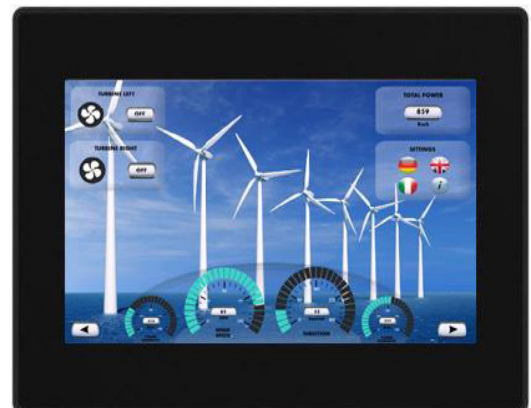# Panasonic®

Touch Terminals

HMe Series
Instruction Manual

Subject to change without notice.

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Please direct support matters and technical questions to your local Panasonic representative.

Table of contents

1. Introduction

This instruction manual contains information about the installation, transportation, storage, assembly, use and maintenance of touch terminals of the HMe series.

The following models are available:

HMe04 Touch terminal with TFT color 4.3" widescreen display touchscreen

HMe07 Touch terminal with TFT color 7" widescreen display touchscreen

HMe10 Touch terminal with TFT color 10.1" widescreen display touchscreen

2. Important symbols

One or more of the following symbols may be used in this documentation to indicate the type of hazard.

⚠ DANGER

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

⚠ WARNING

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

⚠ CAUTION

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

❗ Notice

Indicates a property damage message.

3.   Special instructions for use

- The product shall only be used in an area of not more than pollution degree 2, as defined in IEC/EN 60664-1.

- The product shall be installed in an enclosure that provides a degree of protection not less than IP54 in accordance with IEC/EN 60079-7.

- Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the product.

- Install the product according to the accompanying installation instructions.

- Ground the product according to the accompanying installation instructions.

- Only qualified personnel may install or repair the product.

- Keep the faceplate of the product clean. The product must be cleaned only with a soft cloth and neutral soap product. Do not use solvents.

- This product should not be used for purposes and methods other than indicated in this document and in the documentation accompanying the product.

4.   Standards and approvals

The products have been designed for use in an industrial environment in compliance with the 2014/30/EU EMC Directive.

The products have been designed in compliance with:

EN 61000-6-4	EN 55011 Class A	EN 60079-0
EN 61000-6-3	EN 55022 Class B	EN 60079-7
		EN 60079-11
EN 61000-6-2	EN 61000-4-2	
EN 61000-6-1	EN 61000-4-3	
	EN 61000-4-4	
	EN 61000-4-5	
	EN 61000-4-6	
	EN 61000-4-8	

The installation of these products in residential, commercial and light-industrial environments is allowed only in the case that special measures are taken in order to ensure conformity with EN 61000-6-3.

The products are in compliance with the Restrictions on Certain Hazardous Substances (RoHS) Directive 2011/65/EU.

In compliance with the above regulations the products are CE marked.

5. Product overview

The HMe series touch terminals combine state-of-the-art features and top performance with an outstanding design. They are the ideal choice for all demanding HMI applications including factory and building automation.

The HMe series touch terminals have been designed to run the software HMWIN Studio.

- Compatible with HMWIN Studio.
- Full vector graphic support. Native support of SVG graphic objects, transparency and alpha blending.
- Screen object dynamics: control visibility and transparency, move, resize, rotate any object on screen. Change properties of basic and complex objects.
- Multilanguage applications with TrueType fonts. Easily create, install and maintain applications in multiple languages to meet global requirements.
- Data display in numerical, text, bargraph, analog gauges and graphic image formats.
- Rich set of state-of-the-art HMI features: data acquisition and logging, trend presentation, alarm handling, scheduler and timed actions (daily and weekly schedulers, exception dates), recipes, security and user management, email and RSS feeds.
- Wide selection of communication drivers available with multiple-driver communication capability.
- Remote monitoring and control with client/server functionality.
- On-line and Off-line simulation with HMWIN Studio.
- Powerful scripting language for automated HMI applications. Efficient script debugger improves productivity in application development.
- Rich gallery of vector symbols and objects.

6. Product identification

The product may be identified through a plate attached to the rear cover. You will have to know the product type you are using for correct usage of the information contained in the manual.

The following information is provided by the plate:

- Product model name
- Product part number
- Year/week of production
- Version ID of the product
- Serial number

7.   Technical data common to all models

7.1   Hardware specifications

Touchscreen technology	Resistive
Real-time clock back-up	Supercapacitor
Fuse	Automatic
Serial port	RS232, RS485, RS422 software configurable
Recipe memory	Flash
Real-time clock	Clock/calendar with supercapacitor back-up
Accuracy real-time clock (at 25°C)	<100ppm

7.2   Environmental conditions

Operating temperature (surrounding air temperature)	0 to +50°C	EN 60068-2-14
Storage temperature	-20 to +70°C	EN 60068-2-14
Operating and storage humidity	5–85% RH non-condensing	EN 60068-2-30
Vibrations	5–9Hz, 7mm $_{p-p}$ 9–150Hz, 1g	EN 60068-2-6
Shock	±50g, 11ms, 3 pulses per axis	EN 60068-2-27
Degree of protection	IP66 (front), IP20 (rear) * see note	EN 60529
Pollution degree environment	2	

*   The front face of the product, installed in a solid panel, has been tested using conditions equivalent to the standards shown in this section. Even though the level of resistance of the product is equivalent to these standards, oils that should have no effect on the product can possibly harm it. This can occur in areas where either vaporized oils are present, or where low viscosity cutting oil is allowed to adhere to the product for long periods of time. If the front face protection sheet on the product gets peeled off, these conditions can lead to the ingress of oil into the product and separate protection measures are suggested. If the installation gasket is used for a long period of time, or if the product and its gasket are removed from the panel, the original degree of the protection cannot be guaranteed.

