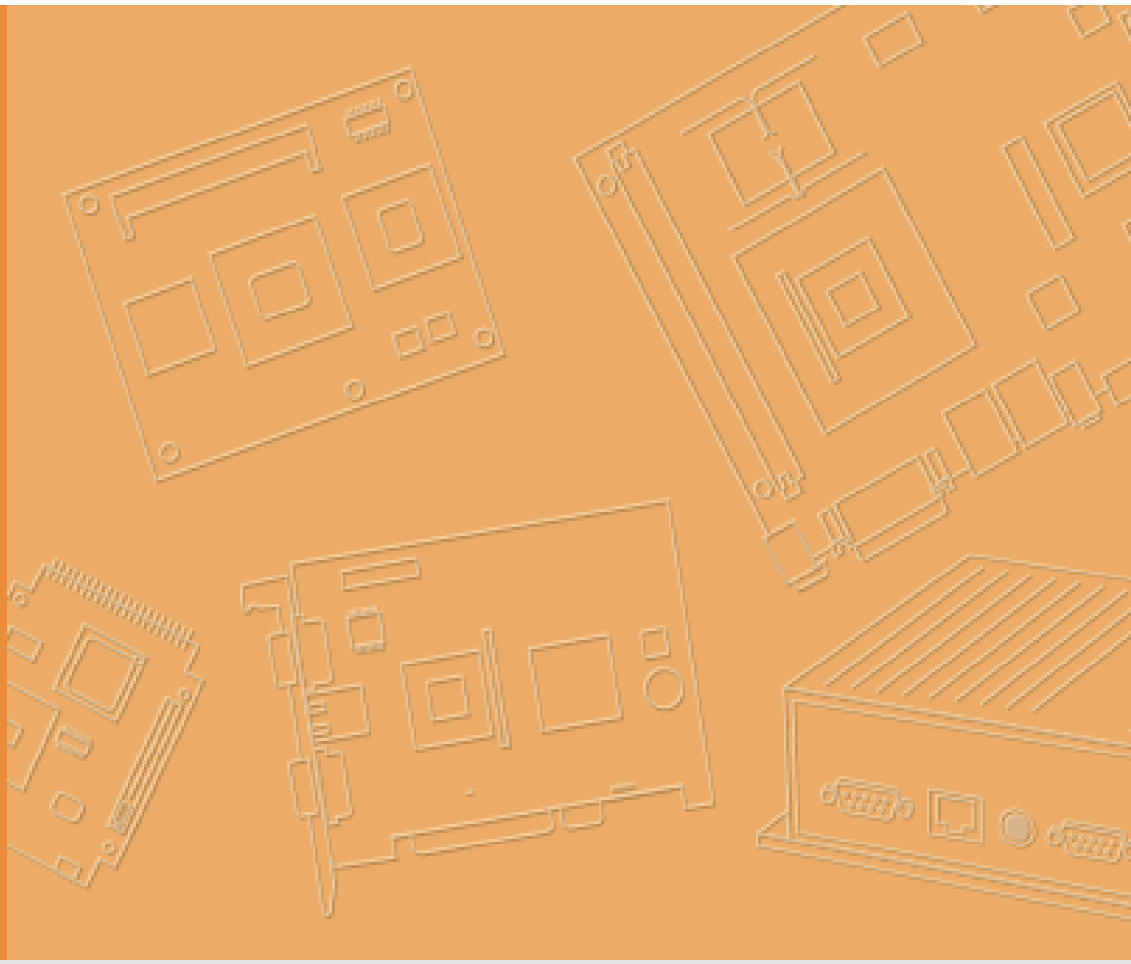
User Manual



DLT-V6210FL

Industrial Computer

ADVANTECH DLOG

IMPORTANT:

Read this manual carefully.

Keep for future reference.

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Windows® is a registered trademark of Microsoft Corporation in the United States (US) and other countries.

RAM® and RAM Mount™ are both trademarks of National Products Inc., 1205 S. Orr Street, Seattle, WA 98108.

DLT-V6210FL devices can be delivered with or without preinstalled software. For devices with preinstalled software observe the associated license agreements.

We recognize all national and international trademarks and product names.

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Advantech Europe B.V
Science Park Eindhoven 5708,
5692ER, Son en Breugel,
The Netherlands

www.advantech.com

Contents

1. Available DLT-V6210FL manuals

	Contents	For target group	Availability
Safety instructions	Important information about protecting personnel and property	Skilled personnel	Printed, enclosed with the device
Quickstart Guide	First steps in commissioning, mechanical and electrical installation and mounting	Skilled personnel	
Mounting instructions for accessories	Mounting steps	Skilled personnel and trained users	Printed, enclosed with the respective accessories
Manual	Complete operating instructions	Skilled personnel	PDF file (Download Center at www.advantech.com
MDevice description	Configuration tool for the DLT-V6210FL	Skilled personnel	

- ⇨ Pay attention to these manuals because they help avoid hazards, reduce repair costs and downtimes, and increase the reliability and service life of DLT-V6210FL.
- ⇨ Keep the manuals for future use.
- ⇨ Please contact Advantech Europe B.V. if you require additional information or clarification. You can find the contact address in section *Technical customer support*, page 67.

Current manual versions

The latest versions of our manuals are available on our websites:
www.advantech.com

Observe safety instructions

WARNING

Please read and observe the “**DLT-V6210FL Safety Instructions**” delivered enclosed with the product.

1.1. Design elements in the manual

Personal injury

Information with regard to personal injury is shown in this manual as follows (signal words for indicating risk level):

DANGER / WARNING / CAUTION

DANGER means that death or severe bodily injury will occur if this information is not observed.

WARNING means that death or severe bodily injury can occur if this information is not observed.

CAUTION means that slight bodily injury can occur if this information is not observed.

Physical damage

Information about physical damage is shown as follows:

NOTICE: Physical damage

Information about possible physical damage.

Tips for handling product and manual

Tips for handling product and manual are shown as follows:

TIP

Tips for using the product.

Note about additional information in manuals.

2. Functional description

2.1. Intended use

The DLT-V6210FL Industrial PC is a data communication terminal for the usage in commercial environments (e.g. logistics, warehouse, manufacture site). Any other or additional usage beyond this shall be deemed as improper usage. The user / operator of DLT-V6210FL is solely responsible for any resulting damage. This also applies to any unauthorized modifications made to this device.
The DLT-V6210FL Industrial PC comes with an integrated Power Adapter with a voltage range from 9 to 60 VDC. It is specified with maximum current of 3.6 A and up to 50 °C operating temperature.

The DLT-V6210FL Industrial PC:

- is not approved to be used in any EX zone (potential explosion hazard).
- is not approved to be used on ships.
- Is not approved to be used on railed vehicles.
- is not approved to be used in any life-support system or critical safety system where system malfunction can lead to direct or indirect endangerment of human life.

Indented use includes the following:

- The compliance with all safety instructions.
- The compliance with the approved environmental conditions and specifications for this device. See section *3.1 Environmental conditions*.

Approved accessories

Only use accessories that have been tested and approved by Advantech Europe B.V. for the respective DLT-V6210FL. Otherwise, any Advantech Europe B.V. warranty for this device will be void.

Requirements for safe operation

- Proper transportation and storage.
- Proper setup and use.
- Proper maintenance and service.
- Operation by trained personnel.

2.2. Mount, operate and service the device correctly

DLT-V6210FL devices were designed and built according to modern technology and accepted safety regulations. However, the operation of DLT-V6210FL can endanger personnel or third parties and cause damage to the device and other material assets when, for example, the device is

- installed incorrectly or configured improperly.
- operated by untrained or uninstructed personnel.
- improperly operated and maintained.
- not used as intended.

The owner/operator commitments with regards to safety (accident prevention regulations, occupational safety) are to be followed.

WARNING

Only skilled personnel are permitted to transport, store, commission, perform electrical connections and maintain the DLT-V6210FL.

Skilled personnel for the purpose of this manual are persons who are familiar with how to store, install, perform electrical connections, commission, and operate this product and have the corresponding qualifications for their activities, such as:

- Training or instruction in how to switch on and off, ground, and label power circuits and devices or systems in accordance with the current standards for safety equipment, as well as the required authorization.
- Training or instruction in how to maintain and use appropriate safety equipment in accordance with the current standards for safety equipment.
- Training in first aid.

Users of the DLT-V6210FL must be trained by skilled personnel and instructed about the operation of the device.

2.3. Warranty conditions

The legal warranty shall apply. It expires if the customer performs measures on the device that are only permitted to be performed by Advantech Service Centers

LCD display

The LCD display of DLT-V6210FL series fulfills the highest quality standards and was inspected for pixel defects. However, due to technological reasons pixel defects can occur.

This is not a malfunction; it is a part of the technical specifications.

2.4. Functional overview

DLT-V6210FL front side

Fig. 2.1: Functional overview DLT-V6210FL front side

DLT-V6210FL back side

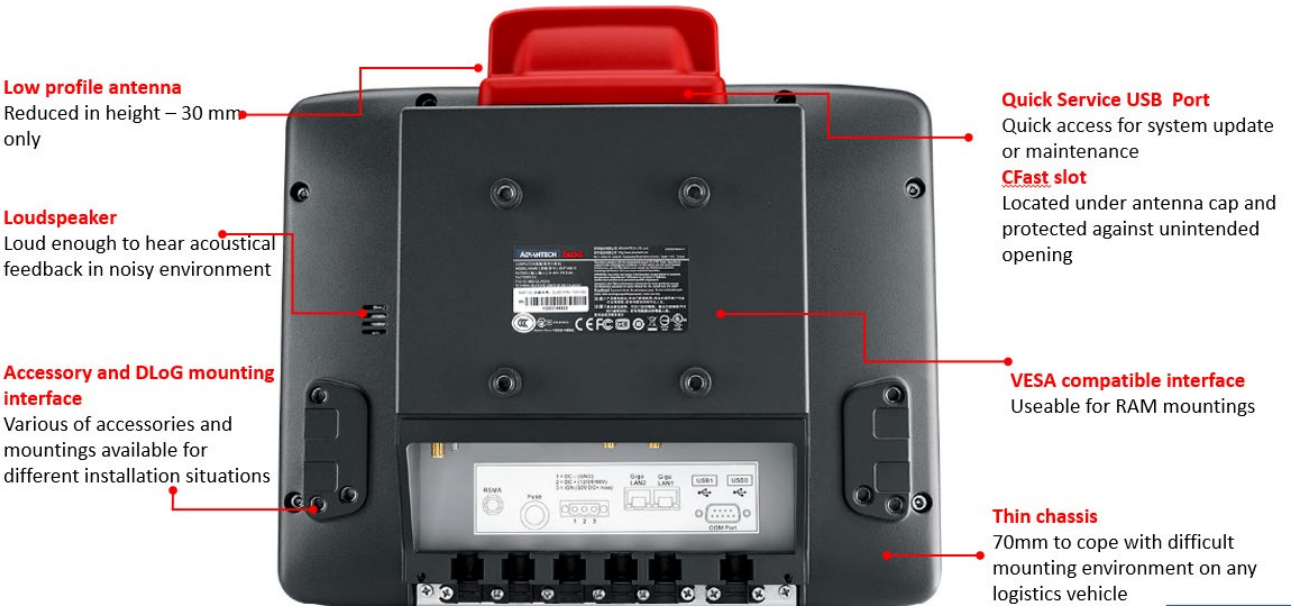


Fig. 2.2: Functional overview DLT-V6210FL back side

2.5. Device identification/name plate

The name plate is located on the rear side of DLT-V6210FL. It must remain legible at all times for the purpose of identifying the device.

⇨ Do not damage the name plate or remove it from the device.
The name plate contains product information required in case of Service & Repair activities.

Information about the name plate:

Information		**Explanation**		
Advantech		Manufacturer contact information		
Model	DLT-V6210FL	Device name		
	9-digit ID	Identification code (characters from left to right)		
			Component	*Explanation*
		9	Core processor	7 : x86 Bay Trail
		10	Front unit	P : PCAP
		11	Storage	E: 64G MLC CFast
		12	Power supply	1 : 12/24/48 VDC
		13	OS	0 : No OS 1 : Win 10 -
		14	LTE	0 : No LTE/GPS
		15	WIFI	0 : No WIFI W : WIFI
		16	Revision number	0
		17	RoHS appliance	E : RoHS
Input	V / A	Input voltage of DC power supply unit nominal current		
S/N		Serial number: Specific Advantech device code		
Barcode		For Advantech internal purposes		

Comment: X stands for not present / not applicable respectively as placeholder for add-ons.

