

fluxTOUCH gen3

PCAP Touch Overlay



Manual Version 1.0

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1. General Information

1.1 Explanation of symbols

The symbols used in this technical description are explained below.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it must be read carefully and strictly be observed. Failure to comply with this information results in injuries to persons or damage to the equipment.



This symbol warns the user that uninsulated voltage may have sufficient magnitude to cause electric shock. Therefore, it must be read carefully and strictly be observed. Failure to comply with this information results in injuries to persons or damage to the equipment.



Notice! This symbol indicates text passages containing important information.

1.2 Preamble

The fluxTOUCHgen3 products has been developed and manufactured with the highest care and attention. However, improper handling can cause a risk for safety and / or damage. Read these instructions carefully before handling and installing the product so that you can safely enjoy your device.



Note: This user's manual is an addendum to the standard user's manuals of the basis NEC LC displays listed in 4.3 Specifications. Read the original Manuals carefully for all adjustments regarding the basis LC displays. The manuals can be downloaded from www.exactsolutions.de



Note: The room light sensing function of the basis NEC LC display cannot be used if a fluxTOUCHgen3 overlay is mounted, so the device is not able to make automatic adjustments to the backlight setting.

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2. Safety instructions

2.1 Warnings

This manual must be handed over to the persons who install and operate the product. Please read the manual and all instructions carefully. If you ignore the safety instructions in this manual, humans may be seriously injured or there is a possibility of an accident or death. Installation, handling, service and other similar actions must be carried out by qualified persons! Qualified persons, hereinafter referred to as “qualified persons”, are specialists such as electricians and specialist personnel with equivalent or higher qualifications.



Warning: This user's manual is an addendum to the standard user's manuals of the basis NEC LC displays listed in 4.3 Specifications. Read the Safety Instructions written in the original Manuals carefully, humans may be seriously injured or there is a possibility of an accident or death.



Warning: Do not open the monitor. There are no user serviceable parts inside and opening or removing covers may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified persons



Warning: Do not bend, crimp or otherwise damage the provided cables. Damage to the cables may cause shock or fire.



Cable Information CAUTION: Use the provided specified cables with this product so as not to interfere with radio and television reception. For USB please use a shielded signal cable with ferrite core. For HDMI, DisplayPort and D-Sub 9-pin, please use a shielded signal cable. For Audio, please use a signal cable with ferrite core. Use of other cables and adapters may cause interference with radio and television reception.



Warning: Do not place heavy objects on the screen as this could cause scratches on the front glass or front glass can even break. This can lead to serious injury or death.



Warning: Installation, operation and maintenance only by trained fully qualified persons.

- Use the rated voltage only. The product can be damaged or persons may be electrocuted or injured.
- Be careful not to step or place heavy objects on the power or USB cord. Be careful not to damage the power or USB cord with sharp objects, by bending, stretching, cutting or similar. Damaged power cords may cause a fire or electric shock.
- Never disassemble, repair or modify the fluxTOUCH gen3 or any accessory. This may cause serious accidents or death. Contact your vendor if you are in the need of support.
- Prior to every installation, check all mounting threads and ensure correct function. If a damage or defective function is detected contact your vendor for service.
- Keep away from heat sources like heaters. Electrical shock, fire, malfunction or deformation may occur.
- Keep the packing anti-moisture material or vinyl packing out of the reach of children. This material is harmful if swallowed. Vinyl packing can cause suffocation.
- If smoke can be smelled/detected or if you hear a strange sound or anything else that is uncommon, disconnect the device from mains power. For example, by

unplugging the power or USB cord. Contact your vendor. If usage is continued, electrical shock or fire can occur.

