OMRON

NQ HMI SERIES

Create and Operate

» Powerful HMI features

» High quality display

» Create applications quickly

realizing

Powerful, colour HMI
in a compact format

The NQ series, Omron's family of easy to use and 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, for example 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 color displays ensure that you make full benefit of the functionality of the NQ HMI series, as the screen's clarity and brightness makes the colored statuses "jump out" to clearly inform the operator.

Besides the use of the touch screen, the operator can also use 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 models of the NQ HMI family 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. Besides 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.

Introducing NQ

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

- 3.5" colour TFT
- 3.8" blue-mode monochrome
- 5.7" colour STN or blue-mode monochrome (landscape and portrait model)

All versions have two USB ports and in addition to the touch screen, a minimum of five function keys on the right side enable quick activation of the most often used functions. The 3.5" colour TFT model brings the world of Windows into a low-end HMI, including 3D buttons and vivid colour graphics.

Quality display

With the NQ software you can easily design beautiful screens, showing 3D-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 color and monochrome, is available in a portrait and landscape model and so can even be installed in places where space is limited.

Simple software that has it all

The NQ Series has every single feature 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.

The configuration software of the NQ 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 directly be tested on the PC with this easy to use Windows look & feel software.

Language support

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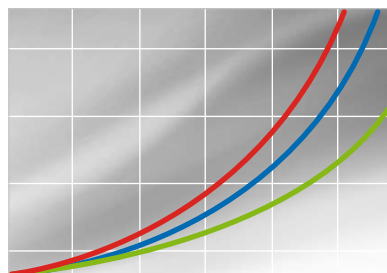
Trending and logging

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.
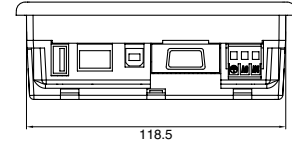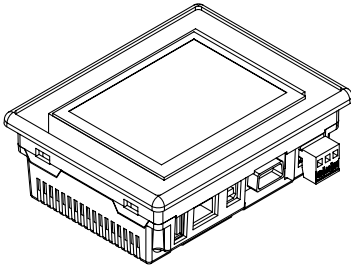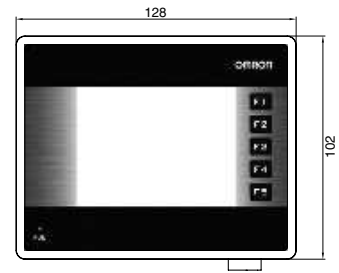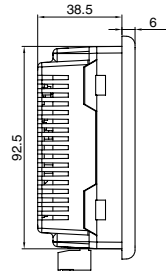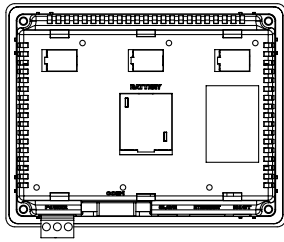
Alarm handling

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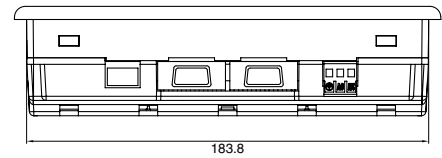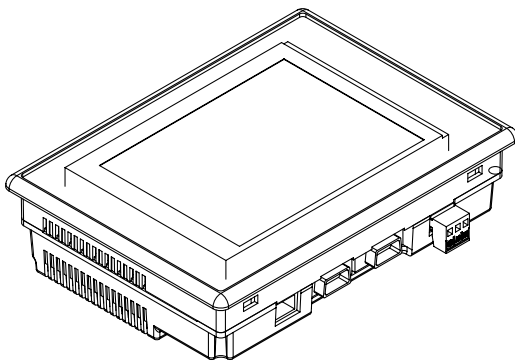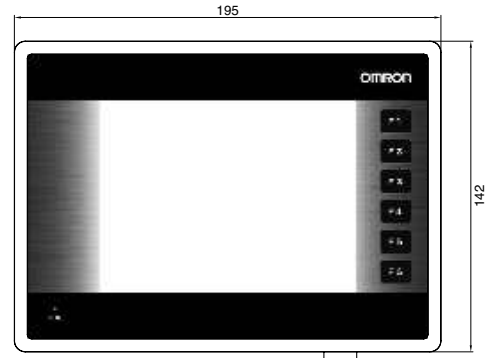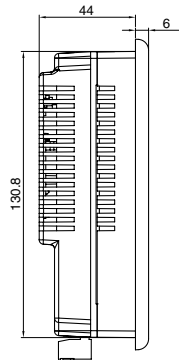
NQ HMI series

Dimensions

NQ3-TQ/MQ

38.5

6

92.5

128

102

118.5

NQ5-SQ/MQ

44

6

130.8

195

142

183.8
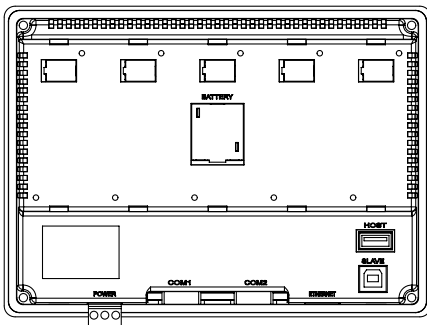
NQ HMI series

Specifications

Item	NQ5-SQ	NQ5-MQ	NQ3-TQ	NQ3-MQ
Display type	5.7 inch Colour STN	5.7 inch Monochrome STN blue mode	3.5 inch Colour TFT	3.8 inch Monochrome STN blue mode
Display resolution	320×240 (QVGA)			
Number of colours	256 (4096 for image data)	16 gradations	256 (32.768 for image data)	16 gradations
Backlight	1×CCFL		LED	
Backlight lifetime	Min. 50,000 hours at 25°C			
Touch panel	Analog 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	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			
Expansion module	Optional network unit			
Line voltage	24 VDC ±15%			
Power consumption	15 W max.		5 W max.	
Battery	NQ-BAT01 (3 V coin battery)			
Battery lifetime	5 years (at 25°C)			
Enclosure rating (front side)	IP65			
Obtained standards	CE, cUL, EC Directives			
Operating environment	No corrosive gases			
Ambiant operating temperature	0 to 50°C[*1]			
Ambiant operating humidity	10-85% RH, no condensation			

[*1] see manual for details.

Ordering information

Type			Order Code
Color 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
Color TFT	3.5 inch, 320x240 pixels	No Ethernet	NQ3-TQ000-B
Monochrome STN	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, 1.8 m	CP1W-CN221
	Serial programming cable, 2 m	NT2S-CN002
Software	NQ-Designer can be downloaded for free from Omron website.	–

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