

## Why Omron?

Omron quality is recognized industry-wide. We perform 100% quality inspection and testing procedures at every stage of manufacturing — your assurance of satisfaction.

## Your automation solution 24 hours a day.

Get Omron's *SmartFactory* advantage by utilizing our application engineering knowhow, extensive training, and 24-hour technical support. Through our commitment to flexible manufacturing, Omron has become a leader in the manufacture of Operator Interfaces, Digital Panel Meters, Digital Displays, Counters, Timers, Sensors, PLCs, Process and Temperature Controllers, and other control devices. To obtain up-to-date technical specifications for all Omron products 24 hours a day, 7 days a week from your phone or fax machine, call our *ControlFax* at 847.843.1963.

## Worldwide sales and support network.

You'll find over 200 stocking distributors and local sales offices throughout North America. With branch offices worldwide, Omronprovides replacement components, service and multi-lingual documentation virtually anywhere in the world.

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| MODEL   | NT11S  | NT20S  | NT30   | NT30C  |
|---|--|--|--|--|
| DISPLAY   |  | 200  |  |  |
| Size Type Resolution Interface Touch cells  | 4 line x 20 character Backlit LCD 160 x 64 pixels Alphanumeric — | 5" diagonal<br>Backlit STN LCD<br>256 x 128 pixels<br>Touch screen<br>72 per screen                            | 5.7" diagonal Bicolor backlit STN LCD 320 x 240 pixels Touch screen 192 per screen | 5.7" diagonal 8-color backlit STN LCD 320 x 240 pixels Touch screen 192 per screen |
| FEATURES  | Large characters Contrast control Password protect screens       | Slim profile  Easy to configure screens  Replaceable backlight  LCD white mode option for better viewing angle | Bicolor display Full graphic capabilities Replaceable backlight                    | 8-color display Full graphic capabilities Replaceable backlight                    |
| MEMORY  |  |  |  |  |
| Type Size Max. # of screens   | Flash EPROM<br>32 K<br>250 screens                               | Flash EPROM<br>96 K<br>500 screens   | Flash EPROM<br>512 K<br>2000 screens   | Flash EPROM<br>512 K<br>2000 screens   |
| GRAPHIC CAPAE   | BILITIES   |  |  |  |
| Freeform drawing Bitmap Tiling Bar graph Line trending Thumbwheel switch Text and numeric | •  |  |  |  |
| Real-Time<br>Clock  |  |  | •  | •  |
| Printer Port  | •  |  | •  |  |
| Communication   | Host Link / NT Link  | Host Link / NT Link (1:1/<br>1:N) / C200H Interface  | Host Link / NT Link  | Host Link / NT Link  |
| Overall<br>Dimensions   | 218w x 113H x 38.2D mm<br>8.58w x 4.45H x 1.50D in               | 190w x 110н x 58p mm<br>7.48w x 4.33н x 2.28p in   | 195w x 142H x 55.6D mm<br>7.68w x 5.59H x 2.19D in                                 | 195w x 142н x 55.6p mm<br>7.68w x 5.59н x 2.19d in                                 |
| ENVIRONMENTA  | <b>NL</b>  |  |  |  |
| Ratings   | NEMA 4   | NEMA 4   | NEMA 4   | NEMA 4   |
| Approvals   | UL/CSA/CE  | UL/CSA/CE  | UL/CSA/CE  | UL/CSA/CE  |
| Accessories   | _  | Backlight Chemical resistant cover Protective sheet C200H Interface  | Backlight Chemical resistant cover Protective sheet B7A Interface                  | Backlight Chemical resistant cover Protective sheet B7A Interface                  |









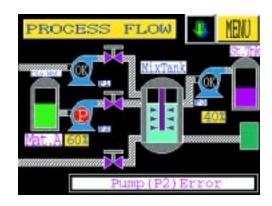


|   | MODEL   | NT600S (LCD)   | NT600S (EL)  | NT620S   | NT620C   |
|---|---|--|--|--|--|
|   | DISPLAY   |  |  |  |  |
|   | Size Type Resolution Interface Touch cells  | 9" diagonal<br>Backlit STN LCD<br>640 x 400 pixels<br>Touch screen<br>128 per screen                     | 9" diagonal Electroluminescent 640 x 400 pixels Touch screen 128 per screen                              | 9" diagonal Electroluminescent 640 x 400 pixels Touch screen 512 per screen                          | 9.7" diagonal<br>8-color backlit STN LCD<br>640 x 480 pixels<br>Touch screen<br>768 per screen         |
|   | FEATURES  | Large screen Slim profile Replaceable backlight  | Clear EL display<br>Extra-wide viewing angle<br>Slim profile   | Clear EL display Full graphic capabilities Extra-wide viewing angle                                  | 8-color display Full graphic capabilities Replaceable backlight  |
| I | MEMORY  |  |  |  |  |
|   | Type<br>Size<br>Max. # of screens   | Flash EPROM<br>128 K<br>500 screens  | Flash EPROM<br>128 K<br>500 screens  | Flash EPROM<br>512 K<br>2000 screens   | Flash EPROM<br>1 MB<br>2000 screens  |
|   | GRAPHIC CAPAB   | ILITIES  |  |  |  |
|   | Freeform drawing Bitmap Tiling Bar graph Line trending Thumbwheel switch Text and numeric |  |  |  |  |
|   | Real-Time<br>Clock  |  |  | •  | •  |
|   | Printer Port  |  |  |  |  |
|   | Communication Overall Dimensions  | Host Link / NT Link (1:1/<br>1:N) / C200H Interface<br>275w x 192н x 71p mm<br>10.83w x 7.56н x 2.80p in | Host Link / NT Link (1:1/<br>1:N) / C200H Interface<br>275w x 192H x 71p mm<br>10.83w x 7.56H x 2.80p in | Host Link / NT Link (1:1/<br>1:N) / Memory Link<br>275w x 192H x 71D mm<br>10.83w x 7.56H x 2.80D in | Host Link / NT Link (1:1/<br>1:N) / Memory Link<br>275w x 196H x 76.8p mm<br>10.83w x 7.72H x 3.02p in |
|   | ENVIRONMENTAI   | L  |  |  |  |
|   | Ratings<br>Approvals  | NEMA 4<br>UL / CSA / CE  | NEMA 4<br>UL / CSA / CE  | NEMA 4<br>UL / CSA / CE  | NEMA 4<br>UL / CSA / CE  |
| , | Accessories   | Backlight Chemical resistant cover Protective sheet C200H Interface                                      | Chemical resistant cover<br>Protective sheet<br>C200H Interface  | Chemical resistant cover<br>Protective sheet   | Backlight<br>Chemical resistant cover<br>Protective sheet  |



## **Process Monitoring**

The graphic capabilities of the NT Series Terminals make process illustration simple. On this display screen, bar graphs are used to simulate tank levels, and lamps show on/off value or motor status. Combine these graphic images with the variety of touch switches and error messages available and you have a detailed process monitoring application.



## Temperature Monitoring

With the NT Series Terminals, you can easily consolidate many separate gauges, thumbwheels, and panel meters into one convenient control center. Here, temperature values are monitored on the display using graphs and thumbwheel switches. You can set high/low limits on the thumbwheel switches and use them to quickly change temperature set values.

