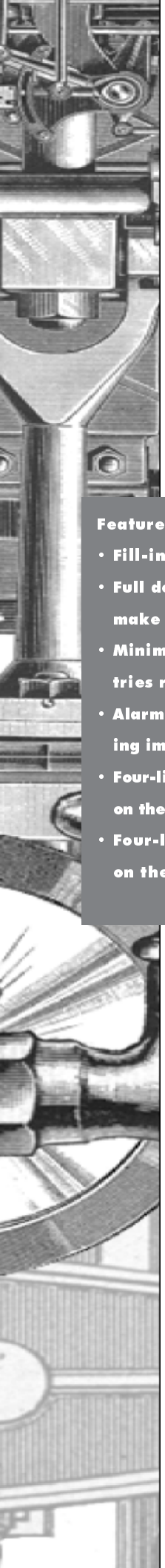
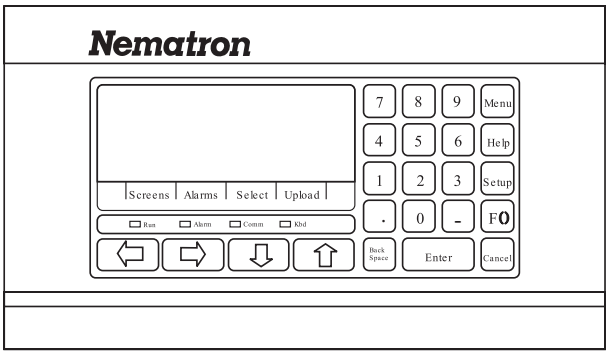


Series 110/120 PLC Workstations

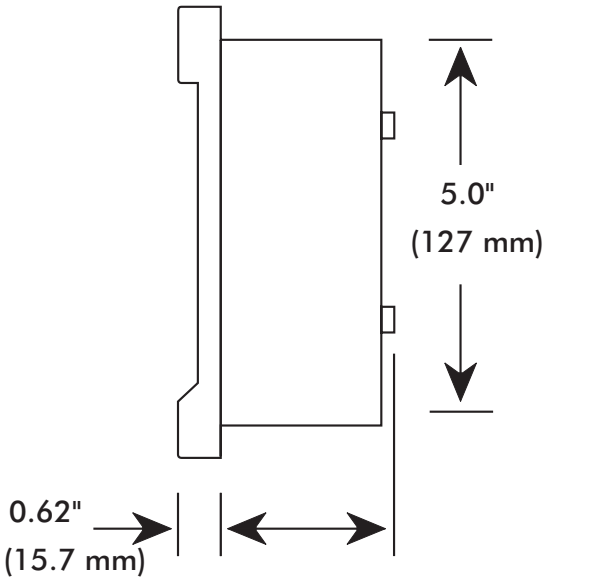


As a cost-effective replacement for many devices, the Series 110 and 120 PLC workstations can function as a PLC operator interface, as operator terminals, and as industrial computers programmed with BASIC. These workstations save on costs for I/O modules, ladder programming, and installation. To set up one of these workstations, simply run a fill-in-the-blanks program on a PC, download the entries to the workstation, and plug it into a PLC networking port.

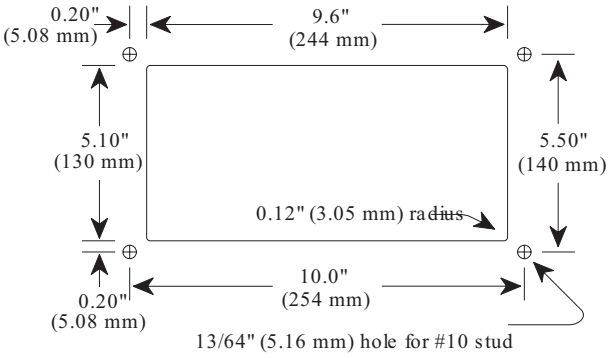
Features

- **Fill-in-the-blank PC-based setup**
- **Full descriptions and operator units make each location's function apparent**
- **Minimum and maximum operator entries reduce operator errors**
- **Alarm monitoring, reporting, and printing improves system diagnostics**
- **Four-line display with LED backlighting on the Series 110**
- **Four-line vacuum fluorescent display on the Series 120**

As an industrial computer with BASIC, the Series 110/120 can perform many operator interface, communications, data storage, data manipulation, and data acquisition functions. As an industrial terminal, the Series 110/120 provides a remote keypad and message display to any intelligent host device that communicates through a serial port. With a broad operating temperature range, watertight (NEMA 4) front panel, and a maintenance-free design, the Series 110/120 PLC workstations can meet a variety of applications needs.



