QTERM®-R55

BASIC Programmable Terminal

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Rev. 3.2

FEATURES

- Lighted, supertwist, 20x4, LCD display. A wide-temp LCD display or a vacuum-fluorescent display (VFD) are available as options.
- 24- or 40-key keypads with software-controlled shift and status LEDs.
- EIA-232, EIA-422, EIA-485 or 5-volt Buffered serial interfaces. Each interface supports software handshaking.
- 512 Kbytes (1024 Kbytes optional) of nonvolatile flash memory; 256 Kbytes (768 Kbytes optional) available for user program and data storage.
- Handheld with battery back housing
- Meets NEMA-12/13 requirements.
- User-programmable operator interface terminal for applications where a dumb terminal is not suitable.
- Simple, but powerful BASIC programming language allows you to easily add custom functions to the terminal.
- An optional real-time clock can be purchased to execute elapsed-time or time-of-day event code and time-date stamping.
- An optional secondary serial port is available. Communication through this port is controlled by your software.
- The QTERM-R55 uses a switching regulator and operates from 8 to 32 VDC.

CE Certified

HARDWARE

DISPLAY: The QTERM-R55 uses a 4-line by 20-character, lighted, supertwist LCD display. A wide-temperature LCD or vacuum-fluorescent display (VFD) is available.

KEYPAD: The 24- and 40-key keypads use metal snap domes for reliable tactile feedback. Keys can be configured in BASIC for shifted, unshifted or key release parameters. The top row of keys feature user-programmable LEDs.

HOUSING: The handheld housing is made from impact-resistant, black ABS and provides NEMA-12/13 level protection. The housing accepts six "AA" alkaline cells. The unit includes a regulator and an external power switch.The dimensions of the unit are shown in Figure 1.

CONNECTORS: Connection to the QTERM-R55 is done via a 6-pin modular jack (RJ12 style); an optional DB9f connector is available.

BUZZER: The QTERM-R55 includes a buzzer which is used for key clicks and to beep on command. The buzzer may be used to give an audible warning or signal to the user.

REAL-TIME CLOCK: This optional feature can be used to time and date stamp messages or for timed polling and program execution.

SECONDARY SERIAL PORT: An optional second EIA-232, -422, -485 or 5-volt Buffered serial port is available on all units and may be used to attach additional serial devices.

The QTERM-R55 is used to control an oven at an electronics manufacturing plant.

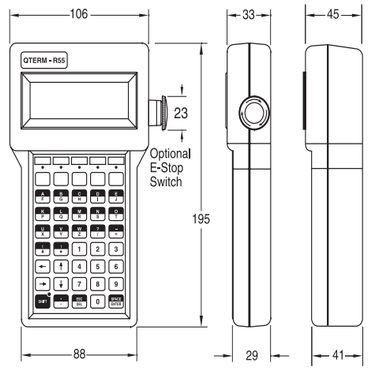


Figure 1 *The handheld QTERM-R55 and battery back dimensions (mm) with an optional emergency-stop switch*

SOFTWARE AND SETUP

The QTERM-R55 is programmed with the BASIC programming language. The application is constructed off-line in a text editor and then downloaded into the terminal.

The familiar BASIC programming language is simple to use yet very powerful, with conditional execution, looping and diverse arithmetic capabilities. BASIC's excellent string manipulation facilities allow the programmer to easily implement complex serial protocols and communicate with a wide variety of hosts. Also, the data storage capabilities and real-time clock option make this terminal ideal for remote data collection.

The programmer has complete control of the terminal hardware with BASIC's language extensions. Control the keyboard, display and display backlight, status LEDs and the serial port.

Because the QTERM-R55 has a built-in BASIC compiler, the user program is downloaded directly into the terminal's nonvolatile storage. No off-line tools are required, except a text editor to generate the program source code. Debugging is supported via descriptive error messages that are transmitted to the development host through the serial port.

INTERFACES

The QTERM-R55 is available with an EIA-232, EIA-422, EIA-485 or 5-volt Buffered serial interface.

EIA-232: With proper cables and grounding, the EIA-232 QTERM-R55 can communicate up to 15 meters at its top speed of 57,600 baud.

EIA-422: Using the EIA-422 interface, the QTERM-R55 can operate at distances up to 1000 meters.

EIA-485: With proper cabling and termination, up to 32 EIA-485 devices can be connected across a cable of up to 1000 meters in length.

5-VOLT BUFFERED: When used to communicate with another 5-volt device, the QTERM-R55 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.

DISPLAY
Supertwist, lighted LCD
Characters: 20x4
Options: Wide-temperature or vacuum-fluorescent displays

KEYPAD
# of Keys: 24- or 40-key
Construction: Metal snap domes
Options: Lighted keypad

INTERFACE
EIA-232, EIA-422, EIA-485, 5-volt Buffered
Baud rates: 1200, 2400, 4800, 9600, 19,200, 38,400, 57,600 and 115,200
Data formats: 8n1, 8e1, 8o1, 8n2, 7e1, 7o1, 7n2, 7e2 and 7o2
Connector: 6-pin modular
Options: Second EIA-232, EIA-422, EIA-485 or 5-volt Buffered

MEMORY
512 Kbytes nonvolatile flash memory (optional 1024 Kbytes);
256 Kbytes for user program and data (optional 768 Kbytes).