7.3   Electromagnetic compatibility (EMC)

Radiated disturbance test	Class A	EN 55011
Electrostatic discharge immunity test	8kV (air electrostatic discharge) 4kV (contact electrostatic discharge)	EN 61000-4-2
Radiated, radio frequency, electromagnetic field immunity test	80MHz–1GHz, 10V/m 1.4–2GHz, 3V/m 2–2.7GHz, 1V/m	EN 61000-4-3
Burst immunity test	±2kV DC power port ±1kV signal line	EN 61000-4-4
Surge immunity test	±0.5kV DC power port (line to earth) ±0.5kV DC power port (line to line) ±1kV signal line (line to earth)	EN 61000-4-5
Immunity to conducted disturbances inducted by radiofrequency field	0.15–80MHz, 10V	EN 61000-4-6

## 7.4   Durability information

Backlight service life (LED type)	20000 hours or more (Time of continuous operation until the brightness of the backlight reaches 50% of the rated value when the surrounding air temperature is 25°C) * see note
Front foil (without direct exposure to sunlight or UV rays)	10 years if the surrounding air temperature is 25°C
UV resistance	Indoor applications: After 300 hours cycled humidity in QUV accelerated weathering, some yellowing and brittleness may be present.
Surface resistance	Contact for ½ hour at 21°C, no visible effect: acetone, butyl cellosolve, cyclohexanone, ethyl acetate, hexane, isopropyl alcohol, mek, methylene chloride, toluene, xylene Contact for 24 hours at 49°C, no visible effect: coffee, ketchup, lemon juice, mustard (slight yellow stain), tea, tomato juice
Touchscreen reliability	>1 million operations

*   Extended use in environments where the surrounding air temperature is 40°C or higher may degrade backlight quality, reliability or durability.

7.5   Viewing angles

The viewing angles for the horizontal (L, R) and vertical (U, D) axes are specified in reference to the vertical axis of the display. The viewing angles always refer to the standard mounting orientation.

For the viewing angle values (U, D ,L, R), refer to the technical data of the respective touch terminal model.
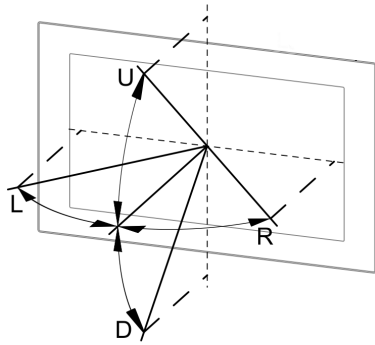
U: From top

D: From bottom

L: From left

R: From right

	HMe04	HMe07	HMe10
Horizontal viewing angle	L/R: typ. 70°	L/R: typ. 70°	L: typ. 60° R: typ. 70°
Vertical viewing angle	U: typ. 70° D: typ. 50°	U: typ. 50° D: typ. 70°	U/D: typ. 70°

8. Technical data by model

	HMe04	HMe07	HMe10
Display / Backlight	TFT color / LED		
Colors	64K		
Resolution (pixel)	480 x 272	800 x 480	1024 x 600
Brightness	200cd/m² typ.		
Display size (inch)	4.3" widescreen	7" widescreen	10.1" widescreen
Dimming	yes		
Flash memory	2GB	4GB	4GB
RAM	256MB DDR	512MB DDR	512MB DDR
Operating system	Linux RT		
CPU	ARM Cortex-A8, 1GHz		
Serial port	1 (RS232, RS485, RS422 software configurable)		
Ethernet port	1x 10/100Mbit		
USB port	1 host interface version 2.0, max. 500mA		
Real-time clock	yes		
Voltage	24V DC (10–32V DC)		
Current rating (at 24V DC)	0.25A	0.30A	0.38A
Weight	0.4kg	0.6kg	1kg