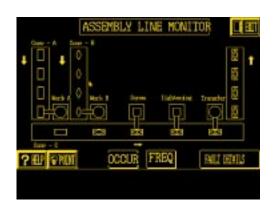


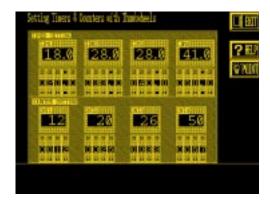
## **Production Monitoring**

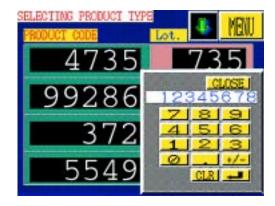
Track real production levels against target projections with the NT Series Terminals. Monitor multiple lines from a single point and change target values with a quick touch of the screen.











## **Production Monitoring**

Production or assembly line operations can be monitored with a quick glance using the graphic capabilities of the NT Series Terminals. In this example screen, the graphic representation provides an assembly line overview. Lamps simulate motion and can also be used to show errors, quickly alerting your operators to problems in production. And error messages provide the information necessary to fix these problems fast.

### Timers, Counters,

#### Thumbwheels

Replacing or adding timers, counters, and thumbwheel switches has never been easier. With the NT Series Terminals you get a complete selection on a single screen. And because there's no costly hard-wire redesign considerations, you have the flexibility to choose from a variety of thumbwheel switches in two, four, or eight digits and you can set high/low limits for each.

### Pop-up Window Function

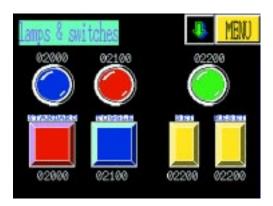
A pop-up window function is available on the NT30/30C and NT620S/620C terminals. Save on valuable screen space while you input numbers or characters to change set points, production targets, lot codes, or product types. Pop-up windows can also be used for error and help messages which means you won't have to switch off your main screen for monitoring.



#### Pushbuttons, Lamps,

#### Switches

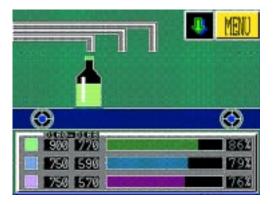
These display screens show how the NT Series Terminals replace hardwired pilot lights and pushbuttons with realistic graphic icons. Saving on valuable panel space and wiring expense, additional pushbuttons and pilot lights can be added easily — just change your program. You won't need to endure the costly redesign of hard-wire devices. A variety of pushbuttons including: standard, momentary, and set/reset are available. And with the NT30/30C and NT620S/ 620C terminals, you can use bitmap images to create ultra-realistic switches and lamps.





## **Custom Graphics**

With all the graphic possibilities of the NT Series Terminals, you can custom design dynamic application screens for your plant operation. Freeform drawing capabilities allow you to accurately illustrate each stage in the production process. And bitmap images can be used with the NT30/30C and NT620S/NT620C models, allowing you to include realistic graphic representations of anything from lamps and touch switches to company logos. Here, process status is monitored using bar graphs to track actual production values to target projections.



OMRON

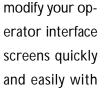
Copyright © 1997 OMRON Corporation

FAST, EASY AND POWERFUL

## **FEATURES:**

- Cut, copy, paste, group, ungroup
- Batch change of allocated bits and words
- Import bitmaps
- 10 levels of undo/redo
- NT Series Support Tool can be used with the following Omron touchscreen models: NT11S-SF121(B) NT20S-ST12\*(B)-V1 or -EV3 NT600S-ST121 or ST211-V1 or -EV3 NT30-ST131(B)-E NT30C-ST141(B)-E

NT30C-ST141(B)-E NT620S-ST211(B)-E NT620C-ST141(B)-E



Design, edit and

Omron's new NT Series Support Tool display development software. This powerful, Windows.-based package works with all NT-S Series Omron operator interfaces and features user-friendly icons, menus and built-in objects to help you develop dynamic, functional and attractive screens. NT Series Support Tool was designed specifically for use with the Windows 95' operating system to let you take full advantage of its 32-bit architecture, multi-tasking and user-friendly features.

With drawing tools similar to those found on commercial drawing packages, NT Series Support Tool is perfect for the experienced designer as well as beginners. Freehand drawing capabilities and bitmap import, along with powerful graphic tools, let you quickly and accurately illustrate your production process or machine. With NT Series Support Tool, you get the most out of your Omron operator interface investment and increase your production or machine efficiency.

## SYSTEM REQUIREMENTS

- IBM PC compatible with 486 or higher processor, running Microsoft Windows 95 (A Pentium processor is recommended for optimal performance)
- At least 8 MB of RAM but 16MB is recommended
- 10MB of available hard disk space
- Microsoft Windows 95
   Note: Will not work with Windows 3.1
   or Windows NT

#### ORDERING INFORMATION

Software

NT Series Support Tool NT-ZJ3AT1-EV1

Cables

Programming Cable 9-9 pin C200H-CN229-EU Programming Cable 9-25 pin C200H-CN220-EU



Some of NT Series Support Tool's powerful features:

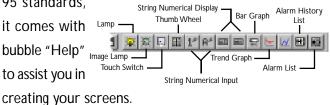
## Drawing Tool Bar



With NT Series Support Tool all your drawing tools

are up front. Now you can quickly and easily create dynamic applications for your operator interface. And because NT Series Support Tool adheres to Windows 95 standards.

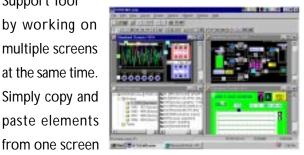
it comes with Lamp bubble "Help" to assist you in



## Multiple Windows

Work with multiple screens concurrently. Save valuable drawing, editing, and debug time with NT Series

Support Tool by working on multiple screens at the same time. Simply copy and paste elements



to another.

## Symbol Manager

Display components can be created and registered. Over time you can build a library of bitmaps or other

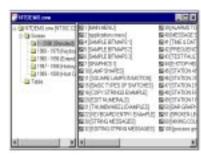


objects that can be registered in NT Series Support Tool's Symbol Manager. Simply open the "Symbol Manager" and drag and drop

the object onto your screen. To get you started, NT Series Support Tool includes a full library of keyboards and keypads.

## File Management

File Management is made easy with NT Series Support Tool's Application Manager. Program files and screens are displayed in a tree structure so



it's easy to find and reuse screen elements. In addition, the Copy & Paste feature lets you quickly insert screens and files.

## Error Detection

Simplify the process of troubleshooting your program. NT Series Support Tool's error log enables detection of errors such as capacity overload or stacking of touch switches in individual screens. Simply click on the error and automatically jump to its location for correction.

## Re-use screens / Quickly modify

Save yourself valuable programming time with NT Series Support Tool. Working on multiple projects, changing or upgrading display models, or just upgrading a program in an exsisting display, NT Series Support Tool lets you quickly copy screens and programs from one application to another. And with its global search

and replace, addressing can be changed quickly and easily.





