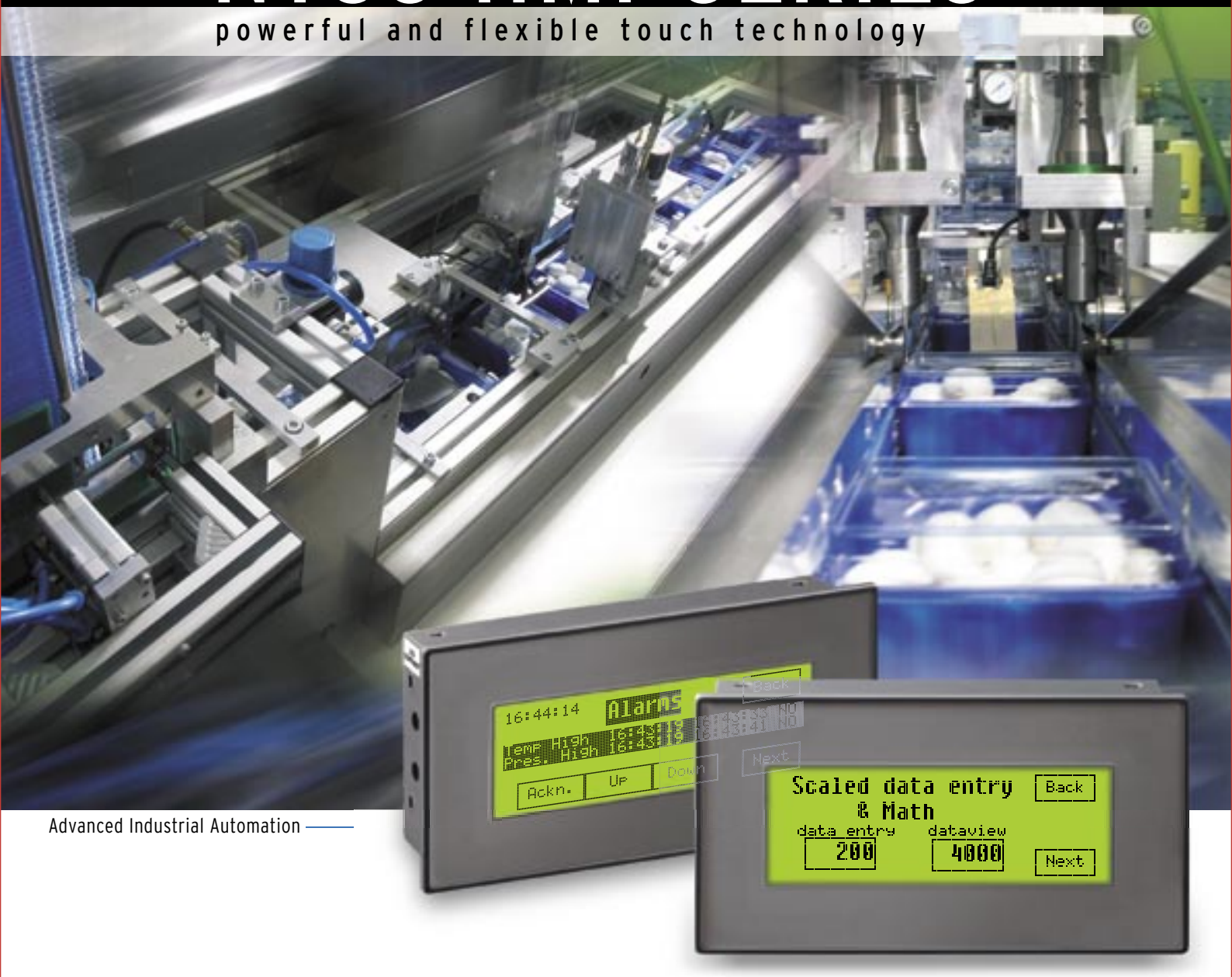
Small-scale automation solution

NT3S HMI-SERIES

powerful and flexible touch technology



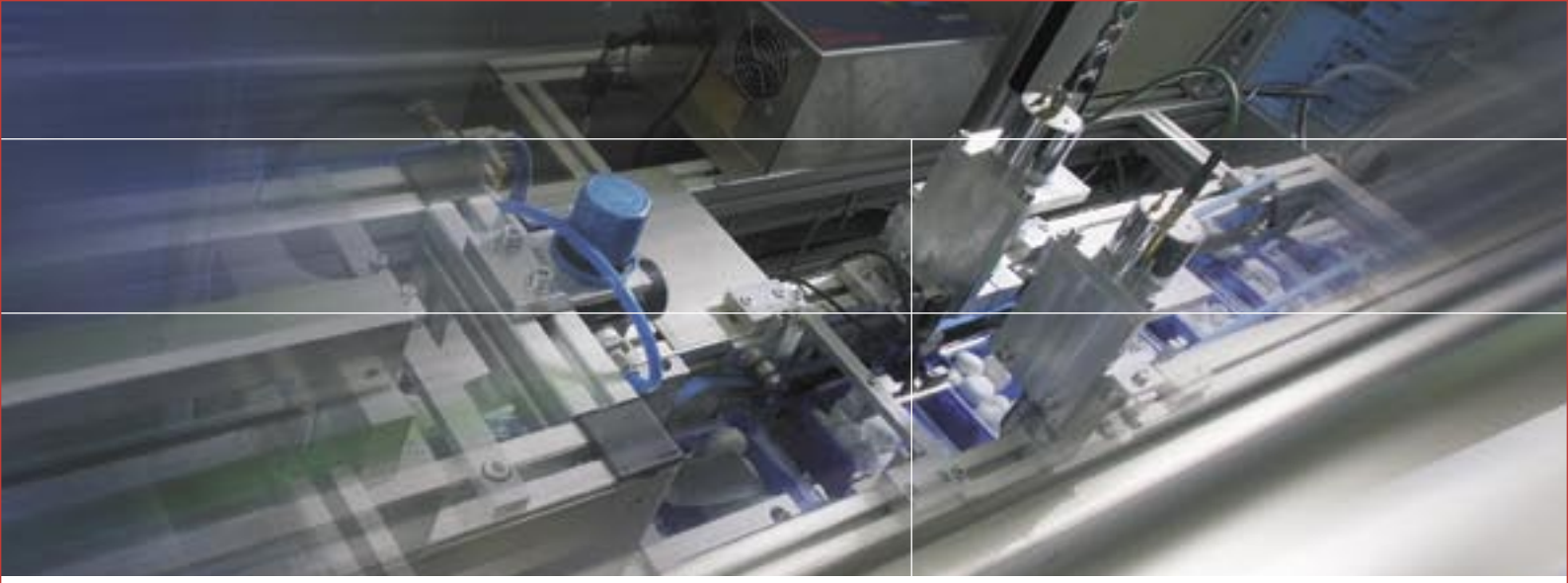
Advanced Industrial Automation

