

Small-scale automation solution

# NT3S HMI-SERIES

powerful and flexible touch technology



Advanced Industrial Automation

16:44:14 **ALLIANCE**  
Temp. High  
Pres. High  
Ackn. Up Down

Back  
Next

**Scaled data entry & Math** Back  
data\_entry dataview  
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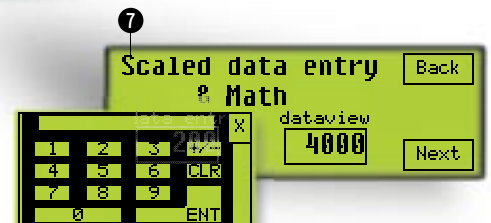
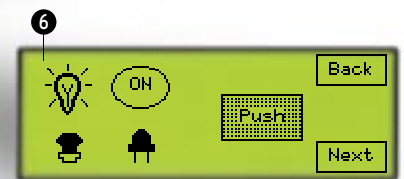
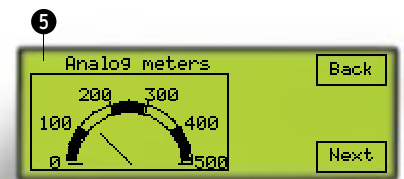
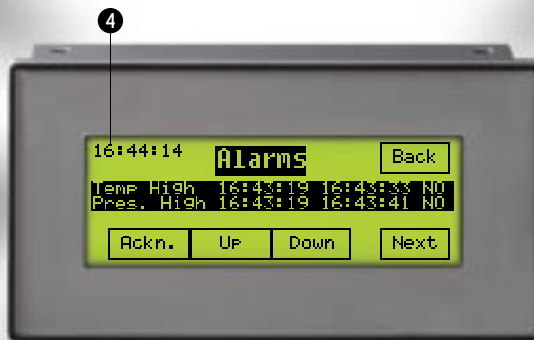
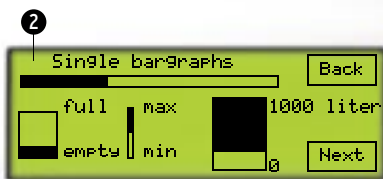
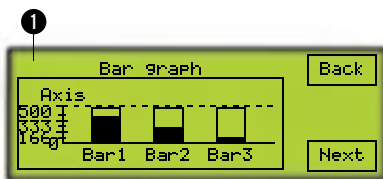
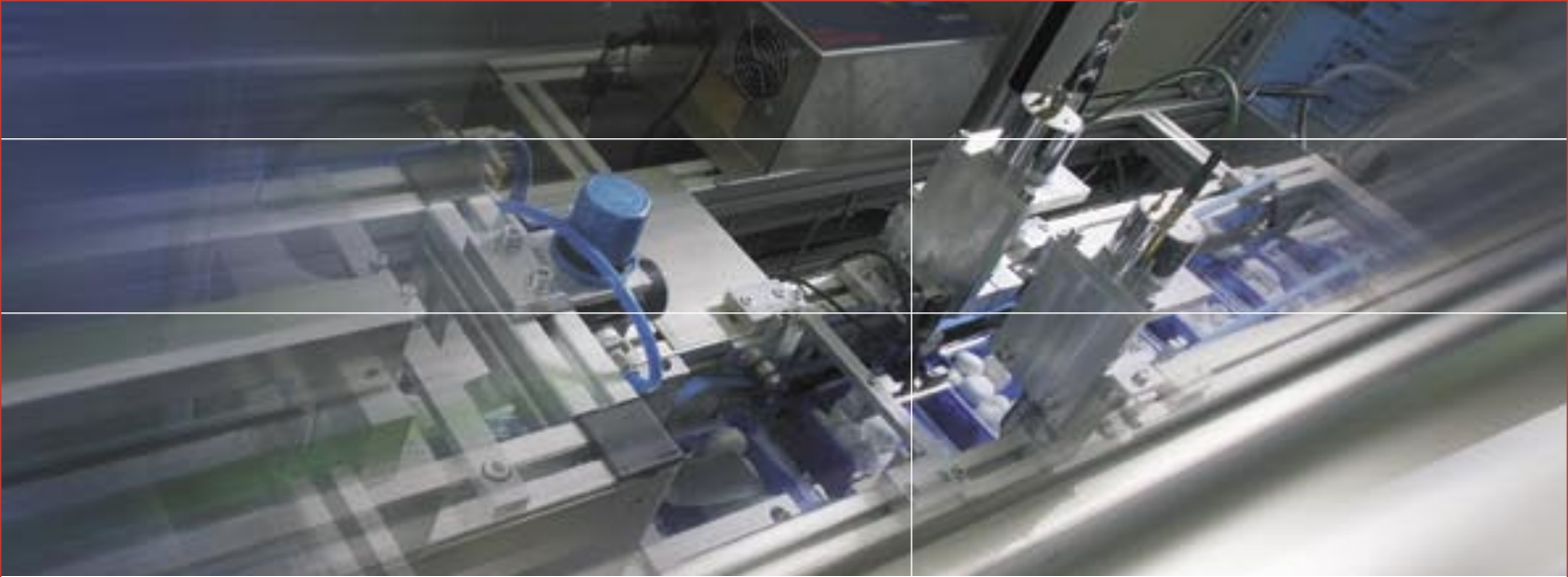
**OMRON**