- Do not drop an object or apply strong forces to the product. It can cause injury to humans and damage the product.
- Do not use the product outdoors. This product is made only for indoor usage. Using it outdoor can cause serious accidents and property damage.
- Do not expose the fluxTOUCH gen3 to water or moisture to prevent any damage and danger.
- If water or any foreign substance goes inside the product, disconnect the mains power immediately and contact your vendor. Otherwise, this may cause a fire or electric shock due to damage to the product.
- If you install the product in a place that does not meet the recommended conditions, this may cause injuries to humans and cause serious damage to the product's quality, life cycle, and appearance. This caution applies to places where there is an abundance of fine dust or oil mist, chemical substances are used, the temperature is very high or low or the humidity is very high. This kind of conditions will invalidate the warranty.

2.2 Risk Situations

Risk of injury due to the possibility of falling objects during the set up or dismantling of the fluxTOUCH gen3 product in heights from 1,60m.

- Protection objective: avoid injury from falling parts.
- Wear appropriate safety shoes, gloves and helmet.
- Make sure the area under the product is clear during installation and no persons are present.

Risk of injury due to the possibility of falling parts or objects during set up or dismantling the product.

- Protection objective: avoid injury or product damage from falling parts.
- Never unscrew parts of the fluxTOUCH gen3 that are mounted in delivery condition.
- Make sure the persons that install the fluxTOUCH gen3 are aware that there is no need to unscrew or disassemble anything that is mounted in delivery condition.

Risk of hitting the head with the fluxTOUCH gen3 product during set up or dismantling process.

- Protection objective: avoid injury from hitting the head.
- Wear a helmet if product is installed at heights from 1,60m

Incorrect installation may lead to certain parts of the fluxTOUCH gen3 product or the entire fluxTOUCH gen3 product to fall down.

- Protection objective: prevent personal injury and property damage.
- Double check the fluxTOUCH gen3 and its installation.

Insufficient load capacity of the supporting structure may lead to certain parts of fluxTOUCH gen3 product or the entire fluxTOUCH gen3 product to fall down.

- Protection objective: prevent personal injury and property damage.
- Provide adequate dimensioning of the supporting structure. The supporting structure must be able to support the combined weight of all the equipment attached to, or hung from it.
- Ensure correct installation of the supporting structure.

Only use correct mounting material to attach the fluxTOUCH gen3 product to the supporting structure (wall, ceiling, truss etc). Otherwise parts or the whole system may fall down.

- Protection objective: prevent personal injury or property damage.
- Only use correct mounting material such as screws, screw anchor etc depending on the given circumstances.

The fingers or the hand of the user can be caught between movable parts during installation, maintenance or service work

- Protection objective: prevent personal injury.
- When the product is mounted to the supporting structure be careful to avoid personal injury. Wear safety gloves.

Risk of injuries by broken glass. The front side of the fluxTOUCH gen3 product is made of glass. If the glass breaks, the persons who are doing service work or may cut themselves with parts of a broken glass.

- Protection objective: prevent personal injury from broken glass.
- Be careful while handling and always wear safety gloves.

Risk of injury or death by electrical shock.

- Protection objective: Prevent personal injuries or death.
- If the housing of the device is opened, parts that can cause an electrical shock are accessible
- Do not open the housing, there are no user serviceable parts inside, if service work must be done contact your vendor.

Risk of injury or death by electrical shock.

- Protection objective: Prevent personal injuries or death.
- If the housing of the device is damaged, deformed etc. there is an increased risk that the inside is also damaged. Persons who touch the housing might get an electrical shock. This endangers all persons who might touch a damaged product.
- When there is any damage, disconnect power supply of the device by qualified persons. Contact vendor / service partner.

Risk of injury, product damage or incorrect functionality.

- Protection objective: prevent personal injury, product damage and incorrect functionality.
- Using non original spare parts may lead to incorrect functionality, broken devices or injury of humans. These spare parts could be for example screws or cables. This endangers persons who are near the product and could be caused by falling objects, electrical shock etc.
- Avoid incorrect functionality or product damage or injury of persons by only using original spare parts.

Disposal.

- Protection objective: avoid incorrect disposal and risk for humans and nature.
- Disposing the product needs to be done correctly following local laws and regulations. Wrong disposal endangers mankind and nature.

Risk of product damage or injury by wrong cleaning procedure.

