# PRODUCT OVERVIEW

## Multi-vendor Drivers

Do you need to standardize on a single touch screen product for multiple programmable controller platforms?

Are you looking for a high-quality touch screen alternative to your current touch screen solution?

Would you like to simplify the translation of screen text into multiple languages?

**Omron's NT31 and NT631 multi-vendor driver touch screens are the solution for you.**

These Omron touch screens can communicate with the largest programmable controller vendors (AB, GE, Omron, Siemens, Mitsubishi, and Modicon) and use a Windows®-based programming tool, NTST, that converts existing projects from one vendor to the next.

NTST includes a translation utility that simplifies the process of creating and maintaining touch screen programs in multiple languages. Omron truly is a global company with global solutions, providing the tools you need to reduce the cost of selling to customers world-wide.

Omron's experience in creating efficient, high qualtity products is reflected in the NT31 and NT631. These robust screens meet NEMA 4 requirements for wash down, offer wide angles of view, powerful programming options and occupy minimal panel space. Even the largest 11.3" diagonal screen is only 1.8" deep.

- **Standardize on Omron as your touch screen vendor. Screens available in:**
  - 11.3" STN color
  - 10.4" TFT color
  - 10.4" Electroluminescent
  - 5.7" STN color
  - 5.7" Monochrome LCD
- **Communication Drivers provided for:**
  - Allen-Bradley SLC 5/02, 03, 04, 05
  - Allen-Bradley ML1200
  - GE 90-20 & 90-30 Series
  - Mitsubishi A & FX Series
  - Siemens S7-300 & S7-400 Series
  - Modicon TSX Micro, Premium, and Quantum PLCs
- **Windows®-based programming tool (NTST) provides an easy to use, drag-and-drop programming environment.**
- **Translation Support Utility simplifies the creation and management of screens in different languages.**

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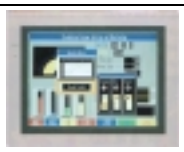
# HARDWARE SELECTION GUIDE

Selecting the Omron NT product to support your multi-vendor application is easy. Since all NT31 and NT631 products share the same functionality, the choice simply comes down to screen size, screen type, and front bezel color. Use the following table to select the Omron NT product for your application:

| Part Number | Description |
|---|---|
| NT31C-ST141■-EV2 |  **5.7" Color STN LCD** Screen<br>320 x 240 pixel resolution<br>192 touch cells |
| NT31-ST121■-EV2 |  5.7" Monochrome STN LCD Screen<br>320 x 240 pixel resolution<br>192 touch cells |
| NT631C-ST151■-EV2 |  **10.4" Color TFT LCD** Screen<br>640 x 480 pixel resolution<br>768 touch cells |
| NT631C-ST141■-EV2 |  **11.3" Color STN LCD** Screen<br>640 x 480 pixel resolution<br>768 touch cells |
| NT631-ST211■-EV2 |  **10.4" Electroluminescent** Screen<br>640 x 480 pixel resolution<br>768 touch cells |

A flash memory data transfer module is available for the NT31/631 hardware platform. The module can upload and download screen data and the operating system (communications driver). Two separate memory banks each have 1MB of capacity. Dip switches configure different operating modes. Data transfer can be set for manual or automatic transfer. Automatic transfer is particularly useful when updating a remote customer's screen data or operating system. The memory module will be preferred by:

- **Users of the multi-vendor drivers** - This module is convenient when configuring the NT31/631 hardware for the different multi-vendor drivers. Changing the communications driver in the NT31/631 requires a system program download. The flash memory module transfers data much more quickly than a serial connection, and no PC and download cable is needed.
- **OEMs with remote customers** - The remote customers can load the program error free, without the need for a computer and software.
- **OEMs who must download the same screen data to multiple pieces of equipment.**

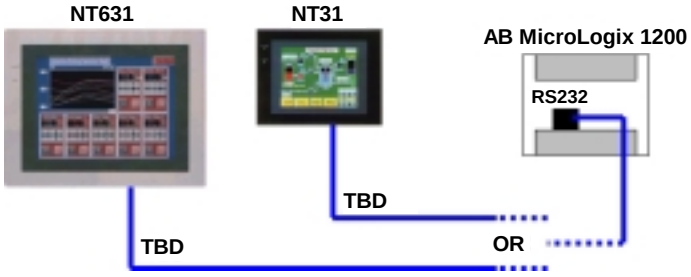
| Part Number | Description |
|---|---|
| NT-MF261 | Flash Memory Module for NT31/631 |