Product IDs

Example:
FCC ID: M82-DLV6210FL
IC: 9404A-DLV6210FL
SW: V1.0
HW: V1.0

3. Technical data

- Processor: Baytrail E3825 @ 1.33 GHz Dual Core with 4GB DDR3, 32 GB CFAST expandable
- Display: 10.4“, XGA resolution with PCT touch (600 cd/m² / 1300 cd/m²)
- WLAN 802.11ac/a/b/g/n, MU-MIMO, diversity, integrated Bluetooth 5.0 (low energy)
- Low profile antenna
- WWAN (LTE, UMTS, HSPA(+), GSM, EDGE), optional
- 1 x External antenna RSMA (WIFI)
- 2 x LAN RJ45 (10/100/1000)
- 1 x RS232 DSUB-9, 5 VDC on COM 1
- 2 x USB 2.0 Hi-Speed HOST A type, 5 VDC 500mA
- 2 x RP SMA (WWAN) for external antennas; optional
- 1 x standard SIM card slot including adapter; optional
- Loudspeaker integrated ~83 dbA
- Power supply: 12/24/48 V

3.1. Environmental conditions

Operating temperature	-30 to +50 °C Specification according to EN 60068-2-1/2
Storage temperature	-30 to +65 °C Specification according to EN 60068-2-1/2
Relative humidity	10% to 90% at 25 °C relative humidity Noncondensing Specification according to EN 60068-2-3
Mechanical vibration and shock resistance	Class 5M3 according to EN 60721-3-5 US Highway Truck according to MIL-STD 810F
IP protection class	IP65

3.2. Projected-capacitive touchscreen (PCT)

Technical data	
Type	Projected-capacitive touchscreen
Construction	Glass-film-film
Surface Hardness	9 H at 500 g according to JIS-K-5400:
Impact Energy Resistance	IK08 (5 joule) according to ECN62262
Mechanical properties	Chemically strengthened soda lime glass
Chemical resistance	Alcohols, Dilute Acids, Dilute Alkalis, Esters, Hydrocarbons, Ketones, Household Cleaning agents (according to DIN 42 115 Part III)

3.3. Internal speaker, sound

DLT-V6210FL is equipped with an internal speaker as standard (2 W).
The system messages from the industrial PC are output via this speaker.
The internal speaker can be configured in the audio settings of operating system in question.

3.4. Device dimensions

Front view/Side view including antenna, dimensions in mm:

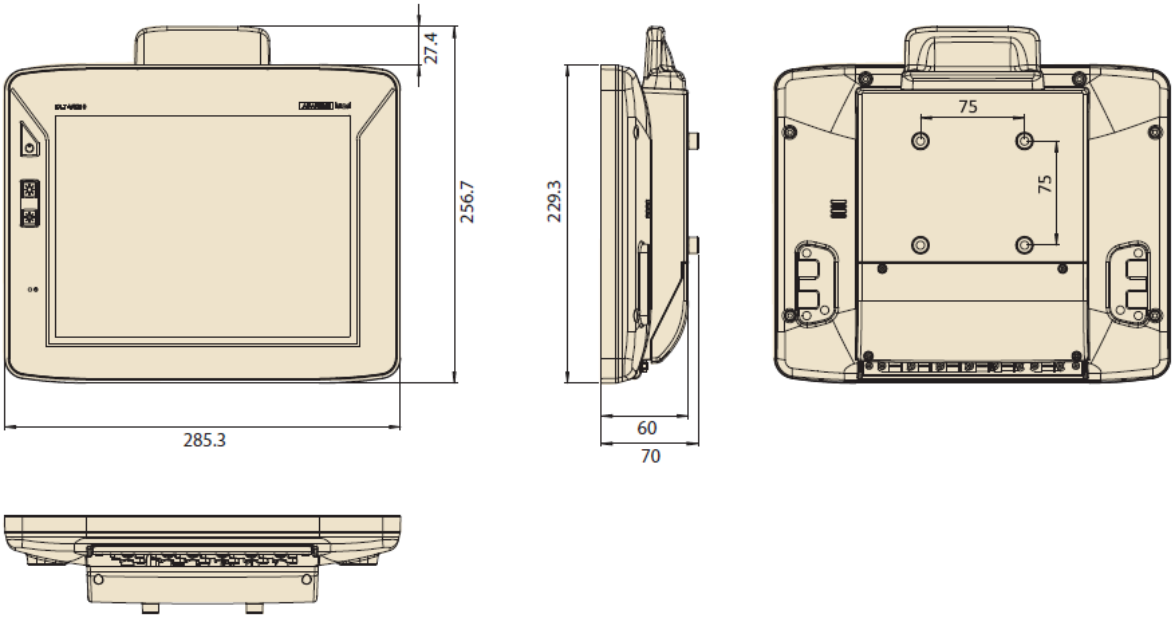


Fig. 3.1: Dimensions of DLT-V6210FL

4. Unpacking, transport and storage

4.1. Unpacking

- ⇨ Open the packaging carefully to prevent damaging the device inside.
- ⇨ Save the packaging material (for possible forwarding transportation or return of DLT-V6210FL).
- ⇨ Check the shipment for completeness and any possible damage.
  Delivery content depends on the ordered components.
- ⇨ Always keep the supplied manuals and documents, for example safety instructions and quick start guide.

4.2. Transport

WARNING / ADVERTISSEMENT

Risk of injury due to weight and sharp-edged parts.

DLT-V6210FL can fall down and cause injuries due to its weight. The strain relief rail can have sharp edges and cause cutting injuries.

- ⇨ Always hold DLT-V6210FL by the housing with both hands.
- ⇨ Never use the antenna cap as a handle. It can break due to the weight involved.
- ⇨ Do not hold DLT-V6210FL by the strain relief rail.
- ⇨ Use the assistance of a second person for installation work.

Risque de blessures dû au poids et aux pièces à arêtes vives.
Le DLT-V6210FL peut tomber et provoquer des blessures en raison de son poids.

- ⇨ Le rail de décharge de traction peut avoir des arêtes vives et provoquer des blessures par coupure.
- ⇨ Tenez toujours le DLT-V6210FL par le boîtier avec les deux mains.
- ⇨ N'utilisez jamais le capuchon de protection de l'antenne comme une poignée. Il peut se casser en raison du poids du terminal.
- ⇨ tenez pas le DLT-V6210FL par le rail de décharge de traction.
- ⇨ Utilisez l'assistance d'une deuxième personne pour l'installation du Terminal.

If return/repacking is necessary

If DLT-V6210FL is being returned to the manufacturer, a completely filled-out return shipment form must be enclosed with the device.

You can find this return shipment form on page 68

If you have to send the device back:

- ⇨ Use the Advantech original packaging or another, suitable packaging material.
- ⇨ Use the specified, accompanying documents and package labels.

4.3. Storage

Observe the permissible storage temperature range in the manual, section *3.1 Environmental conditions*.

NOTICE: Physical damage

Damage to the touchscreen due to incorrect storage.

- ⇨ Protect touchscreen from sharp edges, impacts, and heavy objects.
- ⇨ If stacking, do not stack higher than two devices.
- ⇨ Place devices front-to-front in this case.
  The VESA mounting point on the rear side of the device can damage the touchscreen of another device.
- ⇨ Use protective material (non-flammable!) between the devices as precaution.

5. Configuration

Basic software settings for DLT-V6210FL are defined at the factory, for example with regard to Wi-Fi settings, network settings, etc. To adapt this, use the configuration tool for the respective DLT-V6210FL operating system:

Win 10 IoT Ent.	MDevice Tool, etc.

Find details in the configuration manuals at www.advantech.com

WARNING / ADVERTISSEMENT

Risk of injury and damage due to improper configuration.

These instructions are directed to skilled personnel.

⇨ Only qualified skilled personnel (e.g. IT personnel with good knowledge of PCs, operating systems and wireless networks) may configure DLT-V6210FL.

If DLT-V6210FL is incorrectly configured, the Advantech Europe B.V. warranty for this device will be void.

Ces instructions sont destinées au personnel qualifié.

⇨ Seul le personnel qualifié (par exemple, le personnel informatique ayant une bonne connaissance des PC, des systèmes d'exploitations et des réseaux sans fil) peut configurer le DLT-V6210FL.

⇨ Si le DLT-V6210FL est mal configuré, la garantie Advantech Europe B.V. pour cet appareil ne sera pas prise en charge.

5.1. Wi-Fi configuration

Country-specific regulations

Example for Germany: In Germany according to regulations published in the gazette 89/2003 of the RegTP (regulating body for telecommunications and mail, now: “Bundesnetzagentur”) - Federal Network Agency for electricity, gas, telecommunications, post and railway - the maximum permissible transmitting power, EIRP (Equivalent Isotropically Radiated Power), in the 2.4 GHz frequency band is set at 20 dBm (100 mw).

⇨ Set the transmitting power of the Advantech antenna so that the permitted EIRP limit value is complied with.

Examples worldwide:

Region	Regulatory authority
EU	EU Verification Notified Body V1.8.1 ETSI
China	CNCA-07C-031
Japan	Japan SDoC, Certificate
Taiwan	Taiwan Certification
Canada	Canada Certification Body
USA	USA Certification
Brazil	Brazil Certification and Homologation
Russia	Russian Certification
Argentina	Argentinian Certification, CNC

WARNING / ADVERTISSEMENT

Safety information about radiation emission.

This device emits high-frequency energy (abbreviation: HF). To protect people from HF radiation and to comply with country-specific regulations:

⇨ Install the DLT-V6210FL so that persons maintain a minimum distance of 20 to 50 cm to the antenna.

⇨ Observe the applicable regulations for your deployment location/country with regard to channels, frequencies and the maximum permissible transmitting power. Responsibility for this lies with the company operating the DLT-V6210FL. The regulatory authorities in the relevant country can provide information on this.

Any changes or modifications which are not expressly approved by the party responsible for the compliance can lead to the withdrawal of the operating license and guarantee for this device.

Des risques pour la santé sont possibles en raison d'une émission excessive d'ondes radioélectriques, si la puissance de transmission et/ou la fréquence sont mal réglées pendant la configuration Wi-Fi.

- ⇨ Respectez les réglementations applicables à votre lieu de déploiement / pays en ce qui concerne les fréquences et la puissance d'émission maximale autorisée.
- ⇨ La responsabilité en incombe à l'entreprise qui exploite le DLT-V6210FL. Les autorités réglementaires du pays concerné peuvent fournir des informations complémentaires à ce sujet.

Antenna solutions for use in Germany

The Advantech antenna solutions are based on the prevailing IEEE 802.11 standard. This standard allows wireless data transfer at rates from 1 Mbps to 54 Mbps (300 Mbps if using IEEE 802.11n) using the 2.4 GHz and 5 GHz frequency band.

5.1.1. Electromagnetic radio frequency energy

WARNING / ADVERTISSEMENT

Electromagnetic radio frequency energy can interfere with technical devices.

Some technical equipment in hospitals and aircraft is not shielded against radio frequency energy.

⇨ Do not use DLT-V6210FL in aircraft or hospitals without receiving prior authorization. Usage in both occasions is only permitted if such authorization has been obtained.

DLT-V6210FL industrial PCs can affect the functioning of implanted medical devices such as pacemakers and cause them to malfunction.

⇨ Do not use DLT-V6210FL near pacemakers.

⇨ Always keep a distance of at least 20 to 50 cm between a pacemaker and DLT-V6210FL to reduce the risk of interference.

⇨ Before using the device please obtain information about the use of the device within certain areas (e.g. airports, hospitals, etc.) and also about the respectively applicable regulations and obtain an approval for the operation of the device, if necessary.

N'utilisez pas DLT-V6210FL dans des avions ou des hôpitaux sans en avoir reçu l'autorisation préalable. L'utilisation dans les deux cas n'est autorisée que si une telle autorisation a été obtenue.

⇨ Les PC industriels DLT-V6210FL peuvent affecter le fonctionnement des dispositifs médicaux implantés tels que les stimulateurs cardiaques et provoquer leurs dysfonctionnements.

⇨ N'utilisez pas le DLT-V6210FL à proximité d'un stimulateur cardiaque.

⇨ Gardez toujours une distance d'au moins 20 cm entre un stimulateur cardiaque et le DLT-V6210FL pour réduire le risque d'interférences.

⇨ Avant d'utiliser l'appareil, veuillez obtenir des informations sur l'utilisation de l'appareil dans certaines zones (par exemple, aéroports, hôpitaux, etc.) ainsi que sur les réglementations applicables et si nécessaires, obtenir une autorisation pour l'utilisation de l'appareil dans ces lieux.

6. Mechanical mounting

6.1. Safety notice – observe before mounting

WARNING

Risk of injury and damage due to improper mechanical mounting.

These mounting instructions are directed to skilled personnel.

⇨ Only qualified skilled personnel may perform the mechanical mounting work on DLT-V6210FL.

If DLT-V6210FL is incorrectly mounted, any Advantech Europe B.V. warranty for this device will be void.

6.1.1. Correct mounting location

WARNING / ADVERTISSEMENT

Risk of injury and damage due to improper deployment location.

⇨ Observe the intended use of DLT-V6210FL, e.g. not in potentially explosive areas, not in life-supporting facilities.

⇨ Ensure that the deployment location of DLT-V6210FL complies with the permissible environmental conditions.

Respectez l'utilisation prévue du DLT-V6210FL, par ex. utilisation formellement interdite dans des zones potentiellement explosives, et dans des services de réanimation d'urgence.

⇨ Assurez-vous que l'emplacement de déploiement du DLT-V6210FL est conforme aux conditions environnementales autorisées.

Risk of accident on the vehicle due to limited field of view of the user.

User’s field of vision must remain free.

⇨ During mounting, reserve sufficient space for DLT-V6210FL and related accessories.

⇨ Make sure that the user's field of vision is not restricted in a prohibited way when mounting peripheral devices.

Risque d'accident sur les engins du fait du champ de vision limité de l'utilisateur.

⇨ Pendant l'installation, réservez suffisamment d'espace pour le DLT-V6210FL et les accessoires associés.

⇨ Assurez-vous que le champ de vision de l'utilisateur ne soit pas restreint une fois le montage de périphériques effectué.

Radio wave emission in the vicinity of persons.

To ensure that the limits set for exposure to radio waves are not exceeded:

⇨ Mount DLT-V6210FL so that persons maintain a minimum distance of 20 to 50 cm to the antenna.

Pour vous assurer que les limites fixées pour l'exposition aux ondes radio ne sont pas dépassées:

- ⇨ installez le DLT-V6210FL de sorte que les utilisateurs soient a une distance minimale de 20 cm de l'antenne.

NOTICE: Physical damage

Mounting environment without cooling air can overheat/damage DLT-V6210FL.