9.   Product dimensions

9.1   HMe04
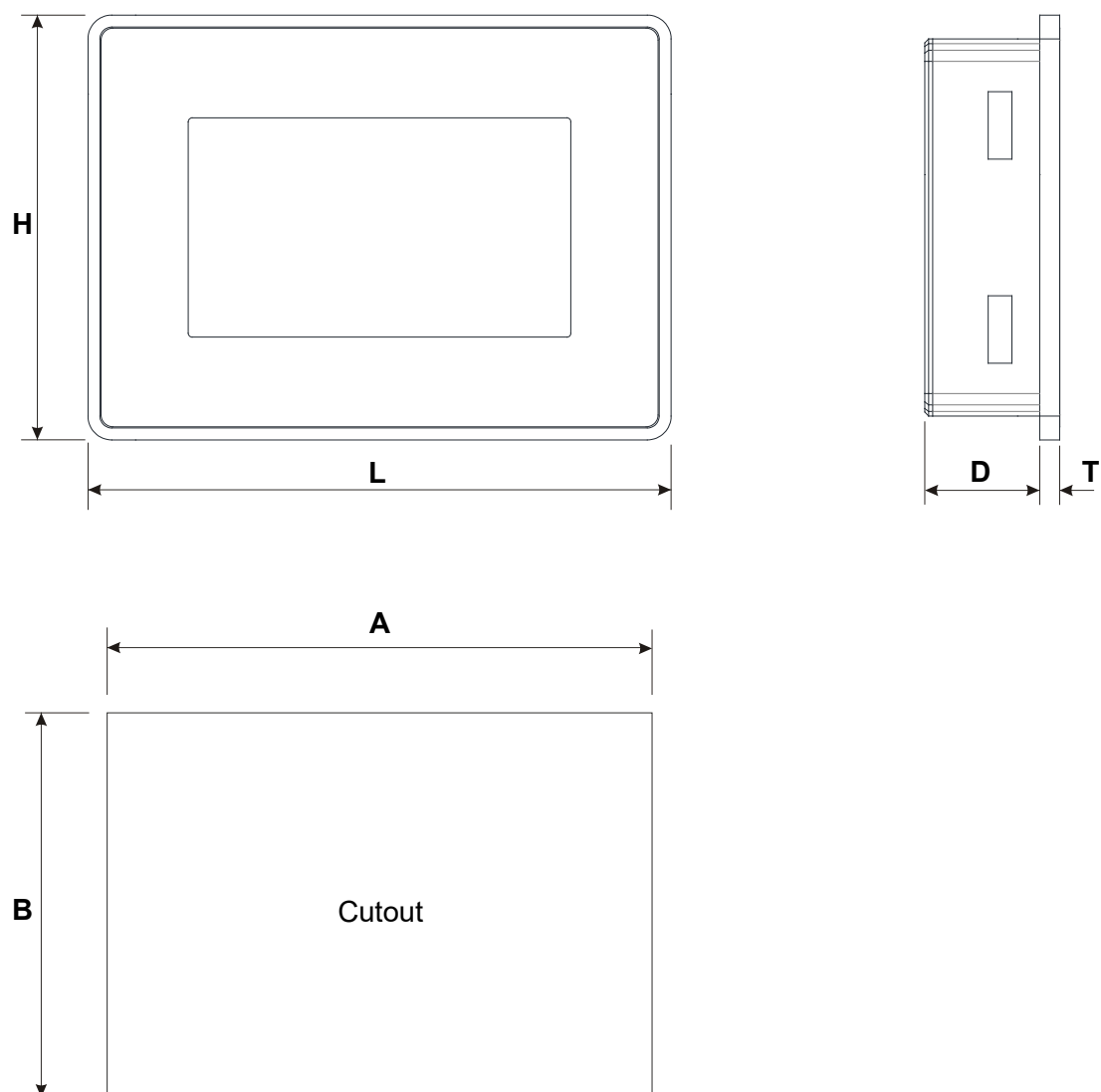
A	B	L	H	D	T
136mm	96mm	147mm	107mm	29mm	5mm

9.2   HMe07
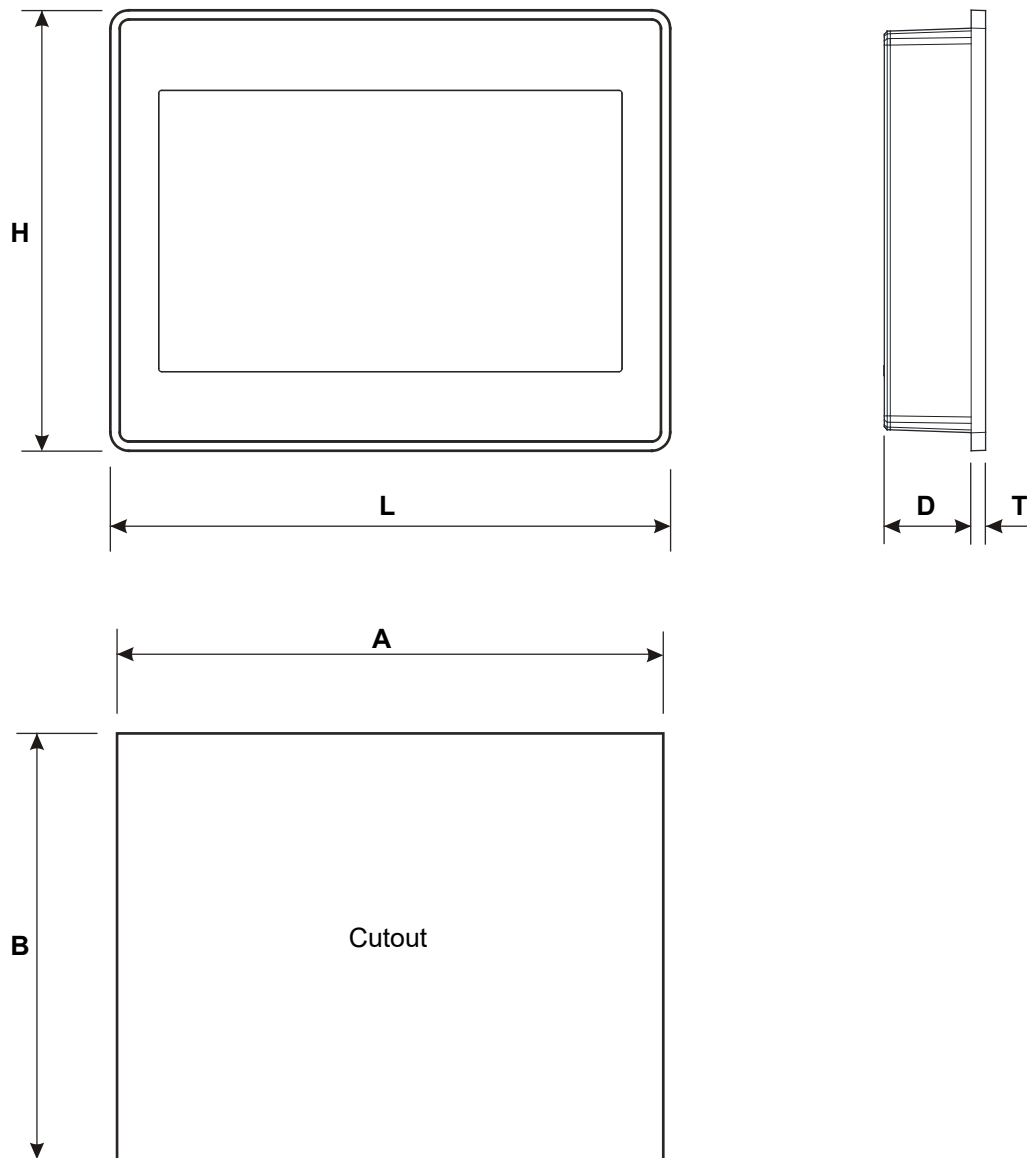
A	B	L	H	D	T
176mm	136mm	187mm	147mm	29mm	5mm

9.3 HMe10
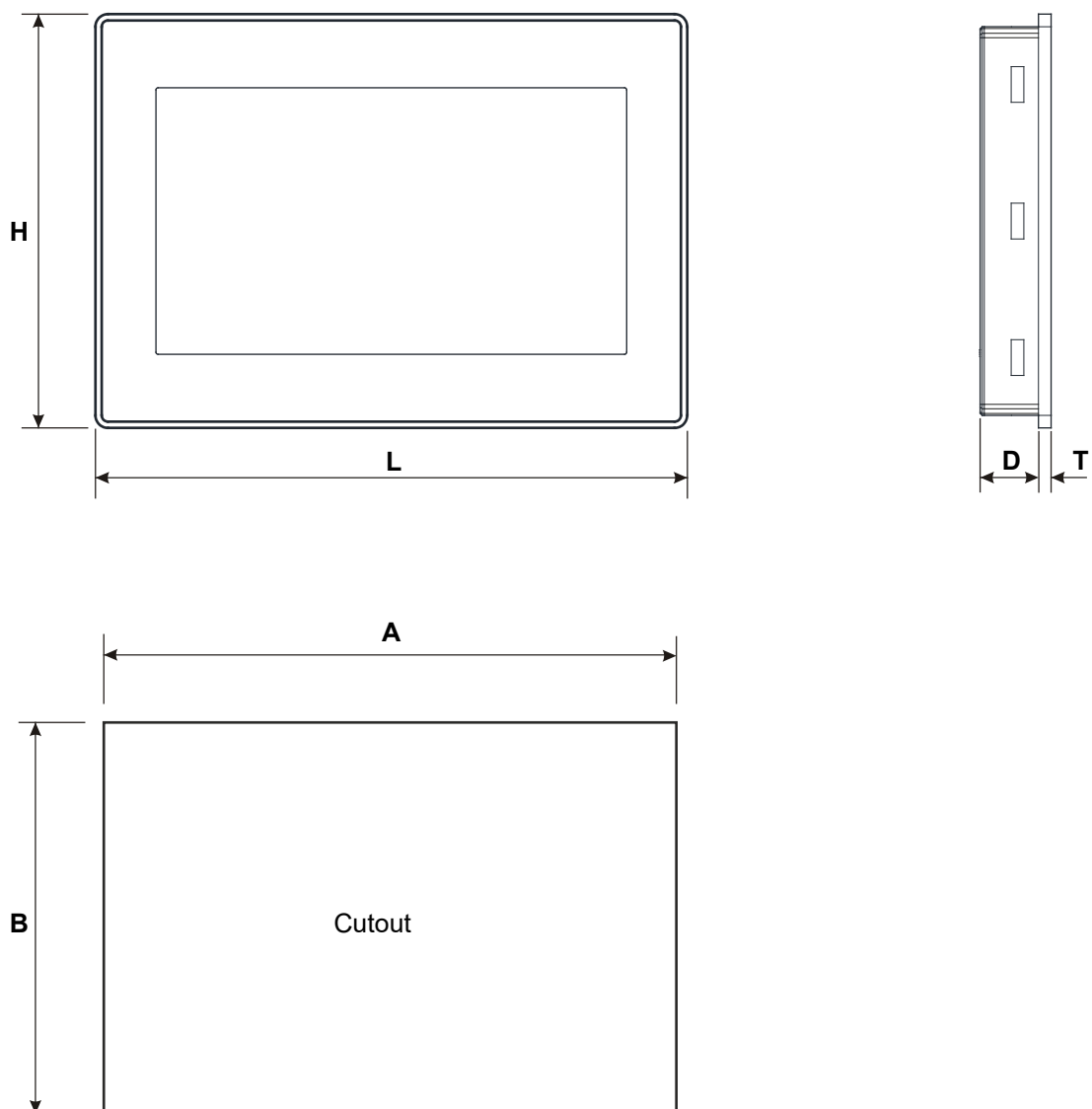
A	B	L	H	D	T
271mm	186mm	282mm	197mm	29mm	6mm

10. Unpacking and packing instructions

HMe04, HMe07
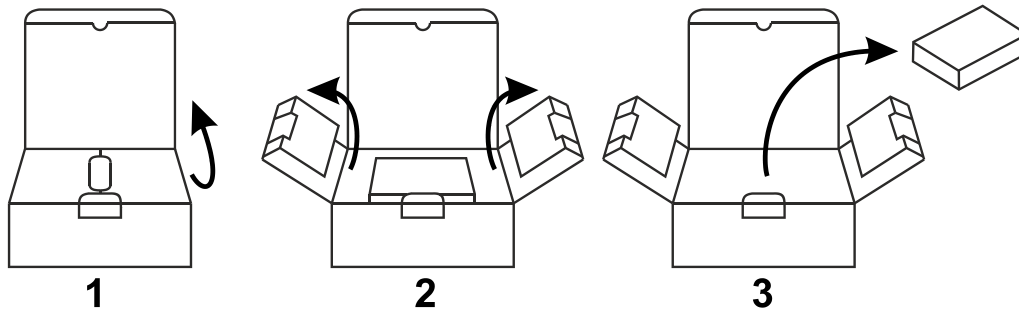
HMe10
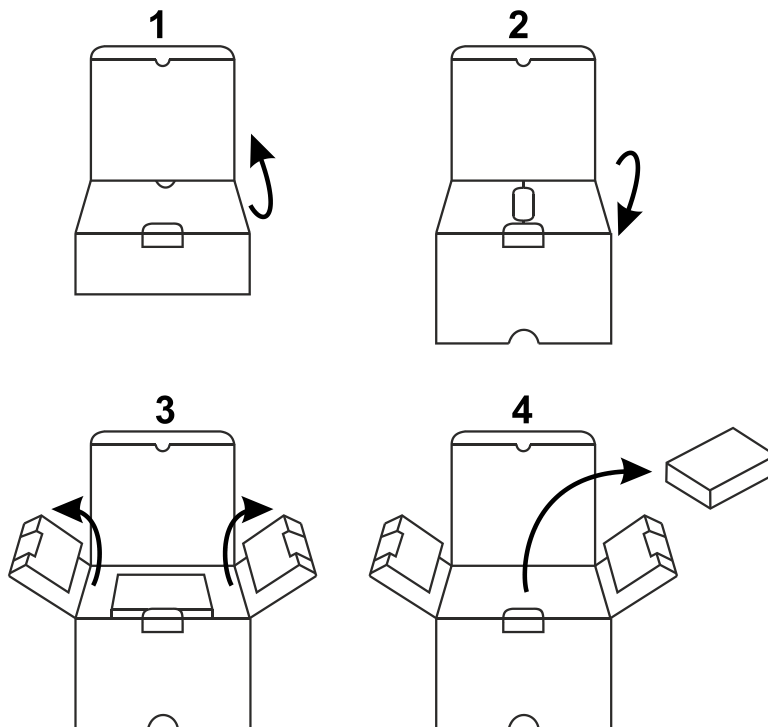
To repack the product, please follow the instructions backwards.

11. Installation

11.1 Installation environment

The product is not intended for continuous exposure to direct sunlight. This might accelerate the aging process of the front panel film.

The product is not intended for installation in contact with corrosive chemical compounds. Check the resistance of the front panel film to a specific compound before installation.

Do not use tools of any kind (screwdrivers, etc.) to operate the touchscreen of the product.

In order to meet the front panel protection classifications, proper installation procedure must be followed:

• The borders of the cutout must be flat.

• Each fixing screw must be tightened until the plastic bezel corner gets in contact with the panel.

• The cutout for the panel must be of the dimensions indicated in this manual.

IP66 is guaranteed only if:

• The max. deviation from the plane surface to the cutout is ≤0.5mm.

• The thickness of the case where the product is mounted is from 1.5mm to 6mm.

