2	Local Prio	Protocol	PCP	DSCP
128	128	128	Ethernet ▾	0 ▾	0

Clock Time Properties DataSet

UtcOffset	Valid	leap59	leap61	Time Trac	Time Scale	Time Source
0	False ▾	False ▾	False ▾	False ▾	True ▾	160

Leap Pending

Leap Pending	Leap Type
False ▾	leap61 ▾

Save **Reset**

Ethernet

- EthernetMixed
- IPv4Multi
- IPv4Mixed
- IPv4Uni
- OnePPS
- EthIPv4IPv6Combo

- Permanently save the configuration.

After, you need to save all the settings to be permanently saved (1) and the switch needs to be manually restarted (2) and not get overwritten upon power cycle.

MICROCHIP

- Configuration
- Monitor
- Diagnostics
- Maintenance
 - Restart Device
 - Factory Defaults
 - Software
 - Configuration
 - Save startup-config
 - Download
 - Upload
 - Activate
 - Delete

Save Running Configuration to startup-config

Please note: The generation of the configuration file may be time consuming, depending on the amount of non-default configuration.

Save Configuration

Saving the configuration (1)

MICROCHIP IStaX™ GigaBit Ethernet Switch

- Configuration
- Monitor
 - System
 - Green Ethernet
 - Thermal Protection
 - Ports
 - State
 - Traffic Overview
 - QoS Statistics
 - QCL Status
 - Detailed Statistics
 - Name Map
 - CFM
 - APS
 - ERPS
 - Media Redundancy
 - Link OAM
 - DHCPv4
 - DHCPv6
 - Security
 - Aggregation
 - Loop Protection
 - Spanning Tree
 - MVR
 - IPMC
 - LLDP
 - PTP
 - MAC Table
 - VLANs
 - MVRP
 - sFlow
 - DDMI
 - UDLD
 - TSN
 - OSPF
 - OSPFv3
 - RIP
- Diagnostics
- Maintenance
 - Restart Device
 - Factory Defaults
 - Software
 - Configuration

Restart Device

Are you sure you want to perform a Restart?

Yes **No**

Manually restarting the device (2)

4. Warranty information

Notice

The information contained in this document is subject to change without notice.

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The copy of the specific warranty terms applicable to your Dewesoft product and replacement parts can be obtained from your local sales and service office. To find a local dealer for your country, please visit <https://dewesoft.com/support/distributors>.

4.1. Calibration

Every instrument needs to be calibrated at regular intervals. The standard norm across nearly every industry is annual calibration. Before your Dewesoft data acquisition system is delivered, it is calibrated. Detailed calibration reports for your Dewesoft system can be requested. We retain them for at least one year, after system delivery.

4.2. Support

Dewesoft has a team of people ready to assist you if you have any questions or any technical difficulties regarding the system. For any support please contact your local distributor first or Dewesoft directly.

Dewesoft d.o.o.
Gabrsko 11a
1420 Trbovlje Slovenia

Europe Tel.: +386 356 25 300
Web: <http://www.dewesoft.com>
Email: Support@dewesoft.com
The telephone hotline is available Monday to Friday from 07:00 to 16:00 CET (GMT +1:00)

4.3. Service/repair

The team of Dewesoft also performs any kinds of repairs to your system to assure a safe and proper operation in the future. For information regarding service and repairs please contact your local distributor first or Dewesoft directly on <https://dewesoft.com/support/rma-service>.

4.4. Restricted Rights

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4.5. Printing History

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5. Safety instructions

Your safety is our primary concern! Please be safe!

5.1. Safety symbols in the manual



Warning

Calls attention to a procedure, practice, or condition that could cause the body injury or death



Caution

Calls attention to a procedure, practice, or condition that could possibly cause damage to equipment or permanent loss of data.

5.2. General Safety Instructions



Warning

The following general safety precautions must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in

this manual violates safety standards of design, manufacture, and intended use of the product. Dewesoft d.o.o. assumes no liability for the customer's failure to comply with these requirements.

All accessories shown in this document are available as an option and will not be shipped as standard parts.

5.2.1. Environmental Considerations

Information about the environmental impact of the product.

5.2.2. Product End-of-Life Handling

Observe the following guidelines when recycling a Dewesoft system:

5.2.3. System and Components Recycling

Production of these components required the extraction and use of natural resources. The substances contained in the system could be harmful to your health and to the environment if the system is improperly handled at its end of life! Please recycle this product in an appropriate way to avoid unnecessary pollution of the environment and to keep natural resources.



This symbol indicates that this system complies with the European Union's requirements according to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). Please find further information about recycling on the Dewesoft web site www.dewesoft.com

Restriction of Hazardous Substances

This product has been classified as Monitoring and Control equipment and is outside the scope of the 2002/95/EC RoHS Directive. However, we take care of our environment and the product is lead-free.

5.2.4. General safety and hazard warnings for all Dewesoft systems

Safety of the operator and the unit depend on following these rules.

- Use this system under the terms of the specifications only to avoid any possible danger.
- Read your manual before operating the system.
- Observe local laws when using the instrument.
- DO NOT touch internal wiring!
- DO NOT use higher supply voltage than specified!
- Use only original plugs and cables for harnessing.
- You may not connect higher voltages than rated to any connectors.
- The power cable and connector serve as Power-Breaker. The cable must not exceed 3 meters, the disconnect function must be possible without tools.
- Maintenance must be executed by qualified staff only.
- During the use of the system, it might be possible to access other parts of a more comprehensive system. Please read and follow the safety instructions provided in the manuals of all other components regarding warning and security advice for using the system.
- With this product, only use the power cable delivered or defined for the host country.
- DO NOT connect or disconnect sensors, probes or test leads, as these parts are connected to a voltage supply unit.

