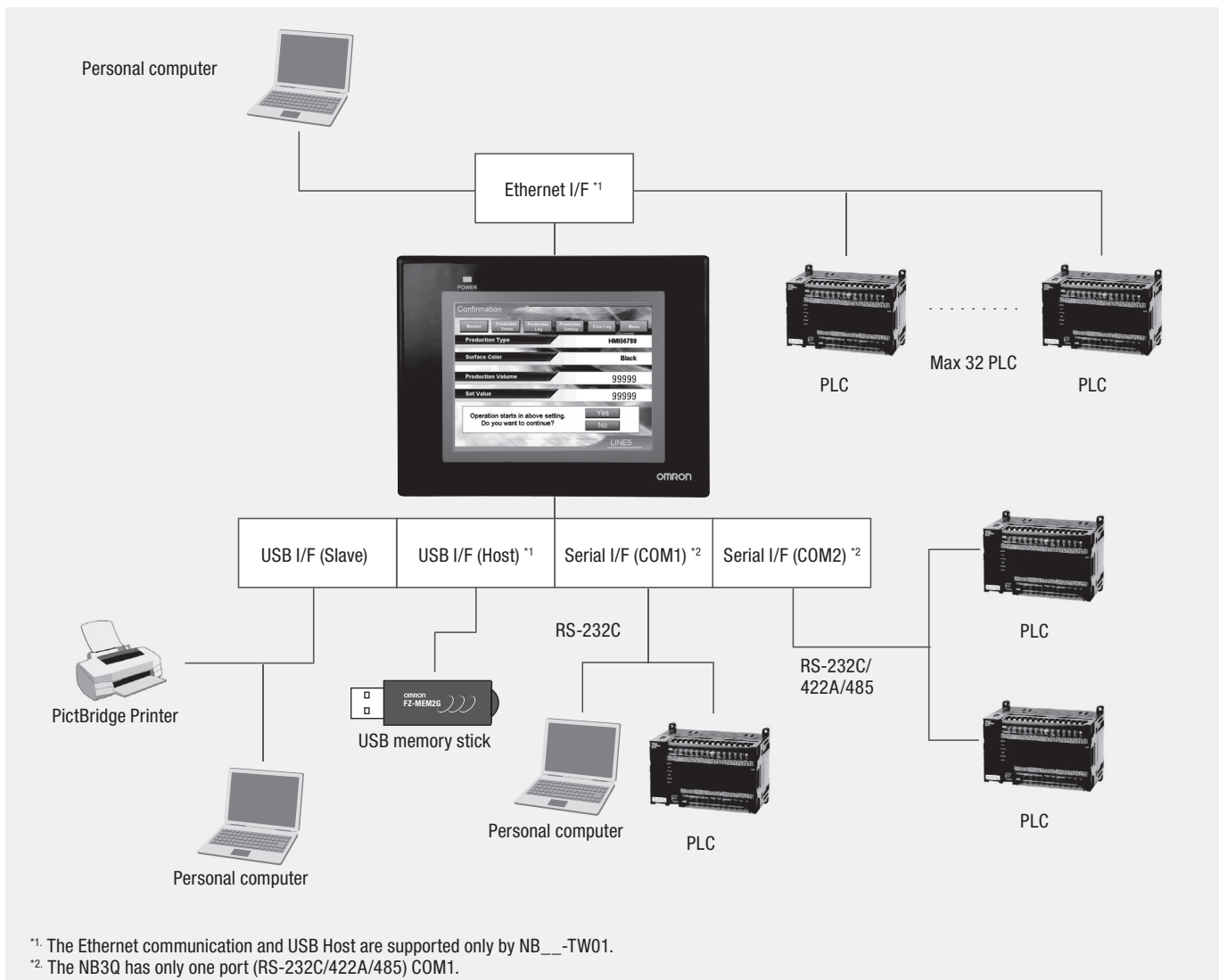# NB series

The feature-rich, economic HMI

- More than 65,000 display colours TFT touch screen
- Available in sizes ranging from 3.5 to 10 inches
- Long-life LED backlight
- Serial, USB or Ethernet communication
- USB memory stick support
- 128 MB internal memory
- Vector and bitmap graphics

