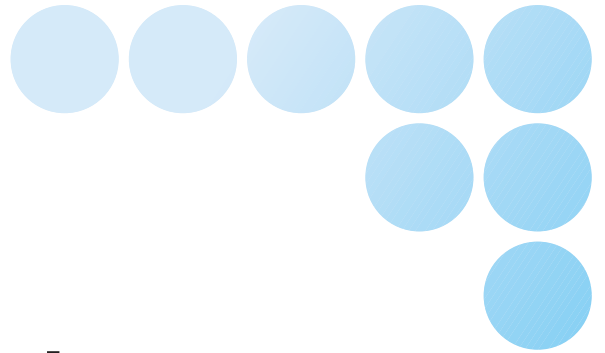**Programmable Terminal**

NP Series

Easy Setup with the Low-cost, Compact NP Series

OMRON

realizing

Simpler and More Versatile. OMRON's

Easier connection to OMRON PLCs and Temperature Controllers,
plus high-speed transfer of image data via USB.

CP1L / H Programming Console Function Provided as Standard Feature

No need to carry a computer to the site to perform simple maintenance work.
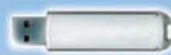
EJ1

Serial

RS-232C
RS-485
RS-422A

CP1L

Compoway/F

PC

Connect directly to an EJ1 Temperature Controller via RS-485

Template screens can be used immediately.

USB

Setting

Screen data can be transferred with a USB memory stick, eliminating the need to carry a computer to the site.

USB cable   USB memory stick

Improved Efficiency and Speed from Set Up to Operation!

What do you need in a NP Series? Display visibility, information capacity, low costs? OMRON provides all of these and goes further to reduce the TCO, including operating efficiency, by enabling connection of various control devices, easy design work, and the smoothest possible connections.

Note : The above illustration is a conceptual diagram only. For information on connecting the PT, refer to the user manuals.
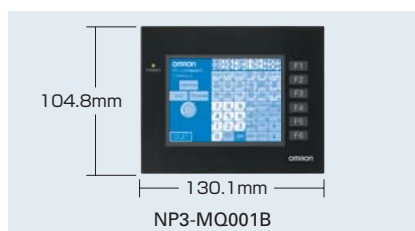
Compact NP Series Connect！

Easy Assembly

Compact Operating Section

Compact design reduces the mounting work.

At 130.1×104.8mm（NP3:W×H）, this NP Series is small enough to be mounted in the same space as a handful of switches, and it requires only one mounting hole in the control panel. You get less work and a less crowded operating section.

104.8mm

130.1mm

NP3-MQ001B

Install in Most Environments

IP65 water resistance.

The front of the panel has IP65 water resistance, allowing the NP Series to be used in environments where mist or splashing cooling water is present.

Note：The unit may not be able to be used in locations with long -term exposure to oil and water. For details on the installation environment, refer to the user manual.
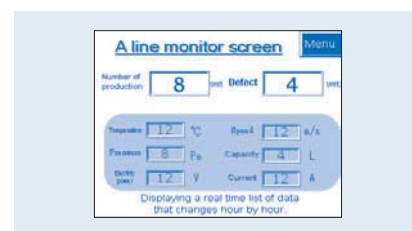
Operate worry-free with
IP65 protection.

Compact, Yet Plenty of Information

The NP3 can display the same amount of information as a 5-inch NP Series.

Using a 3.8-inch QVGA LCD, this NP3 is able to clearly display 8 grayscale levels in monochrome. The advanced display capabilities equivalent to those of a 5-inch NP Series improve the efficiency of onsite operations.

Easy Connection, Easy Wiring

Reduce Connection Design and Onsite Work

**Excellent matching with OMRON control devices.**

The NP Series provides an OMRON CP1L/CP1H PLC Programming Console function, and connects to OMRON EJ1 Temperature Controllers. The NP Series can be operated immediately using the sample screens included with the NP-Designer（Support Software）.

RS-232C   RS-485

CP1L／CP1H
Programmable
Controller

EJ1 Temperature
Controller
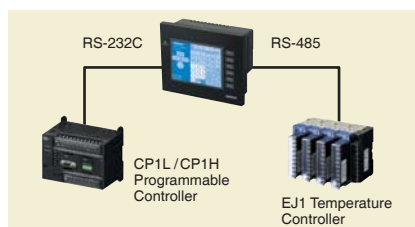
Use PLCs from Other Companies

Multivendor support is provided for major global manufacturers.