# HARDWARE SELECTION GUIDE (continued)

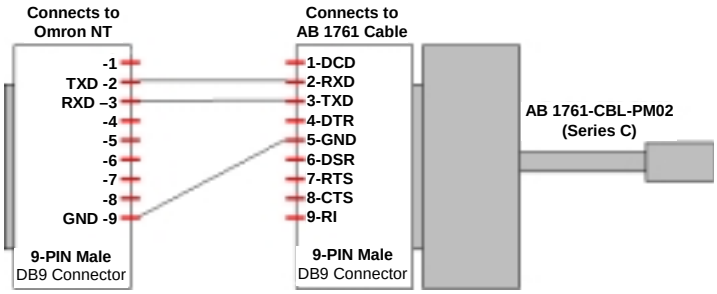
Use the diagrams on the following pages to select the hardware required to create a multi-vendor driver connection. Omron's NT31 and NT631 drivers only support the PLC models listed below. PLCs not listed are not officially supported by the Omron NT31 and NT631 products at this time.

## Allen-Bradley MicroLogix 1000/1200/1500

Communications use the DF1 protocol from AB. The Omron cable will connect from the DB9 RS-232 on the NT to the 8 pin Mini-DIN connector on the MicroLogix 1000/1200/1500 PLC.




An alternative cable configuration uses a custom RS-232 9-to-9 PIN cable connecting to the Allen-Bradley 1767-CBL-PM02(Series C). The diagram below shows the pinouts for the custom RS-232 cable:

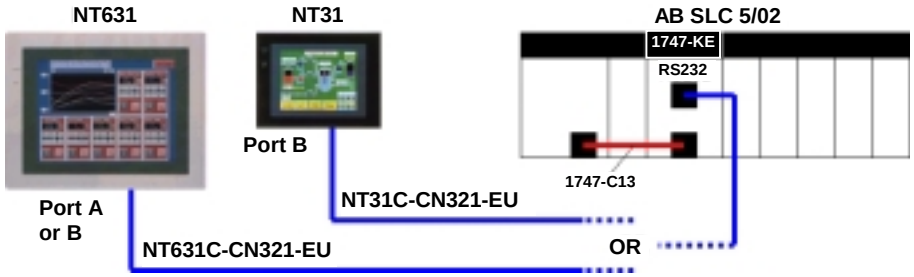



| ***AB MicroLogix 1200*** *Communication Cables* | |
|---|---|
| 1761-CBL-PM02(Series C) | DB9 to 8 pin mini-din connector (order from AB) |

# HARDWARE SELECTION GUIDE (continued)

## Allen-Bradley SLC 5/02

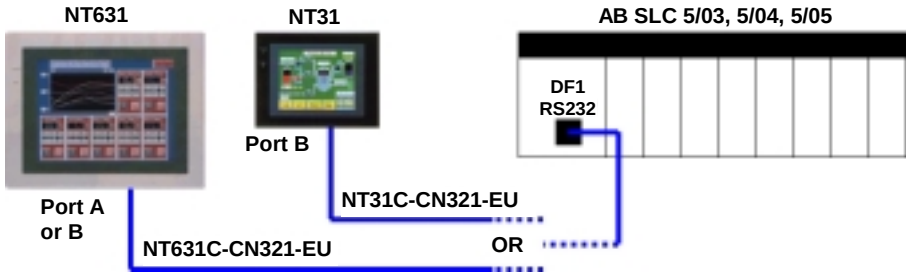
Communicates via AB's DF1 protocol. This PLC comes with only a DH-485 port. The Allen-Bradley 1747-KE module must be purchased to provide a serial connection on the SLC 5/02. Connect the communication cable from the NT to the serial port on the 1747-KE module.




| ***AB SLC 5/02** Communication Cables and Accessories* | |
|---|---|
| NT31C-CN321-EU | 3.0m cable, 25 to 9 pin, NT to AB SLC PLC |
| NT631C-CN321-EU | 3.0m cable, 9 to 9 pin, NT to AB SLC PLC |
| 1747-KE | DB9 Serial Port Module (order from AB) |
| 1747-C13 | DH-485 module connection cable |
| V060-E1-2 | OPERATION MANUAL – Multi-vendor Connection |

## Allen-Bradley SLC 5/03, 5/04, 5/05

Communicates via AB's DF1 protocol. Connect the communication cable from the NT to a serial port on the PLC using Omron cable part numbers.