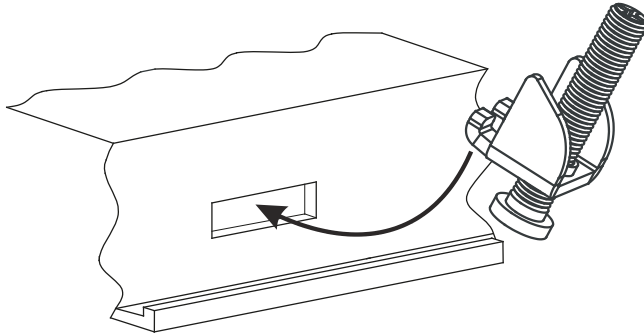• The max. surface roughness where the gasket is applied is ≤120µm.
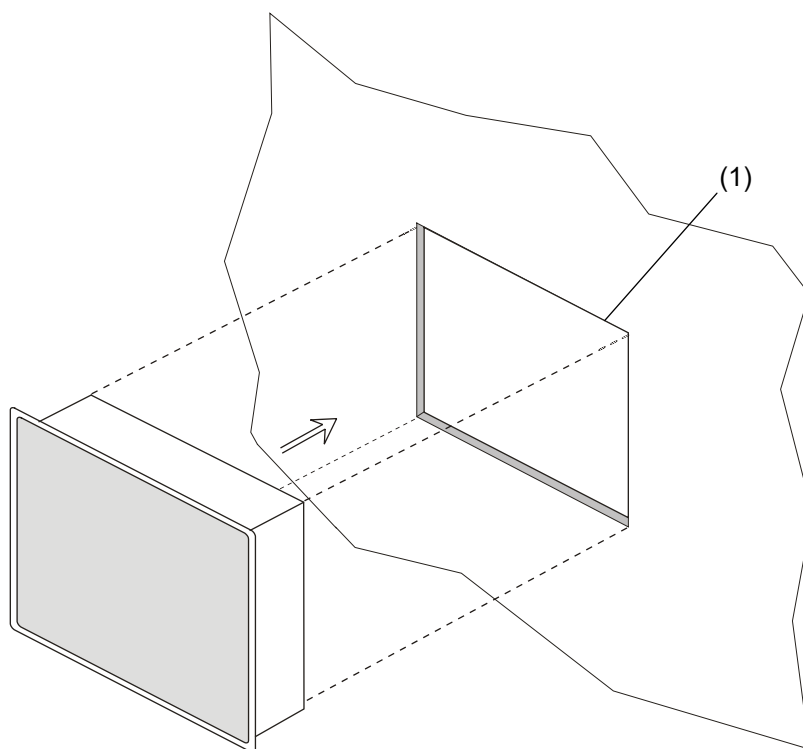
(1)   Installation cutout

11.2 Installation procedure

For details on installation, please refer to the "Installation Guide" provided with the product.

Place the fixing brackets contained in the fixing kit as shown in the following figure.
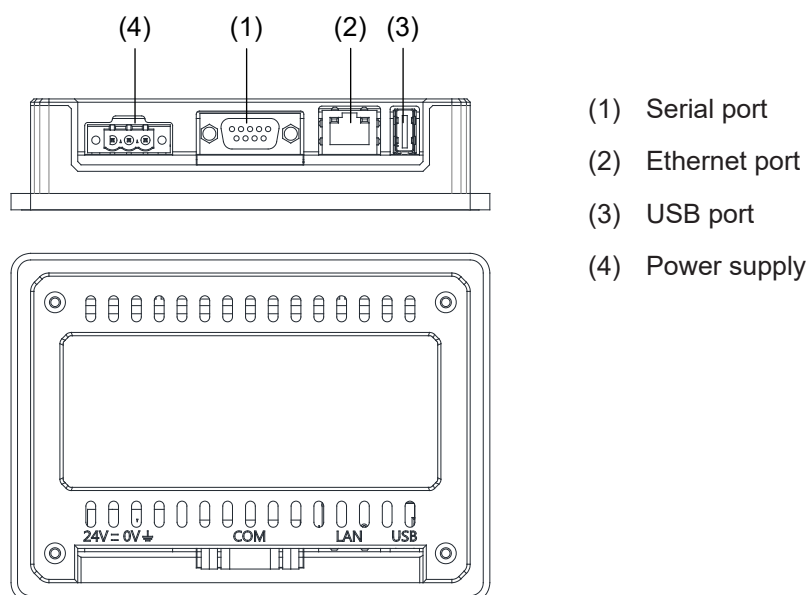