Including OMRON and Mitsubishi, support is also provided for PLCs from major global manufacturers. The NP Series can be used with your current PLC without redesigning the system. It doesn't matter if you use a different PLC manufacturer for each project.
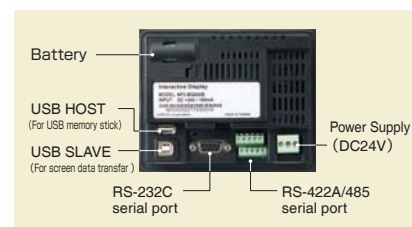
Supporting major PLC makers
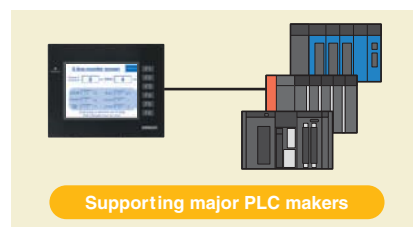
Reduced Wiring Work

Wiring with a single cable.

The NP Series is equipped with both a RS-232 port and a switchable RS-422A/485 port so you can connect to a PLC or Temperature Controller with a single cable. You get reduced wiring work and easier maintenance.

Battery

USB HOST
(For USB memory stick)

USB SLAVE
(For screen data transfar)

Power Supply
（DC24V）

RS-232C
serial port

RS-422A/485
serial port

※ NP3-MQ000B、NP3-MQ000、NP3-MQ001B、NP3-MQ001

3

Compact design and easy setup! Co

Easy to Use

O p e r a t i o n

### Use a Computer USB Port
Transfer screens at high speed.

The USB interface lets you take full advantage of the computer software environment. Transfer screens created on the computer to the NP Series at high speeds. Or use a USB memory stick to transfer screen data without bringing a computer on-site.
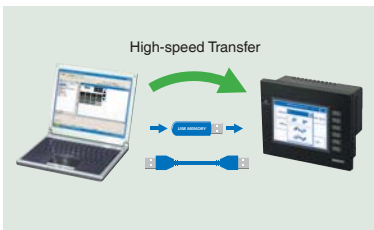
Easier On-site Operation
Models are available with either of two function key layouts.

Models with two different function key layouts are available to meet the needs of your application design. The NP Series case is available in two different colors: black or silver.
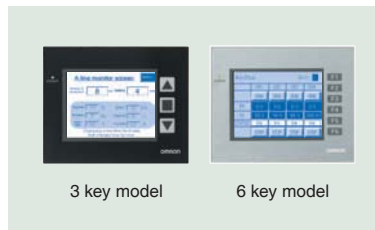
Use the Same Equipment Worldwide
Multi-language Support.

The NP Series, screens, and Support Software are supported in English, Chinese, many European languages, and Japanese. Also, the NP Series meets international standards so it can be exported or imported across country borders easily.

High-speed Transfer

3 key model   6 key model

Japanese
English
Simplified Chinese
Traditional Chinese

Support for English, Chinese, and Japanese.

Example of Applications That Provide Added Value to Equipment

Packing Machines
Simplified design and processing.
Operated by touching the screen.

Sensor   CP1L   NP3   Motor

Design — Easy screen design by using NP-Designer.

Assembly — No panel processing and wiring for lamp switches needed.

Operation — Operation and monitoring status can now be achieved with one NP Series. No need for additional processing for additions or modifications.

Food Processing Equipment
Direct connection to Temperature Controllers.
Operate the NP Series even with wet hands.

CP1L   NP3   EJ1   Heater
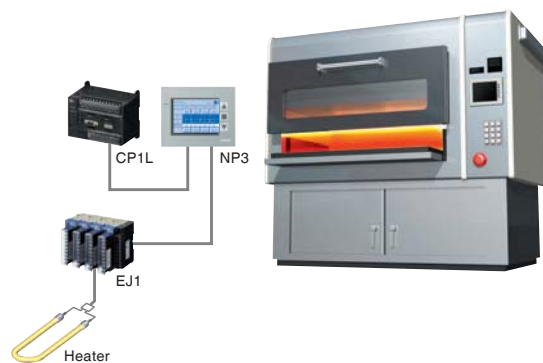
Design — Enhanced design with silver case that matches stainless-steel equipment.

Assembly — Connect directly to EJ1 to reduce wiring.

Operation — IP65 protection allows application in wet environments.