NT11S OMRON



## **FULL-FEATURED ALPHANUMERIC DISPLAY**

## **FEATURES:**

- · Large characters
- · Contrast control
- 4 line x 20 character backlit LCD
- 32 K memory (up to 250 screens)
- 4 programmable function keys
- · Bar graph capability
- Password protect screens
- Printer port
- Host link/NT link communication
- NEMA 4
- Black or ivory front bezel



No space? No time? No problem! Our NT11S textbased 4 line x 20 character operator interface is the answer to your production needs. Compact (with the thinnest profile in the NT Series) and easy to operate, this full-featured operator interface allows accurate monitoring and controlling, and includes slide-in legends for quick customization of function keys. With the extra large keys of the NT11S keypad, you can manage it easily — even with heavy work gloves. And the NT11S uses a backlit LED LCD display providing a clearly visible screen in brightly lit areas.



Extra large numeric and function keys

#### SPECIFICATIONS Display Backlit LED LCD Type Size

4 line x 20 character Resolution 160 x 64 pixels Touch cells Left/Right ±35°

Viewing Angle

## Electrical

Power required 24 VDC Power consumed 10 W max

#### Environmental

Operating temp Storage temp Humidity Ratings Approvals

0-+50°C (+32°-+122°F) -20°-+70°C (-4°-+158°F) 35-85% non-condensing

NEMA 4 UL / CSA / CE

Dimensions 218wx113Hx38.2D mm 8.58wx4.45Hx1.50D in

Weight 1 kg (2.20 lbs)

#### Display Capabilities

Memory

Communication Host Link / NT Link

#### Graphic Capabilities

Bar graph Text and Numeric Marks



## Display advantage.

You can create easy-to-read message displays with the numeric and programmable function keys of the NT11S keypad. Character inversion, messaging, flash-



Password security system

ing, and bar graphs are just a few of the capabilities of this operator interface. Up to 250 screens can be programmed

into memory. And for those concerned about security, a password setting can be set per screen for critical machine operations.

## The key to communication.

Communication between operation site and PLC can unlock production barriers. By connecting the NT11S with a PLC using the Host Link or NT Link communication method, messages, numeric values, and control information can be sent to and received back from the PLC with fast updates and quick response times guaranteed.

## Rugged and adaptable.

Designed to operate in harsh surroundings, the NT11S is water resistant up to NEMA 4 standards. And with the NEMA 4



Withstands water and oil

rating, you can be sure this terminal will readily stand up to water wash down environments. The NT11S also complies with UL/CSA/CE standards.

## Easy-to-use software.

The NT11S uses NT Series Support Tool, a simple programming package for creating screens and messages. It is the same software used for programming Omron Touchscreens. NT Series Support Tool requires a short learning curve and provides an easy transition when developing useful programs for Omron's Operator Interface Terminals.

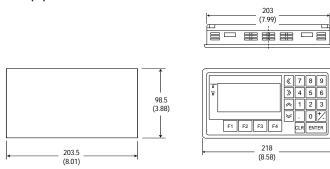


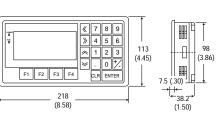
Ivory panel also available



## DIMENSIONS

mm (in)





| ORDERING INFORMATION  |  |  |  |
|---|--|--|--|
| Display   |  |  |  |
| 4 x 20 Alphanumeric Display - Ivory<br>4 x 20 Alphanumeric Display - Black  | NT11S-SF121<br>NT11S-SF121B  |  |  |
| Software  |  |  |  |
| NT Series Support Tool for NT11S/NT20/30/600/620  | NT-ZJ3AT1-EV1  |  |  |
| Cables  |  |  |  |
| 9-9 pin 50cm (1.6ft) NT-PLC Communication Cable<br>9-9 pin 3m (9.8ft) NT-PLC Communication Cable<br>9-9 pin 5m (16.4ft) NT-PLC Communication Cable<br>9-25 pin 50cm (1.6ft) NT-PLC Communication Cable<br>9-25 pin 3m (9.8ft) NT-PLC Communication Cable<br>9-25 pin 5m (16.4ft) NT-PLC Communication Cable | C200H-CN510-EU<br>C200H-CN320-EU<br>C200H-CN520-EU<br>C200H-CN519-EU<br>C200H-CN329-EU<br>C200H-CN529-EU |  |  |
| Manuals   |  |  |  |
| NT11S Operation Manual  | V029-E1-1  |  |  |

| Additional Inforr  | nation |
|--------------------|--------|
| Related NT11S Info | Page#  |
| Applications       | 4      |
| Communications     |        |
| Host Link          | 30     |
| NT Link            | 31     |

NT20S OMRON.



SPACE-SAVING SEMI-GRAPHIC TOUCH SCREEN PANEL

## FEATURES:

- 5" diagonal display
- STN LCD touch screen
- 96 K memory
- Freeform drawing capabilities
- Host link/NT link (1:1/1:N)/C200H backplane communication
- NEMA 4
- Replaceable backlight
- Black or ivory front bezel



The biggest little terminal on the market. Omron's NT20S operator interface terminal offers you the convenience of touch screen control with the advantage of flexible, flat panel design.

With a depth of only 54 mm, the NT20S easily builds into equipment and saves on valuable panel space. Choose Black or Blue LCD color to meet your application viewing needs.



Slim 54 mm profile

Blue is easier on the eyes; black offers the widest viewing angle. Maintenance is a breeze with the easily replaceable backlight. Display lifetime is increased while



Replaceable backlight

downtime is reduced. Less maintenance on the plant floor saves you time and money.

## **SPECIFICATIONS**

#### Display

Type Black or Blue Backlit STN LCD
Size 5" diagonal
Resolution 240 x 128 pixels
Touch cells 72 per screen
Viewing Angle Left/Right ±35°

#### Electrical

Power required 24VDC Power consumed 10 W max

#### Environmental

Operating temp Storage temp Humidity Ratings Approvals 0-+50°C (+32°-+122°F) -20°-+70°C (-4°-+158°F) 35-85% non-condensing NEMA 4

NEMA 4 UL / CSA / CE

Dimensions 190wx110Hx58p mm 7.48wx4.33Hx2.28p in

Weight .7 kg (1.5 lbs)

#### Display Capabilities

Memory 96 k

Communication Host Link / NT Link (1:1/1:N) / C200H Interface

### Graphic Capabilities

Freeform drawing
Thumbwheel
Numeric keypad
History recording
Bar graph
Text and numeric
Custom graphics



### Pour it on.

The NT20S can take it. This operator interface won't let you down when exposed to water or oil. The flat, flush surface construction of the terminal's front cover gives it a water resistance equivalent to NEMA 4, even without a protective cover. And with the NEMA 4 rating, the NT20S is a perfect fit for food processing or water wash down environments. The rugged NT20S also meets worldwide standards, complying with UL/CSA/CE requirements.

## Making a quick connection.

Communication between operation site and PLC is as simple as the touch of a screen. By connecting the NT20S with a PLC using the Host Link, NT Link, or C200H Interface communication method, touch switch status, messages, numeric values, and control information can be sent to and received back from the PLC with changes immediately registered on the LCD display. Fast updates and quick response times are guaranteed. The NT20S now offers the NT Link 1:N connection which allows links to multiple operator interface units. Depending on the PLC CPU, a maximum of 8 operator interfaces can connect to one port. And with the C200H Interface backplane communication method, the terminal connects directly on the expansion port of the C200H backplane freeing up

the CPU's communication ports and slots. Using this C200H backplane bus provides exceptionally fast response speeds.

