

QTERM[®]-N15



Low Cost Microterminal



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Rev. 3.1



FEATURES

- Supertwist, 20x4, LCD display. A lighted, or vacuum-fluorescent display is available as an option.
- 12-key tactile keypad which can be fully customized to your requirements.
- An EIA-232 interface is standard; EIA-422 and 5-volt Buffered interfaces are optional.
- All parameters and configuration information are stored in nonvolatile memory.
- Panel-mount housing with gasket and back shell to mount the unit and protect the electronics.
- The standard QTERM-N15 uses an external 5 VDC supply. An optional regulator allows operation with a 7.5 to 24 VDC supply.
- Low power: The EIA-232 unit uses only 28 mA from a 5 VDC supply (lighting off).
- An optional Manufacturer's ID code protects your development investment—only terminals you purchase will operate with your equipment.



HARDWARE

DISPLAY: The QTERM-N15 uses a supertwist, 20x4 character display. All printable ASCII characters can be displayed. A lighted or vacuum-fluorescent display is available as an option.

KEYPAD: The QTERM-N15 has a 12-key, membrane with steel snap dome keypad with a fully customizable legend. Figure 1 shows the standard numeric legend and a blank legend that can be customized to meet your requirements.

One character is sent to the host on each key press or shifted key press.

HOUSING: The front bezel and back panel of the QTERM-N15 are made of rugged impact and flame resistant (UL 94V-0), black ABS plastic. See figure 2 for front and side dimensions and Figure 3 for cutout dimensions.

The QTERM-N15 ships with a gasket that helps seal the terminal and a back shell that serves to enclose the electronics and mount the unit to the panel. See Figure 4 for mounting.

CONNECTORS: The QTERM-N15 uses a DB9f connector which exits the back shell. See Figure 5.

BUZZER: An optional buzzer can be ordered for the QTERM-N15. This is used for key clicks and for beeping in response to a "bell" character (^G or 07h).

REGULATOR OPTION: The QTERM-N15 requires 5 VDC. An optional regulator lets the QTERM-N15 operate from 7.5 to 24 VDC. If using a VFD with a regulator, call QSI for specifications.