IWS-110/120: 3.2" (82 mm)
IWS-113/123: 3.2" (82 mm)
IWS-117/127: 3.8" (96 mm)



Nematron®

Open minds. Open systems. Real solutions.

As a PLC workstation, the Series 110/120 is widely compatible

Allen-Bradley

- SLC-5/03 and SLC-5/04 (DF1)
- SLC 100/150/500 Series (DH-485)
- PLC-2, PLC-3, PLC-5 (DF1) - Data Highway
- MicroLogix 1000 (DF1)

Siemens

- S5-90, 95, 100, 102, 103, 115, 135 (3964R)
- SIMATIC/TI 305/435, 500/505 Series

GE Fanuc

- Series Ninety (SNP)
- Series 1, 3, 5, 6, 1Jr., 1Plus, Micro (CCM-2)

Modicon

- Modbus protocol RTU-ASCII

Square D

- 100, 300, 400, 500, 600, 700 (Sy/Max)

Omron

- Host-Link models, C and SP Series

Telemecanique

- TSX-17, TSX-27, TSX-47 (Uni-Telway)

Hitachi

- H Series

IDEC

- Micro-1, FA-1, FA-2, FA-3, Micro-3

Koyo

- DL330, DL340, DL430, DL440

Mitsubishi

- Series A, F, FX

Toshiba

- M, EX, and T Series

Westinghouse

- 700, 900, 1100, 1200, 1250

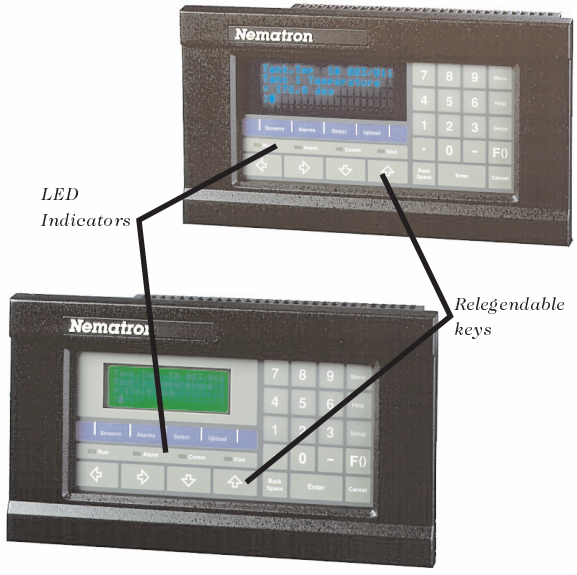
Cables are available to connect the Series 30/40 to most popular PLC drivers. Contact your local distributor or the factory.

Communications

Every unit includes a rear COM1 serial port for RS-232, RS-422, and RS-485 communications.

PLC Workstation Features

- Operators can view and change up to 200 registers, timers, counters, contacts, and coils
- Operators can set up additional functions, including alarm annunciation and recipe entry



Specifications and Ratings

Power

- Autoranging 90-260V (24V AC/DC option)

Display

- Series 110: Four-line liquid crystal with LED backlighting; two lines x 20 characters
- Series 120: Four-line vacuum fluorescent; two lines x 20 characters

Dimensions

- **Models 110/113/120/123:** 10.5"W x 6.0"H x 3.2"D (266mm x 152mm x 82 mm)
- **Models 117/127:** 10.5"W x 6.0"H x 3.8"D (266mm x 152mm x 96 mm)

Memory

- 30 KB or 60 KB RAM for storing user files

Keyboard

- Membrane keypad with relegendable keys

Communication

- **Models 110/113/120/123:** One serial port with RS-232, RS-422, and RS-485 connections
- **Models 117/127:** Three serial ports, a parallel printer port, and I/O bus port

Temperature

- **For IWS-110:** 0°-50°C
- **For IWS-120:** 0°-55°C

Relative humidity

- 20%-95%, non-condensing

Operational Vibration

- 5-8 Hz 0.8" (p-p)
- 8-500 Hz, 3G

Shock

- 40G/9 msec, operational

Front Panel Seal

- Designed to meet NEMA 4 requirements when properly installed in an enclosure

EMC Compliance

- FCC Part 15, Class A
- EN55022, Class B
- IEC-801-2, Level 4
- IEC-801-3, Class 3
- IEC-801-4, Level 4
- CE Mark, EU EMC/Directive 89/336/EEC

Safety Compliance

- UL-1604 (Class I; Division 2; Groups A, B, C, and D; T6)

Switch Gears and . . .