NP Series Line UP

3.8 inches
Monochrome STN
QVGA 320×240 pixels

NP3-MQ000B   NP3-MQ000   NP3-MQ001B   NP3-MQ001

3Key Type   6Key Type

5.7 inches
Monochrome STN
QVGA 320×240 pixels

NP5-MQ000B   NP5-MQ000   NP5-MQ001B   NP5-MQ001

3Key Type   6Key Type

5.7 inches
Color STN
QVGA 320×240 pixels

NP5-SQ000B   NP5-SQ000   NP5-SQ001B   NP5-SQ001

3Key Type   6Key Type

Performance / Specifications

| Series	NP3				NP5							
Type	3.8 STN LCD				5.7 STN LCD							
Model number	NP3-MQ000	NP3-MQ001	NP3-MQ000B	NP3-MQ001B	NP5-MQ000	NP5-MQ001	NP5-MQ000B	NP5-MQ001B	NP5-SQ000	NP5-SQ001	NP5-SQ000B	NP5-SQ001B
Display device	Monochrome LCD				Monochrome LCD				Color LCD			
Effective display area	Width 78.8mm × height 59.6 mm (3.8 inches)				Width 121.4mm × height 92.6 mm (5.7 inches)							
Case color	Silver		Black		Silver		Black		Silver		Black	
Number of function keys	3	6	3	6	3	6	3	6	3	6	3	6
Display color	Monochrome/8 grayscale levels								256 colors			
Number of pixels	320 pixel horizontal × 240 pixel vertical											
View angle	Left / right ±30°, Top 10°, Bottom 30°											
Screen data capacity	3MB											
Image data (BMP or JPG images)	8 grayscale levels								256 colors			
Memory Card	Supported (Use USB memory stick (FAT32))											
Touch panel — Method	Resistive membrane analog type (See note.1)											
Touch panel — Input	Pressure-sensitive											
Touch panel — Service life	1,000,000 touch operations min											
Serial Communications — COM1 Connector	Conforms to EIA RS-232C D-Sub female 9-pin connector 5 VDC output (250 mA max.) through pin 6											
Serial Communications — COM2 Connector	Conforms to RS-422A / 485 (Isolated-type) Maximum transmission distance 500m 10-pin terminal block											
USB SLAVE Specifications — USB rating	USB1.1											
USB SLAVE Specifications — Connector	TYPE-B (Slave)											
USB HOST Specifications — USB rating	USB1.1											
USB HOST Specifications — Connector	TYPE-A (Host)											

(Note 1) Because of the structure of the analog touch panel, touch points may shift by over time use or the influence of temperature and humidity. Please periodically perform "Calibrate" in the NP System Menu.

General Specifications

Item	Specifications
Rated power supply voltage	24 VDC
Allowable voltage range	21.6 to 27.6 VDC (24 VDC -10% to +15%)
Allowable input power interruption time	No restriction
Power consumption	12W max
Ambient operating temperature	0 to 50°C (See notes 1 and 2)
Storage temperature	-20 to + 60°C
Ambient operating humidity	35 to 85%RH with no condensation (0 to 40°C) (See notes 2.) 35 to 50%RH with no condensation (40 to 50°C) (See notes 2.)
Operating environment	No corrosive gases
Noise immunity	Conforms to IEC61000-4-4, 2 KV (power lines)
Vibration resistance (during operation)	5 to 9 Hz with 3.1 mm amplitude and 9 to 150 Hz with 9.8 m/s² acceleration for 30 min in each of X, Y, and Z directions
Shock resistance (during operation)	147 m/s² 3 times in each of X, Y, and Z directions
Weight	NP5 : 900 g max NP3 : 500 g max
Enclosure rating	Front panel: IP65F oil proof (See note 3)
Battery life	5 years (at 25°C)
International standards	EC Directives, cULus (UL508)

(Note 1) When a STN LCD display device is used, the display quality will decline (e.g., the contrast ratio will be reduced) if the temperature exceeds 40°C. Also, when the temperature drops, the response speed is lowered due to characteristics of liquid crystals.

(Note 2) Operate the PT within the temperature and humidity ranges shown in the following diagram
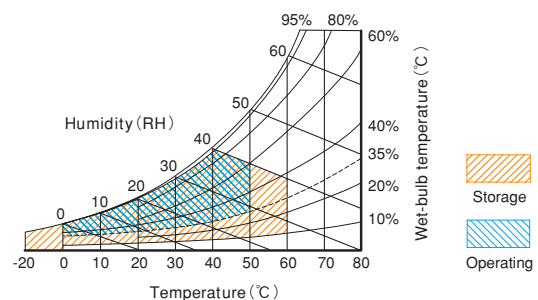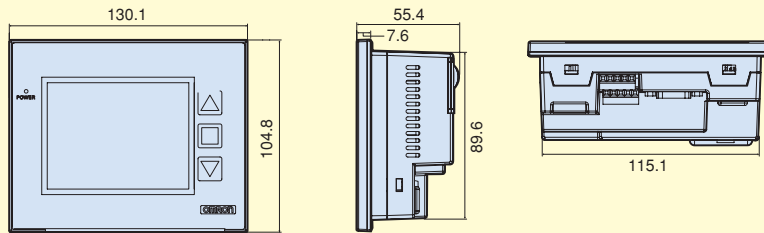

