

DT-5422 PRODUCT FAMILY

Installation and Maintenance Guide

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1 Foreword

This document describes the installation procedure of the DT-5422 product family. The difference between the product variants is shown in chapter 2.1. In this guide DT-5422 stays for all variants.

1.1 References

| No. | Author, "Title", Version, Date, Source/Filename/Link |
|-----|------------------------------------------------------|
| [1] | Neratec, "Software 6 User Manual", 5100.20.105 |

1.2 Abbreviations and Terms

| Abbreviation | Description |
|--------------|-------------------------------------------------|
| CE | Conformité Européenne |
| DC | Direct Current |
| ESD | Electro Static Discharge |
| ETSI | European Telecommunications Standards Institute |
| FCC | Federal Communication Commission |
| IC | Industry Canada |
| ID | Identification |
| IP | Ingress Protection |
| ISO | International Standardization Organisation |
| LED | Light Emitting Diode |
| PoE | Power over Ethernet |
| RF | Radio Frequency |
| SN | Serial Number |
| SNMP | Simple Network Management Protocol |
| WebGUI | Web Graphical User Interface |
| WLAN | Wireless Local Area Network |

2 Introduction

The DT-5422 is a wireless communication product, developed for railway applications. It is a radio device operating at 2.4 and 5GHz WLAN bands, and configured as Access Point.

The configuration can be done via SNMP or via WebGUI. The status information is available in local LED status indicators, and through SNMP/WebGUI.



Figure 1 DT-5422 picture

The product functional block diagram is shown in Figure 2.

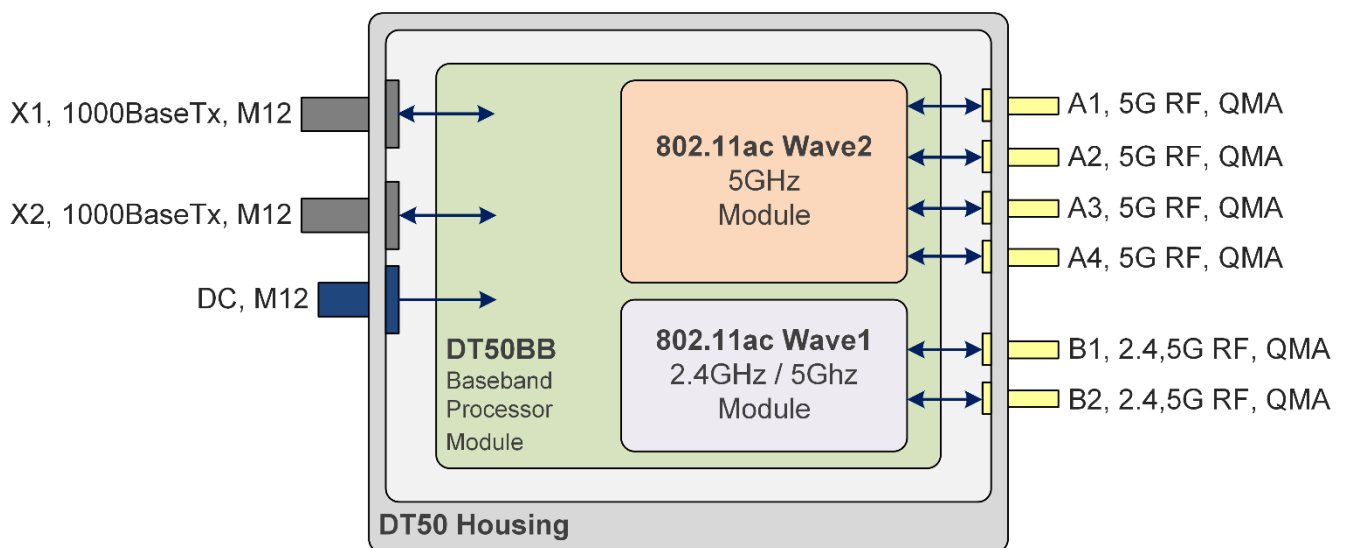


Figure 2 DT-5422 Block Diagram

2.1 Supported Product Versions, Variants and SW

Supported Product Versions, Variants and SW:

| Specification | Value | Notes |
|-----------------------------------|------------------------|-------------------|
| Product Versions/ Variants | DT-5422 | 24V / PoE variant |
| | DT-5422-48 | 36-48V variant |
| | DT-5422-HV | 72-110V variant |
| Software Version | V6.8 and higher | |

Table 1 Supported Product Versions, Variants and SW

2.2 Important Safety Notes








| | |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Danger! Do not use equipment without protective earth connection. |
|  | Danger! Do not use damaged equipment and/or accessories such as damaged power cord. |
|  | Danger! Never try to open the device. There are no serviceable parts inside. By trying to open the device you will be exposed to a risk of death or injury. |
|  | Warning! Product warranty gets void and any liability will be disclaimed when opening the device. |
|  | Warning! Read this user guide carefully before mounting, installing and operating the device. |
|  | Warning! Never unplug equipment from the electrical outlet by holding the cord only, always disconnect the cable by applying force directly to the plug. |
|  | Warning! Do not operate the device in any other environmental conditions than it is designed for. |

Table 2 Important Safety Notes

2.3 DT-5422 Delivery Content

The DT-5422 delivery consists of following main components:

| Description | Number of Parts | Notes |
|---------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DT-5422 | 1 | |
| Connector Dust Cap | 9 | <i>Temporary protection of connectors:</i> <ul style="list-style-type: none"> - 2 plastic protection caps for Ethernet connectors - 1 plastic protection cap for power connector - 6 plastic protection caps for antenna connectors |