## Less is more.

The NT20S costs you less but gives you more. More input functions, more graphics and more com-



Thumbwheel switches

munications possibilities. With thumbwheel switches, you can input numerical values directly into the PLC without the need of a sequence program. You can easily change these values with just one touch and they can be subjected to an upper and lower limit check. This compact touch screen allows push-button control, alarm features, and machine and set-up help, making it easier for you to take control of your plant operation.

## Save time on design.

Quickly create graphics, touch switches, and entire programs with Omron's NT Series Support Tool. Our easy-to-use software provides drawing tools similar to those found in commercial drawing packages. This gives seasoned designers all the options they need to create sophisticated graphics yet it's simple enough even for beginners to use in quick screen creation.



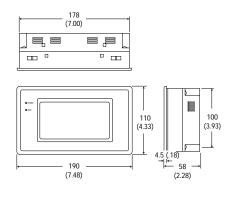
Protective sheet shields display from dirt and scratches



# DIMENSIONS mm (in)







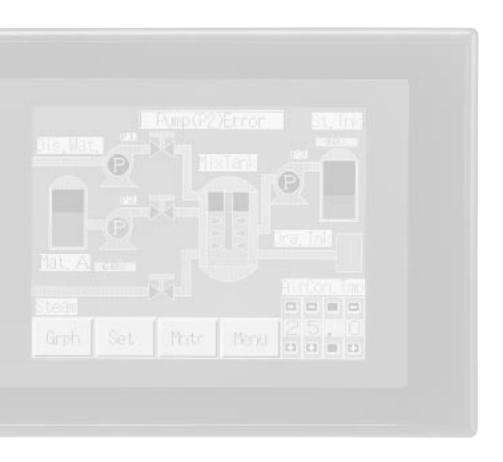
| ORDERING INFORMATION  |                  |  |
|---|------------------|--|
| Display   |                  |  |
| Blue LCD  |                  |  |
| 5" Backlit Touch Screen - Ivory                               | NT20S-ST121-EV3  |  |
| 5" Backlit Touch Screen - Black                               | NT20S-ST121B-EV3 |  |
| 5" Backlit Touch Screen C200H Connect - Ivory                 | NT20S-ST122-V1   |  |
| 5" Backlit Touch Screen C200H Connect - Black NT20S-ST122B-V1 |                  |  |
| Black LCD   |                  |  |
| 5" Backlit Touch Screen - Ivory                               | NT20S-ST161-EV3  |  |
| 5" Backlit Touch Screen - Black                               | NT20S-ST161B-EV3 |  |
|   |                  |  |
| Software  |                  |  |

| Black LCD  5" Backlit Touch Screen - Ivory  5" Backlit Touch Screen - Black   | NT20S-ST161-EV3<br>NT20S-ST161B-EV3   |
|---|---|
| Software  |   |
| NT Series Support Tool for NT11S/NT20/30/600/620<br>Programming Cable 9-9 pin<br>Programming Cable 9-25 pin   | NT-ZJ3AT1-EV1<br>C200H-CN229-EU<br>C200H-CN220-EU   |
| Accessories   |   |
| Backlight Chemical Resistant Cover Protective Sheet RS232/422 Converter   | NT20S-CFL01<br>NT20S-KBA01<br>NT20M-KBA04<br>NT-AL001   |
| Cables  |   |
| 9-9 pin 50cm (1.6 ft) NT-PLC Communication Cable 9-9 pin 3m (9.8 ft) NT-PLC Communication Cable 9-9 pin 5m (16.4 ft) NT-PLC Communication Cable 9-25 pin 50cm (1.6 ft) NT-PLC Communication Cable 9-25 pin 3m (9.8 ft) NT-PLC Communication Cable 9-25 pin 5m (16.4 ft) NT-PLC Communication Cable C200H 30cm (11.8 in) I/O Connecting Cable C200H 70cm (2.3 ft) I/O Connecting Cable C200H 2m (6.6 ft) I/O Connecting Cable C200H 5m (16.4 ft) I/O Connecting Cable C200H 10m (32.8 ft) I/O Connecting Cable | C200H-CN510-EU C200H-CN320-EU C200H-CN520-EU C200H-CN519-EU C200H-CN329-EU C200H-CN529-EU C200H-CN311 C200H-CN711 C200H-CN221 C200H-CN521 C200H-CN521 |
| Manuals   |   |
| NT20S Operation Manual  | V020-E3-1   |

| Additional Inforr  | nation |
|--------------------|--------|
| Related NT20S Info | Page#  |
| Software           | 7      |
| Applications       | 4      |
| Communications     |        |
| Host Link          | 30     |
| NT Link            | 31     |
| C200H Interface    | 33     |
|                    |        |

NT30/30C





**FULLY-GRAPHIC** 8-COLOR/BICOLOR TOUCH SCREEN PANEL

## FEATURES:

- 5.7" diagonal display
- 8-color or bicolor STN LCD touch screen
- Battery-packed real-time clock
- Printer port
- 512 K memory
- Host link/NT link communication
- NEMA 4
- Replaceable backlight
- Black or ivory front bezel



A touch of color. Omron's NT30/30C operator interface terminal gives you the convenience of touch screen control with clear color capabilities. Omron



White NT30 screen



Red NT30 warning screen

offers two terminal options with easy-toconfigure screens: the NT30C, a fully graphic eight-color display; and the NT30 bicolor display, which may be programmed to alternate between a white or a red screen. (This red screen is perfect for instantly alerting you to warnings and quickly identifying problem areas.) And with the high resolution 5.7 inch screen,

you're assured of readability even in brightly lit conditions. It's also easy to maintain. The replaceable

backlight decreases downtime while increasing display lifetime. Less maintenance on the plant floor saves you time and money.



Replaceable backlight

## SPECIFICATIONS

| 7 | is | n | ıa | 、, |
|---|----|---|----|----|
|   |    |   |    |    |

Backlit STN LCD Type Size 5.7" diagonal Resolution 320 x 240 pixels Touch cells 192 per screen Viewing Angle Left/Right ±35°

#### Electrical

Power required 24 VDC Power consumed 12 W max.

#### Environmental

Operating temp Storage temp Humidity Ratings Approvals

0-+50°C (+32°-+122°F) -20-+70°C (-4°-+158°F) 35-85% non-condensing

NEMA 4 UL / CSA / CE

**Dimensions** 195wx142Hx55.6D mm 7.68 wx5.59 hx2.19 D in

Weight .7 kg (1.54 lbs)

#### Display Capabilities

Memory 512 K

Communication Host Link / NT Link Real-time clock

#### Graphic Capabilities

Freeform drawing Bitmap Tiling Thumbwheel Numeric keypad History recording Bar graph Text and numeric Custom graphics



## Right on time.

Omron's high resolution panel with built-in real-time clock and 512 K worth of memory equips you with a powerful control and information resource. The battery-backed real-time clock allows you to maintain a history of errors, alarm messages or production counts — a valuable aid in machine failure analysis. And hard copies of the screen may be printed, even during operation. You can easily display bar charts, broken line graphs and three sizes of thumbwheel switches. The NT30/30C also comes with a unique pop-up window function that makes more efficient use of screen space.