System Configuration

Personal computer

Ethernet I/F *1

PLC

Max 32 PLC

PLC

USB I/F (Slave)

USB I/F (Host) *1

Serial I/F (COM1) *2

Serial I/F (COM2) *2

PLC

RS-232C

RS-232C/422A/485

PictBridge Printer

USB memory stick

Personal computer

Personal computer

PLC

PLC

*1. The Ethernet communication and USB Host are supported only by NB__-TW01.
*2. The NB3Q has only one port (RS-232C/422A/485) COM1.

OMRON

NB series

Specifications

HMI

Specifications	NB3Q		NB5Q		NB7W		NB10W
	TW00B	TW01B	TW00B	TW01B	TW00B	TW01B	TW01B
Display type	3.5" TFT LCD		5.6" TFT LCD		7" TFT LCD		10.1" TFT LCD
Display resolution (H × V)	320 × 240		320 × 234		800 × 480		800 × 480
Number of colours	65,536						
Backlight	LED						
Backlight lifetime	50,000 hours of operating time at the normal temperature (25°C)[1]						
Touch panel	Analogue resistive membrane, resolution 1024 × 1024, life: 1 million touch operations						
Dimensions in mm (H × W × D)	103.8 × 129.8 × 52.8		142 × 184 × 46		148 × 202 × 46		210.8 × 268.8 × 54.0
Weight	310 g max.	315 g max.	620 g max.	625 g max.	710 g max.	715 g max.	1,545 g max.

[1] This is the estimated time when the luminous intensity is decreased by 50% per LED at room temperature and humidity. It is a typical value.

Functionality

Specifications	NB3Q		NB5Q		NB7W		NB10W
	TW00B	TW01B	TW00B	TW01B	TW00B	TW01B	TW01B
Internal memory	128MB (including system area)						
Memory interface	–	USB Memory	–	USB Memory	–	USB Memory	USB Memory
Serial (COM1)	RS-232C/422A/485 (not isolated), Transmission distance: 15m Max. (RS-232C), 500m Max. (RS-422A/485), Connector: D-Sub 9-pin		RS-232C, Transmission distance: 15 m Max., Connector: D-Sub 9-pin				
Serial (COM2)	–		RS-232C/422A/485 (not isolated), Transmission distance: 15m Max. (RS-232C), 500m Max. (RS-422A/485), Connector: D-Sub 9-pin				
USB Host	Equivalent to USB 2.0 full speed, type A, Output power 5V, 150mA						
USB Slave	Equivalent to USB 2.0 full speed, type B, Transmission distance: 5m						
Printer connection	PictBridge support						
Ethernet	–	10/100 base-T	–	10/100 base-T	–	10/100 base-T	10/100 base-T

General

Specifications	NB3Q		NB5Q		NB7W		NB10W
	TW00B	TW01B	TW00B	TW01B	TW00B	TW01B	TW01B
Line voltage	20.4 to 27.6 VDC (24 VDC −15 to 15%)						
Power consumption	5 W	9 W	6 W	10 W	7 W	11 W	14 W
Battery lifetime	5 years (at 25°C)						
Enclosure rating (front side)	Front operation part: IP65 (Dust proof and drip proof only from the front of the panel)						
Obtained standards	EC Directives, KC, cUL508						
Operating environment	No corrosive gases.						
Noise immunity	Compliant with IEC61000-4-4, 2KV (Power cable)						
Ambient operating temperature	0 to 50°C						
Ambient operating humidity	10% to 90% RH (without condensation)						