Table 3 DT-5422 Delivery Content

2.4 Installation Countries

Installation country regulatory limits and operating parameters are controlled by Software Country Code parameter. This product supports:

| Country Code | Operating Frequency Ranges | Notes |
|----------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Europe (EU) | 2412 ... 2472 MHz and 5180 ... 5320 MHz, 5500 ... 5700 MHz | <i>Operation according to ETSI limitations For detailed specification, see SW User Manual [1]</i> |
| United States (USA) | 2412 ... 2472 MHz and 5180 ... 5320 MHz, 5500 ... 5700 MHz 5725 ... 5850 MHz | <i>Operation according to FCC limitations For detailed specification, see SW User Manual [1]</i> |
| Canada (CANADA) | 2412 ... 2472 MHz and 5180 ... 5320 MHz, 5500 ... 5700 MHz 5725 ... 5850 MHz | <i>Operation according to IC limitations For detailed specification, see SW User Manual [1]</i> |

Table 4 Installation Countries

Note: Further SW releases might support additional country codes, for up-to-date country code specification refer to SW User Guide [1]

2.5 Regulatory notices

Caution!

Any changes or modifications shall be approved by the party responsible for compliance. If not, users could void the user's authority to operate the equipment.

Country code and antenna gain needs to be set properly for correct functionality in the installed country.

2.5.1 United States (FCC)

The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (i.) this device may not cause harmful interference and (ii.) this device must accept any interference received, including interference that may cause undesired operation.

Contains FCC ID: **TK4WLE1216V520** and **TK4WLE600VX**

RF Exposure requirements:

To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operations at closer distances than this are not recommended.

Part 15B statement:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

2.5.2 Canada (IC)

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage.
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

IC Certification Number of the implemented WLAN communication modules: **7849A-WLE600VX** and **7849A-WLE1216V520**

2.6 Output power limitations

The DT-5422 have following output power limitations for ambient temperatures from -40°C to +70°C.

| Active antennas (Wave1 or Wave 2) | Max. output power with DC supply | Max. output power with PoE supply |
|--------------------------------------|----------------------------------|-----------------------------------|
| 1 | 25dBm per chain | 25dBm per chain |
| 2 | 22dBm per chain | 22dBm per chain |
| 3 | 20dBm per chain | 20dBm per chain |
| 4 | 19dBm per chain | 19dBm per chain |

Table 5: Output power limitations

2.7 Product Identification and Version Information

Product identification information is available at the product label. The product label is fixed to the device.



Figure 3 DT-5422 Product Identification Label Position



Figure 4 DT-5422 Product Identification Label Example

| Specification | Value | Notes |
|---------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| Part Name | DT-5422 DT-5422-48 DT-5422-HV | |
| Part Number | 104538 (DT-5422) 104609 (DT-5422-48) 104540 (DT-5422-HV) | <i>Neratec part number</i> |
| Neratec Product Revision | MKX | <i>Neratec product revision code</i> |
| SN | XXXXXXXX | <i>Neratec internal serial number & product code</i> |
| Manufacturing Date | YYWW | <i>The date format is: YY = manufacturing year WW = manufacturing week</i> |
| BAR CODE | SN information | <i>Data matrix: 104538-1-RR-XXXXXXXX-YYWW, where RR is Neratec internal revision</i> |
| Hot surfaces | | <i>Touch temperature levels TS2</i> |

Table 6 Product Identification Label

At the rear side of the product, further product specific information is printed to a second label.

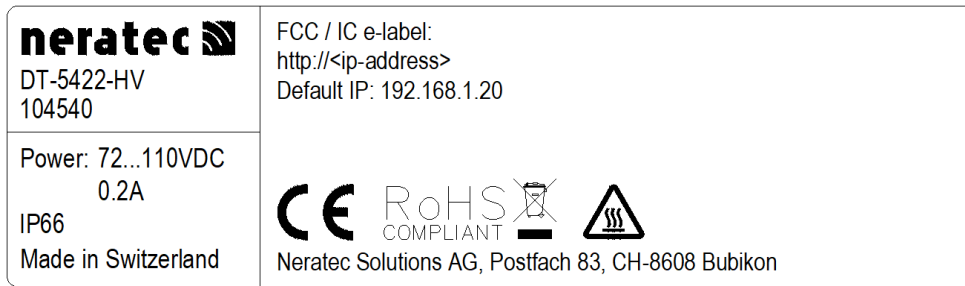


Figure 5 DT-5422 Product Label Example

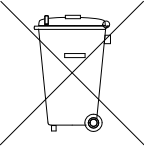



| Specification | Value | Notes |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product Name | DT-5422 DT-5422-48 DT-5422-HV | |
| Part Number | 104538 (DT-5422) 104609 (DT-5422-48) 104540 (DT-5422-HV) | Neratec part number |
| Power | | Information on input power feed |
| Ingress Protection | IP66 | |
| WEEE |   | <p>This symbol, found on the product indicates that this product should not be treated as household waste when disposing of it.</p> <p>Instead it must be handled over to an applicable collection point for the recycling of electrical and electronic equipment.</p> <p>By ensuring this product is disposed correctly, you will help prevent potential negative consequences to the environment and human health, which could be otherwise be caused by inappropriate disposal of this product.</p> |
| CE |  | CE mark |
| Hot surfaces |  | Touch temperature levels TS2 |
| FCC / IC e-label | FCC / IC e-label: http://<ip-address> Default IP: 192.168.1.20 | Link to the FCC / IC e-label |

Table 7 Product Label

3 Installation

3.1 Installation Procedure, Overview

| <i>Order of Installation Step</i> | <i>Description</i> |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Fixing | The product is fixed in operating environment, ensuring that the environment complies with the installation environment constrains. See chapter 3.2 |
| 2. System Grounding | The system grounding is ensured and verified based on customer installation. See chapter 3.4 |
| 3. Antennas | The antenna interfaces are installed based on customer requirements. See chapter 3.5 |
| 4. Ethernet | The Ethernet data interfaces are installed. See chapter 3.6 |
| 5. Power Feed | Power feed cable is connected (the power maybe already activated in the cable), the power supply is switched on and verify that the LED indicators shows correct power up procedure. See chapter 3.7 |
| 6. Configuration | Configuration Process is described in document: [1] chapter Configuration. |