DLT-V6210FL employs a passive cooling concept whereby the waste heat generated inside the device is emitted from the surface of the housing.
For this system to work/operate properly, sufficient fresh air circulation is required.
If there is no access to fresh cooling air, it may result in overheating and severe damage to the device.

Never mount the system in a closed environment where the cooling air is unable to dissipate accumulated heat to the outside.
The maximum permissible ambient temperature for the entire system needs to be taken into account for the specific application area.

N’installez jamais le système dans un espace clos et/ou mal ventilé, pour que l’appareil ne surchauffe pas et puisse garder une température de fonctionnement convenable.
La température ambiante maximale doit être prise en consideration pour le domaine d'application spécifique.

6.1.2. Secure mechanical fastening

Observe the following information about the mounting brackets:

- All brackets and mounting parts supplied by Advantech are only intended to be used for fastening the industrial PCs and the peripheral devices and may not be misused.
- Only use suitable mounting brackets and screws permitted by Advantech Europe B.V..
- Ensure that ball-and-socket bases and mounting brackets are always attached correctly.

Please observe the mounting instructions supplied with the optional brackets.

6.1.3. Handling the device

WARNING / ADVERTISSEMENT

Hazardous voltage, electrical shock from contacting with live parts.

⇨ Do not put DLT-V6210FL into operation if it is damaged.

⇨ Do not open or modify DLT-V6210FL.

Tension électrique dangereuse, choc électrique dû au contact avec des pièces sous tension.

⇨ Ne pas utliser le Terminal DLT-V6210FL si des dommages sont apparents.

⇨ Ne pas ouvrir ou modifier le terminal.

Risk of injury due to weight and sharp-edged parts.

DLT-V6210FL can fall down and cause injuries due to its weight. The strain relief rail can have sharp edges and cause cutting injuries.

⇨ Always hold DLT-V6210FL by the housing with both hands.

⇨ Never use the antenna cap as a handle. It can break due to the weight involved.

⇨ Do not hold DLT-V6210FL by the strain relief rail.

⇨ Use the assistance of a second person for installation work.

NOTICE: Physical damage

Damage and scratching of the touchscreen without transportation protective film.

The front display of DLT-V6210FL is protected during transportation by a transparent film. This film should remain on the front display during assembly to avoid damage to the front display surface.

⇨ Only remove the film after all of the installation work has been completed.

6.2. Recommended sequence for the mechanical mounting

Requirement: The installation location / vehicle must be prepared (e.g. connection to the ignition, correct voltage, etc.)

We recommend the following sequence:

1. Determine a suitable mounting position for DLT-V6210FL.
2. Secure device mounting at the vehicle/targeted object (RAM Mount etc.).
3. Connect external accessories to DLT-V6210FL.
4. Install an easily accessible disconnecting device, such as a switch close to the device.
5. Connect all cables.
6. Seal cable passages with cable grommets and dummy grommets.
7. Close DLT-V6210FL with cable cover.
8. Mount DLT-V6210FL on the device mounting bracket.

6.3. Fastening terminal mountings and accessory holders

WARNING

Risk of accident during vehicle operation if the mounting of the DLT-V6210FL becomes loose and breaks while driving.

Ensure the following when fastening the terminal mounting to the DLT-V6210FL (RAM, mounting bracket):

- **Specialty mechanical knowledge** is required for correct mounting!
- Only use mountings and fastening materials that have been tested and approved by Advantech for the respective DLT-V6210FL.
- Use suitable fastening materials: Screws that are too long can penetrate the back of the terminal and cause irreparable damage. Screws that are too short do not provide secure mounting.
- Observe the maximum screw-in depth of the hole of the mounting hole pattern: The recommended screw-in depth of Dx1 always applies (screw diameter x 1).
- Advantech mountings include suitable screws and washers. Please use them (see examples on next page).

6.3.1. Use the VESA mounting hole pattern

DLT-V6210FL has a 75 x 75 mm mounting hole pattern for fastening VESA compatible mountings to the rear side of the device.

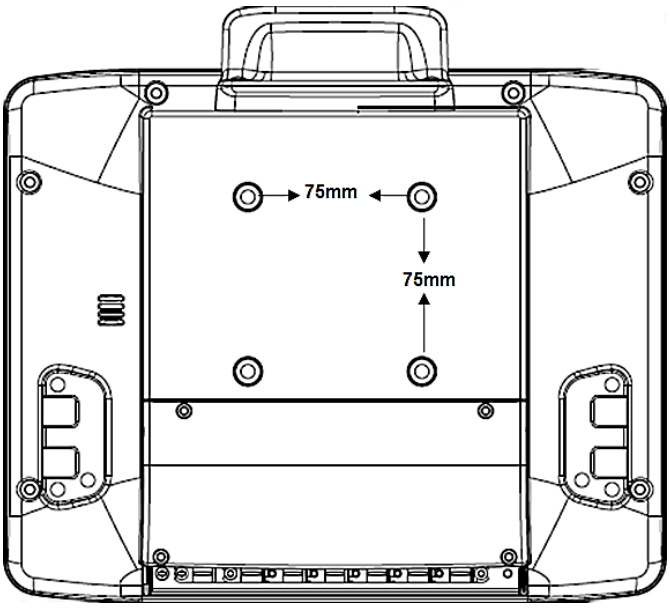
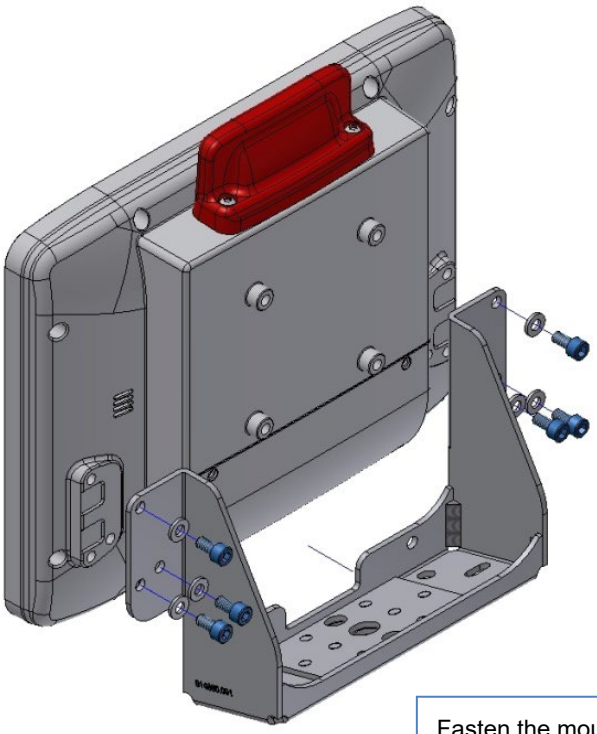


Fig. 6.1: Position VESA drill holes of DLT-V6210FL

Examples for RAM Mount Set mounting materials

RAM Mount Set short (arm length, 130 mm)	**RAM Mount Set long** (arm length 215 mm)
Order no: DL-MTRM004	Order no: DL-MTRM003
Fixing plate RAM-Mount VESA	Fixing plate RAM-Mount VESA w.ball 2.25"
RAM conn. arm VESA 130mm	Holder VESA connect.arm 215mm ball 2.25"
Washer spring A6 DIN128 FSt galvan.	Screw Cyl.int.hex DIN912 M6x16 V2A
Screw Cyl.int.hex DIN912 M6x16 V2A	Washer ISO 8738 (DIN 1440)-A6-A2
Washer ISO 8738 (DIN 1440)-A6-A2	Washer spring A6 DIN128 FSt galvan.

6.3.2. Fasten Mounting bracket



Fasten the mounting bracket with:

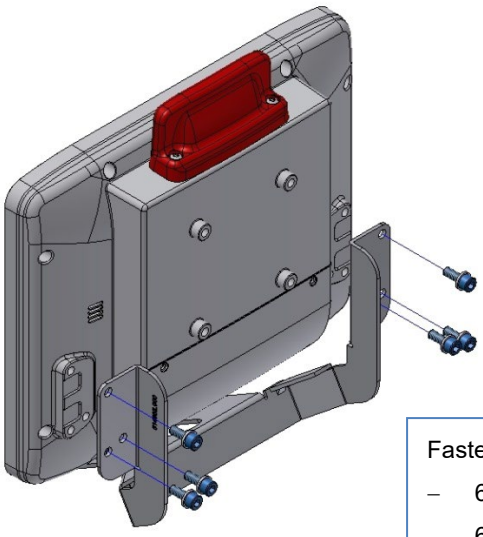
- 6 x Screw Cyl.int.hex DIN912 M6x12 A2 TufLok
- 6 x Washer ISO 8738 (DIN 1440)-A6-A2

Fig. 6.2: Fasten Mounting bracket

NOTES:

- Observe the maximum screw-in depth of the holes on the DLT-V6210FL.
  Screws that are too long can penetrate the back of the terminal and cause irreparable damage.
- In addition to the mounting bracket, **one** accessory holder per side can still be fastened in each case.

6.3.3. Fasten mounting for frontal keyboard holder



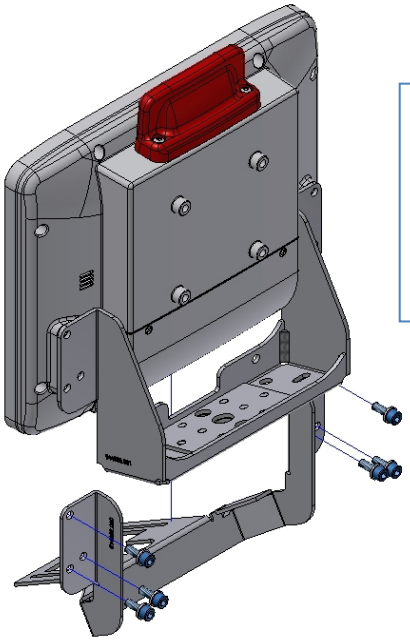
Fasten the mounting kit with:

- 6 x Washer A6.4 DIN125 FE/ZN FORM A
- 6 x Screw Cyl.int.hex DIN912 M6x12 A2 TufLok
  OR: If an additional holder is attached:
  6 x Screw Cyl.int.hex DIN912 M6x16 A2 TufLok

Fig. 6.3: Fasten mounting for frontal keyboard

NOTE:

- Observe the maximum screw-in depth of the holes on the DLT-V6210FL.
  Screws that are too long can penetrate the back of the terminal and cause irreparable damage.



Installation sequence if mounting bracket **and** mounting kit for keyboard are being fastened:

- **First** fasten the mounting bracket to the DLT-V6210FL.
- Then fasten the keyboard holder.

*Fig. 6.4: Installation sequence mounting bracket **and** keyboard holder*

6.3.4. Fasten mounting kit scanner holder

Scanner holder assembly

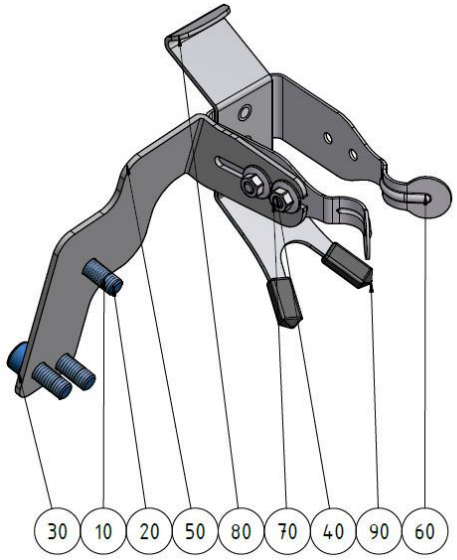
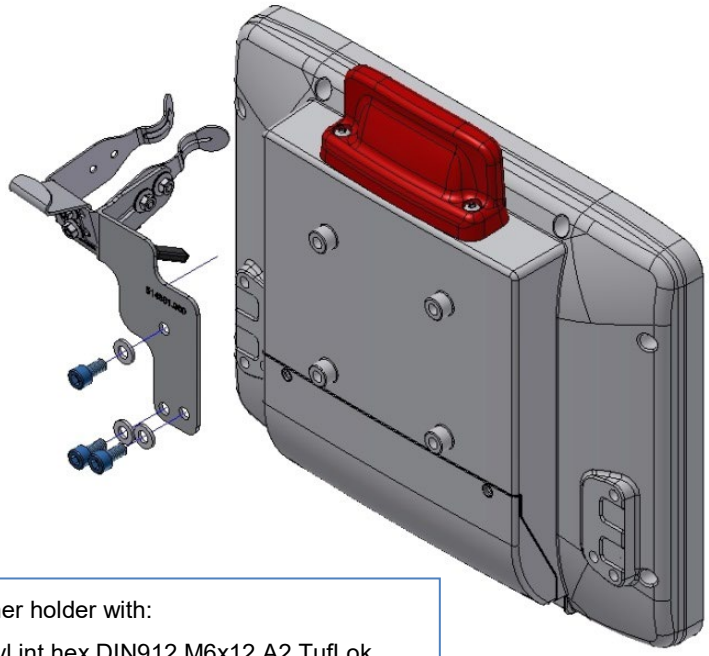


Fig. 6.5: Scanner holder assembly

Pos.	No.	
10	3	Screw Cyl.int.hex DIN912 M6x12 A2 TufLok
20	3	Screw Cyl.int.hex DIN912 M6x16 A2 TufLok
30	3	Washer A6.4 DIN125 FE/ZN FORM A
40	4	Nut M4 hex. with Cone Washer
50	1	Angle holder right handheld scanner
60	1	Spring clip
70	1	Spring clip complete
80	1	Connection plate 4 spring clip handheld scanner
90	2	Cover cap protec. plastic RPC-2 A3.2 B14.7