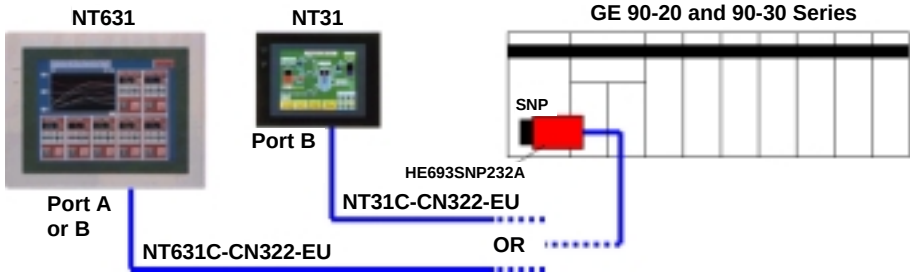



| ***AB SLC 5/03, 5/04, 5/05** Communication Cables* | |
|---|---|
| NT31C-CN321-EU | 3.0m cable, 25 to 9 pin, NT to AB SLC PLC |
| NT631C-CN321-EU | 3.0m cable, 9 to 9 pin, NT to AB SLC PLC |
| V060-E1-1 | OPERATION MANUAL – Multi-vendor Connection |

# HARDWARE SELECTION GUIDE (continued)

## GE 90-20 and 90-30 Series PLCs

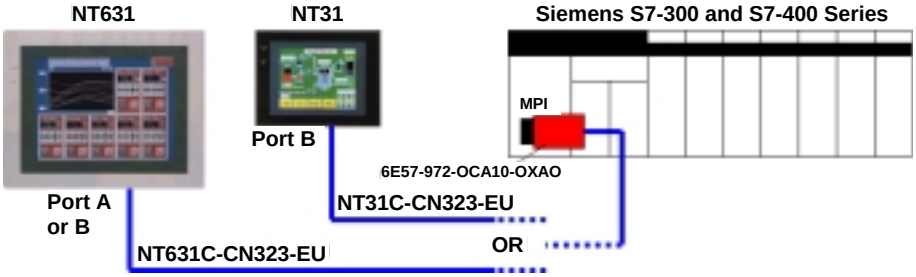
Communicates via GE's SNP-X protocol. The Omron NT is communicating RS-232, while the GE PLC uses RS-422. A RS232 to RS422 converter is needed to complete communications.




| ***GE 90-20 and 90-30 Series*** *Communication Cables and Accessories* | |
|---|---|
| NT31C-CN322-EU | 3.0m cable, 25 to 9 pin, NT to GE PLC |
| NT631C-CN322-EU | 3.0m cable, 9 to 9 pin, NT to GE PLC |
| HE693SNP232A | RS232 to RS422 adapter (order from GE) |
| V060-E1-1 | OPERATION MANUAL – Multi-vendor Connection |

## Siemens S7-300 and S7-400 Series PLCs

Communicates with Siemens' HMI Adapter protocol. The Omron NT is communicating RS-232 to the Siemens HMI adapter, 6E57-972-OCA10-OXAO. The adapter is necessary to convert the HMI Adapter protocol into the Siemens proprietary MPI protocol.

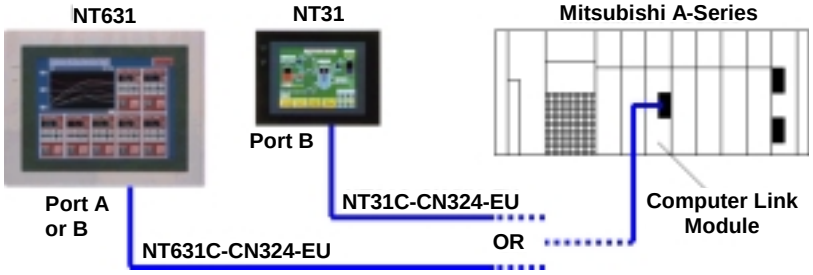



| ***Siemens S7-300 and S7-400*** *Communication Cables and Accessories* | |
|---|---|
| NT31C-CN323-EU | 3.0m cable, 25 to 9 pin, NT to Siemens PLC |
| NT631C-CN323-EU | 3.0m cable, 9 to 9 pin, NT to Siemens PLC |
| 6E57-972-OCA10-OXAO | HMI Adapter for MPI protocol (order from Siemens) |
| V060-E1-1 | OPERATION MANUAL – Multi-vendor Connection |

