OMRON

CREATE AND OPERATE

NQ HMI series

» Powerful HMI features

» High quality display

» Create applications quickly

reali**zing**

OMRON

Powerful, colour HMI
in a compact format

The NQ series, Omron's family of easy to use economic HMI terminals, offers you many useful features, with the best quality graphical display in even the smallest touch screen. This makes the NQ family ideal for many different applications, from a simple semi-automatic packaging machine up to a bigger in-line packaging or filling machine.

More functionality and flexibility at no extra cost

The smallest version of the NQ series is ideal in places where operators are currently using pushbuttons and lamps, or text based function-key terminals, by offering more functionality and flexibility without increasing overall costs. The NQ touch screen gives you the functionality to create intuitive screens for the operator with ready-to-use buttons and lamps from the library, alarm handling and even trending and logging of historical data.

The colour displays ensure you get the full benefits of the NQ HMI series' functionality, as the clarity and brightness of the screen make the coloured status alarms 'jump out' to clearly inform the operator.

As well as the use of the touch screen, the operator can use the 5 or 6 function keys for commonly used functions throughout the HMI application.

Updating the HMI application or uploading historical data from the NQ can be done easily and quickly with a standard USB stick. This means that you can supply the new HMI application to the end user for on-site updating.

Create modern applications easier and faster

All the NQ HMI family models come with many features for fast creation of modern looking applications. The USB ports allow easy connection and data transfer between the HMI and PC, while the serial communication ports enable connection to many popular devices for the exchange and display of data. As well as the large family of Omron PLCs, the NQ HMI can also interface with a wide range of non-Omron devices by supporting dedicated and open communication protocols.

Texts can be defined in nine different languages with support for Latin, Cyrillic, and Asian characters. Furthermore, the real time clock and the graphical features, like analogue meters and bar graphs, mean that you can upgrade the functionality of machines with ordinary switches or buttons. Alarms are shown in real time and can be printed, while historical data can be displayed as a trend, or uploaded in CSV format.

Diversity for flexibility

The NQ series comes in different display sizes and in a colour and monochrome version. All of them display clear and sharp pictures, buttons, text and graphs on a modern touch screen.

All versions have two USB ports and in addition to the touch screen, a minimum of five function keys on the right side, which enable quick activation of the most commonly used functions.

Connectivity

The NQ HMI can connect in many different ways using Serial connection, Ethernet connections and USB. With these physical connections and the many protocol drivers available, you can communicate to many different Omron and non-Omron devices, like PLCs, inverters and temperature controllers. The NQ HMI collects all the data and can quickly visualize it graphically. Data stored in the NQ HMI can be easily transferred to a memory stick or PC.
With all these possibilities the NQ HMI gives you the choice to create from where and how you want to gather data, so that operation of your machine is easy and intuitive.

Ethernet

The NQ TFT colour models are equipped with an Ethernet port that support communication to several Omron PLCs and can also be used for up-/downloading of project data. Using the default settings like the IP-address, you can immediately connect with Ethernet to quickly download your created project.

The Omron Ethernet FINS protocol even makes it possible to read and write data memory inside the NQ HMI from PC applications so that any data can be shared easily.

Powerful HMI features

Language support

Texts can be defined in nine different languages with support for Latin, Cyrillic, and Asian characters.

Trending and logging

Plotted trend graphs can be displayed for a graphical representation of data. The trend can show real time and historical (logged) data with a time-based axis.

Alarm handling

Alarms are shown on the screen with their actual status and text message. For each alarm you can define the condition, priority and whether it needs to be logged, so that you can create a history of occurred alarms.

Conversion

It is always possible to convert your NQ project to any model within the NQ series.

Quality display

With the NQ software you can easily design beautiful screens, showing buttons and sharp colour graphics.

Easy project updates

All NQ versions have two USB ports for easy project updates using a simple USB stick or USB cable.

Quickly accessible functions

In addition to the touch screen, a minimum of five function keys on the right side enable quick activation of the most frequently used functions.