Fasten the scanner holder to the DLT-V6210FL



Fasten the scanner holder with:

- 3 x Screw Cyl.int.hex DIN912 M6x12 A2 TufLok
  OR: If an additional holder is attached:
  3 x Screw Cyl.int.hex DIN912 M6x16 A2 TufLok
- 3 x Washer A6.4 DIN125 FE/ZN FORM A

Fig. 6.6: Fasten scanner holder

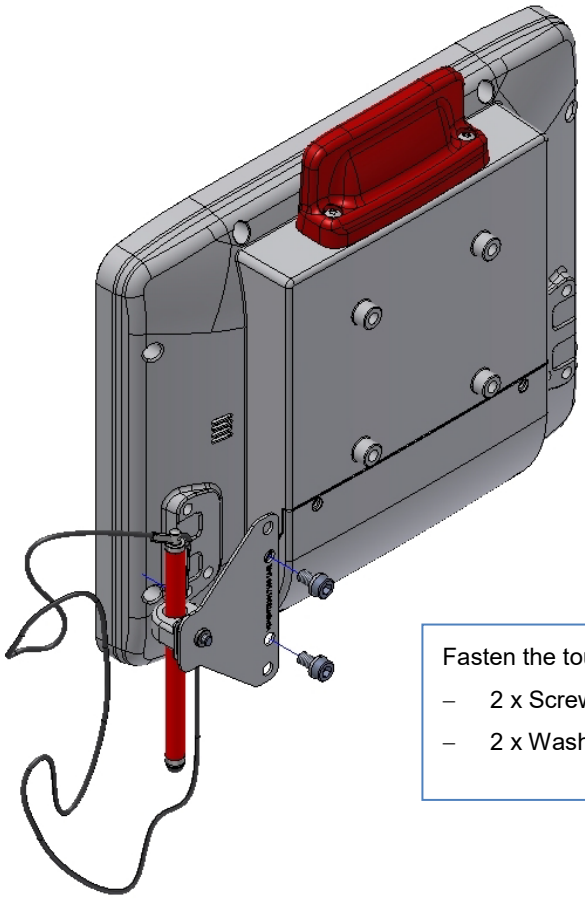
NOTE:

- Observe the maximum screw-in depth of the holes on the DLT-V6210FL.
  Screws that are too long can penetrate the back of the terminal and cause irreparable damage.

Mounting sequence if mounting bracket **and** additional accessory are being fastened:

- **First** fasten the mounting bracket to the DLT-V6210FL.
- Then fasten the scanner holder.

6.3.5. Fasten mounting kit for touch stylus holder



Fasten the touch stylus holder with:

- 2 x Screw Cyl.int.hex DIN912 M6x10 A2 TufLok
- 2 x Washer ISO 8738 (DIN 1440)-A6-A2

Fig. 6.7: Fasten Mounting kit for touch stylus

NOTES:

- Observe the maximum screw-in depth of the holes on the DLT-V6210FL.
  Screws that are too long can penetrate the back of the terminal and cause irreparable damage.

Mounting sequence, if touch stylus holder **and** mounting bracket are used:

- **First** fasten the mounting bracket to the DLT-V6210FL.
- Then fasten the touch stylus holder.

7. Electrical installation, cable connection, cable cover

7.1. Safety notice – observe before connecting

WARNING

Risk of injury and damage due to improper electrical installation.

These instructions are directed to skilled personnel.

- ⇨ Only qualified skilled personnel are permitted to perform the electrical installation of DLT-V6210FL.
- ⇨ Comply with the appropriate national installation regulations for all cable routing.

WARNING

Electrical shock or fire due to incorrect cable routing or insufficient grounding.

- ⇨ Only use original Advantech power cables; they meet the specific requirements for low-temperature flexibility, UV resistance, oil resistance, etc.
- ⇨ Make sure that the power supply cables are running without kinks and protected (securely protected against crushing and abrading).
- ⇨ DLT-V6210FL may only be connected to a SELV circuit (Safety Extra Low Voltage). The SELV circuit is a secondary circuit that is designed to protect the voltage from exceeding the safe value when operation runs correctly or a single error occurs.
- ⇨ The DC+ connecting cable must be protected by a fuse (30 AT max.).
- ⇨ The ignition connecting cable must be protected by a fuse of the following type: 5x20 mm T 125 mA L / 250 V, for example, a Wickmann 195-125 mA / 250 V.
- ⇨ Observe the correct voltage ranges.
- ⇨ Ensure that power supply cables are fused correctly.
- ⇨ Read the labeling on the cable and connect the power supply cable with the correct polarity.
- ⇨ Cut the power supply cable to the minimum length to ensure the power supply with an appropriate cable installation.
- ⇨ Connect the power supply cable to a suitable supply point.
- ⇨ Ensure that the connecting cable has an adequate cross section and ampacity at the connection point.

WARNING

Electrical shock due to lack of disconnecting device.

The DLT-V6210FL industrial PC is not equipped with a switching apparatus accessible from outside to quickly disconnect the device from the power supply.

To enable the industrial PC to be quickly disconnected from the power supply in emergency situations:

⇨ Install an easily accessible disconnecting device such as an appropriate on-load switch for low voltage close to the industrial PC.

⇨ Make sure that the disconnecting device disconnects all power supply lines.

Deployment location in fueling stations, chemical plants.

The operation of electrical equipment at locations where flammable gases or vapors are present poses a safety hazard.

⇨ Turn off DLT-V6210FL when you are near gas stations, fuel depots, chemical plants or places where blast might take place.

DANGER

Electrical shock due to insufficient EMERGENCY shut-off switch.

If the EMERGENCY-OFF switch of the vehicle does not switch off DLT-V6210FL, there is a risk of electrical shock.

⇨ Install DLT-V6210FL and the EMERGENCY-OFF switch so that DLT-V6210FL also switches off when the EMERGENCY-OFF switch is operated.

7.1.1. Installation of DLT-V6210FL on vehicles

Risk of accident on the vehicle due to unexpected emergency stop because of electro conductive connection of DLT-V6210FL to the vehicle chassis.

Due to a variety of technical properties of forklifts and forklift trucks, it can be necessary to electrically isolate DLT-V6210FL from the chassis of the vehicle to prevent malfunctions.

The necessity of this must be studied on a case-by-case basis, however, it is recommended for vehicles with potential-free chassis.

⇨ For example, using rubber buffers ensures that the terminal has no electrically conducting connection to the chassis.

⇨ If peripheral equipment (such as scanners, printers, scales or similar) which has its own power supply unit to be used, you must ensure that the power supply units of these peripherals are galvanically separated from the supply of the targeted object. Moreover, the peripheral equipment and its cabling must be attached electrically isolated.

⇨ If external antennas are being used, you must ensure that the antennas are isolated at the mounting point on the vehicle chassis.

Risk of accident on the vehicle due to unstable mounting of DLT-V6210FL.

- ⇨ When mounting DLT-V6210FL, make sure that no one will be injured if the bracket breaks (e.g. because of a stress fracture).
- ⇨ Alternatively you can put appropriate safety measures in place (e.g. install a security cable in addition to the mounting bracket).

NOTICE: Physical damage

Overvoltage on DLT-V6210FL when charging the vehicle battery.

DLT-V6210FL must be disconnected from the battery while the battery is being charged.

Or it must be ensured that the maximum permitted input voltage of DLT-V6210FL is not exceeded.

Observe the potential ratios

NOTICE: Physical damage

Observe the potential ratios.

On DLT-V6210FL, logic ground and shield ground are firmly connected to each other.
Logic ground is the ground (GND) used to supply the internal parts and components such as the display or CPU. All cable shields and the housing are connected to shield ground.

The chassis of some forklifts is on DC+. This means that DLT-V6210FL chassis is also on DC+. Short circuits can arise when, for example, the ground potential of a peripheral device is on DC-. This may cause malfunctions or irreparable damage to DLT-V6210FL.

- ⇨ Always attach the ring tongue of the power supply cable to the provided ground bolt situated on the connector panel.
- ⇨ The other end of the yellow-green power supply cable must be connected to the vehicle chassis.
- ⇨ Connect the power supply cable of DLT-V6210FL as directly as possible to the battery.
- ⇨ Don’t connect the power supply cable of DLT-V6210FL to electromagnetically highly loaded power supply lines (e.g. the engine power supply).
- ⇨ Don’t connect the power supply cable of DLT-V6210FL to power supply lines which are potentially loaded by other consumers.
- ⇨ Connecting DLT-V6210FL to large electrical loads, such as converters for the forklift motor may result in random restarts, malfunctions and/or irreparable damage to the device.
- ⇨ If you want to connect devices fed by other power sources to DLT-V6210FL (e.g. printers), be sure to power up the peripheral devices at the same time or after DLT-V6210FL; otherwise, you may encounter start-up problem, malfunctions or even irreparable damage to the device.

7.2. Preparations for installation

- ⇨ Lay out all cables which are ready to be connected to DLT-V6210FL.
- ⇨ Select the appropriate slot on the connector panel of DLT-V6210FL.
- ⇨ Check and test which order of the cables routing is the best to fit in the cable compartment.

Fig. 7.1: Terminal backside / cable compartment

Tools required

- Hexagon screwdriver , size 3
- Philips screwdriver, PH1
- Philips screwdriver, PH0
- Flat head screwdriver size 3
- Socket wrench, size 5
- Socket wrench, size 6
- Socket wrench, size 8

7.3. Connect cables and cable cover

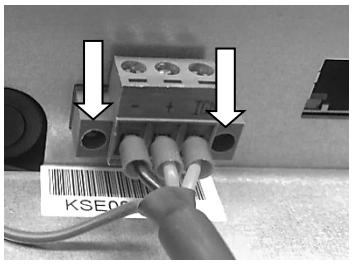
Parts required

NOTICE: Some screws and grommets delivered are spare parts.

Part	Name / Purpose
	Phillips screw, flat screw head, M3x5L F/S D=5.0 H=0.8 (1+)SUS BZn NK: For fixing the cable cover to the terminal For securing thinner cables to the terminal's strain relief rail
	Phillips screw, middle round screw head, M3x10L R/S D=5.5 H=2.0 (2+)SUS BZn NK: For securing regular cables to the terminal's strain relief rail
	Hexagon screw M3x12L H/S D=5.5 H=3 SUS/H Nylok: For securing thicker cables to the terminal's strain relief rail
	Cable clip for securing the cables to the strain relief rail
	Cable grommets which openings have different sizes; must be attached to all cables before the cables are inserted into the cable passages
	Dummy grommets for sealing up unused cable passages
	Tooth washer D=8.5 d=4.2 t=0.5 ST Ni For grounding the power supply cable
	Nut (W) B=6 M4*0.7 H=2.5 ST Zn For grounding the power supply cable

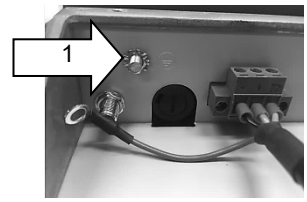
Power supply cable	Cable cover
	

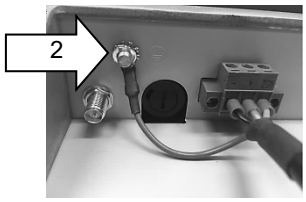
STEP 1: Plugging in and screwing on the power supply cable

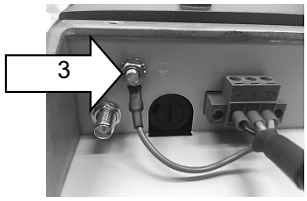


- ⇨ Plug the power supply cable into the power supply plug-in location.
- ⇨ Tighten both mounting screws hand-tight. The screws required for this are already fixed in the delivered cable plug.

STEP 2: Secure the ring tongue of the power supply cable to the ground bolt (important for correct grounding!)







NOTICE: To make sure the device is grounding correctly, it is important to follow the correct order to put the components on the ground bolt as below (from inside to outside):

⇨ Place **toothed washer** first:

⇨ Then put the **ring tongue** of the power supply cable (flat side faces the DLT-V6210FL connector panel):

⇨ Place the **nut** and tighten it hand-tight:

STEP 3: Securing the power supply cable to the strain relief rail

⇨ Attach the matching **cable grommet** to the power supply cable.

NOTICE: The cable grommet must completely surround the cable. The opening of the cable grommet must be slightly smaller than the cable diameter. If the opening is too large or too small, the sealing of the device will not be ensured.

As a delivery standard, screws and cable clips are fixed on the DLT-V6210FL strain relief rail.

⇨ Unscrew and remove the screws and the cable clip fixed on the cable passage you want to use for the power supply cable.

⇨ Insert the power supply cable and the cable grommet in the cable passage of the strain relief rail.

⇨ Place the cable clip on the power supply cable.

⇨ Secure the cable clip to the strain relief rail using 2 pcs of Phillips screws (middle round screw head) M3x10L: 

⇨ Tighten the mounting screws alternatingly.

NOTICE: Tighten the mounting screws sufficiently but on no account pinch or crush the cable. If you do, the cables may break or the cable insulation may get damaged.

STEP 4: Connecting the USB, Ethernet, COM and antenna cables

NOTE: Proceed as described with the **power supply cable** above.