Applicable Controllers

Brand	Series		Brand	Series
OMRON	Omron C Series Host Link		Schneider	Schneider Modicon Uni-TelWay
	Omron CJ/CS Series Host Link			Schneider Twido Modbus RTU
	Omron CP Series		Delta	Delta DVP
Mitsubishi	Mitsubishi Q_QnA (Link Port)		LG (LS)	LS Master-K Cnet
	Mitsubishi FX-485ADP/485BD/422BD (Multi-station)			LS Master-K CPU Direct
	Mitsubishi FX0N/1N/2N/3G			LS Master-K Modbus RTU
	Mitsubishi FX1S			LS XGT CPU Direct
	Mitsubishi FX2N-10GM/20GM			LS XGT Cnet
	Mitsubishi FX3U		GE Fanuc Automation[1]	GE Fanuc Series SNP GE SNP-X
	Mitsubishi Q series (CPU Port)		Modbus	Modbus ASCII
	Mitsubishi Q00J (CPU Port)			Modbus RTU
	Mitsubishi Q06H			Modbus RTU Slave
Panasonic	FP series			Modbus RTU Extend
Siemens	Siemens S7-200			Modbus TCP
	Siemens S7-300/400 (PC Adapter Direct)			
Allen-Bradley[1] (Rockwell)	AB DF1 AB CompactLogix/ControlLogix			

[1] AB and GE will be supported by NB-Designer version 1.20 or higher.
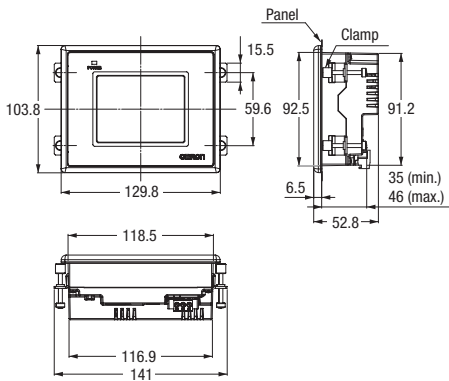
Note: For details, refer to NB Series Host Connection Manual (Cat.No V108).
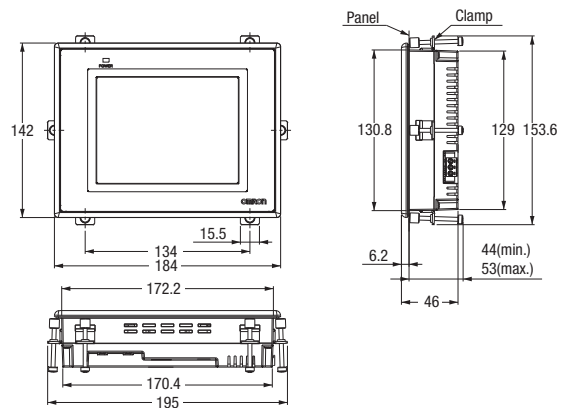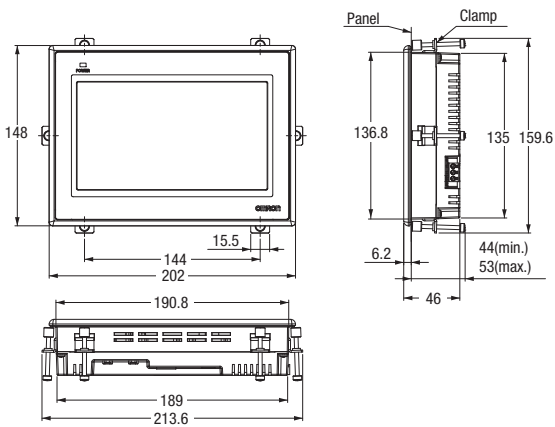
NB series

Dimensions

(Units: mm)