Table 8 Installation Procedure

3.2 Dimensions for Fixing Points

3.2.1 Mechanical Overview

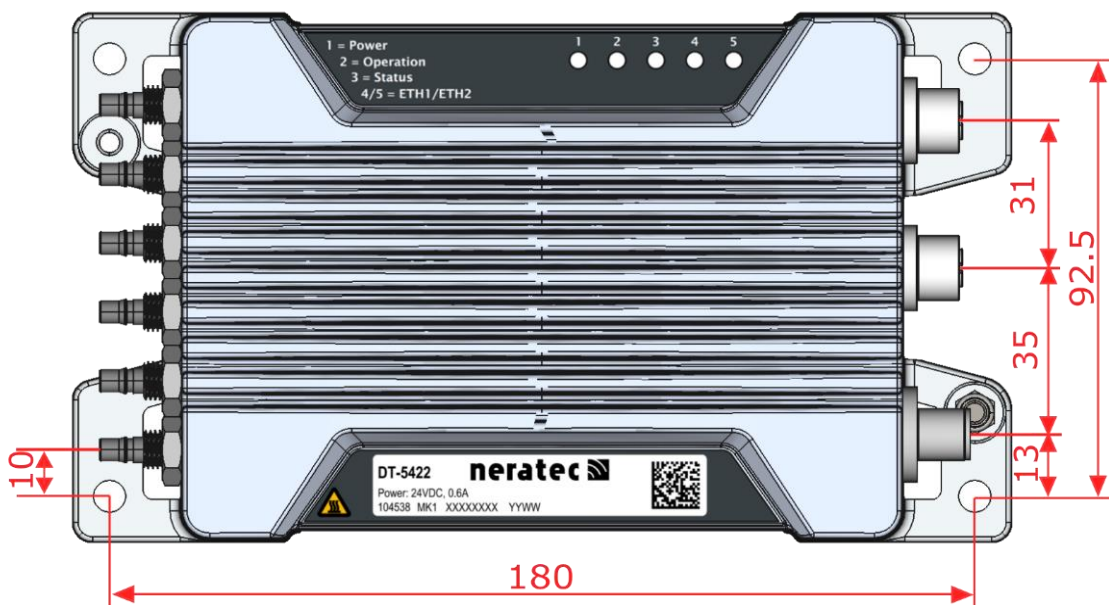
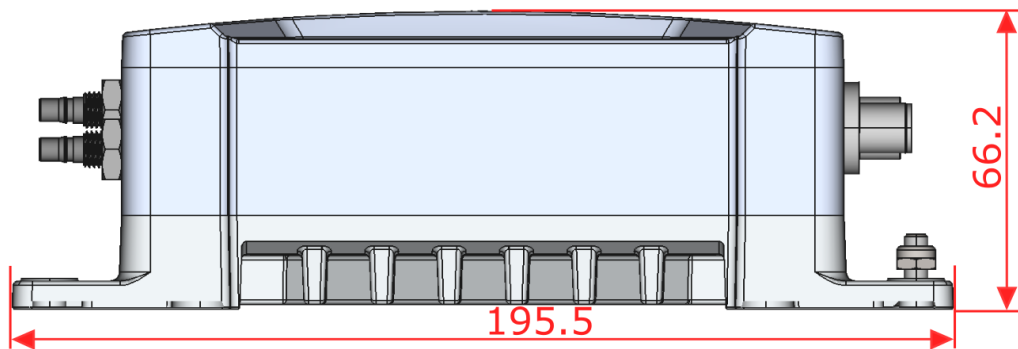
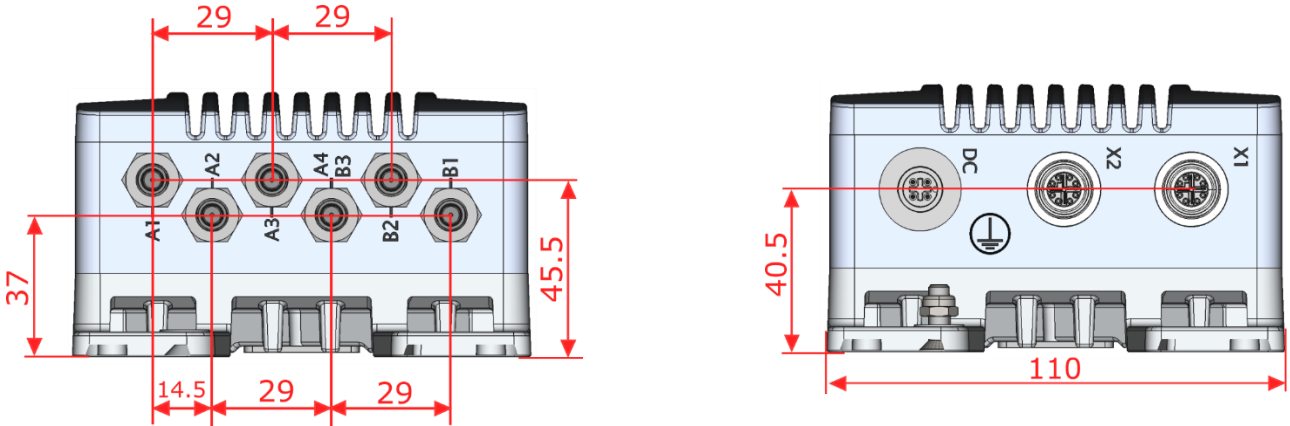


Figure 6 Mechanical Overview

| Parameter | Value | Notes |
|--------------------------------------|-------------------------------|--------------------------------------|
| Max dimensions | 195.5 x 110 x 66.2mm | |
| Max dimensions, with cables | App 320 x 110 x 64.2mm | <i>Space needed for installation</i> |
| Location of the fixing points | In each corner | <i>With four M6 screws</i> |
| Color | RAL 9010, Pure White | |
| Protection | IP 66 | |
| Weight | 1.4 kg | |

Table 9 Dimensions and Weight

3.2.2 Mechanical Integration, Fixing Points and Connector Positions

The product must be fixed with the 4 fixing points located at the corners of the product. M6 screws shall be used for the fixation of the product. The screws shall be tightened with min. 3.0Nm (fixing screw ISO 898/1, quality class 8.8).