Screen hard copies during operation

Use these space saving pop-up windows to display such items as numeric or character input

keys, and help messages. Create eye-catching screens with bitmap images that you can use to graphically display anything from lamps and touch switches to company logos.

## Communication connection.

Communication between operation site and PLC is as simple as the touch of a screen. By connecting the NT30/30C with a PLC using the Host Link or NT Link communication method, touch switch status, messages, numeric values, and control information can be sent to and received back from the PLC with changes immediately registered on the LCD display. Fast

updates and quick response times are guaranteed. Extend the capabilities of the NT30/30C with our B7A Interface. Connecting



Omron's B7A Interface to the terminal gives you will to 32 external I/O points for use with hard-wired alarms and pushbuttons. The B7A saves on wiring expense and extends distance while providing more control and flexibility.

## Built to take it.

Slim and sturdy, the NT30/30C can withstand exposure to water and mist. Water resistant to NEMA 4 standards, even without a



NEMA 4 rating

protective cover, this terminal can be used with food processing machines and machine tools. The NT30/30C also meets UL/CSA/CE requirements.

## Screen design in less time.

Quickly create graphics, touch switches, and entire programs with Omron's NT Series Support Tool. Our easy-to-use software provides drawing tools similar to those found in commercial drawing packages. This gives seasoned designers all the options they need to create sophisticated graphics yet it's simple enough even for beginners to use in quick screen creation.

# 

## DIMENSIONS mm (in) . 183.5 (7.22) 142 (5.59) 130.5 (5.14) 131 (5.16) 5 (.20) → |← 55.6 – (2.19) 184 (7.24) 195 (7.68) Panel Cutout 0 0 75 (2.95)

| ORDERING INFORMATION  |   |
|---|---|
| Display   |   |
| 5.7" Bicolor Backlit LCD Touch Screen - Ivory<br>5.7" Bicolor Backlit LCD Touch Screen - Black<br>5.7" 8-color Backlit LCD Touch Screen - Ivory<br>5.7" 8-color Backlit LCD Touch Screen - Black  | NT30-ST131-E<br>NT30-ST131B-E<br>NT30C-ST141-E<br>NT30C-ST141B-E  |
| Software  |   |
| NT Series Support Tool for NT11S/NT20/30/600/620<br>Programming Cable 9-9 pin<br>Programming Cable 9-25 pin   | NT-ZJ3AT1-EV1<br>C200H-CN229-EU<br>C200H-CN220-EU   |
| Accessories   |   |
| Backlight for NT30 Backlight for NT30C B7A Interface Unit In 16(8) / Out 16(8) Chemical Resistant Cover for NT30/30C Protective Sheet for NT30/30C Battery RS232/422 Converter NT to Printer Cable  | NT30-CFL01<br>NT30C-CFL01<br>NT-B7A16<br>NT30-KBA01<br>NT30-KBA04<br>3G2A9-BAT08<br>NT-AL001<br>NT-CNT121 |
| 9-9 pin 50cm (1.6 ft) NT-PLC Communication Cable<br>9-9 pin 3m (9.8 ft) NT-PLC Communication Cable<br>9-9 pin 5m (16.4 ft) NT-PLC Communication Cable<br>9-25 pin 50cm (1.6 ft) NT-PLC Communication Cable<br>9-25 pin 3m (9.8 ft) NT-PLC Communication Cable<br>9-25 pin 5m (16.4 ft) NT-PLC Communication Cable | C200H-CN510-EU<br>C200H-CN320-EU<br>C200H-CN520-EU<br>C200H-CN519-EU<br>C200H-CN329-EU<br>C200H-CN529-EU  |
| Manuals   |   |
| NT30/30C Operation Manual   | V034-E1-1   |

| Additional Information |       |  |
|------------------------|-------|--|
| Related NT30/30C Info  | Page# |  |
| Software               | 7     |  |
| Applications           | 4     |  |
| Communications         |       |  |
| Host Link              | 30    |  |
| NT Link                | 31    |  |
|                        |       |  |

NT600S





# LARGE TOUCH SCREEN SEMI-GRAPHIC PANEL

## FEATURES:

- 9" diagonal display
- STN LCD or EL touch screen
- 128 K memory
- Host link/NT link(1:1/1:N)/C200H backplane communication
- NEMA 4
- Replaceable backlight on LCD
- Black or ivory front bezel



NT600S LCD screen

Size it up. Compared to other operator interface terminals on the market, Omron's NT600S is the clear choice for value offering a large touch screen display



Electroluminescent screen

at a small touch screen price. With its surprisingly slim, flat panel design and spacious 9" display, you can install this operator interface just about anywhere and still easily see the screen.

You won't strain your eyes, even in brightly lit areas. Choose from the standard STN LCD touch screen or the wide-angle electroluminescent display. Our electroluminescent model gives you an extra-wide viewing angle, making the information you need just a glance away.

## **SPECIFICATIONS** Display Туре Size Resolution Touch cells Viewing Angle Electrical Power required Power consumed Environmental Operating temp Storage temp Humidity Ratings Approvals Dimensions

24 VDC Less than 15 W on LCD Less than 25 W on EL 0-+50°C (+32°-+122°F) -20-+70°C (-4°-+158°F) 35-85% non-condensing NEMA 4 UL / CSA / CE

Backlit STN LCD or

9" diagonal

640 x 400 pixels

128 per screen

Electroluminescent (EL)

Left/Right ±50° on LCD Left/Right ±80° on EL

275wx192hx71p mm 10.83wx7.56hx2.80p in

Weight 1.8 kg (3.97 lbs)

#### Display Capabilities

Memory 128 K Communication Host L

Host Link / NT Link (1:1/1:N) C200H Interface

#### Graphic Capabilities

Freeform drawing Thumbwheel Numeric keypad History recording Bar graph Text and Numeric Custom Graphics

23

**NT600S** 



## Constructed to last.

The NT600S complies with worldwide environmental standards, withstanding exposure to water or oil. The flat, flush surface construction of the terminal's



Protective sheet shields display from dirt and scratches

front cover gives it a water resistance equivalent to IP65, even without a protective cover. And NEMA 4 ratings ensure it functions in food processing or water wash down environments. The NT600S also meets UL/CSA/CE requirements.

## Quick to connect.

Communication between operation site and PLC is as simple as the touch of a screen. By connecting the NT600S with a PLC using the Host Link, NT Link, or C200H Interface communication method, touch switch status, messages, numeric values, and control information can be sent to and received back from the PLC with changes immediately registered on the LCD/EL display. With the new NT Link 1:N method, the NT600S offers more communication options than ever before. Depending on the PLC CPU, up to 8 operator interfaces can be connected to one port. And with the C200H Interface backplane communication method, the terminal connects directly on the expansion port of the C200H backplane freeing up the

CPU's communication ports and slots. Using this C200H back plane bus provides exceptionally fast response speeds.

## Valuable input.

The large touch screen of the NT600S offers a wide display area for working with input functions and graphics. The many graphic capabilities available give you a realistic representation of pushbuttons, lamps, bar graphs and thumbwheel switches.