The Omron NT3S terminal is designed to replace mechanical pushbuttons and lamps or text based function key terminals by offering extra functionality, without increasing overall costs. The NT3S-series offers powerful, free programmable functionality on a small touch screen based user interface. You can create your own “function keys” wherever you want them on your screen and at the same time make use of text in multiple languages. You can also use comprehensive graphics to monitor your application. This product is a step up from our NT2S/NT11S function key series and a step up to our more intelligent NS-series.

## Small, Powerful, Flexible, Economic ..... NT3S

The NT3S applications are designed by making use of standard objects like text displays, bar graphs and lamps, and on the other hand by tasks that can for instance be assigned to buttons and screens. Also application specific functionality like alarms and recipes can be easily configured with the free software NT-XS. This software is also used to program our NT2S function key series.





**1 2**

On the NT3S you can show different kind of bar graphs. Single bar graphs can be filled in different directions and multiple bar graphs with legend can easily be created with a simple wizard.

**3**

Up to nine languages can be used in the NT3S. This means you can for instance make the text buttons variable. This way you can design one project with different languages, so you can use it in different countries.

**4**

You can monitor up to 256 alarms in 16 different groups with the NT3S. Alarms can be shown with text, time, date and status. Acknowledgement can be prohibited by password.

**5**

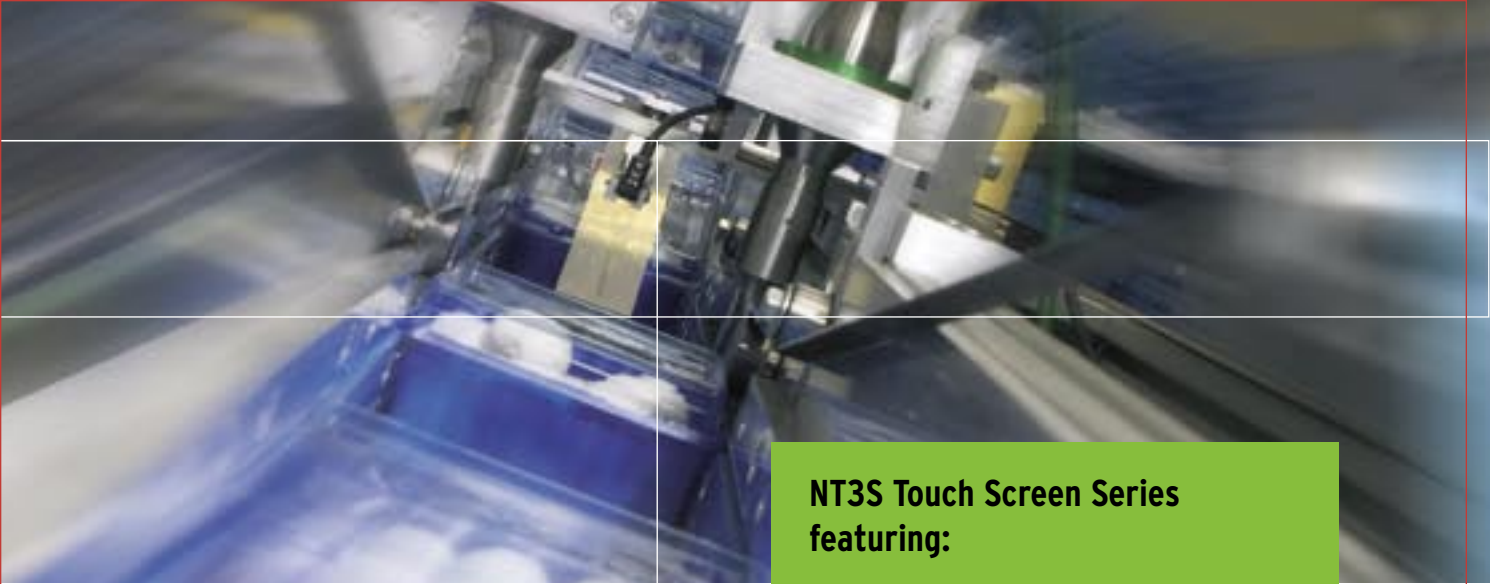
Analogue meters can also monitor values of connected devices. You can set the range, angle, and “colours” to your wish.