NOTICE: All 4 specified fixing points must be used for fixing. The fixing surface should be flat to have all fixing points connected to the surface.

The product has a membrane vent at the connector side of the product for equalizing pressure changes.

NOTICE: The vent does not require any maintenance. Any manipulations at the vent are not allowed.

| Specification | Value | | | |
|-------------------------------|--------------------------------------------------------------------------------------------|--------------------------------|---------------------------|-----------------------------|
| Fixing holes positions | Fixing holes without threads, for 6mm screws: 4 pieces of slot holes, see: Figure 6 | | | |
| | 0mm, 0mm | | 180mm, 0mm | |
| | 0mm, 92.5mm | | 180mm, 92.5mm | |
| Connector positions | DC POWER | Antennas 1 – Antennas 6 | 1000Base-TX X1 | 1000Base-TX X2 / PoE |
| | See Figure 7 Figure 14 | See Figure 7 Figure 12 | See Figure 7 Figure 13 | See Figure 7 Figure 13 |
| Grounding | See Figure 7, Figure 11 | | | |

Table 10 Fixing points and Connector Positions

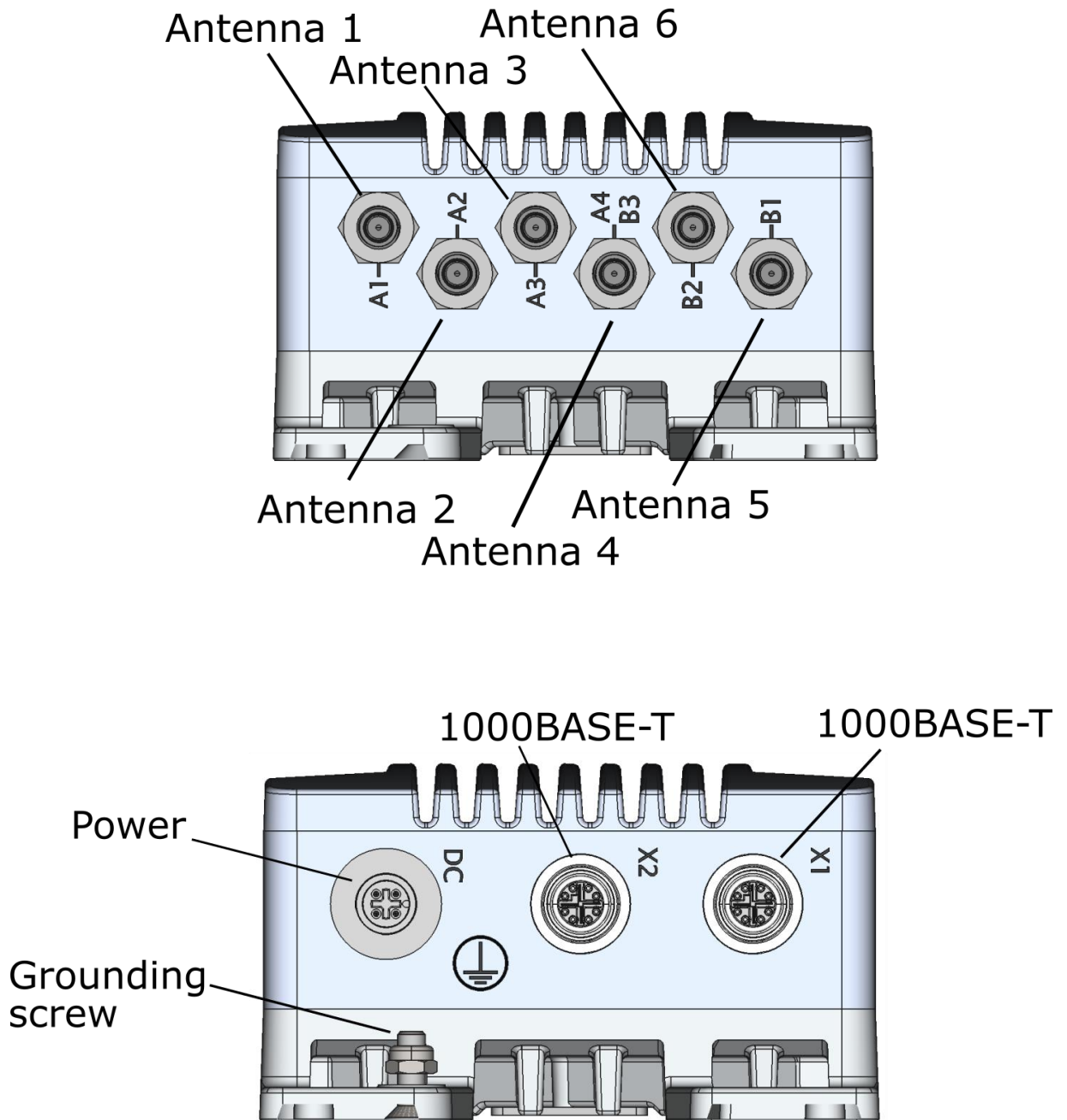


Figure 7 Connectors

3.3 Considerations when Mounting the Device

3.3.1 General Installation Considerations

When planning an installation at least the following points shall be considered:

- Indoor in the tunnels: protecting for dust (to ensure heat dissipation), vandalism, animals (rats, birds, ...)
- Outdoor: protecting for sun (to optimize ambient temperature range), dust, dirt, vandalism, ..