# HARDWARE SELECTION GUIDE (continued)

## Mitsubishi A-Series PLCs

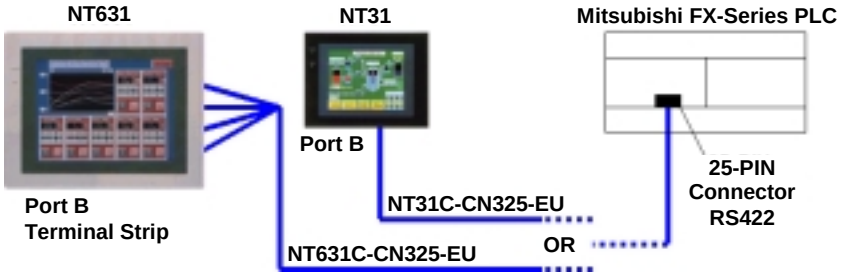
Communicates using Mitsubishi's Computer Link protocol. The Omron NT and Mitsubishi A-Series PLC are communicating using RS-232 communications. Communications can be RS-422 by using custom cables as specified in Operation Manual V042-E1-1.




| ***Mitsubishi A-Series*** *Communication Cables and Accessories* | |
|---|---|
| NT31C-CN324-EU | 3.0m cable, 25 to 9 pin, NT to Siemens PLC |
| NT631C-CN324-EU | 3.0m cable, 9 to 9 pin, NT to Siemens PLC |
| V042-E1-1 | OPERATION MANUAL – PC (Mitsubishi) Connection |

## Mitsubishi FX-Series PLCs

Communicates via Mitsubishi's Computer Link protocol. The Omron NT and Mitsubishi FX-Series PLC are communicating using RS422 communications. The NT31 cable connects from the 25-pin port B, while the NT631 connects from the RS422 terminal screws for Port B.




The FX0 and FX0N PLCs use a different connector than the other FX series PLCs. Connect the Omron cable to the FX-20P-CADP cable from Mitsubishi, then connect it to the PLC communication port.

| ***Mitsubishi FX-Series*** *Communication Cables and Accessories* | |
|---|---|
| NT31C-CN325-EU | 3.0m cable, 25 to 25 pin, NT to Siemens PLC |
| NT631C-CN325-EU | 3.0m cable, 4 Wires to 25 pin, NT to Siemens PLC |
| FX-20P-CADP | Cable for FX0 & FX0N PLC (buy from Mitsubishi) |
| V042-E1-1 | OPERATION MANUAL – PC (Mitsubishi) Connection |

# ORDERING INFORMATION

The programming software for the NT31 and NT631 hardware is the NT-Series Support Tool (NTST). A 12 month software maintenance program, NTST-SMP, is available that provides customers updates when new versions of NTST are released.

## Programming Software for Omron NT products

| Part Number | Description |
|---|---|
| NT-ZJCAT1-EV4 | NTST v4.2 CD-ROM<br><br>Includes:<br>NTST Programming Software<br>NTST Operation Manual V061-E1-1<br>System Installer Utility<br>Multi-vendor Support Files<br>Translation Support Utility |
| NTST-SMP | 12 month NTST Software Maintenance Program |

## Operation Manuals for Omron NT products

| Part Number | Description |
|---|---|
| V042-E1-1 | Mitsubishi Connection (PC-Link) Operation Manual |
| V060-E1-2 | Multi-vendor Connection Operation Manual<br>AB, GE, Siemens, and Modicon |
| V061-E1-1 | NTST v4.2 Operation Manual |
| V062-E1-1 | NT31 Operation Manual |
| V063-E1-1 | NT631 Operation Manual |
| V064-E1-1 | NT31/631 Set-up Manual |

## Programming Cables for Omron NT products

| Part Number | Description |
|---|---|
| C200HS-CN229-EU | NT Programming Cable<br><br>Can be used to transfer screen data and the NT31/631 operating system file. |

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