(Note 3) May not be applicable in locations with long-term exposure to water or oil.
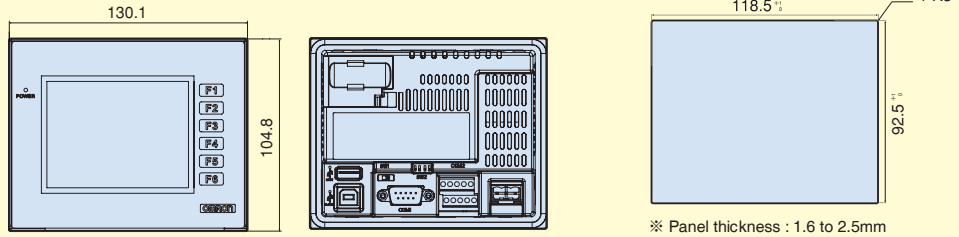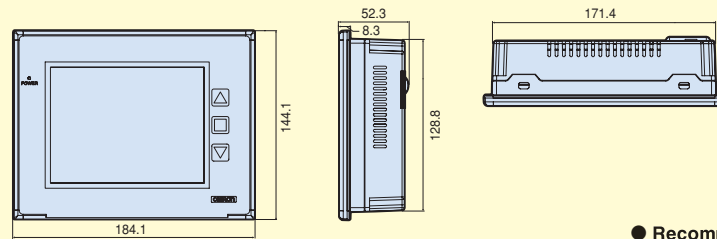
Dimensions

NP3-MQ000B
NP3-MQ000

130.1

104.8

55.4
7.6

89.6

115.1

NP3-MQ001B
NP3-MQ001

130.1

104.8

F1
F2
F3
F4
F5

● **Recommended Panel**
  Cutout Dimensions

118.5

4-R3

92.5

※ Panel thickness : 1.6 to 2.5mm

NP5-MQ000
NP5-MQ000B
NP5-SQ000
NP5-SQ000B

52.3
8.3

171.4

128.8

144.1

184.1

NP5-MQ001
NP5-MQ001B
NP5-SQ000
NP5-SQ001B

● **Recommended Panel**
  Cutout Dimensions

172.4

4-R0.(3)

132.4

※ Panel thickness : 1.6 to 2.5mm

F1
F2
F3
F4
F5

144.1

184.1

7
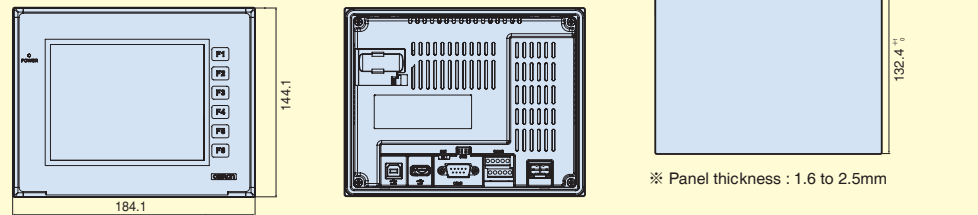
Ordering Information

Model name	Specifications				Model number
	Effective display area	Number of pixels	Number of function keys	Case color	
NP3	3.8-inch STN monochrome	320×240	3	Black	NP3-MQ000B
				Silver	NP3-MQ000
			6	Black	NP3-MQ001B
				Silver	NP3-MQ001
NP5	5.7-inch STN monochrome	320×240	3	Black	NP5-MQ000B
				Silver	NP5-MQ000
			6	Black	NP5-MQ001B
				Silver	NP5-MQ001
	5.7-inch STN color	320×240	3	Black	NP5-SQ000B
				Silver	NP5-SQ000
			6	Black	NP5-SQ001B
				Silver	NP5-SQ001
NP-Designer Screen design software	Windows version on CD-ROM				NP-NPDC0-V1
PT-to-PLC Connecting Cable	PT connection : 9 pins PLC connection : 9 pins		Length : 2 m		XW2Z-200T
			Length : 5 m		XW2Z-500T
Options	Sheet / Cover		Anti-reflection Sheets (5 surface sheets)	NP3	NP3-KBA04
				NP5	NT30-KBA04
	Battery				CJ1W-BAT01

- The application examples provided in this catalog are for reference only. Check functions and safety of the equipment before use.
- Never use the products for any application requiring special safety requirements, such as nuclear energy control systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, or other application invalving serious risk to life or property, without ensuring that the system as a whole has been designed to address the risks, and that the OMRON products are properly rated and installed for the intended use within the overall equipment or system.

Note: Do not use this ducument to operate the Unit.

Authorized Distributor:

© OMRON Corporation 2008 All Rights Reserved.
In the interest of product improvement,
specifications are subject to change without notice.

Cat. No. V101-E1-02   1208