3.3.2 Temperature Alarms

This product has integrated temperature sensors for monitoring the internal device temperature. The limits for the sensors are set so, that operation without alarm is ensured for ambient temperatures as specified for the product assuming correct installation.

NOTICE: The limits have been set so that some of the components are close to the limit specified temperature range. For this reason the unit shall be not operated in conditions where the temperature alarm is activated.

3.3.3 Ambient Operating Temperature Range

This product includes a vent allowing controlled air exchange due to temperature changes. Humidity is blocked by the vent.

To ensure correct operation over the whole specified temperature range, certain aspects need to be considered.

The limits are defined for installations with free air flow in installation environment.

It shall be noted that in real environment:

- Limited air flow is rising the device temperature and may limiting the high limit of the operating temperature lower than the specified one
- Conducted heat exchange through metal surfaces at the product fixing point is improving the device heat transfer and improving the operating conditions
- Temperature is dependent on the operational parameters, like RF output power, amount of traffic, amount of trains (long term duty cycle...)
- This product has internal temperature sensors that alarm for too high or too low temperature. The operating conditions shall be ensured so that the normal operation does not cause temperature alarms. The possible temperature alarms shall be immediately solved. See SW User Guide [1] for detailed specification of the temperature sensors alarms

3.3.4 Installations at Very High Temperatures

For installations, where the product is operated close to its maximum specified ambient temperature ($+55^{\circ}\text{C}$ $< T_{\text{Ambient}} < +70^{\circ}\text{C}$), it must be ensured that the natural convection is not blocked by objects close to the product.

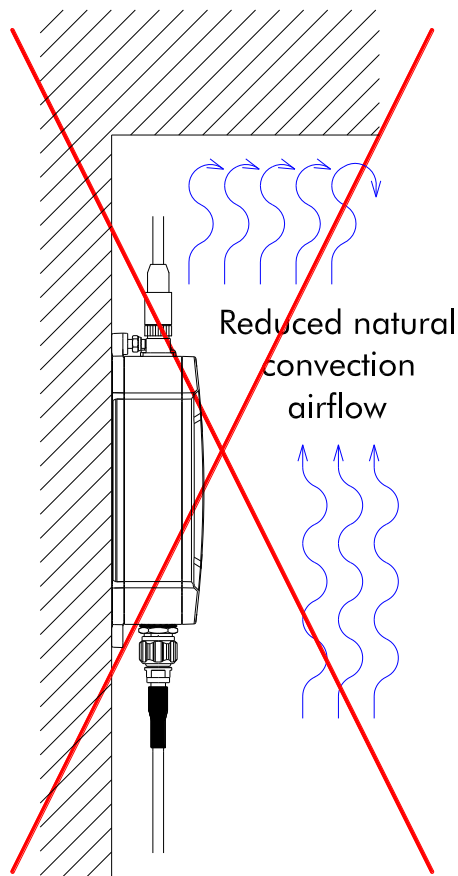


Figure 8 Installation with blocked Airflow shall be avoided

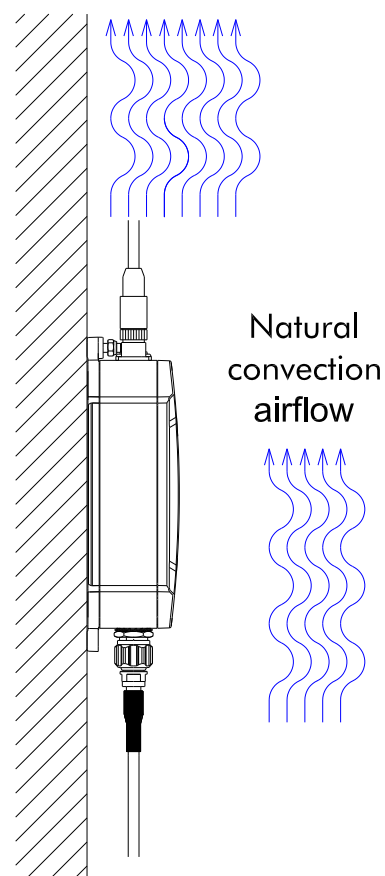


Figure 9 Installation with free Airflow– good Installation

When operating the device at ambient temperatures above app. +60C it is recommended to mount the device to a metallic base plate to improve the heat dissipation. The base plate increases the surface to spread the heat.

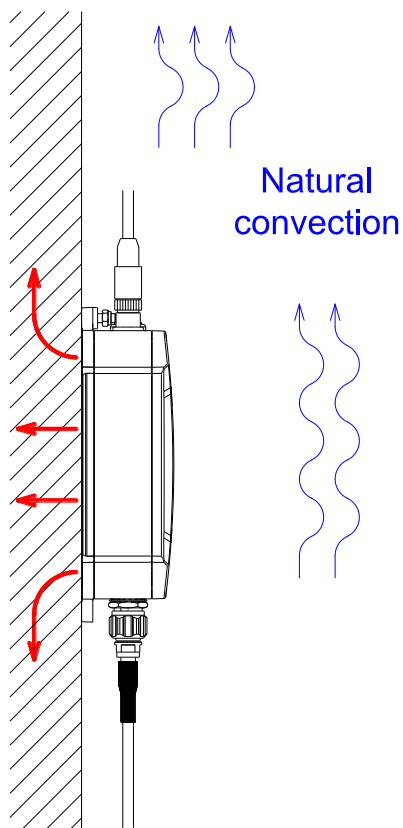



Figure 10 Improved Heat Transfer based on Fixing Plate

3.4 Connecting the Protective Earth

There is a single grounding connection point in DT-5422. An M5 grounding screw at the housing is used for grounding (see Figure 11).

| | |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|  | <p>Danger! Do not use equipment without protective earth connection.</p> |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|

NOTICE: The Grounding is organized by connecting the grounding to Ground Contact in Casing. For the grounding at the Ground Contact (M5 stud), a wire with a cross section of **at least 6.0mm²** shall be used.

