Omron
INDUSTRIAL AUTOMATION

NP SERIES

Operator Interface Terminals

» Easy assembly, connection and setup

» Cost efficient compact touch screen

» IP65 environment resistance

Simple and Versatile; OMRON's NP Series of HMI's help customers connect faster and easier.

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 Setup 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 (Total Cost of Ownership), 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 NP terminal, refer to the user manuals.

Easy Assembly

Compact Design

Reduces panel space used.

At 184.1 mm W x 144.1mm H, this NP will take up less space and provide simpler installation than a handful of buttons and indicators, saving valuable enclosure space.

144.1mm

184.1mm

NP5-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 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.

Easy Connection, Easy Wiring

Reduce Connection Design and Onsite Work

Excellent match 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 interface with the EJ temperature controller immediately using the sample screens included with the NP-Designer (Support Software).

Connects to Most Major PLCs

Keep your machines look and feel consistent.

The NP operator interface terminals speak to Omron PLCs as well as most major PLC manufacturers like Allen Bradley, Siemens, GE, Mitsubishi, Modicon, Matsushita and others.

Reduced Wiring Work

Convenient wiring options.

The NP is equipped with both an RS232 port and a switchable RS422/RS485 port. This allows you to connect to a PLC and a Temp controller separately.

RS-232C   RS-485

CP1L / CP1H
Programmable Controller

EJ1 Temperature
Controller

Supporting major PLC makers

Battery

USB HOST
(For USB memory stick)

USB SLAVE
(For screen data transfer)

Power Supply
(DC24V)

RS-232C
serial port

RS-422A/485
serial port
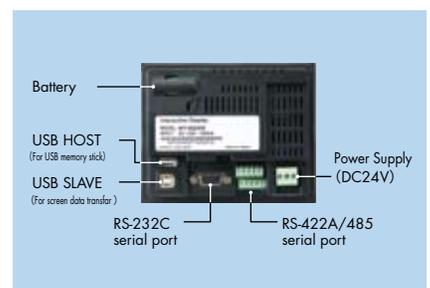
Compact design and easy setup!

Easy to Use

USB Support

Transfer Screens with a PC or Memory stick.

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.

Two Function Key Configurations

Select the function key layout that most closely matches your need.

Models with two different function key layouts are available to meet the needs of your application design. Function keys allow for more information to be displayed on the screen by removing the button from the screen.
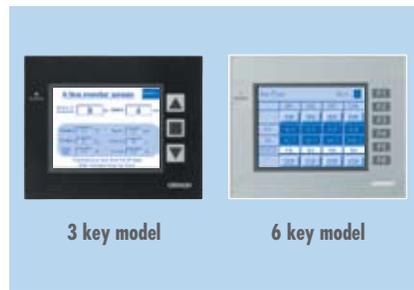
Multi-Language Support

Create screens for multi-lingual work forces or for Global shipments.

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

USB MEMORY

3 key model   6 key model

Japanese
English
Simplified Chinese
Traditional Chinese

Support for English, Chinese, and Japanese.

CE   cULus

Example of Applications that provide added value to Equipment

Packing Machines

Simplified design and processing. Select operations by touch screen, change to monitoring view with function keys.

Sensor   CP1L   NP5

Motor

Food Processing Equipment

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

CP1L   NP5

EJ1

Heater

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.

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.

Compatible with your current PLC.

NP Series Line-up

QVGA LCD	3 Key Type		6 Key Type	
5.7 inches **Monochrome STN** QVGA 320x240 pixels	NP5-MQ000B	NP5-MQ000	NP5-MQ001B	NP5-MQ001
5.7 inches **Color STN** QVGA 320x240 pixels	NP5-SQ000B	NP5-SQ000	NP5-SQ001B	NP5-SQ001

Ordering Information

Model name	Specifications				Model number
	Effective display area	Number of pixels	Number of function keys	Case color	
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

Performance/Specifications

OMRON

Series	NP5							
Type	5.7 STN LCD							
Model number	NP5-MQ000	NP5-MQ001	NP5-MQ000B	NP5-MQ001B	NP5-SQ000	NP5-SQ001	NP5-SQ000B	NP5-SQ001B
Display device	Monochrome LCD				Color LCD			
Effective display area	Width 121.4mm × height 92.6 mm（5.7 inches）							
Case color	Silver		Black		Silver		Black	
Number of function keys	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（BMPor JPG images）	8 grayscale levels				256 colors			
Memory Card	Supported（Use USB memory stick（FAT32））							

Touch panel	Method	Resistive membrane analog type
	Input	Pressure-sensitive
	Service life	1,000,000 touch operations min

Serial Communi-cations	COM1	Connector	Conforms to EIA RS-232C D-Sub female 9-pin connector 5 VDC output（250 mA max.）through pin 6
	COM2	Connector	Conforms to RS-422A / 485 10-pin terminak block

USB SLAVE Specifications	USB rating	USB1.1
	Connector	TYPE-B（Slave）
USB HOST Specifications	USB rating	USB1.1
	Connector	TYPE-A（Host）

