

OptoTerminal Operator Interfaces

Features

- Full-color touch screen interface
- NEMA-4 front panel; CE certified
- Complete programming and design software included
- Provides an effective interactive operator interface for all SNAP Ethernet systems

Description

Opto 22's OptoTerminal™ family brings a programmable, Ethernet-enabled, graphics-based operator interface to any location with Opto 22 SNAP Ethernet systems, including those using SNAP PAC programmable automation controllers and SNAP-IT packaged systems. OptoTerminal mountable display terminals are used by operators to send commands to and receive real-time data from plant floor equipment and other devices connected to Opto 22 hardware. Ideal for automation, control, data acquisition, and remote monitoring, an OptoTerminal offers a compact and durable operator interface for the plant floor and remote locations.

Two OptoTerminal models are available:

- **OptoTerminal-G70**—320 x 240-pixel color LCD display
- **OptoTerminal-G75**—640 x 480-pixel color LCD display

Both OptoTerminal models include a resistive touch screen and programmable soft keys, and both can be connected to standard Ethernet networks using a built-in 10 Mbps Ethernet interface; an EIA-232 interface is also provided for diagnostics and serial communication.

Opto 22 OptoTerminals were developed in partnership with QSI Corporation, a long-time maker of handheld and panel-mount operator interface terminals. OptoTerminals offer a NEMA 4-rated front panel; are well suited for factory automation, discrete manufacturing, and equipment monitoring applications; and can be easily mounted on a variety of machines or panels using standard mounting screws. The industrially hardened terminals are CE certified.

Programming

Easy-to-use software for designing and programming screens is included with the OptoTerminal. On-screen graphic objects are used to display information, accept user input, and communicate with SNAP Ethernet systems. These on-screen objects include text, geometric shapes, buttons, trend charts, keypads, keyboards, meters, and other graphics that can be sized, scaled, and placed as



OptoTerminals

needed. Screen design and terminal programming uses QSI Corporation's Qlarity Foundry™, a Microsoft® Windows®-based object-oriented programming environment that includes libraries of custom objects for connecting to Opto 22 systems.

Power

Power is supplied to an OptoTerminal through the unit's serial connector. To provide this power, a serial connector must be wired to a power supply at the installation site. The optional **OptoTermCable**, a combination serial cable and power supply, can also provide power at the installation site or at a separate location such as an office where OptoTerminal applications are developed before deployment.

Options

High-visibility displays, additional serial ports, Power-over-Ethernet (POE), and other options are available for OptoTerminals. Contact Opto 22 for information.

Part Numbers

Part	Description
OPTOTERMINAL-G70	Ethernet-enabled Operator Interface with Object-based Programming, 5.7 in. (145 mm) diagonal Display
OPTOTERMINAL-G75	Ethernet-enabled Operator Interface with Object-based Programming, 10.4 in. (264 mm) diagonal Display
OPTOTERMCABLE-G70	120 VAC to 12 VDC Power Adapter and Serial Cable for OptoTerminal-G70
OPTOTERMCABLE-G75	120 VAC to 24 VDC Power Adapter and Serial Cable for OptoTerminal-G75