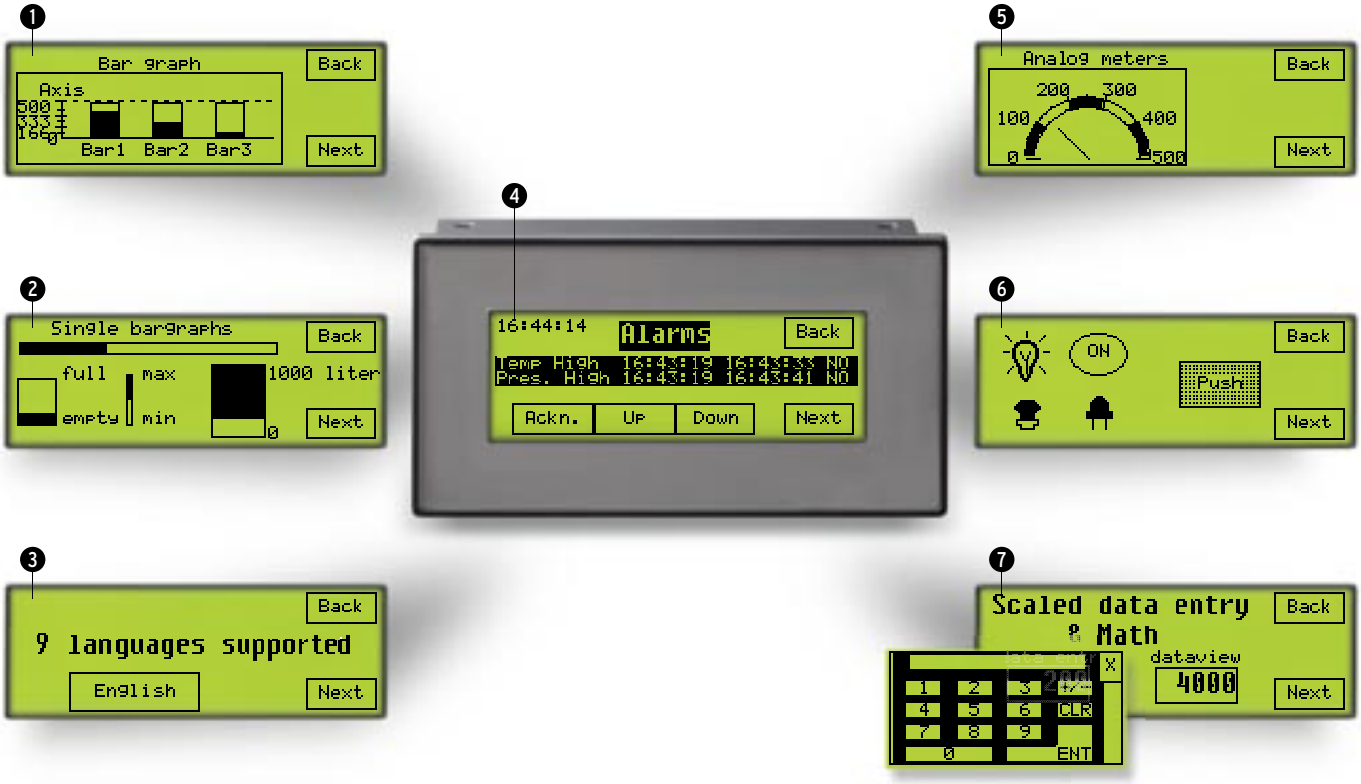
OMRON

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.





❶ ❷

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.

❸

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.

❹