! Notice

Make sure to screw each fixing screw until the bezel corner gets in contact with the panel.
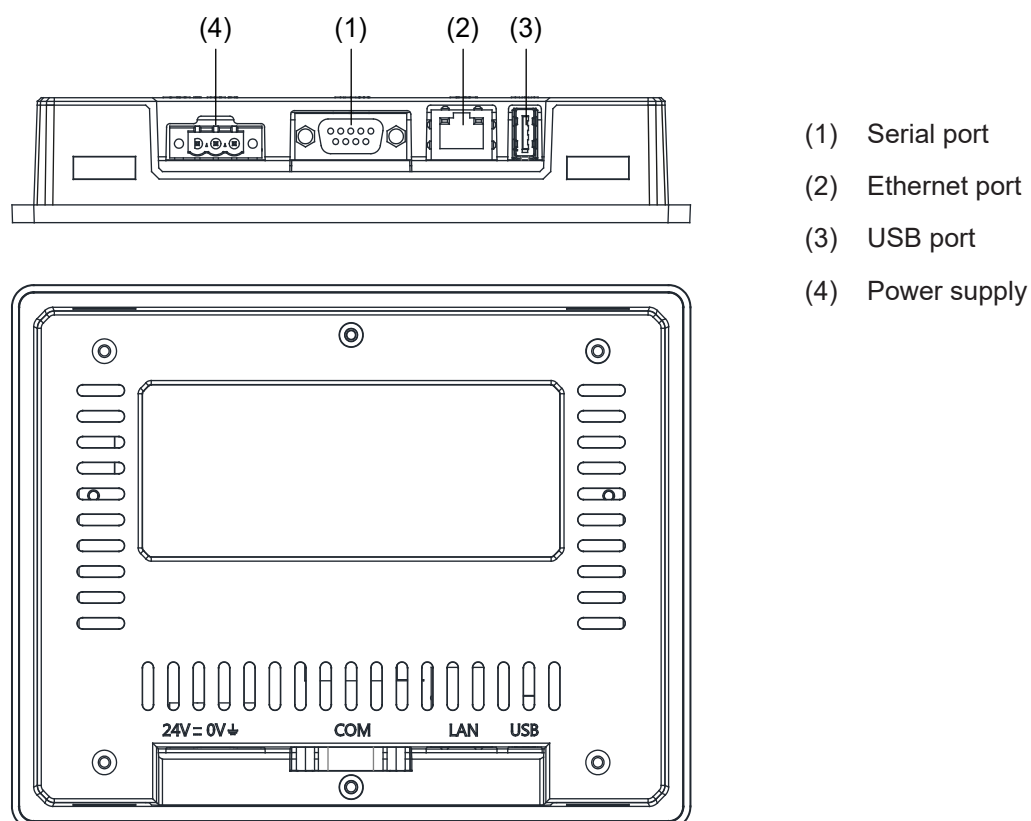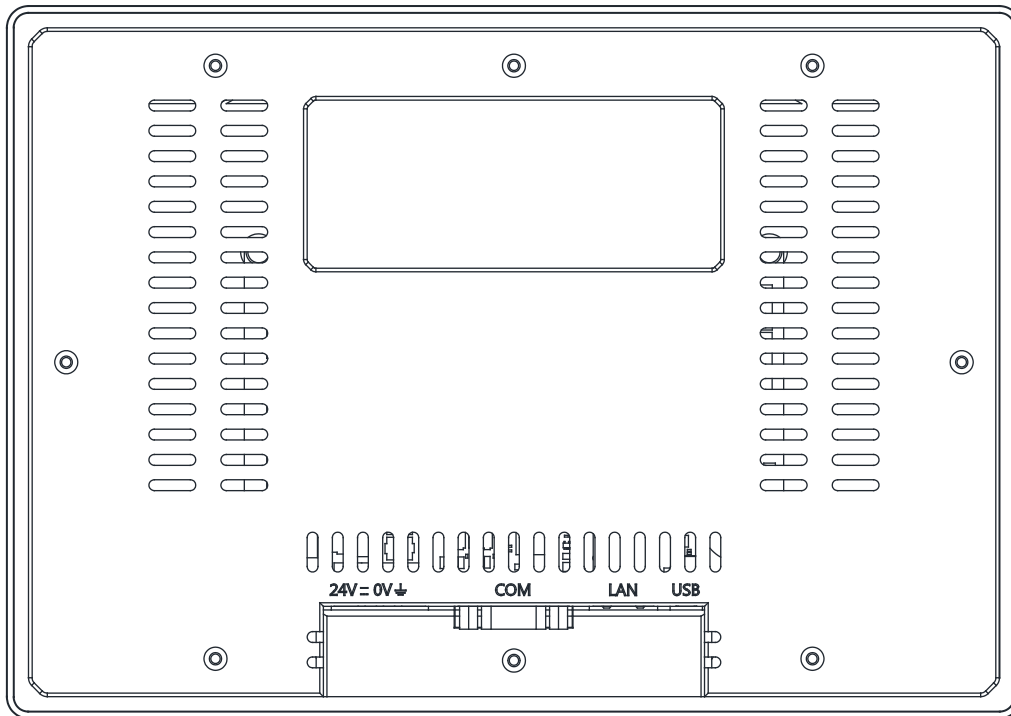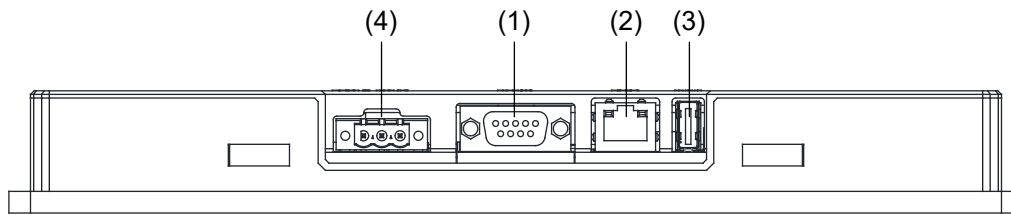
Tightening torque: 75Ncm

12. Connections

12.1 HMe04

(1) Serial port

(2) Ethernet port

(3) USB port

(4) Power supply

12.2 HMe07

(1) Serial port

(2) Ethernet port

(3) USB port

(4) Power supply

12.3 HMe10

(1) Serial port

(2) Ethernet port

(3) USB port

(4) Power supply

12.4 Serial port

The serial port is used to communicate with the PLC or with another type of controller.

Standards available for the signals in the PLC port connector are: RS232, RS422, RS485. Use the corresponding communication cable for the connection.

The serial port is software programmable. Make sure to select the appropriate interface in the programming software.

RS232

Pin	Description
1	GND
2	
3	TX
4	RX
5	
6	+5V output
7	CTS
8	RTS
9	

Serial port
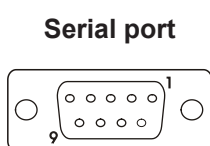
RS422, RS485

Pin	Description
1	GND
2	
3	CHA-
4	CHB-
5	
6	+5V output
7	CHB+
8	CHA+
9	

For RS485, pins 4-3 and 8-7 must be connected externally.

12.5 Ethernet port

The Ethernet port has two LED status indicators.