The grounding wire is set below the rip-lock washer. The nut is fixed for good reliable grounding contact. The tightening torque of the nut shall be 2.0Nm.

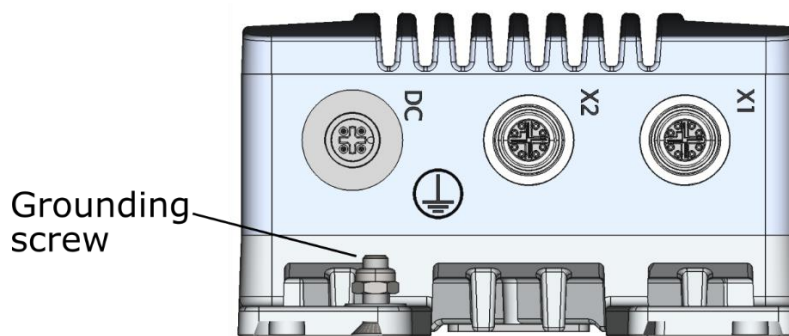


Figure 11 Grounding Contact

3.5 Connecting the RF Antenna Interfaces

3.5.1 RF Antenna Interface Operation Modes

DT-5422 has six antenna interfaces. The antenna interfaces are operating independently of each others.

| Antenna Function | Operation | Notes |
|------------------------|---------------------------------------------------------------------------------|--------------------------------------------|
| A1 | Antenna 1 is used for both transmit and receive of 802.11ac Wave 2 (5GHz) | The antenna A1 shall be used |
| A2 | Antenna 2 is used for both transmit and receive of 802.11ac Wave 2 (5GHz) | The antenna A2 can be enabled or disabled. |
| A3 | Antenna 3 is used for both transmit and receive of 802.11ac Wave 2 (5GHz) | The antenna A3 can be enabled or disabled. |
| A4 B3 | Antenna 4 is used for both transmit and receive of 802.11ac Wave 2 (5GHz) | The antenna A4 can be enabled or disabled. |
| B1 | Antenna 5 is used for both transmit and receive of 802.11ac Wave 1 (2.4 / 5GHz) | The antenna B1 shall be used |
| B2 | Antenna 6 is used for both transmit and receive of 802.11ac Wave 1 (2.4 / 5GHz) | The antenna B2 can be enabled or disabled. |

Table 11 RF Antenna Interface Operation

NOTICE: If antennas will be NOT used in customer application, the antenna connector MUST be terminated with 50 ohm termination.

NOTICE: The antenna interfaces are protected against lightning with special protection devices. To ensure correct operation of these devices it is important, that the earth grounding contact is connected to protective earth as described in chapter 3.4 with a short cable.

3.5.2 RF Antenna Connectors

The Antenna connectors are identified with the text markings A1 (Antenna 1), A2 (Antenna 2), A3 (Antenna 3), A4 (Antenna 4), B1 (Antenna 5) and B2 (Antenna 6) in the mechanics.

The antennas might be fixed in antenna connectors directly or using antenna cables fixed to the antenna connectors.

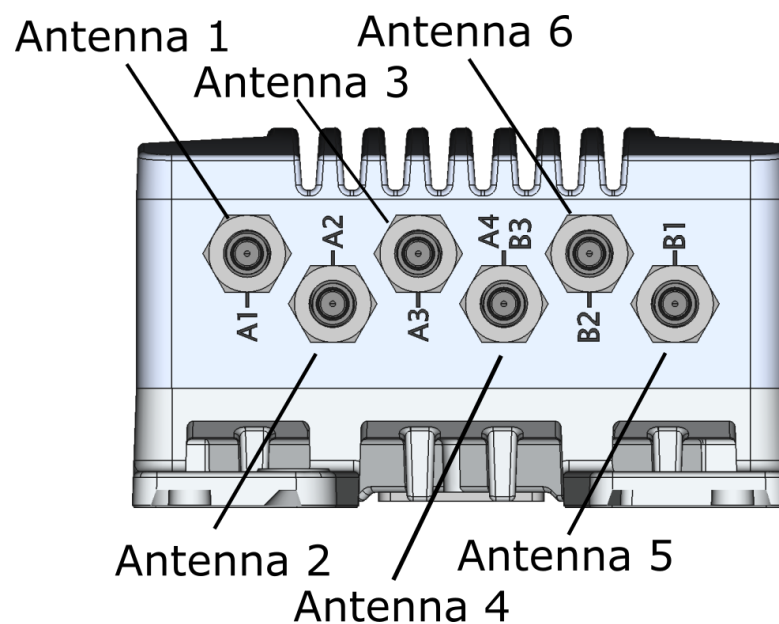


Figure 12 Antenna Interfaces

NOTICE: If one of the antennas is NOT used, the non-used antenna connectors MUST be terminated with 50 ohm termination.

| Pin | Signal Name, Function | Notes |
|-----|---------------------------|------------------------------|
| 1 | Center pin: RF signal | Connector Type: QMA – Female |
| 2 | Connector body: RF ground | |

Table 12 Pinning: RF Antenna Connector

3.6 Connecting Ethernet Interface

DT-5422 has two Ethernet interfaces. M12 industrial standard connector with keying is used. The Ethernet connectors are identified with the text markings X1 (Ethernet 1) and X2 (Ethernet 2 / PoE) in the mechanics.