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.

❺

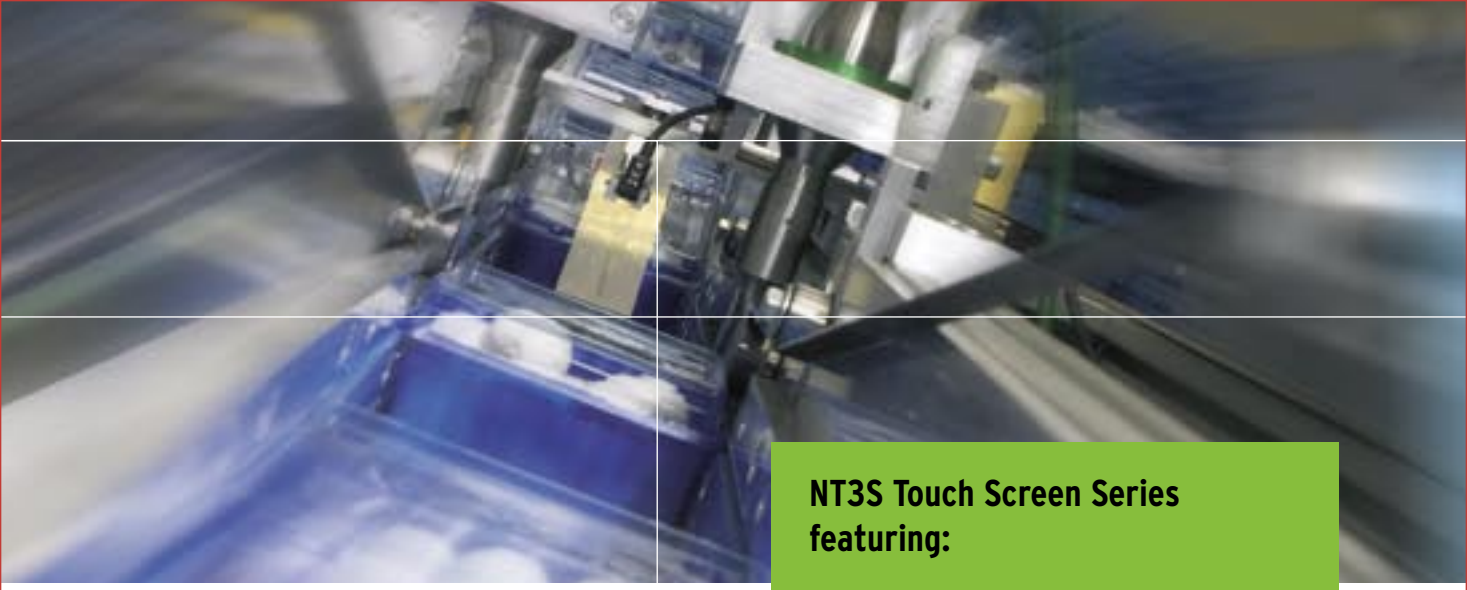
Analogue meters can also monitor values of connected devices. You can set the range, angle, and “colours” to your wish.