Landscape and portrait model

The NQ 5.7 inch version, both colour and monochrome, is available in a portrait and landscape model and can therefore be installed in places where space is limited.
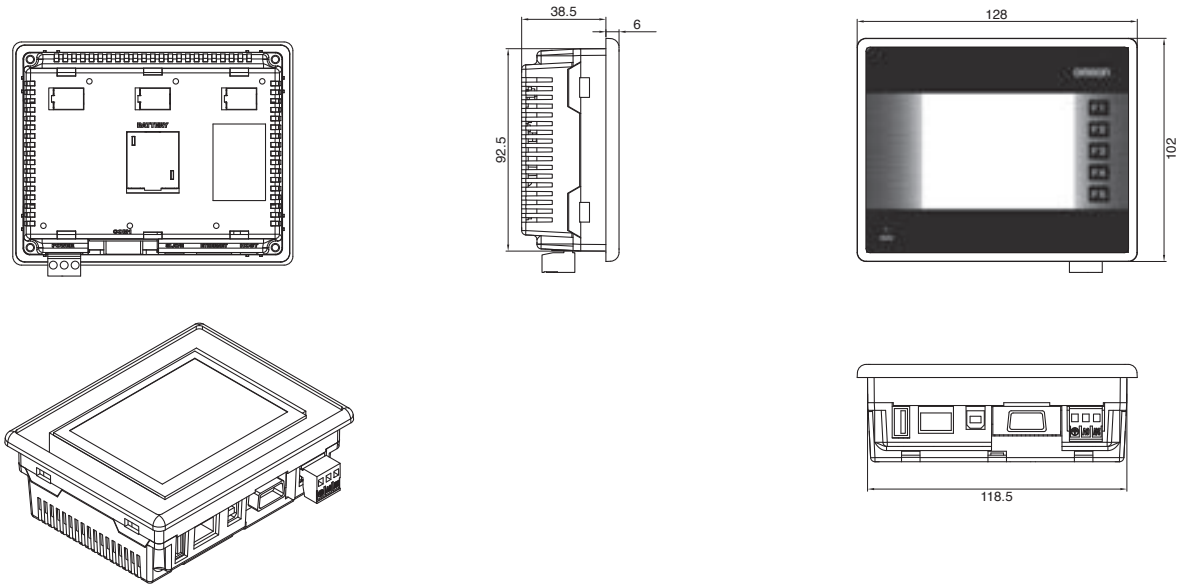
Simple software that has it all

The NQ Series has all the features needed for creating modern looking applications. Mastering the software requires little training and the library includes all the basic HMI functions plus extra buttons, lamps, graphics, and meters, including real-time and historical trending and logging.

NQ-Designer configuration software makes it easy to create your HMI application. It guides you from start to setup of your HMI project, creating nodes, tags and screens. For screens, you can create pop-up, template and keypad screens. Per screen, you can define the function keys and perform certain tasks, like calculations or read/write actions. Your project can also be tested directly on the PC with this easy to use Windows look & feel software.
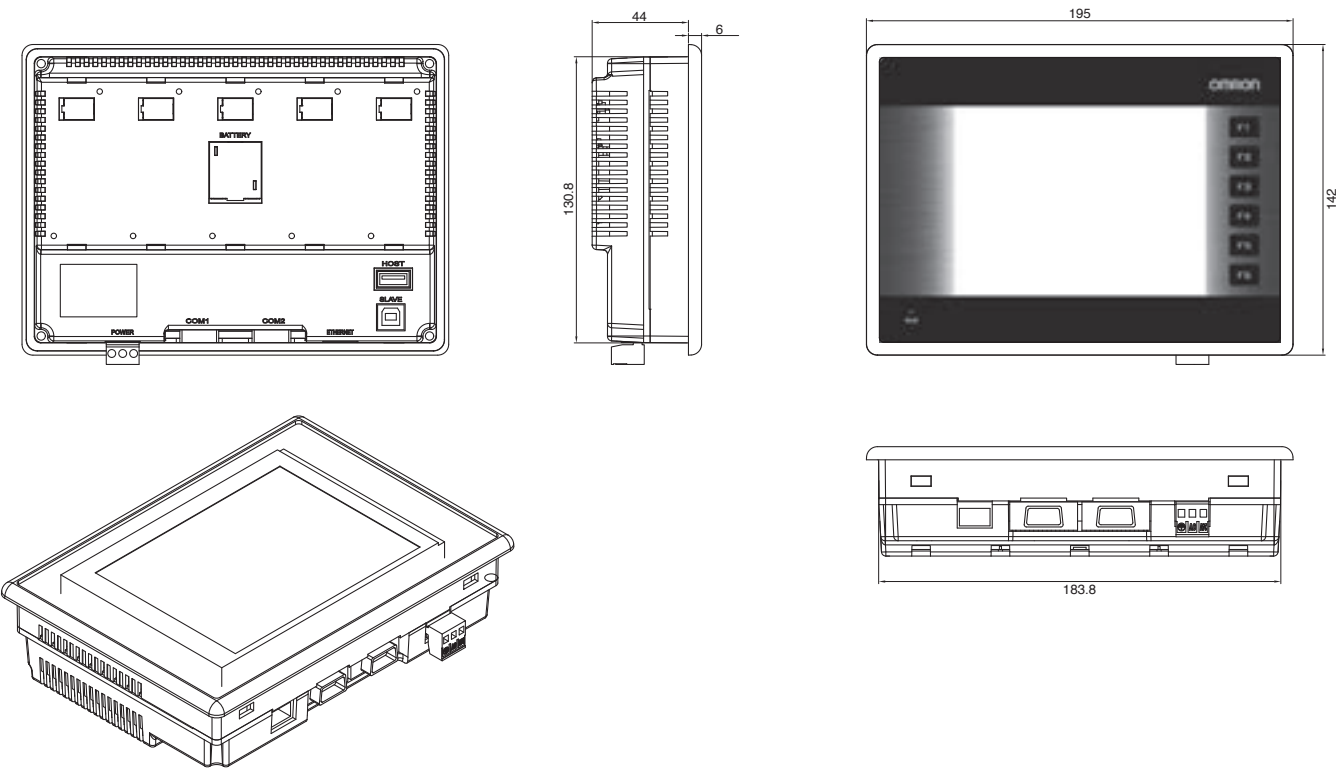
NQ HMI series