- Protection objective: prevent personal injury and product damage.
- Incorrect cleaning procedure / treatment causes a risk for personal injury and damage to the device.
- The fluxTOUCH gen3 product shall only be cleaned with a soft cloth and with non-aggressive cleaning supplies like LCD cleaner.
- Do not immerse into water

Risk of incorrect functionality.

- Protection objective: Avoid incorrect functionality.

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- fluxTOUCH gen3 works with projected mutual capacitance, electromagnetic radiation in the environment can interfere with the touch sensing and may disturb the touch functionality.
- Using the fluxTOUCH gen3 in environments where strong electromagnetic radiation sources are located may lead to incorrect functionality
- Keep strong electromagnetic radiation sources away from the product.

Risk of product damage or injury by non-intended usage.

- Protection objective: avoid personal injury and product damage.
- The product shall not be used for other than its intended purpose.
- fluxTOUCH gen3 shall only be used indoors.

3. Scope of delivery



Note: Please check the delivery for completeness and damage immediately after you receive the shipment. Please contact your vendor in case of missing or damaged parts.

Item	quantity
fluxTOUCH gen3	1
USB A extension (A male/ A female)	1
USB A cable (A male/ A male)	1
Manual	1

4. Description of the product

4.1 Intended Use

The fluxTOUCH gen3 is a touch overlay, based on 3M™ Multi-Touch PCAP Systems, which is mounted to a professional LC Display. This results in an independent multi touch screen, based on projected mutual capacitance technology. fluxTOUCH gen3 provides an ultra-flat touch surface without any bezel and with anti-glare front glass. As fluxTOUCH gen3 can communicate via the HID interface it is a plug&play solution. Always pay attention to the original manuals of the professional LC Displays and the original 3M manuals, they can be downloaded on www.exactsolutions.de. We or our partners would be happy to advise you if you have any questions.

4.2. Hardware design

The mechanical design is the similar for all fluxTOUCH gen3 models. The touch overlay is mounted to the LC display with black powder coated steel brackets.

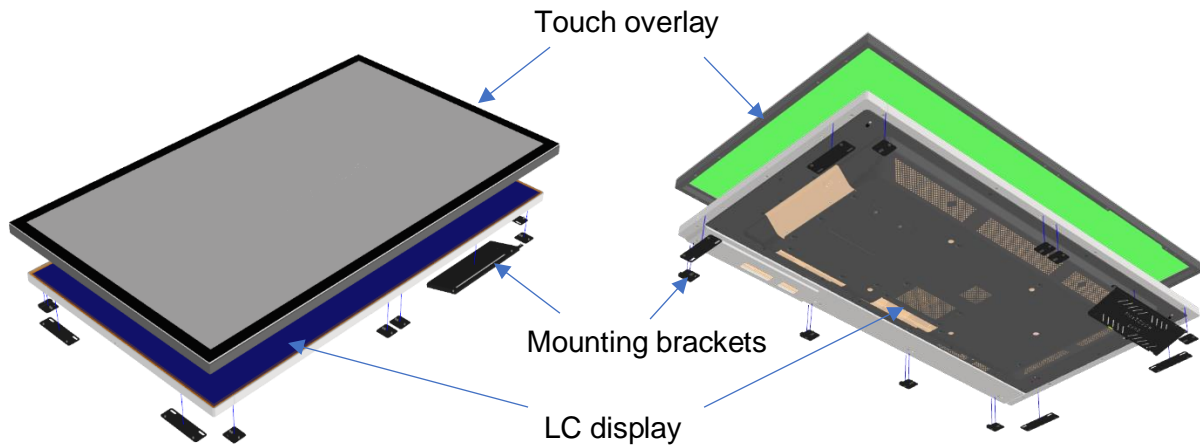


Figure 1: Exemplary exploded view of fluxTOUCH gen3 touch overlay and LC display

4.3 Specifications

Model Number	Used display model	Size* ¹	simultaneous touch points
fluxTOUCH-gen3-55V	NEC V554Q	55" (16:9)	80
fluxTOUCH-gen3-65V	NEC V654Q	65" (16:9)	80
fluxTOUCH-gen3-65P	NEC P654Q	65" (16:9)	80