Slim 65mm profile

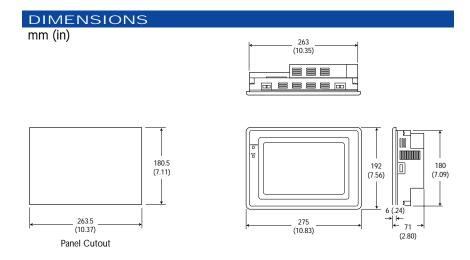
Thumbwheel switches allow you to input numeric values directly into the PLC without the need of a sequence program saving valuable program memory. And with the freeform drawing capabilities of the NT600S, you can create a graphic display of machine, assembly, or process status complete with alarm, control, and help messages.

## Save time on design.

Quickly create graphics, touch switches, and entire programs with Omron's NT Series Support Tool. Our easy-to-use software provides drawing tools similar to those found in commercial drawing packages. This gives seasoned designers all the options they need to create sophisticated graphics yet it's simple enough even for beginners to use in quick screen creation.



Replaceable backlight on LCD screen



| ORDERING INFORMATION   |  |  |  |  |
|--|--|--|--|--|
| Display  |  |  |  |  |
| 9" LCD Touch Screen - Ivory 9" LCD Touch Screen - Black 9" Electroluminescent Touch Screen - Ivory 9" Electroluminescent Touch Screen - Black  | NT600S-ST121-EV3<br>NT600S-ST121B-EV3<br>NT600S-ST211-EV3<br>NT600S-ST211B-EV3   |  |  |  |
| Software   |  |  |  |  |
| NT Series Support Tool for NT11S/NT20/30/600/620<br>Programming Cable 9-9 pin<br>Programming Cable 9-25 pin  | NT-ZJ3AT1-EV1<br>C200H-CN229-EU<br>C200H-CN220-EU  |  |  |  |
| Accessories  |  |  |  |  |
| Backlight for NT600S<br>C200H Direct Connect Interface<br>Chemical Resistant Cover for NT600S<br>Protective Sheet for NT600S/620S<br>Battery<br>RS232/422 Converter  | NT600S-CFL01<br>NT-LB122<br>NT600S-KBA01<br>NT600M-KBA04<br>3G2A9-BAT08<br>NT-AL001  |  |  |  |
| Cables   |  |  |  |  |
| 9-9 pin 50cm (1.6 ft) NT-PLC Communication Cable 9-9 pin 3m (9.8 ft) NT-PLC Communication Cable 9-9 pin 5m (16.4 ft) NT-PLC Communication Cable 9-25 pin 50cm (1.6 ft) NT-PLC Communication Cable 9-25 pin 3m (9.8 ft) NT-PLC Communication Cable 9-25 pin 5m (16.4 ft) NT-PLC Communication Cable 9-25 pin 5m (16.4 ft) NT-PLC Communication Cable C200H 30cm (11.8 in) I/O Connecting Cable C200H 70cm (2.3 ft) I/O Connecting Cable C200H 2m (6.6 ft) I/O Connecting Cable C200H 5m (16.4 ft) I/O Connecting Cable C200H 10m (32.8 ft) I/O Connecting Cable | C200H-CN510-EU C200H-CN320-EU C200H-CN520-EU C200H-CN519-EU C200H-CN329-EU C200H-CN311 C200H-CN711 C200H-CN711 C200H-CN221 C200H-CN521 C200H-CN131 |  |  |  |
| Manuals  |  |  |  |  |
| NT600S Operation Manual  | V022-E3-1  |  |  |  |

| Additional Infor    | mation |
|---------------------|--------|
| Related NT600S Info | Page#  |
| Software            | 7      |
| Applications        | 4      |
| Communications      |        |
| Host Link           | 30     |
| NT Link             | 31     |
| C200H Interface     | 33     |
|                     |        |

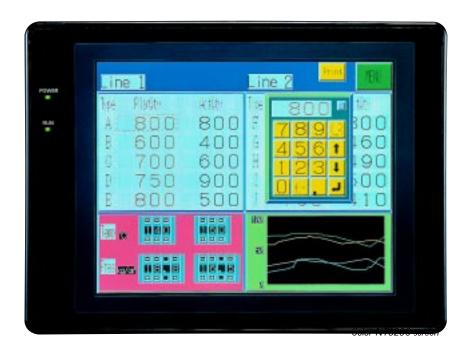




## MULTIFUNCTION FULLY-GRAPHIC TOUCH SCREEN PANEL

## FEATURES:

- 9.7" color STN LCD touch screen or 9" electroluminescent display
- Battery-packed real-time clock
- Printer port
- 1 MB memory
- Host link/NT link (1:1/1:N)
- NEMA 4
- · Replaceable backlight on LCD
- Black or ivory front bezel



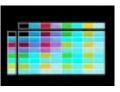
Color, Memory and Size — the big three in operator interface terminals and the NT620C has them all. A fully graphic eight-color STN LCD terminal, 1 MB of memory and a large touch screen allow you easy, onsite access to important information. Screens are clear and colorful, making images easily identifiable. Our top-



Electroluminescent screen

of-the-line operator interface terminal also comes in an electroluminescent model. This EL screen has an extra-wide viewing angle that lets you see it from a distance. No need to go all the way to the screen to get

a reading, just a quick glance will give you the information you need — fast.



8-color variations displayed on the NT620C screen

# **SPECIFICATIONS** Display Type Size Resolution Touch cells Viewing Angle Electrical Power required Power consumed Environmental Operating temp Storage temp Humidity Ratings **Approvals**

Power required 24 VDC
Power consumed 30 W or less on LCD or 25 W or less on EL

/ironmental

Operating temp 0-+40°C (+32°-+104°F) LCD 0-+45°C (+32°-+113°F) EL

Storage temp -20-+60°C (-4°-+140°F) LCD -20-+70°C (-4°-+158°F) EL

Humidity 35-85% non-condensing

Ratings NEMA 4

Approvals UL / CSA / CE

Dimensions of LCD 275wx196Hx76.8D mm 10.83wx7.72Hx3.02D in

Backlit STN LCD or

9.7" LCD or 9" EL

640 x 400 pixels EL 768 LCD or 512 EL

Electroluminescent (EL)

640 x 480 pixels LCD or

Left/Right ±30° LCD or Left/Right ±80° EL

Dimensions of EL 275wx192Hx71p mm 10.83wx7.56Hx2.80p in Weight 2.0 kg (4.41 lbs)

vveignt 2.0 kg (4.41 lbs)

## Display Capabilities

Memory
Communication
Real-time clock

MB LCD or 512 K EL
Host Link / NT Link(1:1/1:N)
Yes

## Graphic Capabilities

Freeform drawing
Bitmap
Tiling
Thumbwheel
Numeric keypad
History recording
Bar graph
Text and numeric
Custom graphics



## Time on your hands.

With this high resolution panel's built-in real-time clock and myriad of communication possibilities, you gain hands-on control of your plant operation. The battery-backed real-time clock allows you to maintain a history of errors, alarm messages or production counts — a valuable aid in machine analysis. And hard copies of the screen may be printed, even during operation. You can easily display bar charts, broken line graphs and thumbwheel switches. With broken line graphs, the in-



Use pop-up windows to display numeric and character input keys and help messages.

terval on the horizontal axis can be set without restriction, and the set values on the vertical axis can be changed even during operation. Thumbwheel switches let you quickly input numerical values directly into the PLC without using

a sequence program — a real time saver. Bitmap images can save you time too. Use them for graphically displaying anything from lamps and touch switches to company logos.