NB3Q

NB5Q

NB7W

NB10W

Applicable panel thickness: 1.6 to 4.8 mm
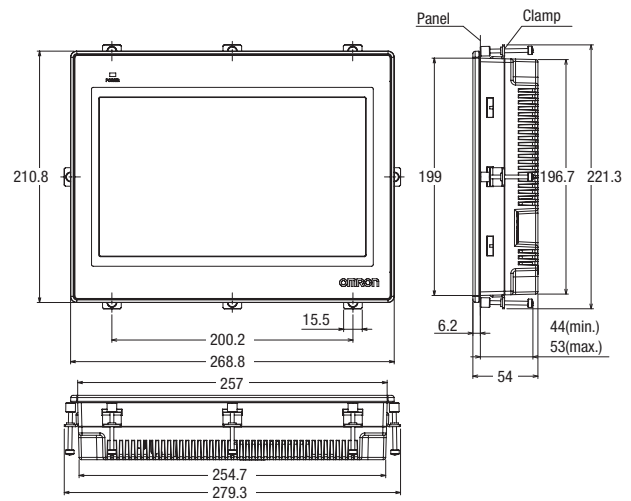
Model	Panel cutout (H × V mm)
NB3Q	119.0 (+0.5/–0) × 93.0 (+0.5/–0)
NB5Q	172.4 (+0.5/–0) × 131.0 (+0.5/–0)
NB7W	191.0 (+0.5/–0) × 137.0 (+0.5/–0)
NB10W	258.0 (+0.5/–0) × 200.0 (+0.5/–0)

Related Manuals

Cat. No	Model	Name
V106	NB-Designer	NB Series NB-Designer Operation Manual
V107	NB3Q, NB5Q, NB7W, NB10W	NB Series Setup Manual
V108	NB3Q, NB5Q, NB7W, NB10W	NB Series Host Connection Manual
V109	NB3Q, NB5Q, NB7W, NB10W	NB Series Startup Guide

NB series

Ordering information

Programmable Terminals

Product name	Specifications	Order code
NB3Q	3.5 inch, TFT LCD, Colour, 320 × 240 dots	NB3Q-TW00B
	3.5 inch, TFT LCD, Colour, 320 × 240 dots, USB Host, Ethernet	NB3Q-TW01B
NB5Q	5.6 inch, TFT LCD, Colour, 320 × 234 dots	NB5Q-TW00B
	5.6 inch, TFT LCD, Colour, 320 × 234 dots, USB Host, Ethernet	NB5Q-TW01B
NB7W	7 inch, TFT LCD, Colour, 800 × 480 dots	NB7W-TW00B
	7 inch, TFT LCD, Colour, 800 × 480 dots, USB Host, Ethernet	NB7W-TW01B
NB10W	10.1 inch, TFT LCD, Colour, 800 × 480 dots, USB Host, Ethernet	NB10W-TW01B

Options

Product name	Specifications	Order code
NB-to-PLC Connecting cable	For NB to PLC via RS-232C (CP/CJ/CS), 2m	XW2Z-200T
	For NB to PLC via RS-232C (CP/CJ/CS), 5m	XW2Z-500T
	For NB to PLC via RS-422A/485, 2m	NB-RSEXT-2M
Software	Supported Operating Systems: Windows 7, Windows Vista®, Windows XP[1] (SP1 or higher). Download from Omron's regional websites.	NB-Designer[2]
Display protective sheets	For the NB3Q contains 5 sheets	NB3Q-KBA04
	For the NB5Q contains 5 sheets	NB5Q-KBA04
	For the NB7W contains 5 sheets	NB7W-KBA04
	For the NB10W contains 5 sheets	NB10W-KBA04
Attachment	Mounting bracket for NT31/NT31C series to NB5Q series	NB5Q-ATT01

[1] Except for Windows XP 64-bit version
[2] The NB5Q-TW01B and NB7W-TW01B are supported by NB-Designer version 1.10 or higher.
The NB3Q-TW0_B and NB10W-TW01B are supported by NB-Designer version 1.20 or higher.