❻

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.

❼

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***

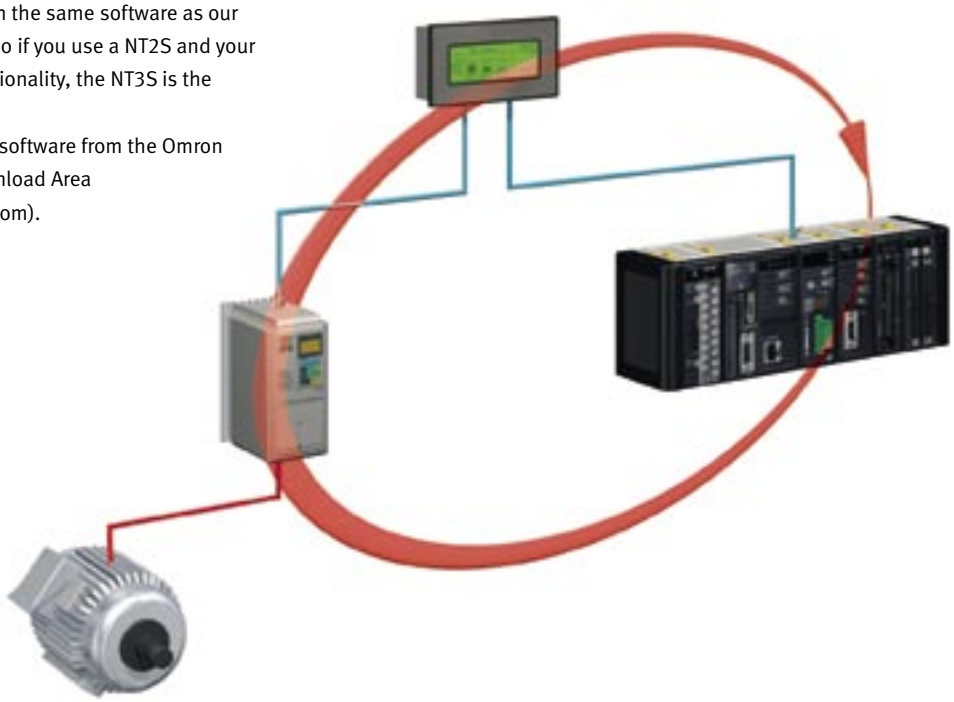
** Class 1 Div 2 pending*

Outstanding in many applications

The NT3S is capable of communicating trough 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

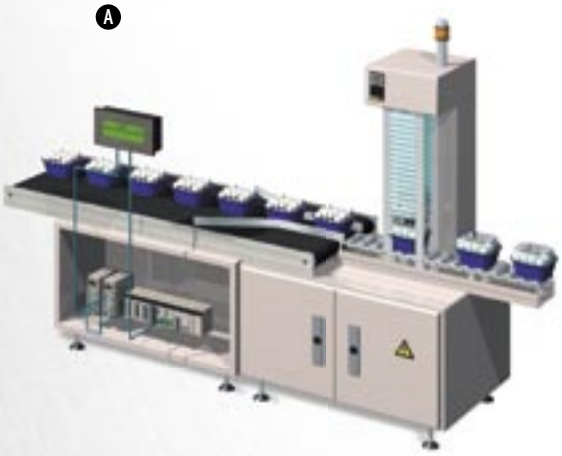
You can also use the NT3S to connect Omron Inverters to another PLC brand. In this solution the NT3S can communicate with the third party PLC* and at the same time the NT3S can change data in the Omron Inverters. Inverter settings can be changed directly from the screen but also from the PLC program. 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