⇨ Attach the matching cable grommet to the cable.
⇨ Insert both components in the cable passage.
⇨ Secure it to the strain relief rail using cable clip and appropriate screws:

	For thinner cables: Phillips screws M3x5L
	For regular cables: Phillips screws M3x10L
	For thicker cables: Hexagon screws M3x12L

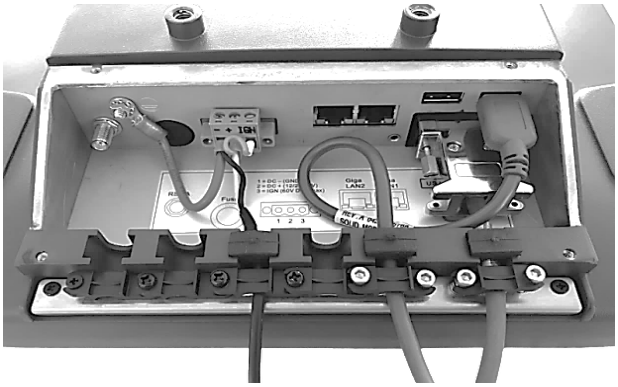


Fig. 7.2: Result (example): Cables connected in the cable compartment

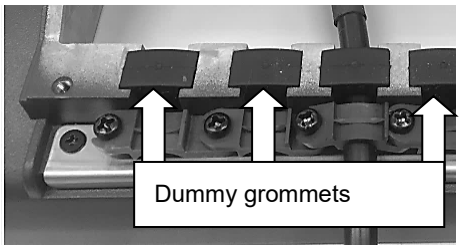
NOTICE: Physical damage

Observe the following instructions when connecting/removing external devices to/from DLT-V6210FL.

- ⇨ Only use accessories that have been tested and approved by Advantech for the respective DLT-V6210FL.
- ⇨ DLT-V6210FL may not be connected to the power supply if external devices are being connected/removed (not applicable for USB devices)
- ⇨ Otherwise considerable damage could be caused to both DLT-V6210FL and the peripheral devices.
- ⇨ Make sure that peripherals with their own power supply are either switched on at the same time as DLT-V6210FL or after the start of DLT-V6210FL.
- ⇨ Otherwise, you must ensure that the backflow from the external device to DLT-V6210FL cannot take place.
- ⇨ Only power up DLT-V6210FL when all devices are completely connected and DLT-V6210FL is closed correctly (remember the cable cover!). Otherwise, you may damage DLT-V6210FL.

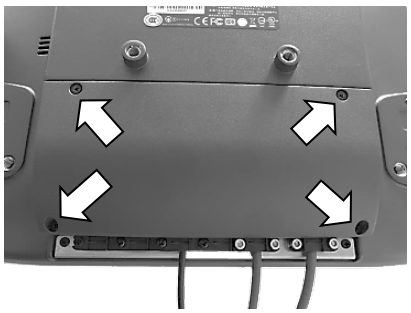
Please observe the mounting instructions supplied with the optional accessory.

STEP 5: Closing off unused cable passages



- ⇨ Close off all unused cable passages with dummy grommets so that they are sealed.

STEP 6: Fastening the cable cover



Place the cable cover on the DLT-V6210FL housing slot.

Use 4 pcs of Phillips Screws M3x5L:

Lock the screws loosely into the holes of the cable cover.

Then fully tighten the screws alternatingly with 1 Nm torque.

NOTICE: Physical damage

The device is not completely sealed due to incorrect attachment of the cables and the cable cover.

The protection class/category of DLT-V6210FL is only ensured if the cable cover is properly installed. Improper installation can result in liquid penetrating into DLT-V6210FL during operation. This will cause the risk of short-circuiting, corrosion and wear.

7.4. Automatic shutdown on vehicles – functional description

DLT-V6210FL is equipped with an automatic shutdown module.
If wired up accordingly, DLT-V6210FL conveniently switches off together with the ignition.
As disconnecting the power supply during operation can lead to data loss, the operating system needs to be shut down normally by using the appropriate hardware and software installed on the system when the ignition is switched off.

DLT-V6210FL is connected with three supply cables. DC+ and DC- are directly connected to the power supply, the connection is run through fuses.

The supply voltage is then linked to DLT-V6210FL's ignition input via a switch, for example, the key switch of the ignition (also with a fuse).

Sequence

When the ignition is turned on or DLT-V6210FL <Power> button is pressed (depends on configuration), DLT-V6210FL checks its internal temperature and runs a test to confirm that the automatic shutdown function is working.
If the check of the environmental conditions is successful, DLT-V6210FL starts the operating system normally.
Once these checks are completed, DLT-V6210FL starts the operating system.
The environmental conditions (OTP/UTP/Sensor Faulty) are constantly being checked all the time.
The ignition status is constantly monitored at all times as well.
If DLT-V6210FL's internal temperature reaches a critical level, shutdown of the operating system will be carried out. The computer will remain switched off until the temperature is once again within the permitted range.
If the ignition input is grounded or isolated during normal operation of DLT-V6210FL, the device will switch to a delayed shut-off state.
The device will continue to operate normally in this state until the shut-off delay (e.g. 20 minutes) has elapsed.
If the ignition is turned on again during this shut-off delay, DLT-V6210FL will revert to a normal operational state.
Once the shut-off delay (after run time) has elapsed, the operating system will shut down and the device will automatically shut down (e.g. after one minute or a signal from the operating system).

Device shut down

If the operating system is shut down, all applications will be notified via the Windows message “WM_QUERYENDSESSION” first.
Every application must then respond within the time set in the registry. If there is no response within the preset time, the application will be hard-terminated.
It may not be possible to close an application automatically if it has unsaved data. For example, the WORDPAD.EXE program (included in Windows) cannot be closed automatically if there are unsaved changes. In such a situation, WORDPAD.EXE will acknowledge the “WM_QUERYENDSESSION” Windows message by prompting the user to choose whether to save it or not.
All applications that can be terminated without user confirmation using the keyboard shortcut <ALT> + <F4>, which will normally also respond correctly to the “WM_QUERYENDSESSION” message and therefore do not need to be hard-terminated.
To ensure that the important data is saved correctly, the application must respond appropriately to “WM_QUERYENDSESSION”, i.e. the backup data must be saved without user confirmation and within the preset time.

Configuration

„MDevice program” is used to configure the automatic shutdown function.

The „MDevice manual” can be found online in www.advantech.com/

8. Operation

8.1. Switching DLT-V6210FL on/off

Switch on

Switch DLT-V6210FL on as follows, depending on the configuration:

⇨ Press the <Power> button.

⇨ Or: Through the ignition signal of the vehicle (depends on the vehicle management / automatic shutdown settings).

Fig. 8.1: <Power> button

Switch off

Switch DLT-V6210FL off as follows, depending on the configuration:

⇨ Press the <Power> button of the activated DLT-V6210FL.

⇨ Or: Disconnect the supply voltage.
NOTICE: Devices will be hard-terminated (data loss possible).

⇨ Or: Deactivate the ignition of the connected vehicle (depends on the vehicle management / automatic shutdown settings).

Time between switching off and on: 10 seconds

After DLT-V6210FL is shut down and switched off, it needs to wait at least 10 seconds until the device can react to a switch-on signal (<Power> button / ignition).

8.2. Operating the touchscreen (PCT)

NOTICE: Physical damage

Prevent damage to the touchscreen

- ⇨ Keep the touchscreen clean.
- ⇨ Do not touch the touchscreen with pointed, sharp, rough or hard objects, e.g. ball point pens, writing implements, tools of any kind (e.g. screwdrivers).
- ⇨ Make sure that no adhesives get on the surface of the touchscreen.
- ⇨ Ensure that the touchscreen surface is not influenced by high voltages or static electricity.
- ⇨ Do not use excessive force when touching the touchscreens, and do not hit or press hard.
- ⇨ If the device with the touchscreen is placed down: Place a clean, soft cloth underneath.

- ⇨ Salty water on the PCT touchscreen can be interpreted as a "touch" and lead to malfunction

Operating the touchscreen with

- Clean, dry fingers
- Clean, dry, soft gloves
- Suitable touch stylus

Multi-touch capability

Depending on the installed operating system type, the PCT touchscreen of DLT-V6210FL is multi-touch capable. This means it can detect two touch points simultaneously.

8.3. Front keys and LEDs

8.3.1. Overview

Keys:
- Power on/off
- Display brightness up
- Display brightness down

Fig. 8.2: Operating elements: Front keys and LED

8.4. Operating states

Status of LEDs	DLT-V6210FL status
Supply voltage (green) 	
OFF	Waiting for a new ignition signal or activation of the <Power> key after switch-off; no voltage supply
STATIC ON	Computer start-up/normal operational state/shutdown delay time
Blinking : 0.2 sec. on / 0.8 sec. off	Temperature sensor faulty
Blinking : 0.5 sec. on / 0.5 sec. off	Ambient temperature lies beyond the permitted range

9. DLT-V62 SW settings

9.1. Software keyboard

The “Software keyboard” brings the complete standard keyboard with function keys and numeric pad directly to your DLT-V6210FL screen – with easy touch operation. Any entries made, for example, letters and numbers, are passed to the currently active application program.

Example for a software keyboard (the layout can be configured individually):

Fig. 9.1: Software Keyboard

NOTES:

– The user manual for the software keyboard is available on our websites.

9.2. MS-Win OS overview

The following operating systems are available for DLT-V6210FL (at the time of the creation of the manual, as of June 2020

⇨ MS-Windows® 10 IoT Enterprise

Pre-installed on flash

If a DLT-V6210FL with preinstalled operating system is placed into operation, this operating system will be loaded after the BIOS system messages. System-specific device drivers (e. g. for graphics, sound, network, touchscreen) are already installed.
In DLT-V6210FL units with a pre-installed operating system, the system is located on the C partition.

Installed on flash

When a DLT-V6210FL is started up for the first time without a pre-insallted operating system, the user needs to carry out a number of steps that will vary depending on the system to be installed. Refer to the relevant operating system manual for specific instructions.

9.2.1. MS-Win. 10: Deactivate Automatic Updates

In MS-Windows 10 it's no longer possible to deactivate the windows updates by use of the **Windows Update** dialog. The setting **Never check for updates** is not selectable.

With the following entry in the MS-Windows Registry it's still possible to set the MS-Windows Update state to **Never check for updates:**

1. Create the following entry (dwords) manually:
   [HKEY_LOCAL_MACHINE\SOFTWARE\Policies\Microsoft\Windows\WindowsUpdate\AU]
   "NoAutoUpdate"=dword:00000001
   [HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Policies\Microsoft\Windows\WindowsUpdate\AU]
   "NoAutoUpdate"=dword:00000001

After finishing this entry:

1. Reboot MS-Windows.
2. You have to search updates once again to change the windows update state;
   a. Open Start→ Settings → Update & security → Windows Updates.
3. Click to **Retry.**
4. Click to **Advanced Options.**

Now you can see that MS-Windows Updates is adjusted to **Never check for updates.**

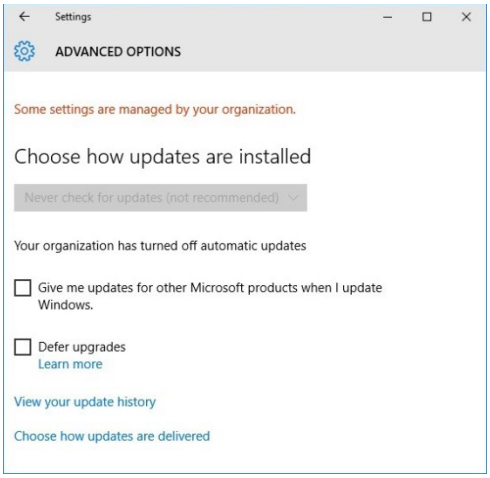


Fig. 9.2: Win10 Automatic Updates

To deactivate **Never check for Updates:**

1. Manually delete the MS-Windows Registry entry.
2. Reboot the System.
3. Search updates once again to change the MS-Windows update state.

9.3. WWAN Installation, Configuration, Test

The following information describes the installation on Advantech OS Image, it including WIN10 Operating system.

NOTES:

- Before enable WWAN Module Function, please connect external WWAN Antenna first. We recommend using WWAN Antenna which already approved by Advantech.
- The SIM-Card needs to be placed in the SIM-Sockel under the cable cover

WWAN settings & Test (Win10 IoT Enterprise)

At DLT-V6210FL, WWAN Module's driver already bundles into OS Image and NO need to do additional driver installation.