. . .use the 110/120 as an Industrial Terminal

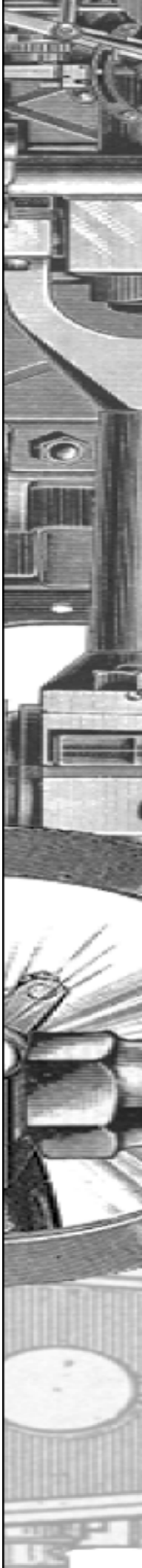
- **Message storage and retrieval**—The host can transmit a short command to recall one of as many as 255 messages stored in the terminal's memory. This function reduces the communications overhead to display a message to the operator.
- **Multidrop communications**—You can connect multiple terminals to a single host via the unit's RS-422/RS-485 serial communications port. Connect as many as 250 terminals on a single pair of twisted wires.

. . .or, use it as an Industrial Computer with BASIC

- **Powerful BASIC language similar to GW-BASIC**
- **Create custom serial communications drivers—**intelligent devices such as transducers, counters , and single-loop controllers
- **Collection and data storage**
- **Data manipulation**

FLASH Memory for All

Each 110/120 supports all three NEMAs of firmware in flash memory: industrial terminals, industrial computers, and PLC workstations.



How to Order

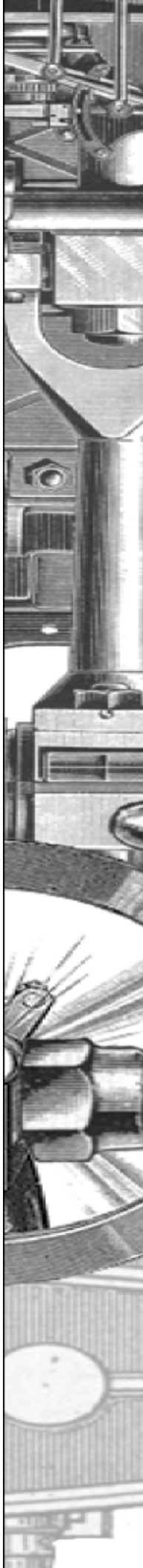
IWS-110/120	110/120 with 30 KB of battery-backed memory, and serial port. Add -V4 for 24V.
IWS-113/123	110/120 with 60 KB battery-backed memory, real-time clock, and a serial communications port. Add -V4 for 24V.
IWS-117/127	110/120 with 60KB battery-backed memory, real-time clock, three serial ports, a parallel printer port, and I/O bus. Add -V4 for 24V.
IWS-SETUP-120	Setup software package for PCs and connecting cable. Contains 3 1/2" diskettes with firmware for industrial terminal and PLC workstation—for downloading into the workstation's flash firmware memory. Includes all drivers, except SLC 500 (available separately). Only one package needed per user site.
COM-ABN-100	AB SLC 500 driver (RS-485) with network adapter to connect to DH-485 port.
COM-ABS-100	AB SLC 500 driver (RS-485) with serial cable to connect to programming port.
IWS-SETUP-BP	Setup software and cable for BASIC.
CBL-D8	8-position I/O rack for IWS-117/127. Single-point, Opto-22 compatible, discrete I/O modules.
CBL-IO	Cable from IWS-117/127 to CBL-D8 I/O rack.

About Nematron

Nematron Corporation is located close to Detroit, the core of the world's largest automotive manufacturing centers. This location allows us to cooperatively develop open architecture manufacturing applications. We are a publicly held company and trade on the AMEX under the symbol NMN.

Nematron pioneered the operator interface segment of factory automation over fifteen years ago with the introduction of the Industrial Workstation and now leads worldwide in designing, manufacturing, and supplyin high quality Intel-based industrial automation solutions—a wide range of rugged and reliable hardware products from low-cost operator interface to high performance Industrial Control Computers. The Industrial Control Computers, based on Intel's Pentium and Pentium III processors, are the fastest industrial computers available today.

Nematron hardware withstands the rigors of plant-floor use such as high humidity, machine shock and vibration, and airborne contaminants, and meets specifications for use in hazardous locations. In addition, our products meet the stringent requirements of Europe's CE mark. We have a worldwide sales and support organization and an installed base of over 90,000 systems in discrete manufacturing and continuous process environments. Nematron offers a complete systems approach to factory automation, leading the shift away from proprietary control systems towards higher performance, lower-cost, open architecture PC-based solutions that execute on Microsoft's Windows NT platform.



Nematron®

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