- Ground the equipment: For Safety Class 1 equipment (equipment having a protective earth terminal), a non-interruptible safety earth ground must be provided from the mains power source to the product input wiring terminals.
- Please note the characteristics and indicators on the system to avoid fire or electric shocks. Before connecting the system, please read the corresponding specifications in the product manual carefully.
- The inputs must not, unless otherwise noted (CATx identification), be connected to the main circuit of category II, III and IV.
- The power cord separates the system from the power supply. Do not block the power cord, since it has to be accessible for the users.
- DO NOT use the system if equipment covers or shields are removed.
- If you assume the system is damaged, get it examined by authorized personnel only.
- Adverse environmental conditions are Moisture or high humidity Dust, flammable gases, fumes or dissolver Thunderstorm or thunderstorm conditions (except assembly PNA) Electrostatic fields, etc.
- The measurement category can be adjusted depending on module configuration.
- Any other use than described above may damage your system and is attended with dangers like short-circuiting, fire or electric shocks.
- The whole system must not be changed, rebuilt or opened.
- DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until the safe operation can be verified by service-trained personnel. If necessary, return the product to Dewesoft sales and service office for service and repair to ensure that safety features are maintained.
- If you assume a more riskless use is not provided anymore, the system has to be rendered inoperative and should be protected against inadvertent operation. It is assumed that a more riskless operation is not possible anymore if the system is damaged obviously or causes strange noises. The system does not work anymore. The system has been exposed to long storage in adverse environments. The system has been exposed to heavy shipment strain.
- Warranty void if damages caused by disregarding this manual. For consequential damages, NO liability will be assumed!
- Warranty void if damage to property or persons caused by improper use or disregarding the safety instructions.
- Unauthorized changing or rebuilding the system is prohibited due to safety and permission reasons (CE).
- Be careful with voltages >25 VAC or >35 VDC! These voltages are already high enough in order to get a perilous electric shock by touching the wiring.
- The product heats during operation. Make sure there is adequate ventilation. Ventilation slots must not be covered!
- Only fuses of the specified type and nominal current may be used. The use of patched fuses is prohibited.
- Prevent using metal bare wires! Risk of short circuit and fire hazard!
- DO NOT use the system before, during or shortly after a thunderstorm (risk of lightning and high energy over-voltage). An advanced range of application under certain conditions is allowed with therefore designed products only. For details please refer to the specifications.
- Make sure that your hands, shoes, clothes, the floor, the system or measuring leads, integrated circuits and so on, are dry.

- DO NOT use the system in rooms with flammable gases, fumes or dust or in adverse environmental conditions.
- Avoid operation in the immediate vicinity of high magnetic or electromagnetic fields, transmitting antennas or high-frequency generators, for exact values please refer to enclosed specifications.
- Use measurement leads or measurement accessories aligned with the specification of the system only. Fire hazard in case of overload!
- Lithium ion batteries are classified as not hazardous when used according to the recommendations of the manufacturer described in Battery Safety Data Sheet, which is available for download from [this link](#).
- Do not switch on the system after transporting it from a cold into a warm room and vice versa. The thereby created condensation may damage your system. Acclimatise the system unpowered to room temperature.
- Do not disassemble the system! There is a high risk of getting a perilous electric shock. Capacitors still might be charged, even if the system has been removed from the power supply.
- The electrical installations and equipment in industrial facilities must be observed by the security regulations and insurance institutions.
- The use of the measuring system in schools and other training facilities must be observed by skilled personnel.
- The measuring systems are not designed for use in humans and animals.
- Please contact a professional if you have doubts about the method of operation, safety or the connection of the system.
- Please be careful with the product. Shocks, hits and dropping it from already- lower level may damage your system.
- Please also consider the detailed technical reference manual as well as the security advice of the connected systems.
- This product has left the factory in safety-related flawlessness and in proper condition. In order to maintain this condition and guarantee safety use, the user has to consider the security advice and warnings in this manual.

EN 61326-3-1:2008

IEC 61326-1 applies to this part of IEC 61326 but is limited to systems and equipment for industrial applications intended to perform safety functions as defined in IEC 61508 with SIL 1-3.

The electromagnetic environments encompassed by this product family standard are industrial, both indoor and outdoor, as described for industrial locations in IEC 61000-6-2 or defined in 3.7 of IEC 61326-1.

Equipment and systems intended for use in other electromagnetic environments, for example, in the process industry or in environments with potentially explosive atmospheres, are excluded from the scope of this product family standard, IEC 61326-3-1.

Devices and systems according to IEC 61508 or IEC 61511 which are considered as “operationally well-trying”, are excluded from the scope of IEC 61326-3-1.

Fire-alarm and safety-alarm systems, intended for the protection of buildings, are excluded from the scope of IEC 61326-3-1.

5.3. Documentation version history

Version	Date	Notes
V23-1	15.12.2023	-Initial version with already released DS-6xLAN switches -Newly released DS-18xLAN switches
V24-1	18.9.2024	-Added the instructions for PTP configuration
V25-1	28.3.2025	-Added login credentials for DS-6xLAN