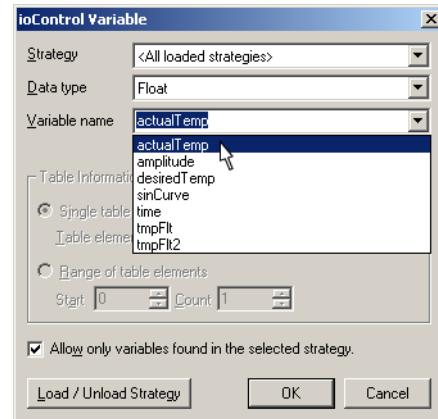
OptoTerminal Operator Interfaces

Software

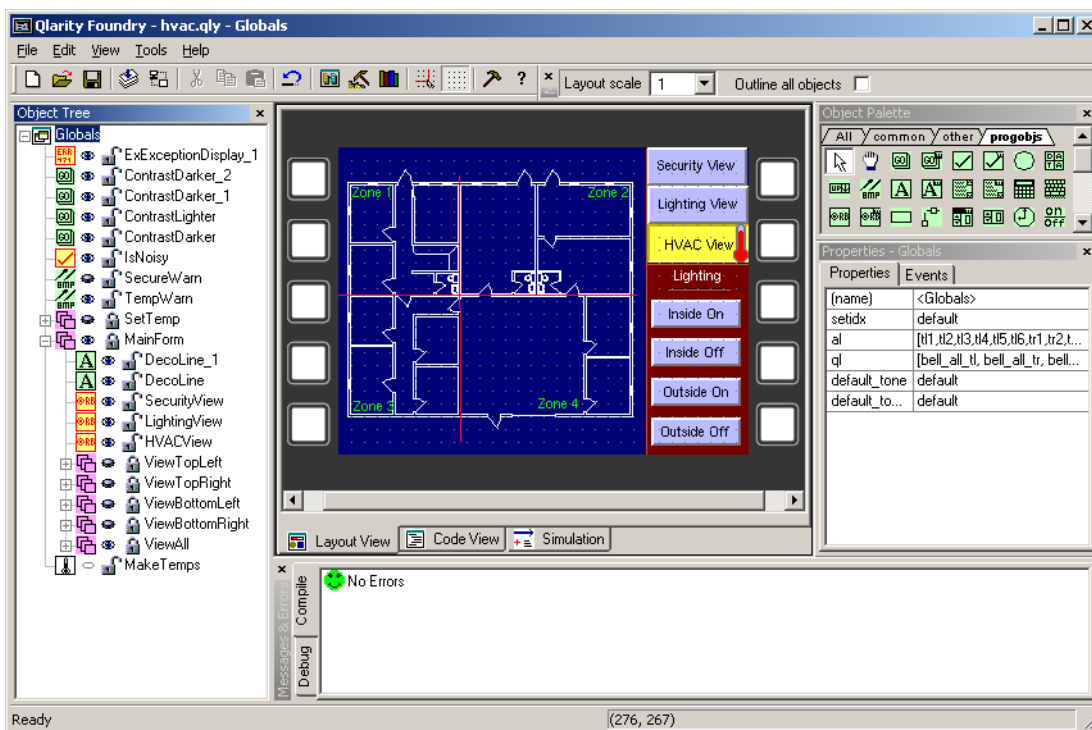
Qlarity Foundry software—including with the OptoTerminal—is used to design the interface and develop the programming logic used for a specific application. Custom Opto 22 object libraries provide easy integration with Opto 22's Ethernet-based SNAP systems.

Memory Map and ioControl Support

An OptoTerminal communicates with Ethernet-based SNAP systems by reading and writing values in the device's built-in memory map. For SNAP PAC programmable automation controllers, an OptoTerminal can also read and write variables in an ioControl™ strategy running on the controller.



In Qlarity Foundry, software variables from an ioControl strategy can be easily added to an OptoTerminal application.



Qlarity Foundry software provides a complete development environment for creating applications to run on Opto 22 OptoTerminals.