**6**

You can create your own buttons and lamps by making use of bitmaps or by choosing one from the library. You can set the “colour”, filling and label.

**7**

Showing and entering data is easy with the NT3S. Data can be shown in the desired format (HEX, BCD etc.). Entering data is performed with a pop-up keypad.



## NT3S Touch Screen Series featuring:

- 4.1" monochrome STN LCD with LED backlight (long lifetime)
- Maximum of two universal (RS232/485/422) serial ports to connect multiple devices with different protocols at the same time
- Drivers for most PLCs, Inverters and Servo Controllers
- Multiple data entry objects per screen with individual limit setting and math operations
- Support for floating point data
- Wizards for rapid application development of standard bitmapped objects
- Real-time and historical alarms (historical alarms in RTC version only)
- Trend graph for defined tags (RTC models only)
- Saves recipes data in non-volatile memory
- Windows® based programming software NT-XS for free!
- IP65 design, CE/cULus Class 1 Div 2 certification\*

*\* Class 1 Div 2 pending*

### Outstanding in many applications

The NT3S is capable of communicating through two serial ports with two different protocols at the same time. This means that you can connect a PLC on the first port and for instance an Inverter or a Servo Drive on the second port.

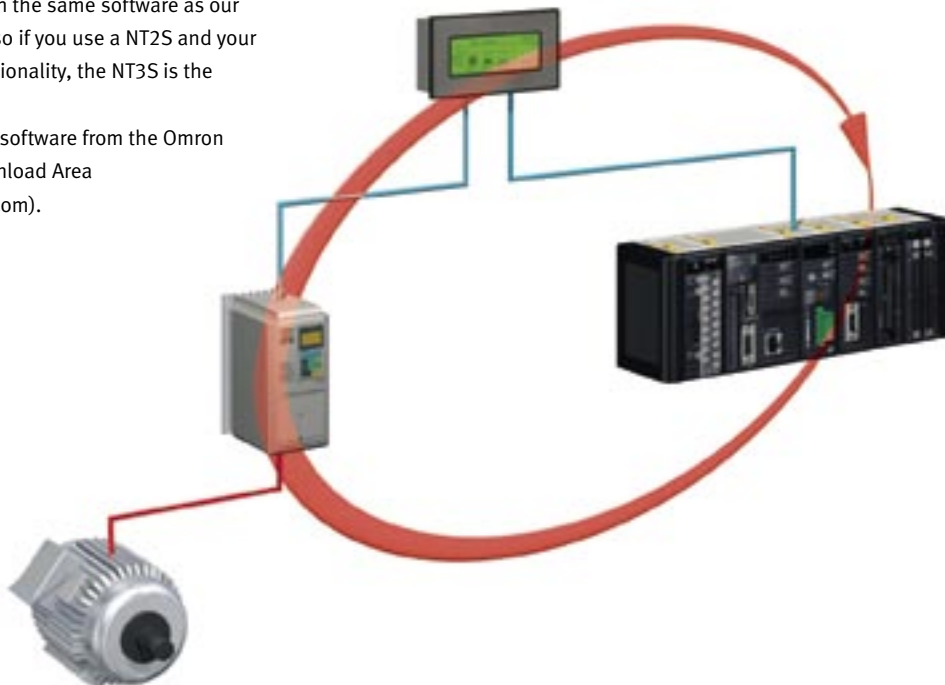
The NT3S can act as gateway by reading bits or words from the PLC and "copy" them to a drive, for instance to start/stop the drive. Also you can start and stop a drive from the NT3S directly or write variables/parameters like speed, distance, voltage or torque.

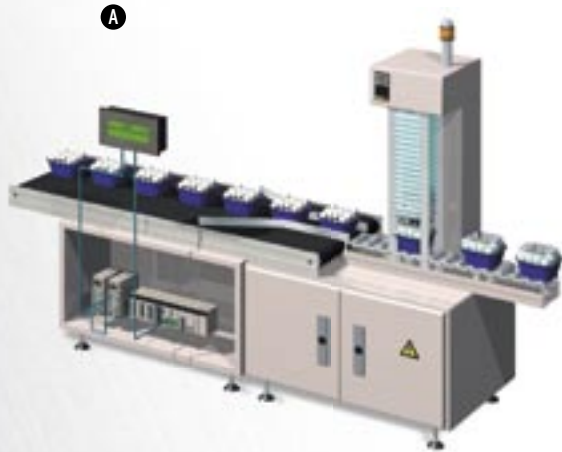
You can save a lot of money by communicating directly to devices like Servo Drives or Inverters. You don't need a bus-system master in your PLC and you don't need a special Inverter with a bus-interface, because most Inverters can communicate by a standard serial protocol without extra costs.