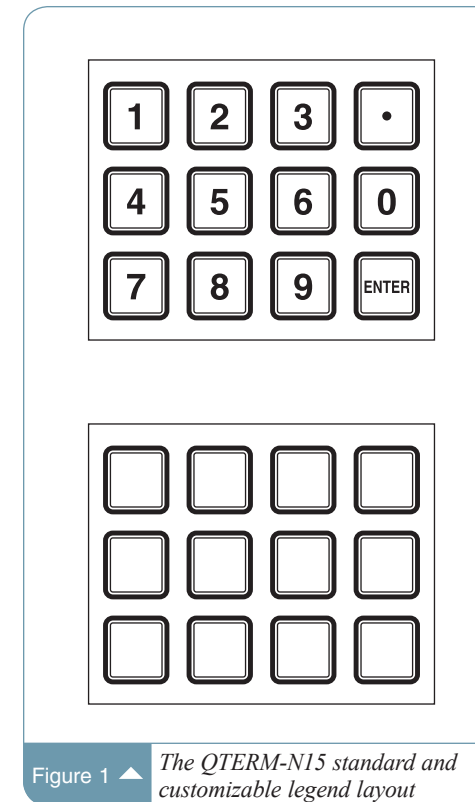


Figure 1 ▲ The QTERM-N15 standard and customizable legend layout

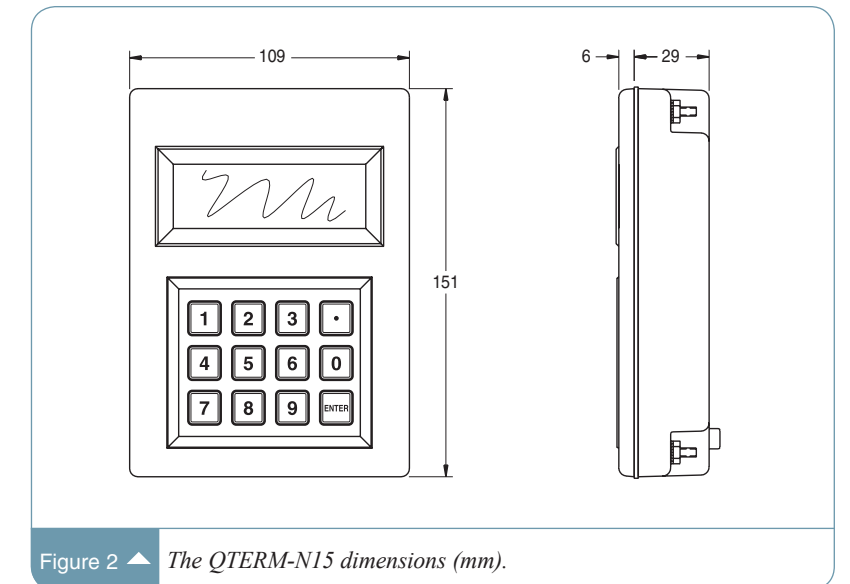


Figure 2 ▲ The QTERM-N15 dimensions (mm).

SOFTWARE AND SETUP

The QTERM-N15 is configured in two different ways:

- Power-on setup
- Software commands

POWER-ON SETUP: The QTERM-N15 power-on setup procedure is used to set three terminal parameters before communicating:

- display contrast
- baud rate
- data format

Power-on setup is initiated by holding down any key and applying power. The parameter values are then set using the keypad. No host interaction is needed; all parameters are stored in nonvolatile memory. The power-on setup can be disabled.

SOFTWARE COMMANDS: About fifty software commands are available to the host for controlling the QTERM-N15. These include cursor control, query commands and hardware control (lighting, buzzer, etc.). Two unique commands are:

- User Data Area Command: This command allows you to store and retrieve up to 16 bytes of your own information (such as a serial number) in the QTERM-N15's nonvolatile memory.
- Manufacturer's ID (MID): If you request a unique MID code to be factory programmed into your unit, you can use a command to query the terminal for its MID code. The terminal will respond with an ACK or NAK character, allowing your host to determine whether or not the terminal is one you purchased from QSI. Terminals without MID codes will always respond with a NAK character.



The QTERM-N15 microterminal is used in a machine shop to input and display parameters.



As the interface to a motion controller, the QTERM-N15 displays valuable information on the screen and allows user input.

INTERFACES

EIA-232: The EIA-232 QTERM-N15 can communicate up to 15 meters at 19,200 baud. The unit does not use any of the EIA-232 modem-control lines. Handshaking is done via software XON/XOFF commands.

EIA-422: Using the EIA-422 interface, the QTERM-N15 can operate at distances up to 1000 meters.

5-VOLT BUFFERED: When used to communicate with another 5-volt device, the QTERM-N15 can operate at distances up to 5 meters, while using less power than the EIA-232 interface. The 5-volt Buffered interface also allows direct connection to a host UART, without level translation.

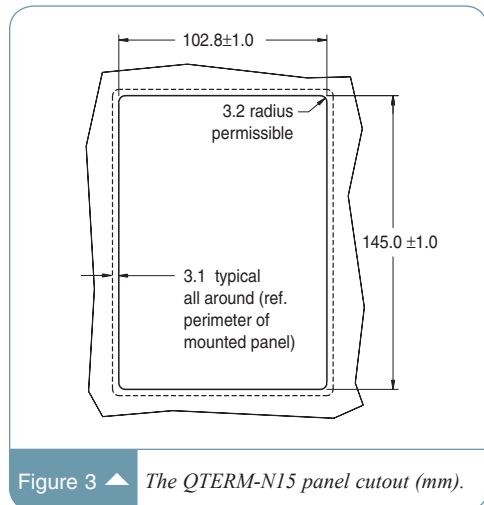


Figure 3 ▲ The QTERM-N15 panel cutout (mm).