## Low maintenance, high quality.

Built tough and water resistant, the NT620S/620C stands up to harsh environments. Water and oil are no match for this terminal which meets NEMA 4 standards, even without a protective cover. The

NEMA 4 rating ensures it will function in water wash down environments. This gives you more location choices when installing your



Replaceable backlight

terminal. And because the LCD screen comes with a replaceable backlight, maintenance is simple. The NT620S/620C also meets UL/CSA/CE requirements.

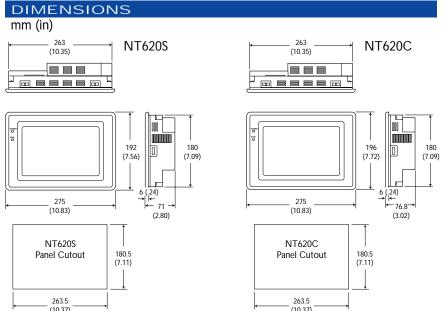
## Quick connection capabilities.

Communication between operation site and PLC is as simple as the touch of a screen. By connecting the NT620S/620C with a PLC using the Host Link or NT Link communication method, touch switch status, messages, numeric values, and control information can be sent to and received back from the PLC with changes immediately registered on the LCD/EL display. Fast updates and quick response times are guaranteed.

The NT620S/C now has NT Link 1:N capabilities for connecting multiple operator interfaces to select PLC CPU ports. With Memory Link, the NT620S/C offers more communications capability than ever before. When using a Memory Link, communication with an NT620S/C is executed using RS-232C/422A communication from the host. Both Memory Link and NT Link are enabled using the appropriate system installer.

## Less time on design.

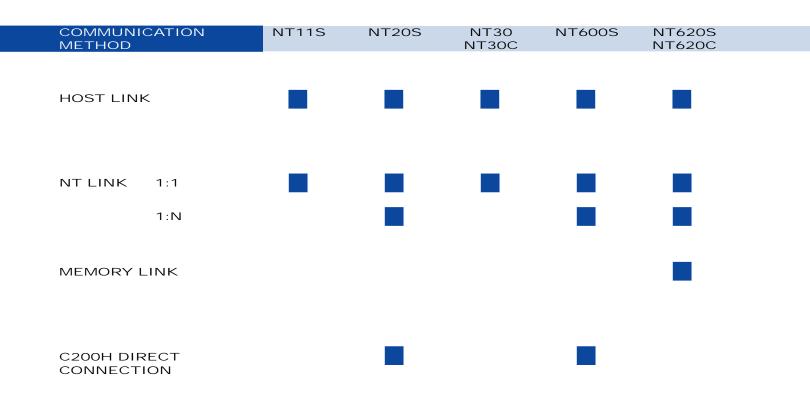
Quickly create graphics, touch switches, and entire programs with Omron's NT Series Support Tool. Our easy-to-use software provides drawing tools similar to those found in commercial drawing packages. This gives seasoned designers all the options they need to create sophisticated graphics yet it's simple enough even for beginners to use in quick screen creation.



| Panel Cutout 180.5 (7.11) Panel Cutout 263.5 (10.37)  | 263.5<br>(10.37)  |  |
|---|---|--|
| ORDERING INFORMATION  |   |  |
| 9.7" 8-color Backlit LCD Touch Screen - Ivory 9.7" 8-color Backlit LCD Touch Screen - Black 9" Electroluminescent Touch Screen - Ivory 9" Electroluminescent Touch Screen - Black   | NT620C-ST141-E<br>NT620C-ST141B-E<br>NT620S-ST211-E<br>NT620S-ST211B-E  |  |
| Software  |   |  |
| NT Series Support Tool for NT11S/NT20/30/600/620<br>System Installer for Host Link, NT Link(1:1/1:N)<br>System Installer for Memory Link<br>Programming Cable 9-9 pin<br>Programming Cable 9-25 pin   | NT-ZJ3AT1-EV1<br>NT620-ZS3AT-EV1<br>NT620-ZS3AT-EMV1<br>C200H-CN229-EU<br>C200H-CN220-EU                              |  |
| Accessories   |   |  |
| Backlight for NT620C Chemical Resistant Cover for NT620C Chemical Resistant Cover for NT620S Protective Sheet for NT620C Protective Sheet for NT620S/600S Battery RS232/422 Converter NT to Printer Cable   | NT620C-CFL01<br>NT620C-KBA01<br>NT600S-KBA01<br>NT620C-KBA04<br>NT600M-KBA04<br>3G2A9-BAT08<br>NT-AL 001<br>NT-CNT121 |  |
| Cables  |   |  |
| 9-9 pin 50cm (1.6 ft) NT-PLC Communication Cable<br>9-9 pin 3m (9.8 ft) NT-PLC Communication Cable<br>9-9 pin 5m (16.4 ft) NT-PLC Communication Cable<br>9-25 pin 50cm (1.6 ft) NT-PLC Communication Cable<br>9-25 pin 3m (9.8 ft) NT-PLC Communication Cable<br>9-25 pin 5m (16.4 ft) NT-PLC Communication Cable | C200H-CN510-EU<br>C200H-CN320-EU<br>C200H-CN520-EU<br>C200H-CN519-EU<br>C200H-CN329-EU<br>C200H-CN529-EU              |  |
| Manuals   |   |  |
| NT620S/620C Operation Manual  | V033-E3-2   |  |

| Additional Information   |       |  |
|--------------------------|-------|--|
| Related NT620S/620C Info | Page# |  |
| Software                 | 7     |  |
| Applications             | 4     |  |
| Communications           |       |  |
| Host Link                | 30    |  |
| NT Link                  | 31    |  |
|                          |       |  |





## HOST LINK

The Host Link communication method is built into our full line of Omron NT Series Terminals. Communication baud rates range from 9,600 to 19,200 bps with a typical response speed of .5 seconds. With Host Link, you can connect multiple terminals to a single PLC (up to six on the C200H $\alpha$  system) gaining greater accessibility and multiple views of your larger applications.

#### APPLICABLE PLCS

SYSMAC-

CVM1/CV Series (EV1, 2 versions only)

C200HX/HG/HE

C200HS / C200H

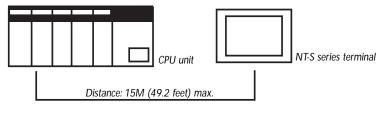
CQM1 (except CPU11)

CPM1 with CIF cable

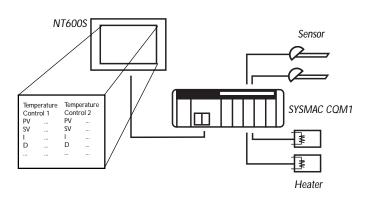
CPM1A with CIF cable

SRM1

C-SERIES Hostlink Unit



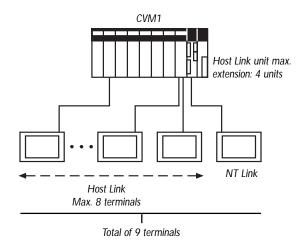
Host Link connection

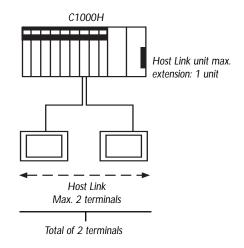


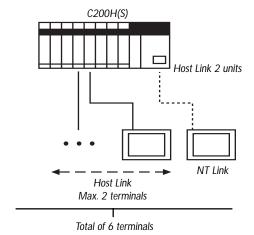
Host Link Application

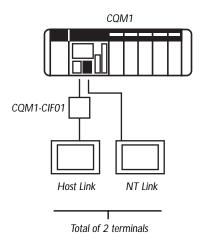


## OPERATOR INTERFACE-PLC HOST LINK 1:N CONNECTION EXAMPLES











### NT LINK 1:1

Omron's NT Link communication method can rapidly transmit large amounts of data. With response speeds of up to .2 seconds, NT Link displays important information fast. When you need a guarantee of high speed data delivery on your time critical applications, use NT Link, Omron's fastest communication method for operator interface terminals.