BUZZER
For key clicks and "bell" character response. Character (^G or 07h).

PHYSICAL
Handheld or panel-mount configuration
Housing: Impact-resistant, black ABS, UL 94V-0 flame rating
Size: 106x195x33 mm maximum size
Mass: 296 g
Options: Custom colors are available

ENVIRONMENTAL
Sealing: NEMA-12/13
Temperature: Standard/lighted display usable range -10 to 60 °C
Wide-temperature display usable range -20 to 70 °C
Storage -40 to 85 °C
Humidity: 0 to 95%, non-condensing

POWER
8 to 32 VDC supply
24 mA @ 12 VDC basic unit PLUS:
20 mA @ 12 VDC typical (lighted display)
2.5 mA @ 12 VDC each keypad LED
3 mA @ 12 VDC secondary serial port

OPTIONS
Real-time clock

SOFTWARE
Programming the QTERM-R55 is easy using the simple, but powerful BASIC programming language. Use your favorite programming editor to write the source code. Then, download the code directly into the QTERM-R55's built-in compiler. The program is saved in the terminal's nonvolatile memory. BASIC allows the user to easily implement complex serial protocols to communicate with a wide variety of hosts. BASIC's language extensions give the user complete hardware control. Debugging is supported via descriptive error messages transmitted to the development host through the serial port.

CUSTOMIZING
Level 1 - FREE; Level 2, 3 and 4 customization

CERTIFICATION
FCC Part 15 Class A
CE Certified: EN50024:1998, EN55022:1994, EN60950:1997

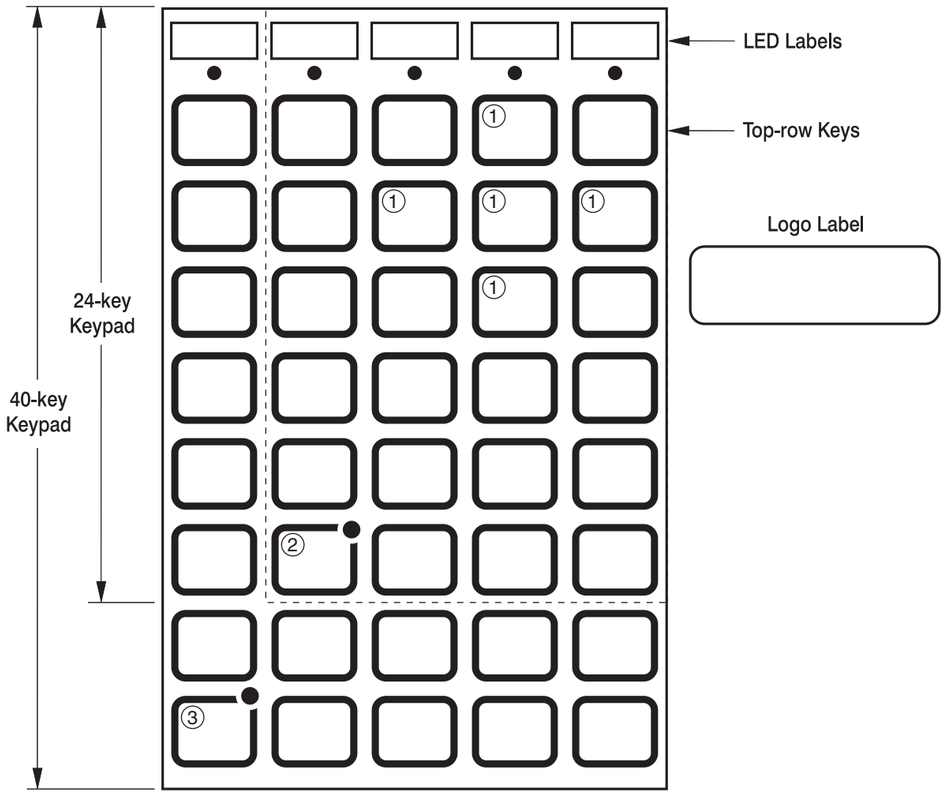
ORDER WORKSHEET

!!FILL IN APPROPRIATE AREAS FOR ALL LEVELS OF CUSTOMIZING!!

- About five letters maximum in LED label area.
- 40-key units: up to two words, about five letters each on key labels.
- 24-key units: up to two words, about six letters each on key labels.
- Draw a heavy outline around text to indicate shifted keys (not available on Level 1).
- The shift LED is on the lower left key for either keypad.

(1) These keys are required to operate the terminal's Power-on Setup facility and should not be removed.
(2) This key is the built in Shift Key for the 24-key unit. It should not be removed if the built in Shift Key function is desired
(3) This key is the built in Shift Key for the 40-key unit. It should not be removed if the built in Shift Key function is desired

NOTE: Keypad is not to scale.



24- and 40-key Keypad