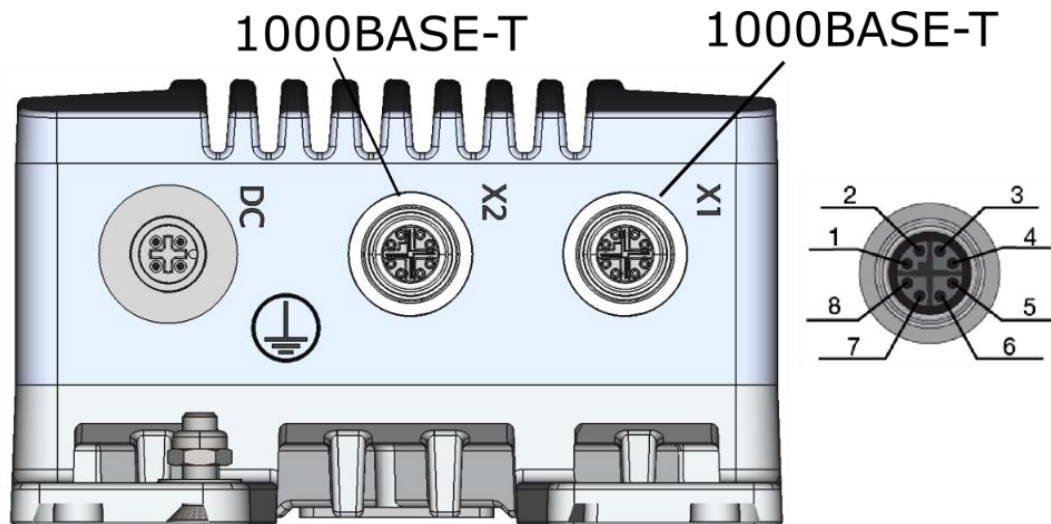


Figure 13 Ethernet Interfaces

The connectors should be assembled with correct torque (appr. 1.0Nm, check connector manufacturer data)

NOTICE: Ethernet signals have a transformer in the signal lines. There is no additional line protection for Lightning etc included at product hardware module.

3.6.1 Ethernet Port Features

The Ethernet port supports the following network standards:

| Network Standard | Description |
|-------------------------|---------------------------------------------------|
| 10BASE-T | Ethernet over two pairs of twisted wires |
| 100BASE-TX | Fast Ethernet over two pairs of twisted wires |
| 1000BASE-TX | Gigabit Ethernet over four pairs of twisted wires |

Table 13 4.6.1 Ethernet Port Features

The Ethernet ports support auto-negotiated 10Mbps / 100Mbps / 1000Mbps operation. Automatic MDI/MDIX crossover is supported for 1000BASE-T, 100BASE-T and 10BASE-T operation. For final installation the use of auto-negotiation is however not recommended.

3.6.2 Ethernet Connector

| Connector Pin | Signal name, Function | Notes |
|----------------|-----------------------|----------------------------------------------------------|
| 1 | MX1 + | Connector Type: Industrial ETHERNET M12-Socket "X"-coded |
| 2 | MX1 - | |
| 3 | MX2 + | |
| 4 | MX2 - | |
| 5 | MX4 + | |
| 6 | MX4 - | |
| 7 | MX3 - | |
| 8 | MX3 + | |
| Housing | Ground | For possible cable protection/ screening |

Table 14 Ethernet Connector

NOTICE: The Pinning is compliant to IONA, Industrial Ethernet Planning and Installation Guide, Release 4.0.

3.6.3 PoE Connection (X2 only)

| Connector Pin | 1000 mode A | 1000 mode B | Notes |
|----------------|-------------|-------------|----------------------------------------------------------|
| 1, 2 | DC+ | | Connector Type: Industrial ETHERNET M12-Socket "X"-coded |
| 3, 4 | DC- | | |
| 5, 6 | | DC- | |
| 7, 8 | | DC+ | |
| Housing | Ground | Ground | For possible cable protection/ screening |

Table 15 PoE Connection

3.6.4 PoE Power Feed Specifications

| Parameter | Value | Notes |
|-----------------------------|-----------------|-------|
| Nominal Voltage | 48VDC | |
| Voltage Range | 37VDC ... 57VDC | |
| Power classification | Class 3 | |

Table 16 PoE Power Feed Specification

3.7 Connecting the Power Feed

The power feed is connected to the POWER connector. The power supply interface is a galvanic isolated interface; it is protected against surge and ESD. The power connector is keyed ensuring correct connector position.

NOTICE: The Power Feed Cable is not part of delivery.

3.7.1 Power Feed Connector

Connector type: M12 A-coded 4-pin male connector according to IEC 61076-2-101.

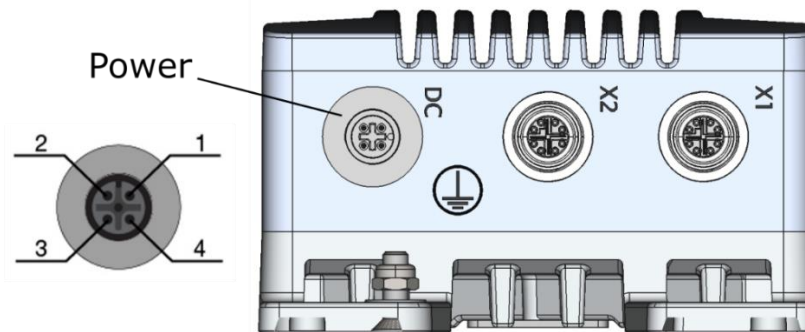


Figure 14 DT-5422, Power Connector

NOTICE: Power connector pinning: clockwise 1, 4, 3, 2 starting from the coding mark.

| Pin | Signal Name, Function | Notes |
|-----|-----------------------|----------------------------------------|
| 1 | VCC+ | The positive supply voltage is applied |
| 2 | Not used | |
| 3 | VCC- | The negative supply voltage is applied |
| 4 | Not used | |