Status of WWAN-Connection part of **taskbar**

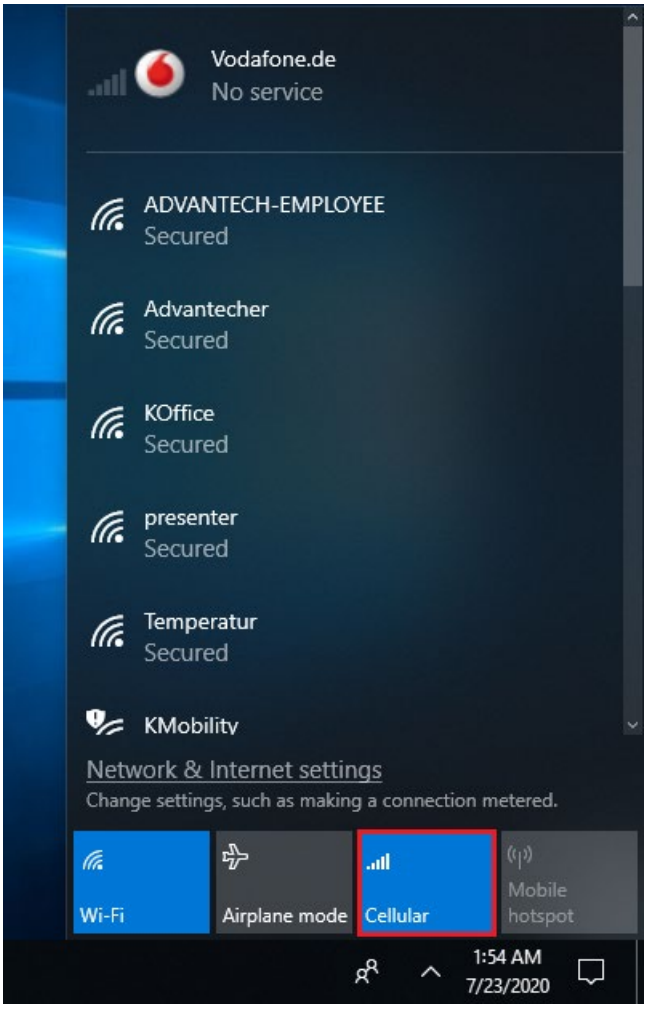


Fig. 9.3: WWAN settings taskbar

Using cellular: "Vodafone.de" SIM card as example. The connection to the Vodafone.de network will be initiated after command **[Connect]** executed**.**

Fig. 9.4: WWAN Taskbar Status Connected

Detailled WWAN information are available by opening the network settings

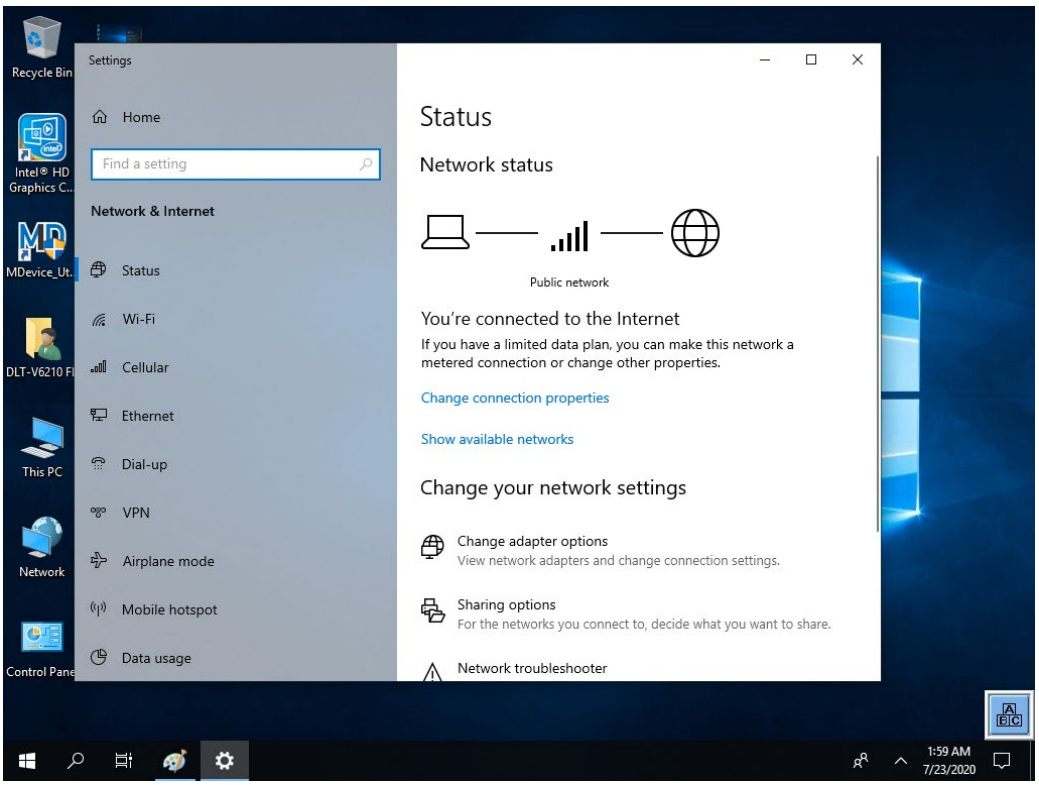


Fig. 9.5: WWAN Status information

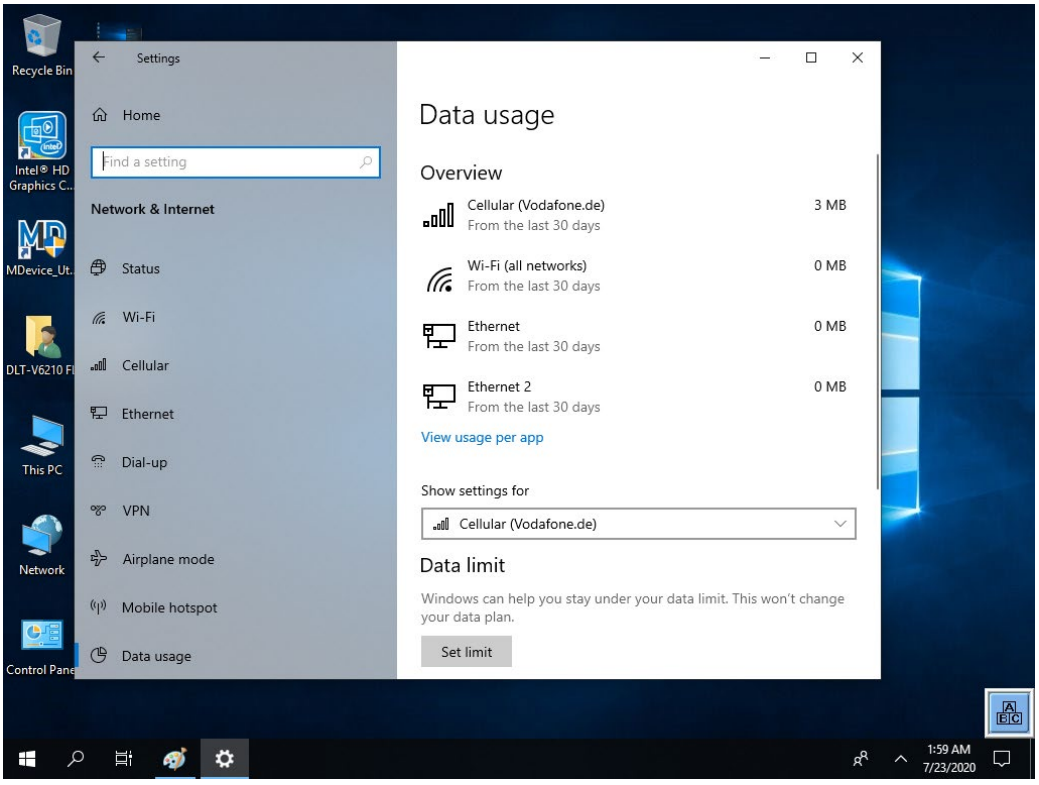


Fig. 9.6: WWAN Status information

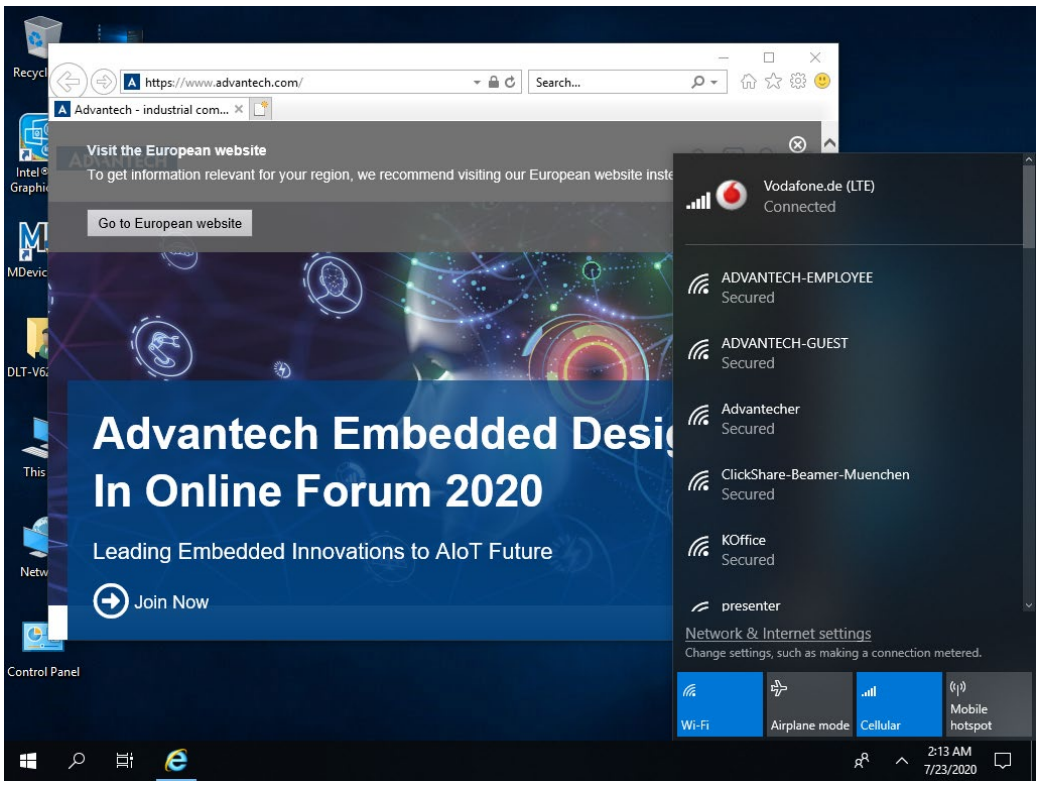


Fig. 9.7: WWAN Internet connection example

10. External connectors

10.1. Connectors under the cable cover

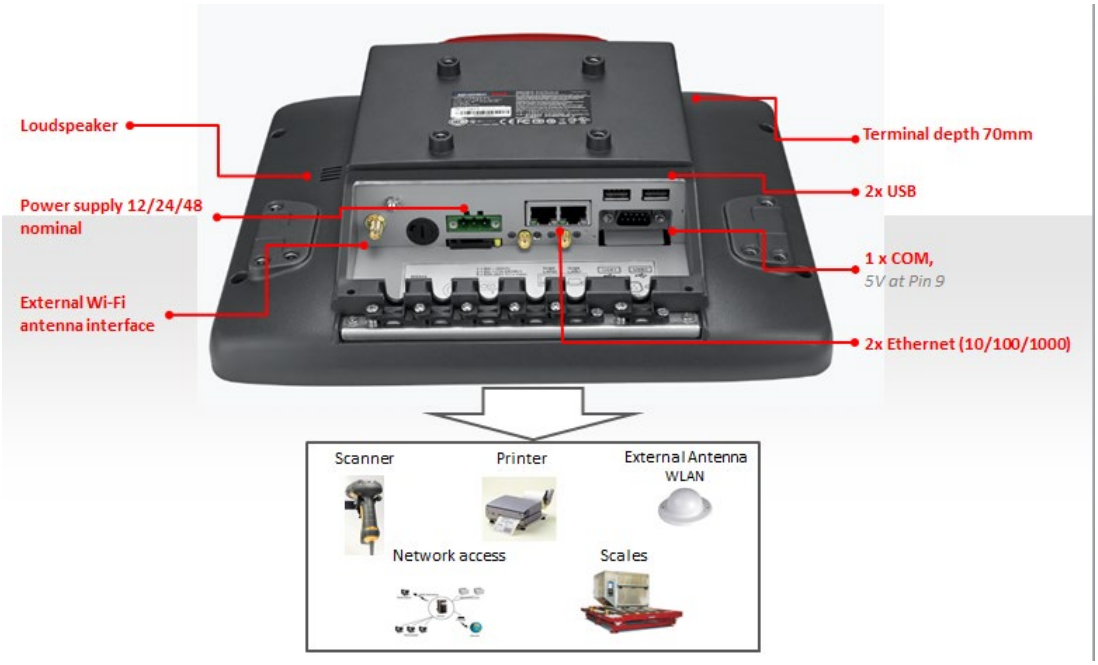
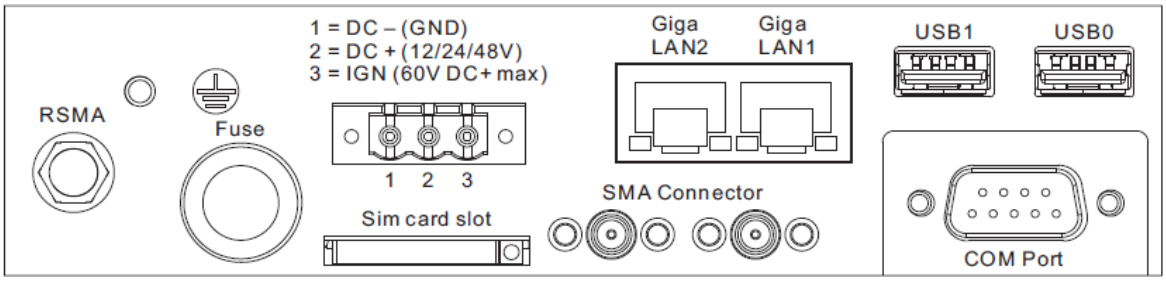


Fig. 10.1: Connectors under the cable cover (1x RSMA WIFI; 2x RP-SMA WWAN optional)



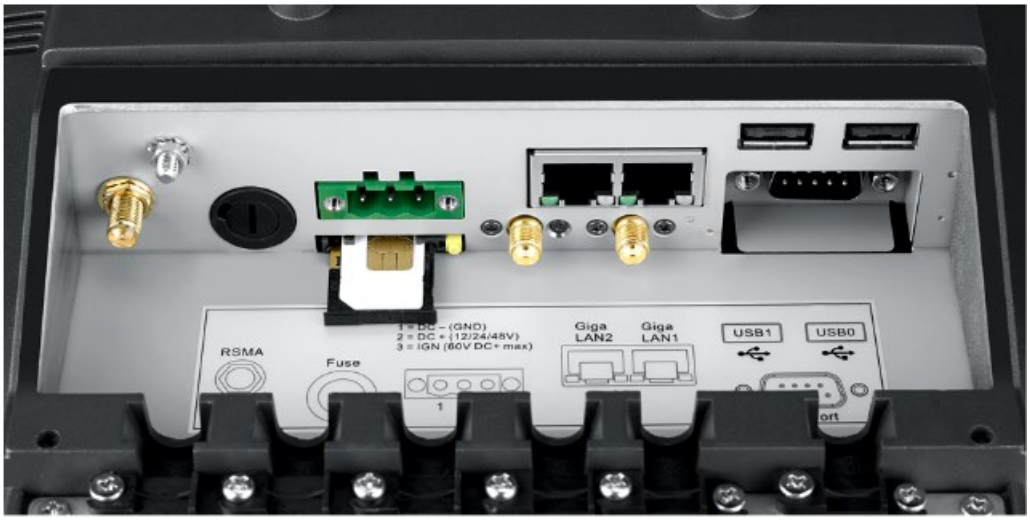


Fig. 10.2: standard SIM-card extension including adapter under the cable cover

10.1.1. Serial COM interface

- Max. 115,200 Baud (16550A compatible, 16 byte FIFO)
- Supports EIA-232-E on external 9-pin D-Sub connection
- ESD Level 4 protected (according to EN 61000-4-2)

COM interface as a voltage source

The COM interface can supply to externally connected equipment with +5 VDC.
The voltage is protected by an internal fuse and may not exceed a continuous consumed current of 1 A at 5 V. Depending on the connected device, the maximum current consumption may be significantly lower.