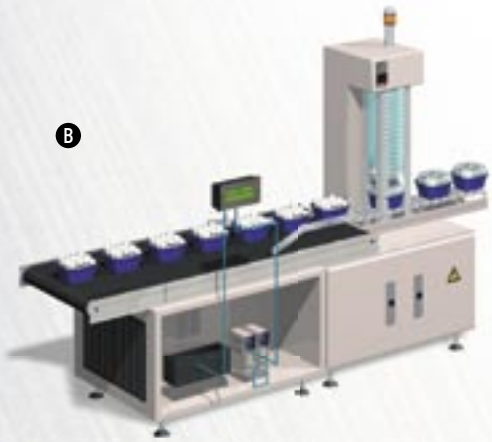
Connecting multiple NT3S terminals to one Omron PLC is a good solution for long machine lines where local setting or monitoring is needed. You can connect a maximum of 7 screens to one PLC.
By using the multiple NT3S terminals next to one more advanced HMI like the Omron NS-series, you can have a high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

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

A



B



C

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

OMRON EUROPE B.V. Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. Tel: +31 (0) 23 568 13 00 Fax: +31 (0) 23 568 13 88 www.europe.omron.com

UNITED KINGDOM
Omron Electronics Ltd
Opal Drive, Fox Milne, Milton Keynes, MK15 0DG, UK
Tel: +44 (0) 870 752 08 61
Fax: +44 (0) 870 752 08 62
www.omron.co.uk

Austria
Tel: +43 (0) 1 80 19 00
www.omron.at

Belgium
Tel: +32 (0) 2 466 24 80
www.omron.be

Czech Republic
Tel: +420 234 602 602
www.omron.cz

Denmark
Tel: +45 43 44 00 11
www.omron.dk

Finland
Tel: +358 (0) 207 464 200
www.omron.fi

France
Tel: +33 (0) 1 56 63 70 00
www.omron.fr

Germany
Tel: +49 (0) 2173 680 00
www.omron.de

Hungary
Tel: +36 (0) 1 399 30 50
www.omron.hu

Italy
Tel: +39 02 32 681
www.omron.it

Netherlands
Tel: +31 (0) 23 568 11 00
www.omron.nl

Norway
Tel: +47 (0) 22 65 75 00
www.omron.no

Poland
Tel: +48 (0) 22 645 78 60
www.omron.com.pl

Portugal
Tel: +351 21 942 94 00
www.omron.pt

Russia
Tel: +7 095 745 26 64
www.omron.ru

Spain
Tel: +34 913 777 900
www.omron.es

Sweden
Tel: +46 (0) 8 632 35 00
www.omron.se

Switzerland
Tel: +41 (0) 41 748 13 13
www.omron.ch

Turkey
Tel: +90 (0) 216 474 00 40
www.omron.com.tr

For the Middle East, Africa and other countries in Eastern Europe,
Tel: +31 (0) 23 568 13 00 www.europe.omron.com

Although we strive for perfection, Omron Europe BV and/or its subsidiary and affiliated companies do not warrant or make any representations regarding the correctness or completeness of the information described in this document. We reserve the right to make any changes at any time without prior notice.

Authorised Distributor:

Automation and Drives
• Programmable logic controllers • Networking
• Human-machine interfaces • Inverter drives • Motion control

Industrial Components
• Electromechanical relays • Timers • Counters • Sockets
• Programmable relays • Low voltage switch gear • Power supplies
• Temperature & process controllers • Solid-state relays
• Panel indicators • Level controllers • Industrial switches • Pushbutton switches

Sensing and Safety
• Photoelectric sensors • Proximity sensors • Rotary encoders
• Vision systems • RFID systems • Safety switches
• Safety relays • Safety sensors

SF6P_NT3S_HMI_Series_EN01_0505

OMRON