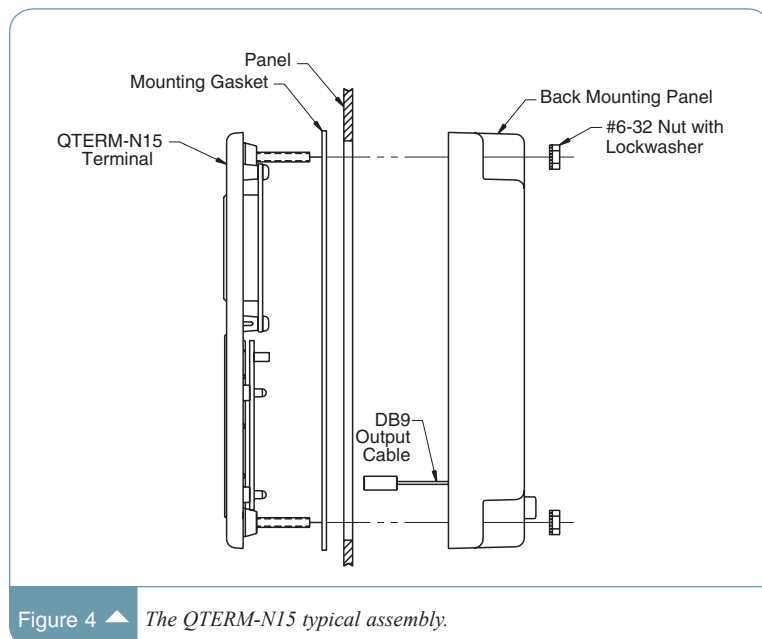


Figure 4 ▲ The QTERM-N15 typical assembly.

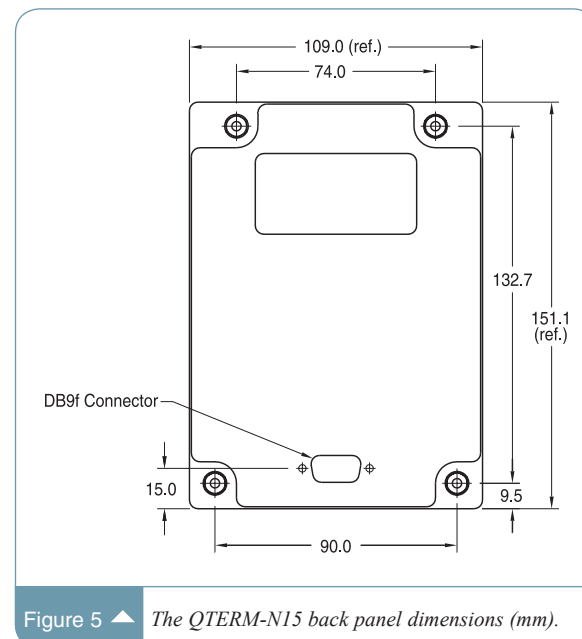


Figure 5 ▲ The QTERM-N15 back panel dimensions (mm).

| | |
|------------------|---|
| DISPLAY | Supertwist LCD |
| Characters: | 20x4 |
| Options: | Lighted and vacuum-fluorescent display |
| KEYPAD | # of Keys: 12-key |
| Construction: | Membrane with steel snap domes |
| INTERFACE | EIA-232, EIA-422 or 5-volt Buffered |
| Baud rates: | 1200, 2400, 4800, 9600 and 19,200 |
| Data formats: | 8n1, 8e1, 8o1, 8n2, 7e1, 7o1, 7n2, 7e2 and 7o2 |
| Connector: | DB9f with back shell, 2 mm with bracket mounting |
| MEMORY | 16 bytes nonvolatile memory for user data |
| PHYSICAL | Panel-mount configuration |
| Housing: | Impact-resistant black ABS, UL 94V-0 flame rating |
| Size: | 109x151.1x35 mm |
| Mass: | 180 g |
| Options: | Custom colors are available in large quantities |

| | | |
|----------------------|--------------|--|
| ENVIRONMENTAL | Sealing: | Meets NEMA-12/13 level protection |
| | Temperature: | Operating -10 to 60 °C Storage -40 to 85 °C |
| | Humidity: | 0 to 95%, non-condensing |

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|--------------|--|
| POWER | 4.8 to 5.3 VDC supply without regulator |
| | 7.5 to 24 VDC supply with optional regulator |
| | 28 mA @ 5 VDC typical (lighting off) |
| | 88 mA @ 5 VDC typical (lighting on) |
| | Contact QSI for VFD power consumption |

| | | |
|----------------|---------|--|
| OPTIONS | Buzzer: | For key clicks and “bell” character response. Character (^G or 07h). |
|----------------|---------|--|

SOFTWARE Power-on setup is used to set baud rate, display contrast and data format. Power-on setup can be disabled. About fifty commands are available to the host for controlling the QTERM-N15. These include cursor control, query commands, hardware command (lighting, buzzer, etc.), user data commands and manufacturer’s ID code.

CUSTOMIZING Level 2 and Custom legend customization are available

CERTIFICATION FCC Part 15, Class A
CE Certified: EN50082-1:1992, EN55022:1987, EN60950 amendments 1, 2 and 3

ORDER WORKSHEET

!!FILL IN KEYS WITH APPROPRIATE INFORMATION!!

- Up to two words, with five letters each on keys.

NOTE: Keypad is not to scale.

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