*¹ Drawings can be downloaded from <https://exactsolutions.de/en/produkte/fluxtouch-en/>

Parameter	Value
Touch technology	PCAP Metal Mesh (projected mutual capacitance technology)
Touch Input	Finger, thin gloves, active pens, TOR (Tangible Object Recognition)
Accuracy	>99% of true position
Touch refresh rate (Time between touch position updates)	Greater than 100 Hz (<10ms)
HID compatibility/ Native Driver Support	Windows 7, 8, 10 (other OS, like Linux, are supported too but may not provide all functions and not all versions may be compatible)
3M Driver Support	Windows 7, 8, 10; for more information visit: https://www.3m.com/3M/en_US/touch-systems-us/resources/3m-touch-drivers-and-kernel-patches/
3rd-party Driver	Mac OS (Intel)
Power supply	USB powered
Front glass	4 mm heat tempered safety glass with anti-glare surface
Size	Drawings incl. weight indication can be downloaded from https://exactsolutions.de/en/produkte/fluxtouch-en/
Weight	
Operation time	24/7
Operation area	Only indoor

5. Setup and operation



Warning: Setup, Handling, Service must be done by a qualified person! Qualified persons are specialists like electricians or persons with similar or higher qualification



Note: This user's manual is an addendum to the standard user's manuals of the basis NEC LC displays listed in 4.3 Specifications. Read the original Manuals carefully before setting up the corresponding fluxTOUCH gen3 product.



Attention: fluxTOUCH gen3 works with projected mutual capacitance technology, electromagnetic radiation in the environment can interfere with the touch sensing and may lead to incorrect functionality. Keep electromagnetic radiation sources away from the product.

5.1 Notes on installation and operation

The fluxTOUCH gen3 was carefully inspected and subjected to a functional check before delivery. The high-quality packaging is designed to prevent damage in transit. Even with the most careful handling, damage cannot be completely avoided. Possible transport damage must be communicated immediately after receiving. Check the completeness of the delivery using the parts list (chapter 3. Scope of delivery).



Attention: The device shall only be installed with an intact cable. Check cables and connectors before installation



Attention: Check the fluxTOUCH gen3 including LC display for intactness before installation.



Attention: Use the provided specified cables with this product so as not to interfere with radio and television reception. For USB please use a shielded signal cable with ferrite core. For HDMI, DisplayPort and D-Sub 9-pin, please use a shielded signal cable. For Audio, please use a signal cable with ferrite core. Use of other cables and adapters may cause interference with radio and television reception.



Any handling of the devices must be carried out by at least two people. Additional people may have to be included in the installation process.

5.2 Mechanical setup



Attention: Not all kind of mechanical installation is allowed. Please refer to the following instructions and to the standard user's manuals of the basis NEC LC displays listed in 4.3 Specifications to prevent injury or damage.



Note: The fluxTOUCH gen3 is mounted to the LC Display in delivery condition. There is no need to attach or screw off mechanical parts. Do not unscrew anything because personal injury or product damage can occur.



Note: This user's manual is an addendum to the standard user's manuals of the basis NEC LC displays listed in 4.3 Specifications. Read the corresponding original manual carefully before starting the mechanical set up of the fluxTOUCH gen3 product.

Orientation

The device can be mounted in landscape, in portrait or in face up mode. It must be mounted to a suitable mounting bracket, table stand or floor stand. Always use the correct mounting brackets and mounting material.

Face Up Installation:

Not all displays are allowed to be installed horizontally, "Face Up". Check the display operation manual and contact your vendor.

Always make sure that the display is mechanically supported in a way that it can't bend or twist. It is recommended to use the VESA mounting holes to mount the display to your construction, additionally the display boarder has to be support by your construction.

Please make sure the display can endure the way you want to install it, contact us for special installations. In some cases it might be necessary to install additional fans to guarantee a safe ventilation of the display.