Table 17 Pinning: PWR Connector

3.7.2 Power Feed Specifications

| Parameter | DT-5422 | DT-5422-48 | DT-5422-HV | Notes |
|-------------------------------------------------------------------------------------------------|-------------------------|-------------------------|-------------------------|---------------------------------------------------------------|
| Nominal Voltage | 24VDC | 36-48VDC | 72-110VDC | |
| Voltage Range | 16VDC – 30VDC | 25VDC – 60VDC | 50VDC – 138VDC | |
| Nominal current | 0.6A | 0.3A | 0.2A | |
| Power consumption | App. 5W App. 9W | App. 5W App. 9W | App. 5W App. 9W | with no user data with full user data load |
| Selecting external power connector and power cable diameter - Allowed wire cross section | Min. 0.5mm ² | Min. 0.5mm ² | Min. 0.5mm ² | Cable Plug: e.g. Phoenix Contact, SACC-M12FS-4CON-PG7-M |

Table 18 Power Feed Specification

3.7.3 Power supply ripple

According to EN50155 the voltage ripple of the power supply may be 10% of the nominal voltage. Otherwise too high touch current may result.

4 Configuration and Use

The operation parameters in configuration files define the functionality. The complete configuration process is described in the User Manual [1].

4.1 LED Indicators during Power Up Sequence

LED behavior during power-up sequence is described in document [1] chapter Status Indication.

4.2 Factory Reset Interface, Process for Factory Reset

A factory reset is not typically needed for installation. It is required if the device configuration is lost.

The Factory Reset functionality is included in both Ethernet port interfaces. The factory reset process is performed using specific factory reset adapter.

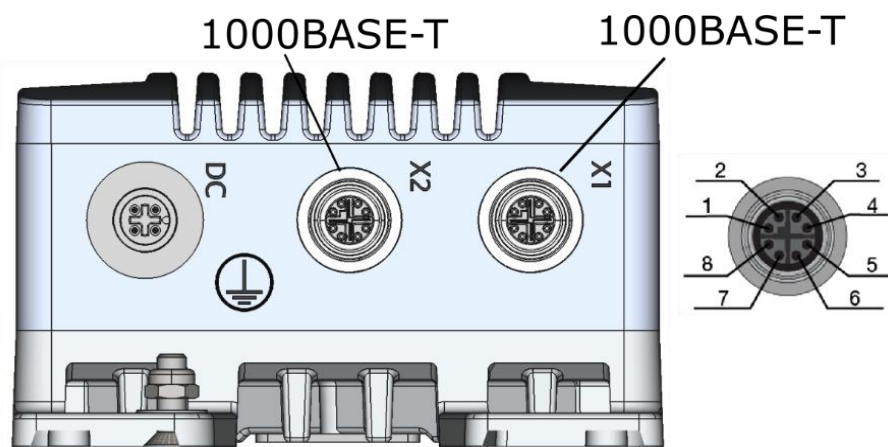


Figure 15 Ethernet Port for Factory Reset

NOTICE: The Ethernet Interface connector fulfills the IP67 protection when the cable plug or the dust cap is connected. If the Ethernet function is not used in application, the protective dust cap must be closed.

4.2.1 Factory Reset Adapter Specification

Factory reset adapter is a special plug for the Ethernet interface that activates the Factory Reset signal.

There is specific factory reset adapter available from the product supplier, product code:

Neratec Solutions AG
DT50 FACTORY RESET PLUG X-CODED
Part Nr: 104094



Figure 16 Neratec DT50 FACTORY RESET PLUG X-CODED

4.2.2 Factory Reset Procedure



The Factory Reset is performed with a factory reset adapter that is connected to one of the Ethernet ports during the start-up.

| Step | Description |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Plug the factory reset adapter to one of the Ethernet interfaces. |
| 2. | Power the device |
| 3. | Wait until factory reset adapter is detected. This is indicated by a YELLOW operation LED in combination with a RED status LED |
| 4. | Remove factory reset adapter within 15 seconds |
| 5. | A successful initiation of a factory Reset is indicated by a YELLOW BLINKING operation LED in combination with a RED BLINKING failure LED |

Table 19 Factory Reset Procedure

After successful factory reset, the dust cap must be closed to ensure the IP requirements.

5 Maintenance

| | |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Danger! Never open the device. There are no serviceable parts inside. By trying to open the device you will be exposed to a risk of death or injury.</p> |
|  | <p>Warning! Maintenance shall be done by trained staff only.</p> |

5.1 Cleaning– Resistance to Chemicals

In case the product is cleaned with cleaning chemicals, the resistance to chemicals of the plastic parts needs to be respected. The following plastic materials are used in the DT-5422:

Ethernet Connector Dust Cap

Polyamide 66 (PA66)

Polyurethane (PUR)

Pressure Equalizer Vent

Polyamide 6 (PA6)

Polytetrafluoroethylene (PTFE)

Stickers

Autotex XE

5.2 Troubleshooting Based on Functional Behavior

Please read in the user manual [1] the chapter troubleshooting instructions.

5.3 Repair Work

This product is exchanged as a whole unit. On product level no repair work is done in the field. Broken units need to be returned to the manufacturer for repair.

5.3.1 Exchange of the product

| Order of Installation Step | Description |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Remove Cables | Remove cables in the following order: <ul style="list-style-type: none"> • Power cable (or PoE cable) • Antenna cables • Ethernet cables • Protective earth cable |
| 2. Open Screw | The four M6 screws in each corner of DT-5422 must be opened and removed completely |
| 3. Exchange | Lift the product out of its position. Place a replacement unit to its position |
| 4. Fix Screws | The four M6 screws in each corner must be fixed again. |
| 5. Connect Cables | Connect cables in the following order: <ul style="list-style-type: none"> • Protective earth cable • Antenna cables • Ethernet cables • Power cable |
| 6. Configure | Download configuration to the product |

Table 20 Exchange flow