Add to this the touch screen, the multi-language possibility, the optional real-time clock and the graphical features, like analogue meters and bar graphs, and you have a product that can really upgrade the functionality of machines with ordinary switches or buttons.

The NT3S is programmed with the same software as our NT2S function key terminal, so if you use a NT2S and your customers ask for more functionality, the NT3S is the product to use!

You can download the NT-XS software from the Omron Software Registration & Download Area (<http://www.europe.omron.com>).

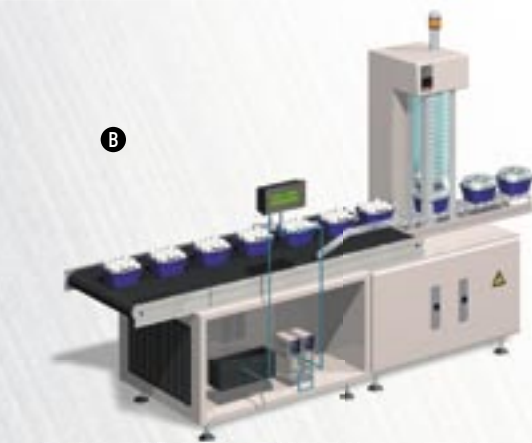




### **A Two port solutions**

A typical application for the NT3S is a machine where an Omron PLC and Intelligent Servo Drives are used. The NT3S can be used to communicate with both the PLC and the Servo Drives. This means setting parameters, reading and writing variables like speed, torque, distance and actual position. It is also possible to move data from the PLC to the Servo Drive (e.g. to change acceleration times).

The NT3S gives you the advantage of being able to communicate with the drives without using a bus-system, so a smaller and less expensive PLC can be used.



### **B Gateway functionality**

You can also use the NT3S to connect Omron Inverters to another PLC brand. In this solution the NT3S can communicate with the third party PLC\* and at the same time the NT3S can change data in the Omron Inverters. Inverter settings can be changed directly from the screen but also from the PLC program. The NT3S acts as a gateway between the different protocols. This way you can save a lot of time developing the communication between the PLC and the Omron Drives.



### **C NT3S as local operator**

Connecting multiple NT3S terminals to one Omron PLC is a good solution for long machine lines where local setting or monitoring is needed. You can connect a maximum of 7 screens to one PLC. By using the multiple NT3S terminals next to one more advanced HMI like the Omron NS-series, you can have a high functional solution with local operation possibility against few extra costs.

\* Please contact your local Omron representative for a list of available drivers.

## Specifications

| Model   | NT3S-ST126   | NT3S-ST124                 | NT3S-ST123 | NT3S-ST121       |
|---|--|----------------------------|------------|------------------|
| Type of display                                 | LCD 4.1 inch, STN, monochrome display                            |                            |            |                  |
| Dimensions (W x H x D, mm)                      | 140 x 77 x 35  |                            |            |                  |
| Effective display area                          | 98 x 35 mm (4.1 inch)  |                            |            |                  |
| Display colour                                  | Green LCD, monochrome  |                            |            |                  |
| Communication                                   | 2x RS232   | 1x RS232, 1x RS485/422/232 |            | 2x RS485/422/232 |
| RTC   | -  |                            | Supported  |                  |
| Power supply                                    | 24V DC ±15%  |                            |            |                  |
| Touch panel                                     | Analog Resistive   |                            |            |                  |
| Obtained standards                              | CE, cULus (Class 1 Div 2 pending)                                |                            |            |                  |
| Display graphics                                | Rectangle, Rounded Rectangle, Circle, Oval, Line, Bitmaps        |                            |            |                  |
| No. of display characters (standard characters) | 32 characters x 8 lines  |                            |            |                  |
| No. of registered screens                       | 65,000 max. (limited by memory capacity)                         |                            |            |                  |
| Screen data capacity (standard)                 | 120 Kb   |                            |            |                  |
| Internal memory                                 | 1 kWords data memory, 1 kWords retentive, 64 words system memory |                            |            |                  |
| Printer connection                              | Supported  |                            |            |                  |
| Backlight life                                  | LED, min 50,000 hours  |                            |            |                  |
| Multi-vendor support                            | Supports most third party PLCs*                                  |                            |            |                  |

\* Please contact your local Omron representative for a list of available drivers.

## Cable ordering information

| Product Name  | Product description   |
|---------------|---|
| NT2S-CN212-V1 | NT3S to peripheral port CPM-series (except CPM2C); 2 metre            |
| NT2S-CN215-V1 | NT3S to peripheral port CPM-series (except CPM2C); 5 metre            |
| NT2S-CN223-V2 | NT3S to mini-peripheral port CJ1/CS1-series and CPM2C-series; 2 metre |
| NT2S-CN002    | NT2S and NT3S programming cable; 2 metre                              |

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SFP-NT3S\_HML\_Series\_EN01\_0505

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