Dimensions

NQ3-TQ/MQ

38.5 · 6 · 92.5 · 128 · 102 · 118.5

NQ5-TQ/SQ/MQ

44 · 6 · 130.8 · 195 · 142 · 183.8

NQ HMI series

Specifications

Item	NQ5-TQ	NQ5-SQ	NQ5-MQ	NQ3-TQ	NQ3-MQ
Display type	5.7 inch Colour TFT	5.7 inch Colour STN	5.7 inch Monochrome STN blue mode	3.5 inch Colour TFT	3.8 inch Monochrome FSTN black/white
Display resolution	320×240 (QVGA)				
Number of colours	256 (32.000 for image data)	256 (4096 for image data)	16 gradations	256 (32.000 for image data)	4 gradations
Backlight	LED	1×CCFL		LED	
Backlight lifetime	Min. 50,000 hours at 25°C				
Touch panel	Analogue resistive touch				
Number of functional keys	6			5	
Dimensions in mm (H×W×D)	142×195×50			102×128×44.5	
Weight	0.4 kg max.				
Screen data capacity	8 MB			8 MB	4 MB
Internal memory	Bit, Word and Retentive memory				
Serial (COM1)	1×RS-232/422/485				
Serial (COM2)	1×RS-232			–	–
USB Slave	For programming				
USB Host	For USB stick file transfer				
Ethernet	IEEE 802.3u 10Base-T/100Base-TX				
Line voltage	24 VDC ±15%				
Power consumption	12 W max.			10 W max.	
Battery	NQ-BAT01 (3 V coin battery)				
Battery lifetime	5 years (at 25°C)				
Enclosure rating (front side)	IP65				
Obtained standards	CE, cULus 508, Lloyds				
Operating environment	No corrosive gases				
Ambient operating temperature	0 to 50°C[*1]				
Ambient operating humidity	10-85% RH, no condensation				

*1 see manual for details.

Ordering information

Type			Order Code
Colour TFT	5.7 inch, 320x240 pixels	Ethernet	NQ5-TQ010-B
Colour STN	5.7 inch, 320x240 pixels	No Ethernet	NQ5-SQ000-B
		No Ethernet, Portrait model	NQ5-SQ001-B
Monochrome STN	5.7 inch, 320x240 pixels	No Ethernet	NQ5-MQ000-B
		No Ethernet, Portrait model	NQ5-MQ001-B
Colour TFT	3.5 inch, 320x240 pixels	No Ethernet	NQ3-TQ000-B
		Ethernet	NQ3-TQ010-B
Monochrome FSTN	3.8 inch, 320x240 pixels	No Ethernet	NQ3-MQ000-B

Accessories

Type		Order code
Cables	Mini-peripheral port CJ1/CS1/CQM1H/CPM2C PLC, 2 m	NQ-CN221
	Serial port RS-232 CJ1/CS1/CP1/CQM1H PLC, 2 m	NQ-CN222
	Serial port RS-232 CJ1/CS1/CP1/CQM1H PLC, 5 m	NQ-CN521
	USB programming cable, 2 m	CP1W-CN221
	Serial programming cable, 2 m	NT2S-CN002
Software	NQ-Designer can be downloaded for free from Omron website.	–
Accessories	Maintenance set including 2 x 24 V plug and 4 x mounting clamps	NQ-ATT01
	Battery	NQ-BAT01

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