10.1.2. USB

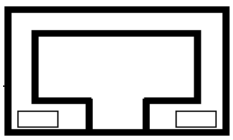
- 2 x USB 2.0 Hi-Speed HOST A typ, 5 VDC 500 mA
- Fused at 0.5 A per channel
- ESD Level 4 protected (according to EN 61000-4-2)

10.1.3. Network adapter (10/100/1000)

- 2 x network adapter (RJ45 connection jack) with 10/100/1000 Mbit per second

The RJ45 connection ports have two integrated status LEDs and are assigned as follows:

Left LED (Green):
LED off: no connection
LED on: connection (link)
LED flashing: activity



Right LED (Green + Orange):
LED off: no connection/10 Mbps
LED green: 100 Mbps
LED orange: 1000 Mbps

Fig. 10.3: RJ45 network port

Problems with data transmission via LAN/Ethernet

If problems occur during data transmission over LAN/Ethernet (e.g. data is lost or not detected), the cause of these problems may be the cable is too long.
Depending on the cable layout and interference from the environment, it may be impossible to use the cable length of 100 m given in the specification (IEEE 802.3 standard).
The recommendation in this context is to use a shorter cable.

10.2. CFast slot / USB-Service port under the antenna cap

There is a CFast slot and an USB Service port under the antenna cap.

⇨ Exercise special care when removing and re-inserting CFast card.

⇨ Only use CFast cards that have been approved by Advantech.

NOTICE: Physical damage

Improper opening of the antenna cap can impair the function of entire DLT-V6210FL system and in particular the Wi-Fi functionality.

– The antenna cap may only remain open during the service work.

– No objects or liquids may enter the opened DLT-V6210FL during this.

– Only when the antenna cap is properly closed again may operation be resumed; the protection class/category is only ensured again after doing so.

10.3. Opening/closing the antenna cap

Opening

⇨ Loosen the two screws of the antenna cap using Torx screwdriver.

⇨ Carefully lift up the antenna cap.

Fig. 10.4: Antenna cap opened

Closing

⇨ Place the antenna cap back onto DLT-V6210FL.

⇨ The antenna cap seal must not be damaged; it must be seated correctly in the groove.

⇨ Tighten the two screws of the antenna cap again (1 Nm torque).

11. Integrated power supply unit

DLT-V6210FL is equipped with a galvanically separated, integrated DC power supply unit.
Power is connected to the back of the unit using a Phoenix Contact plug. There is no power switch.

Power supply	
DC power supply unit 12/24/48 VDC (wide-range power supply unit)	12/24/48 VDC nominal Galvanically isolated Withstands bursts up to 2 kV
Voltage range	9 to 60 VDC
Maximum output power	Vin < 36 V => 42 W Vin > 36 V => 50.4 W
Nominal current	12 V: 3.5 A 24 V: 1.75 A 48 V: 0.875 A
Connection to SELV circuit only	The SELV circuit is a secondary circuit that is designed to protect from the voltage exceeding the safe value when operation runs correctly or if a single error occurs.
Power consumption	Typically 34 W

Power supply unit fuses		
Power supply unit	*Fuse type*	*Example*
ADLoG owned-design power supply unit	5 x 20 mm, 8 A, 250 V	LittleFuse 0477008.MXP or similar product produced by other manufacturers

The symbol of the fuse is **FA**. You will find the exact position on the sticker located on the connection plate of DLT-V6210FL.

11.1. DC voltage supply connection

Version: Phoenix Combicon, 3-pin.

External view:

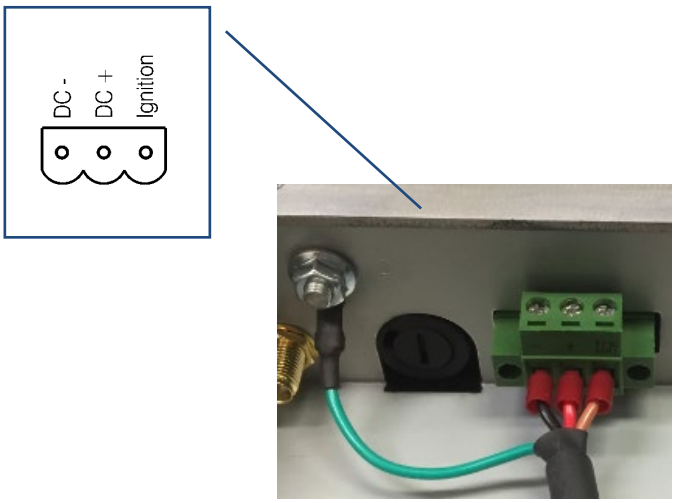


Fig. 11.1: DC power supply connector with power cable connector detail view

Explanation:
“Ignition on” means that a control signal can be routed to this connection that matches the supply voltage level. The signal reference is DC-.

11.2. DC Power supply cable

WARNING

Electrical shock or fire due to incorrect power supply cable.

⇨ Only use the original Advantech power supply cable; it meets the specific requirements for low-temperature flexibility, UV resistance, oil resistance, etc.

Fig. 11.2: DC Power supply cable with Phoenix Combicon, 3-pin

Pin assignment

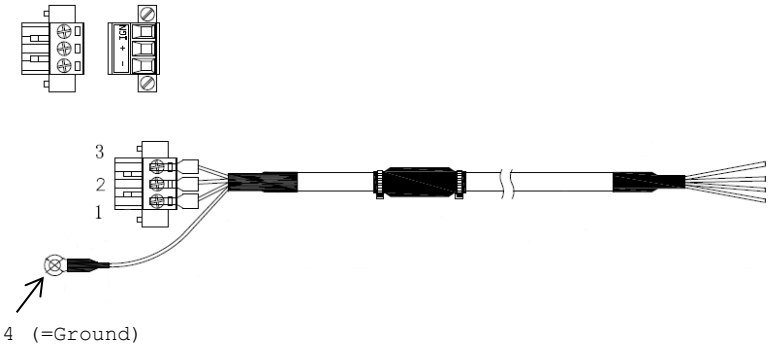


Fig. 11.3: DC Power supply cable pin assignment

No	Cable color	Assignment
1	Black / 黑	DC- 負 (negative)
2	Red / 紅	DC+ 正 (positive)
3	Brown / 棕	IGN
4	Green / 綠	GND

12. Standard and Optional equipment

NOTICE: Physical damage

Please only use accessories that have been tested and approved by Advantech for the respective DLT-V6210FL.

12.1. Integrated low profile Wi-Fi antenna standard

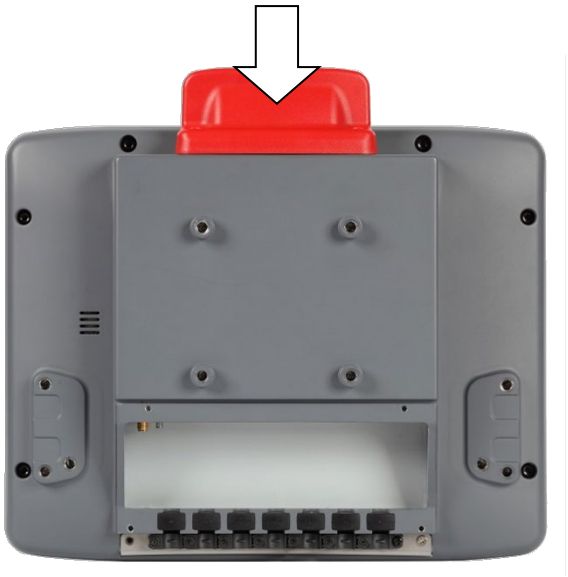


Fig. 12.1: Integrated low profile Wi-Fi antenna standard)

Technical data	
Application	Wi-Fi IEEE 802.11 a/b/g/n Dual Band Diversity
Number of antennas	2
Type	Omnidirectional antenna
Directionality	Optimized for the DLT-V6210FL housing
Frequency range	Band 1: 2400 to 2485 MHz Band 2: 5150 to 5875 MHz
Antenna gain	Max. 5 dBi (without loss through the cable)
Impedance	50 Ω
Polarization	Vertical/Horizontal
Maximum transmitting power	100 mW / 20 dBm

12.2. External Wi-Fi antenna, remote (optional)

Fig. 12.2: Remote Wi-Fi antenna (optional)

Technical data	
Application	Wi-Fi IEEE 802.11 a/b/g/n dual-band
Mounting location	For detached (remote) installation, e.g. on the roof of the forklift
Number of antennas	1
Type	Omnidirectional antenna
Frequency range	Band 1: 2400 to 4900 MHz Band 2: 4900 to 6000 MHz
Antenna gain	Band 1: Max. 4 dBi (without loss through the cable) Band 2: Max. 6.5 dBi (without loss through the cable)
Impedance	50 Ω
Polarization	Vertical/Horizontal
Dimensions	Ø 86 x 43 mm (Ø 3.39” x 1.69”)
Weight	0.3 kg (0.66 lbs)
Connector labeling	N type or TNC N, jack, female, bottom RSMA plug for RSMA socket on the terminal
Scope of delivery	3 m antenna cable
Maximum transmitting power	100 mW / 20 dBm

12.3. External WWAN antenna, remote (optional)

Fig. 12.3: Remote WWAN antenna (optional)

Technical data	
Application	5G/4G cellular wideband antenna
Mounting location	For detached (remote) installation, e.g. on the roof of the forklift
Number of antennas	1
Type	Omnidirectional antenna
Frequency range	600 to 6000 MHz
Antenna gain	Peak Gain (dBi) Max. 2.9 dBi (without loss through the cable) Average Gain (dBi) -1.4 dBi (without loss trough the cable)
Impedance	50 Ω
Polarization	Vertical/Horizontal
Dimensions	Height: 79.45mm(3.13”); Diameter: 42mm(1.65”)
Weight	270g
Connector labeling	SMA(M)ST
Scope of delivery	3 m antenna cable
Maximum transmitting power	100 mW / 20 dBm
Houseing Material	UV Resistant ABS
Rec. Torque for Mounting	4.018 N-m
Max. Torque for Mounting	9.8 N-m
Waterprof Rating	IP67 and IP69K
Operating Temperature	-40°C to 85°C
Housing Rating	IK10

12.4. Standard Wi-Fi card

Technical data	
Wi-Fi PCIe MiniCard	Integrated in the device at the factory by Advantech (internal PCIe MiniCard slot).
Driver	Generally, only drivers for Wi-Fi cards approved by Advantech can be integrated into operating system images.
Maximum radiated power	100 mW EIRP

12.5. Keyboards and keyboard mounts (optional)

A USB keyboard can be connected to DLT-V6210FL.

Advantech offers the following keyboards and mountings:

- SMALL keyboard
- Mountable
- Protection class IP65
- Keyboard layouts: German, English, French

Fig. 12.4: SMALL keyboard

- 24-key keypad
- Mountable
- Protection class IP65

Fig. 12.5: 24-key keypad

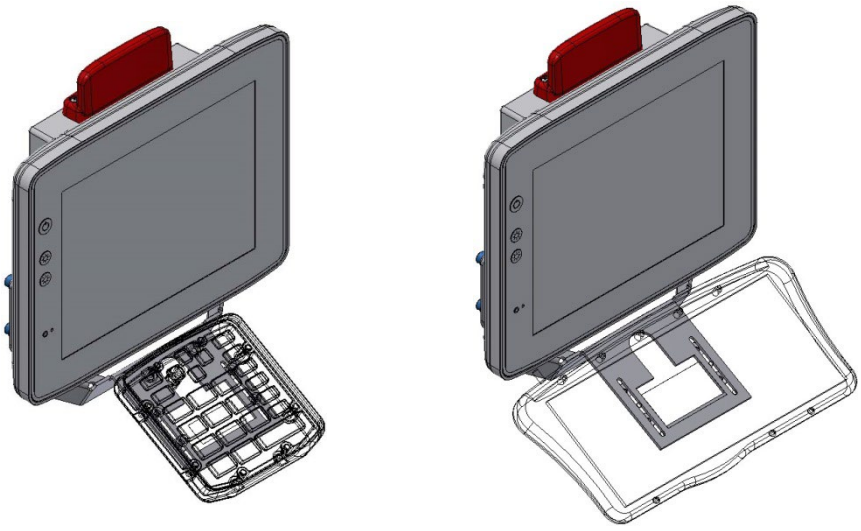


Fig. 12.6: Keyboard mounting examples

12.6. Scanner and scanner bracket (optional)

You can connect scanners to either the USB interface or the serial interface. Optional scanner brackets are available for DLT-V6210FL.
Please contact your Advantech Europe B.V. sales representative if needed.