(1)   (2)
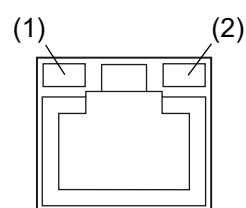
(1)   Green LED

(2)   Yellow LED

Green LED	Yellow LED	Description
ON	OFF	No LAN cable connected.
Flashes (link active)	ON	LAN cable connected with 100Mbit/s link
Flashes (link active)	OFF	LAN cable connected with 10Mbit/s link

12.6 Power supply, grounding, and shielding

The power supply terminal block is shown in the following figure.
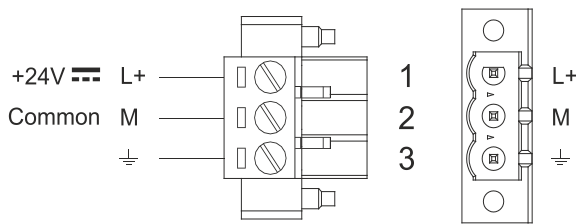
DC power connector - AWG24 wire size - R/C terminal blocks (XCFR2), female pitch 5.08mm, torque 4.5lb-in

3 conductors, minimum 1.5mm² wire diameter, minimum temperature conductor rating 105°C

NOTE

Make sure that the power supply has sufficient power capacity for the operation of the product.

The product must always be grounded to earth using a wire with a minimum diameter of 1.5mm². Grounding helps limit the effects of noise due to electromagnetic interference on the control system.

Earth connection must be done using either the screw or the faston terminal located near the power supply terminal block. A label identifies the ground connection. Also ground the terminal 3 on the power supply terminal block.

The power supply circuit may be floating or grounded. In the latter case, the power source common is connected as indicated with a dashed line in the following figure. When using the floating power scheme, note that internally the power common is connected to the ground with a 1MΩ resistor in parallel with a 4.7nF capacitor. The power supply must have double or reinforced insulation. The suggested wiring for the power supply is shown in the following figure.
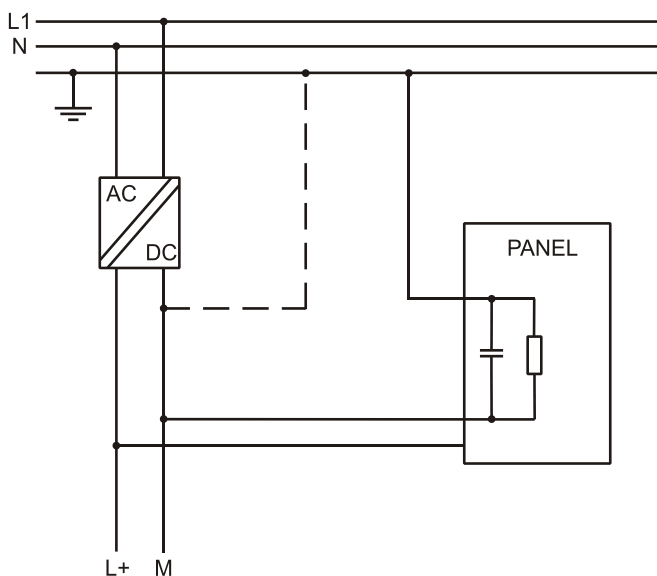
All the electronic devices in the control system must be properly grounded. Grounding must be performed according to applicable regulations.

13. Getting started

The HMe series touch terminals must be programmed with the programming software HMWIN Studio (starting from v2.6), a Windows application.

There are two options to transfer an HMWIN application project to a touch terminal:

Ethernet

Connect the touch terminal via the Ethernet interface to a personal computer running the HMWIN Studio software. Select "Run/Download to target" in HMWIN Studio.

Make sure that the firewall policy is configured in a way that allows HMWIN Studio to access the network.

USB

Create an update package using the HMWIN Studio software and copy it to an USB flash drive.

For more details about HMWIN Studio, refer to the help topics in the software.

14. Touchscreen calibration

The HMe series touch terminals support the calibration of the interface. To start calibration do the following:

• Tap on the surface of the touchscreen during the power-up phase of the device. The tapping frequency must be high. Start tapping the touchscreen as soon as power has been supplied to the touch terminal. The message "TAP-TAP DETECTED" appears when the operating sequence has been recognized.

• Release the touchscreen and wait a few seconds until the message "ENTERING SYSTEM SETTINGS" appears.

• Touch and hold the touchscreen for a few seconds and select "TOUCHSCREEN CALIBRATION".

15. Disposal

Used electrical and electronic products must not be placed in general household waste. For proper treatment, recovery and recycling of old products, take them to applicable collection points in accordance with your national legislation.

By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment.

For more information about collection and recycling, please contact your local municipality.

16. Record of changes

ACGM0195V5EN, January 2023

- Deleted the chapter "System settings tool"
- Added the chapters "Special instructions for use" and "Disposal"
- Updated the chapter "Standards and approvals"
- Updated company name and back page
- Modified the manual design

ACGM0195V4EN, April 2021

- Added information about the viewing angles of the displays
- Updated website URL
- Updated back page

ACGM0195V3EN, February 2019

- Removed the pictures of the rating plates
- Added "Important symbols" page

ACGM0195V2EN, June 2018

- Added the model HMe04
- Updated the phone number of the Polish office and deleted the fax number on the back page

ACGM0195V1EN, September 2017

First edition