WARNING: Make sure to use correct mounting brackets and mounting material to fix the fluxTOUCH gen3 to a supporting structure like a wall or floor. Also make sure the supporting structure is capable of carrying the overall weight

5.3 Electrical setup



Note: This user's manual is an addendum to the standard user's manuals of the basis NEC LC displays listed in 4.3 Specifications. Read the corresponding original manual carefully before starting the electrical set up of the fluxTOUCH gen3 product.

1. Connect the NEC display like described in the corresponding original NEC manual to power and PC. The assignment of the different models can be found in chapter 4.3 Specifications.



WARNING: Electrical work shall only be done by a fully qualified and trained electrician. Follow the local laws and regulations.

If you want to use the remote control of the display, for example to set the correct image source, please note that the infrared receiver is located at the bottom-right part of the outer frame (viewed from front, see Figure 2)

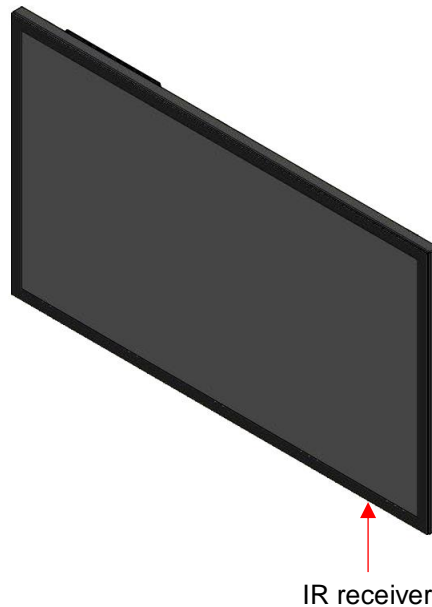


Figure 2: Position of IR receiver

2. To set up the touch function connect one end of the included USB cable A-male/A-male to the USB port (A-female) at the controller box located at the upper right corner (backside view, see Figure 3) of the fluxTOUCH gen3 overlay and connect the other end to your PC.

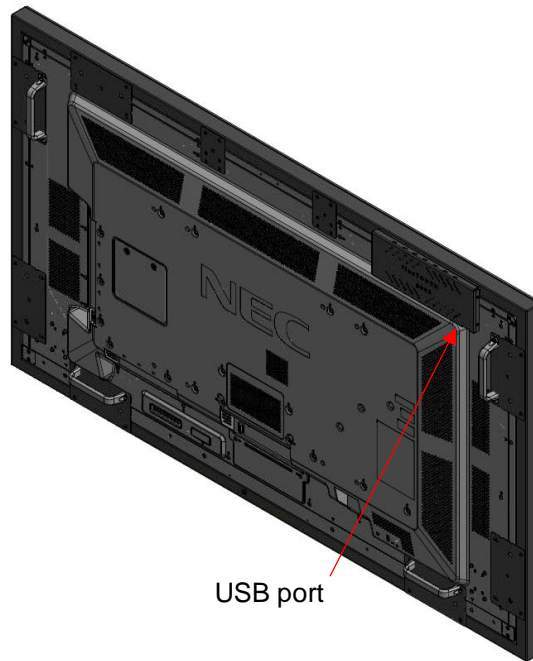


Figure 3: Position of USB port

3. As fluxTOUCH gen3 is a HID device no further steps are necessary, the operating system recognises the fluxTOUCH gen3 automatically after connecting the USB cable. If you want to use 3M driver software please refer to the original 3M™ MicroTouch™ MT7 Software manuals. The original 3M manuals can be downloaded from www.exactsolutions.de.



Note: If the touch is not working please check the USB connection and possibly change the USB port at the PC. If that doesn't help refer to chapter 6 Errors, causes, measures



Note: Not all operating systems support HID native touch, so please make sure your PC can handle HID touch devices. More information regarding compatible operating systems can be found in chapter 4.3 Specifications.