## APPLICABLE PLCS

SYSMAC-

CVM1/CV Series (EV1, 2 versions only)
C200HX/HG/HE (excluding C200HE-CPU11)

C200HX/HG/HE (excluding C200HE-CP)

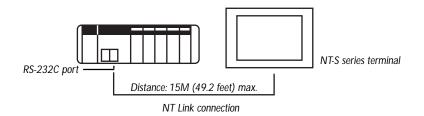
C200HS-CPU3\_ / CPU2\_

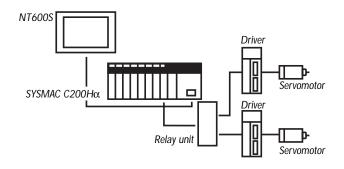
CQM1-CPU4\_-E

CPM1 with CIF cable

CPM1A with CIF cable

SRM1





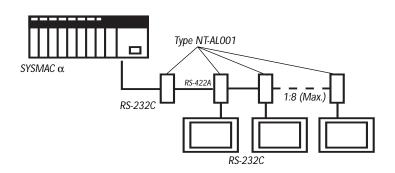
NT Link Application

## NT LINK 1:N

Omron's NT Link 1:N connection allows links to multiple machines. The number of connections possible varies depending on the SYSMAC  $\alpha$  model. By installing a communication board in the option slot of the CPU unit, it is possible to connect up to three NT Link (1:N) systems, comprising a total of 24 operator interface units.

#### APPLICABLE PLCS

C200HE (except CPU11): 4 units per port C200HX/HG: 8 units per port



The NT-AL001 RS-232C/422A converter unit is sold seperately. When connecting the C200HX/HG/HE and NT-AL001, use a converter unit whose lot number is 15Y5 or higher.



## 

RS-422A communication

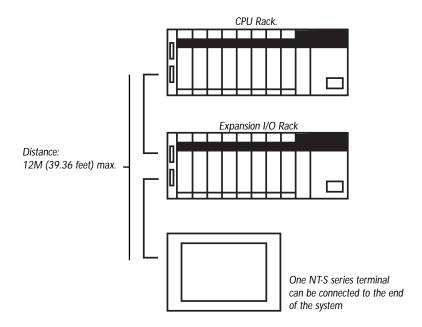
## MEMORY LINK (NT620S/C)

The Memory Link is a new communications method which allows use of the direct connection function from an Omron third party host with RS-232C/422A communications. Memory Link achieves faster data throughput by allocating a virtual memory area in the operator interface. The functions are equivalent to those of other direct connection methods.

#### APPLICABLE HOSTS

Single Board Computer Personal Computer PLC

## C200H DIRECT CONNECTION

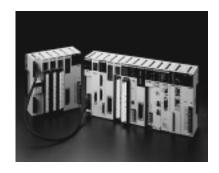


C200H Direct Communication

Available on the NT20S and NT600S terminals, the C200H Interface Backplane direct connection method allows you to communicate directly to the expansion port of the C200H backplane. With this direct connection method freeing up the CPU's communication ports and slots, there's no need to purchase additional host link modules. And because this communication method is compatible with Host Link communication, you can connect multiple terminals to a single PLC.

#### APPLICABLE PLCS

C200HX/HG/HE C200H(S) C20H Series



## LARGE RACK PLC SYSTEMS

Omron's CV Series Programmable Controllers combine powerful, high-speed industrial control with the industry's most advanced data communications capability enabling you to manage factory control and production data in a single platform. The CV's extensive selection of more than 80 standard and special application modules and family compatibility with other Omron PLCs make it an ideal solution for long term factory automation expansion.



## MID-SIZED PLC SYSTEMS

The C200H Alpha PLC is the most recent enhancement of Omron's advanced line of powerful and versatile mid-sized PLCs. With its large rack capability in a mid-sized package, the C200H Alpha offers the industry's best value in machine control, networking and data communications. Designed to be closely integrated with other Omron PLCs, the C200H Alpha provides an ideal platform for advanced cell or machine control while minimizing training, peripheral and maintenance costs.



## SMALL AND MICRO PLCS

Omron virtually pioneered the small and micro PLC market and has set the standard in cost/performance value ever since. The remarkably versatile CQM1, and the cost effective CPM1/A let you manage high-speed control and inspection applications in space-conscious packages. Continuing Omron's pioneering spirit, the new SRM1 Micro Network Controller offers the industry's first networkable micro PLC. The compact (about the size of a pack of cigarettes) CPU controls its versatile I/O terminals via high-speed twisted pair wires and provides unmatched flexibility and cost savings for small machine control.



## PROGRAMMING TOOLS AND PERIPHERALS

All Omron PLCs may be programmed using SYSMAC CPT, a single easy-to-use Windows-based package that simplifies program development, documentation, maintenance and troubleshooting. Powerful ON- and OFF-line editing and monitoring tools give you unparalleled access to your program for quick troubleshooting and modification.

# MEASUREMENT/INSPECTION SENSORS AND MACHINE VISION

Omron's measurement/inspection sensors and machine vision systems let you automatically build quality in-line rather than manually inspect it in at the end of the production run. These highly accurate, non-contact sensors offer micron level resolution to detect proper position, displacement, size, hole depth, surface defects and many other parameters. All are designed for easy integration with other Omron products.



## AUTO ID/ELECTRONIC DATA TRACKING

Omron Automatic Identification products let you better manage production by enabling you to electronically track the status of products and assemblies throughout the production process. Radio Frequency Identification (RFID) products act like a portable, updateable database – truly enabling the "Lots of One" or "Mass Customization" potential for manufacturing. For basic identification purposes, Omron's Bar Code Readers offer unmatched flexibility and functionality. All are designed for easy integration with other Omron products.



## SENSORS, LIMIT SWITCHES AND ENCODERS

No other automation company offers a wider range of problem-solving sensing solutions than Omron. Choose from photoelectric, proximity, capacitive, limit switches, incremental and absolute encoders and more. All are available in a wide range of sizes, housing styles, sensing ranges, and mounting options. Advanced versions include built-in diagnostics and alarm outputs that automatically detect failing sensing conditions and send alarm signals.



# TEMPERATURE AND PROCESS CONTROLLERS, TIMERS, COUNTERS AND DIGITAL PANEL METERS

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