If connected to COM, the scanner can be powered through the interface with a voltage of 5 V.

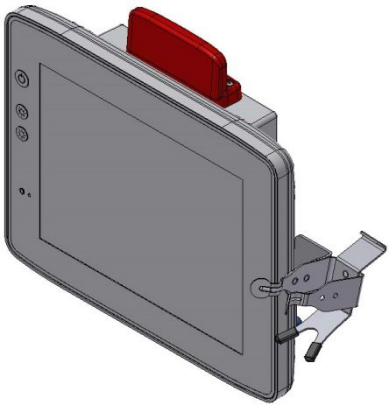


Fig. 12.7: Example scanner bracket

12.7. Touch stylus (optional)

Advantech offers a touch stylus pen with associated mounting for the DLT-V6210FL.
Please contact your Advantech Europe B.V. sales representative if needed.

Fig. 12.8: Touch stylus example

12.8. USB recovery stick (optional)

The optional Advantech recovery stick allows images to be backed up and restored onto DLT-V6210FL when necessary (backup & recovery). Please contact your Advantech Europe B.V. sales representative if needed.

13. Maintenance

Only the manufacturer and its authorized service centers may perform repairs and modifications, replace modules and open the device.

The legal warranty shall apply. It expires if the customer performs measures on the device that are only permitted to be performed by the manufacturer and its authorized Service Centers.

13.1. Regular checks and maintenance of the complete system

To ensure the stability and security of DLT-V6210FL system at the respective application site:

- ⇨ Regularly check whether DLT-V6210FL is firmly seated in the associated holder (RAM mount, mounting bracket) and the mounting screws are not loose.
- ⇨ Also check whether the bracket is secured stably to the respective deployment location. This is particularly important if DLT-V6210FL is installed on any vehicle.
- ⇨ Check whether all connected cables are secured and the cable cover shuts tightly.

WARNING

Risk of accident due to unstable attachment of DLT-V6210FL.

If the attachment of DLT-V6210FL becomes loose and breaks during moving, this can lead to severe accidents.

- ⇨ Perform checks for the attachment as described above at regular intervals.

13.2. Cleaning the DLT-V6210FL

WARNING

Hazardous voltage, electrical shock from contact with live parts when cleaning the device.

To prevent an electrical shock while cleaning the device:

- ⇨ Switch off DLT-V6210FL before cleaning.
- ⇨ Disconnect from the power supply.
- ⇨ Disconnect all connected accessories.

NOTICE: Physical damage

Cleaning the touchscreen and housing:

- ⇨ Never use chemical solvents to clean the touchscreen.
- ⇨ Do not use acidic or alkaline solutions.
- ⇨ Do not use cleaning agents that contain ammonia or sulfur (tile cleaners, for example, contain ammonia).
- ⇨ Do not use any abrasive glass cleaner or cloths that could scratch the touchscreen.

Cleaning the housing

- ⇨ Ensure that DLT-V6210FL is switched off and currentless.
- ⇨ Clean the housing with a slightly dampened cloth.
- ⇨ Do not use compressed air, a high-pressure cleaner or vacuum cleaner, as this can damage the surface. Using a high-pressure cleaner poses the additional risk of water entering the device and damaging the electronics or display.

Cleaning the touchscreen

- ⇨ Ensure that DLT-V6210FL is switched off and currentless.
- ⇨ Use a neutral glass cleaner without ammonia or isopropyl alcohol applied to a lint-free cloth. **ATTENTION:** Do not apply cleaning agent to the touchscreen; apply it to the cleaning cloth.
- ⇨ Use only solvents-free detergents.
- ⇨ Then wipe off the touchscreen with it.

14. Malfunctions

Problem	Cause / remedy
Imprecise reaction of touchscreen	The touchscreen of DLT-V6210FL is already calibrated at the factory and therefore does not need to be recalibrated. However, some operating systems do permit recalibration of the touchscreen via software (Menu **Control Panel -> Tablet PC Settings**). This resets the sensitivity of the touchscreen to an operating system default setting, which can result in poorer detection of taps on the screen. You can use **Reset** to reset the software recalibration.

Please contact Advantech Europe B.V. if DLT-V6210FL malfunctions. You can find the contact address in section *Technical customer support*, page 67.

15. Reasonably foreseeable misuse

Observe the intended use

The DLT-V6210FL industrial PCs are data communication terminals for use in commercial environments (e.g. logistics, warehousing, manufacturing).

The DLT-V6210FL industrial PCs:

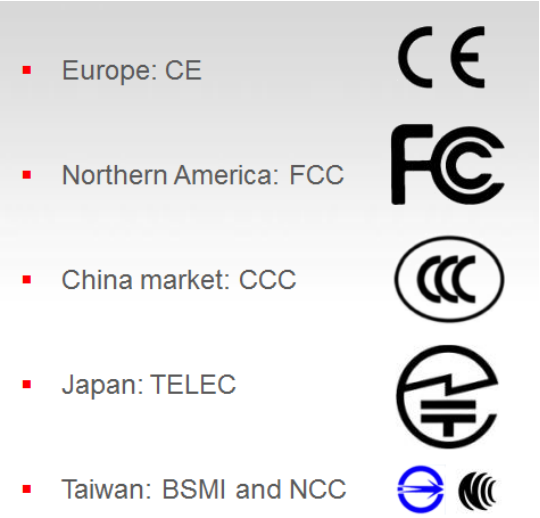
- are not approved for use in EX zones (potential explosion hazard).
- are not approved for use on ships.
- are not approved for use in life-support systems or critical safety systems where system malfunction can lead to the direct or indirect endangerment of human life.

⇨ Observe the permissible environmental conditions.

⇨ Observe correct voltage ranges.

16. Guidelines and certificates

16.1. Overview



16.1. EMC guideline

16.1.1. Shielded components

All components connected to the DLT-V6210FL, as well as cable connections must meet the legal EMC requirements for compliance with the EMC legislation.
Screened bus, LAN cables and connectors must be used.

16.1.2. EMC EU

DLT-V6210FL devices fulfill the requirements of the EU Directive "„2014/30/EU Elektromagnetische Verträglichkeit“" (Electromagnetic Compatibility).

16.2. FCC USA/CAN

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 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.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules.

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation

Statement.

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.

CAUTION

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Canada

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (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, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Industry Canada - Class B This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled “Digital Apparatus,” ICES-003 of Industry Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matérial brouilleur: “Appareils Numériques,” NMB-003 édictée par l’Industrie.

FCC ID: M82-DLV6210FL
IC: 9404A-DLV6210FL
SW: V1.0
HW: V1.0

16.3. RED (Radio Equipment Directive) 2014/53/EU

With regard to the RED (Radio Equipment Directive) 2014/53/EU the statements as below in the declaration of conformity for DLT-V6210FL industrial PC to apply.

Česky [Czech]:	Toto zařízení je v souladu se základními požadavky a ostatními odpovídajícími ustanoveními Směrnice 2014/53/EU.
Dansk [Danish]:	Dette udstyr er i overensstemmelse med de væsentlige krav og andre relevante bestemmelser i Direktiv 2014/53/EU.
Deutsch [German]:	Dieses Gerät entspricht den grundlegenden Anforderungen und den weiteren entsprechenden Vorgaben der Richtlinie 2014/53/EU.
Eesti [Estonian]:	See seade vastab direktiivi 2014/53/EU (EÜ) olulistele nõuetele ja teistele asjakohastele sätetele.
English:	This equipment is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.
Español [Spanish]:	Este equipo cumple con los requisitos esenciales asi como con otras disposiciones de la Directiva 2014/53/EU (CE).
Ελληνική [Greek]:	Αυτός ο εξοπλισμός είναι σε συμμόρφωση με τις ουσιώδεις απαιτήσεις και άλλες σχετικές διατάξεις της Οδηγίας 2014/53/EU.
Français [French]:	Cet appareil est conforme aux exigences essentielles et aux autres dispositions pertinentes de la Directive 2014/53/EU.
Íslenska [Icelandic]:	Þetta tæki er samkvæmt grunnkröfum og öðrum viðeigandi ákvæðum Tilskipunar 2014/53/EU.
Italiano [Italian]:	Questo apparato é conforme ai requisiti essenziali ed agli altri principi sanciti dalla Direttiva 2014/53/EU (CE).
Latviski [Latvian]:	Šī iekārta atbilst Direktīvas 2014/53/EU (EK) būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]:	Šis įrenginys tenkina 2014/53/EU (EB) Direktyvos esminius reikalavimus ir kitas šios direktyvos nuostatas.
Nederlands [Dutch]:	Dit apparaat voldoet aan de essentiele eisen en andere van toepassing zijnde bepalingen van de Richtlijn 2014/53/EU.
Malti [Maltese]:	Dan l-apparat huwa konformi mal-ħtiġiet essenzjali u l-provedimenti l-oħra rilevanti tad-Direttiva 2014/53/EU.
Magyar [Hungarian]:	Ez a készülék teljesíti az alapvető követelményeket és más 2014/53/EU (EK) irányelvben meghatározott vonatkozó rendelkezéseket.
Norsk Norwegian]:	Dette utstyret er i samsvar med de grunnleggende krav og andre relevante bestemmelser i EU-direktiv 2014/53/EU (EF).
Polski [Polish]:	Urządzenie jest zgodne z ogólnymi wymaganiami oraz szczególnymi warunkami określonymi Dyrektywą UE: 2014/53/EU.
Português [Portuguese]:	Este equipamento está em conformidade com os requisitos essenciais e outras provisões relevantes da Directiva 2014/53/EU.
Slovensko [Slovenian]:	Ta naprava je skladna z bistvenimi zahtevami in ostalimi relevantnimi pogoji Direktive 2014/53/EU.
Slovensky [Slovak]:	Toto zariadenie je v zhode so základnými požiadavkami a inými príslušnými nariadeniami direktív: 2014/53/EU.
Suomi [Finnish]:	Tämä laite täyttää direktiivin 2014/53/EU (EY) olennaiset vaatimukset ja on siinä asetettujen muiden laitetta koskevien määräysten mukainen.
Svenska [Swedish]:	Denna utrustning är i överensstämmelse med de väsentliga kraven och andra relevanta bestämmelser i Direktiv 2014/53/EU.

Wi-Fi special regulations for Germany and France

For DLT-V6210FL with Wi-Fi 802.11a/b/g/n, the following restrictions to be applied:

- In Germany, Wi-Fi 5 GHz band: 5.15 GHz – 5.35 GHz may only be used indoors.
- In France, Wi-Fi operation outdoors is only permitted in the 2454 – 2483.5 MHz range at max. 10 mW EIRP.

16.4. CE marking

The devices of DLT-V6210FL series were tested and fulfill the CE conformity requirements and carry the CE mark on the rear side of the device.

16.5. Taiwan BSMI screen warning

WARNING

使用過度恐傷害視力.

ATTENTION / NOTICE

使用 30 分鐘請休息 10 分鐘.

未滿 2 歲幼兒不看螢幕，2 歲以上每天看螢幕不要超過 1 小時.

17. End-of-life device disposal

DLT-V6210FL devices which are defective or ready for disposal which should be considered as special waste and can be recycled. They must not be disposed as general/domestic waste.

Proper disposal in accordance with local regulations is required.

Please contact the responsible authorities in your country/region to find out about the applicable regulations, if necessary.

18. Technical customer support

Contact your distributor, sales representative, or an Advantech Service Center for technical support.

Please have the following information ready:

- Product name
- Serial number
- Description of your peripheral attachments
- Description of your software (operating system, application software, etc.)
- The exact wording of any error messages
- A complete description of the problem

Find the contact data of our Global Advantech Service Centers on our website:
https://erma.advantech.com
You can find this return shipment form on page 68

Advantech Europe B.V. Service & Support

Email: helpdesk.munich@advantech.de
Phone: +49 (0)89 / 41 11 91 999

19. Simplified EU declaration of conformity

The manufacturer:
Advantech Co., Ltd.
No.1, Alley 20, Lane 26, Rueiguang Road, Neihu District, Taipei 11491, Taiwan, R.O.C.

The importer:
Advantech Europe B.V.
Science Park Eindhoven 5708, 5692ER, Son en Breugel, The Netherlands

Hereby declare that the following products
Product name: Industrial Computer
Model name: DLT-V6210XXXXXXXXXXX

Comply with the provisions of the applicable EU directives, including their amendments applicable at the time of the declaration. For getting, the detailed declarations of conformity please visit our websites and contact your regional person in charge:
www.advantech.com/ / www.advantech.eu

20. Return shipment form

Return shipment form (please fill in once per return shipment):

Company	
Street	
Zip code, town	
Contact	
Phone number /E-Mail	

Type(s) of unit(s) returned:

Serial number(s) of the unit(s) returned:

[ ] The units have not been returned, as they are currently being used. However, the following parts are missing:

[ ] Unit was already damaged on delivery (please enclose a copy of the delivery note)

[ ] Delivery was incomplete

Missing parts:

[ ] The following error occurs when operating the unit:

[ ] Separate error report is enclosed

21. List of figures