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℃（See notes 1 and 2）
Storage temperature	-20 to + 60℃
Ambient operating humidity	35 to 85%RH with no condensation（0 to 40）（See notes 2.） 35 to 50%RH with no condensation（40 to 50）（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 : 900g max NP3 : 500g max
Enclosure rating	Front panel: IP65F oil proof（See note 3）
Battery life	5 years（at 25℃）
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℃. 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.
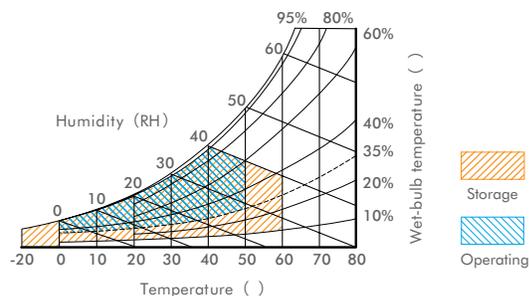
（Note 3）May not be applicable in locations with long-term exposure to water or oil.

（Units : mm）

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

52.3
8.3
171.4
144.1
128.8
184.1

Recommended Panel
Cutout Dimensions

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

144.1
184.1

172.4
4-R0.(3)
132.4

Panel thickness : 1.6 to 2.5mm
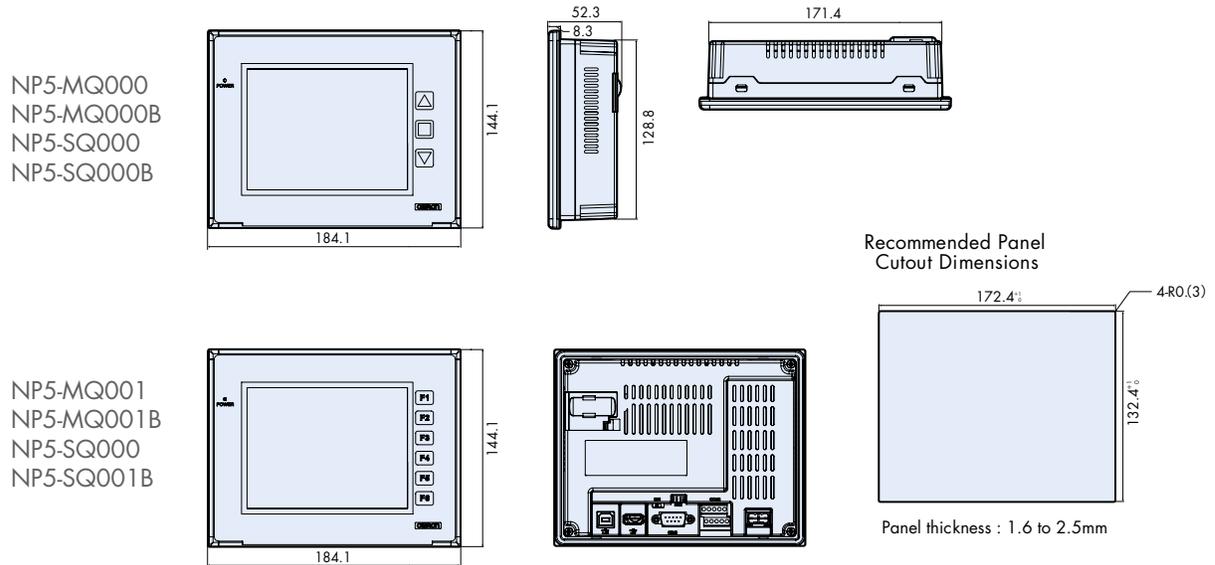
PLC Host Compatibility

Brand	Model/Host
OMRON	C/CPM/CQM Series PLC Host link
	CS/CJ/CP1/CV/CVM Series PLC Host link
	NT link (1:N)
	NT link (1:1)
	EJ1 Temperature Controller
Allen Bradley	MicroLogix
	SLC5
GE Fanuc	90 Series SNP
Keyence	KV/KZ Series PLC
LG (LS)	Master-K120S/200S
	Glofa GM6 CNET
	Master-K CNET
	XGT CNET
Matsushita	FP Series PLCs

Brand	Model/Host
Mitsubishi	FX/FX2N Series CPU port
	FX3U Series CPU port
	FX Series Computer Link
	A Series Computer Link
	A2A/A2AS/A2USH, A1SH/A3N/A2ASH CPU port
	Q Series CPU Port
	Q Series Computer Link
Modbus	984 RTU/ASCII (Master)
	RTU/ASCII Hex Address (Master)
	RTU/ASCII nW, RTU 2W (Master)
	RTU/ASCII (Slave)
Modicon	TSX Micro PLC (Uni-Telway)
	NEZA PLC (Uni-Telway)
	TWIDO
Siemens	S7 200 Series PLC
	S7-300 (with PC adaptor)
	S7-300 (without PC adaptor)

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