5.4 Operation

As fluxTOUCH gen3 works with projected mutual capacitance technology please note that PCAP technology can be sensitive to electromagnetic radiation in the environment. It's recommended to check for electromagnetic radiation sources at the installation place in the forefront and keep them away from the fluxTOUCH gen3.

5.4.1 Cleaning instructions

The glass surface should be cleaned regularly with a soft, lint free cloth and a mild detergent if necessary. Do not use aggressive detergents. Be sure to follow solvent manufacturer's precautions and directions for use when using any solvents.

- It is important to avoid using any corrosive or caustic chemicals on the front glass

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- Always dampen the cloth and then clean the sensor. Be sure to spray the cleaning liquid onto the cloth, not the sensor, so that drips do not seep inside the display or stain the bezel.
- Apply the cleaner with a soft, lint-free cloth. Avoid using gritty cloths.

The cabinet should only be gently wiped with a soft, dry cloth. Never immerse the product into water!



NOTE: Unplug the power supply before cleaning.

DO NOT clean with benzene thinner, alkaline detergent, alcoholic system detergent, wax, polish cleaner, soap powder or insecticide. Rubber or vinyl should not be in contact with the cabinet for an extended period of time. These types of fluids and materials can cause paint to deteriorate, crack or peel.



NOTE: If you are using TOR (Tangible Object Recognition) products with the fluxTOUCH gen3 make sure that the glass surface is always clean to prevent scratches from particles between TOR Chips and glass surface.

6 Errors, causes, measures

In the following you will find possible errors, their causes and measures. Contact us or your vendor if malfunctions or errors occur.



Note: This user's manual is an addendum to the standard user's manuals of the basis NEC LC displays listed in 4.3 Specifications. Read the corresponding original manual and especially the chapter about trouble shooting before starting to take measures.



The hardware tests and possible measures required in the event of faults must be carried out by qualified persons! Qualified persons are professionals such as electricians and persons with equivalent or higher qualifications.



WARNING: Do not replace defective or faulty parts with parts that have not been approved by the manufacturer. This can lead to serious injuries and property damage

Error	Cause	Measure
No touch function.	<ul style="list-style-type: none"> • No USB Connection • PC doesn't recognise touch overlay • Internal error of touch overlay 	<ul style="list-style-type: none"> • Check USB port and cable connection, try another USB port or replace the USB cable if necessary • Try to connect with another PC • Contact your vendor
Touch is not working well	<ul style="list-style-type: none"> • Bad USB connection 	<ul style="list-style-type: none"> • Check USB port and cable connection, try another USB port or replace the USB cable if necessary

Touch is not calibrated	<ul style="list-style-type: none"> • Accidentally reset calibration data or inaccurate calibration 	<ul style="list-style-type: none"> • Calibrate the touch overlay with the corresponding calibration procedure of the operating system
No picture	<ul style="list-style-type: none"> • No power supply • No or bad signal cable connection 	<ul style="list-style-type: none"> • Check the power cable and power switch of the display • Refer to the corresponding original basis NEC LC display manual
Remote control of display is not working	<ul style="list-style-type: none"> • Remote control is not pointed in correct direction 	<ul style="list-style-type: none"> • Point the remote control in correct direction. Refer to 5.3 Electrical setup
Dust, stains or particles in active screen area	<ul style="list-style-type: none"> • Dust, stains or particles got behind the front glass 	<ul style="list-style-type: none"> • Contact your vendor. Do not try to remove the touch overlay by yourself

7. Disposal of components



Note: This user's manual is an addendum to the standard user's manuals of the basis NEC LC displays listed in 4.3 Specifications. Read the corresponding original manual and especially the chapter about disposal before starting to dispose components or entire devices.

7.1 Steel parts and packaging

All steel parts and packaging can be recycled.

7.2 Disposal of entire devices

You have the possibility to send old devices back to us. Please note that you have to take over the transportation costs for this. Please send the devices to:

EXACT solutions GmbH
Lustheide 85
51427 Bergisch Gladbach
GERMANY

Imprint

EXACT solutions GmbH
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GERMANY

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