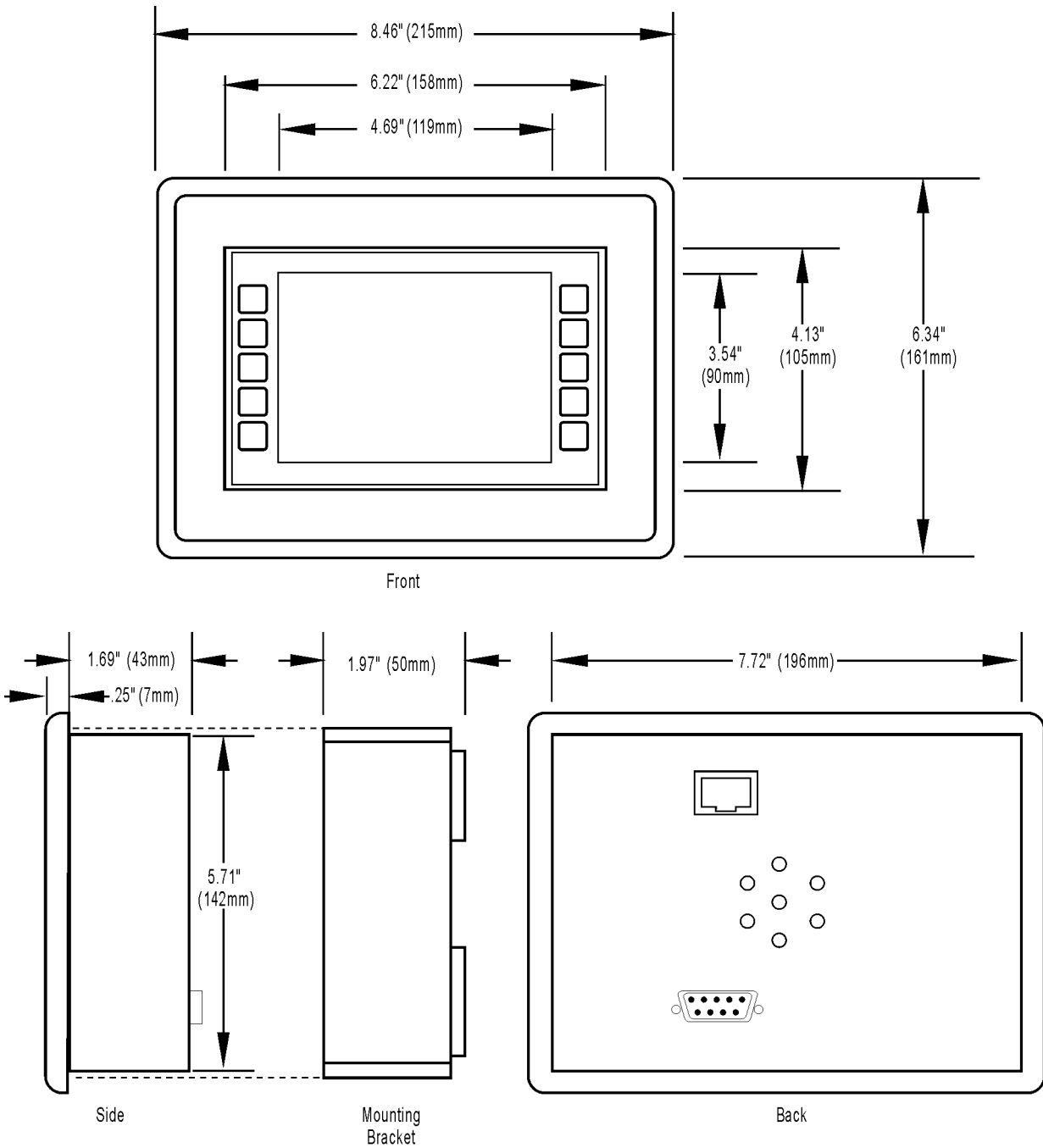
OptoTerminal Operator Interfaces

Specifications

Display	OptoTerminal-G70: 256 colors, STN (passive matrix); 320 x 240 pixels at 0.36 mm dot pitch; 5.7 in. (145 mm) diagonal display; software-controllable contrast and brightness; cold-cathode fluorescent lighting. OptoTerminal-G75: 256 colors, TFT (active matrix); 640 x 480 pixels at 0.33 mm dot pitch; 10.4 in. (264 mm) diagonal display; software-controllable brightness; cold-cathode fluorescent lighting
Touch Screen	Analog-resistive operation. Transparent touch area over viewable display, with a labeled touch area underlay on each side of the display.
Interface	10 Mbps Ethernet; EIA-232 serial port
Memory	4 MB flash; 16 MB RAM
Speaker	Software programmable in pitch and duration
Housing	OptoTerminal-G70: NEMA-4 front panel; glass-filled polyester, UL 94V-0 flame rating. Accommodates panels from 0 to 0.28 in. (0 to 7 mm) thick with standard screws. OptoTerminal-G75: NEMA-4 front panel; aluminum. Accommodates panels from 0 to 0.47 in. (0 to 12 mm) thick with standard screws.
Size and Weight	OptoTerminal-G70: 8.5 x 6.3 x 1.7 in. (215 x 161 x 43 mm); 2.5 lb. (1.16 kg) OptoTerminal-G75: 13.0 x 10.2 x 2.2 in. (330 x 260 x 55.3 mm); 6.4 lb. (2.9 kg) (Also see Dimensional Drawings on page 4 and page 5 .)
Power Requirements	OptoTerminal-G70: 10 to 26 VDC; 450 mA @ 12 VDC or 275 mA @ 24 VDC (not including optional hardware) OptoTerminal-G75: 10 to 26 VDC; 1.35 A @ 12 VDC or 700 mA @ 24 VDC (not including optional hardware)
Software	Qlarity Foundry™ design environment for Microsoft® Windows® and Qlarity programming language (included)
Operating Temperature	-10 °C to 60 °C
Storage Temperature	-20 °C to 70 °C
Humidity	0–95%, non-condensing
Vibration	5 to 5,000 Hz, 4 g _{rms}
Shock	20 g, 3 ms, any axis
Certification	FCC Part 15, Class A CE Certification

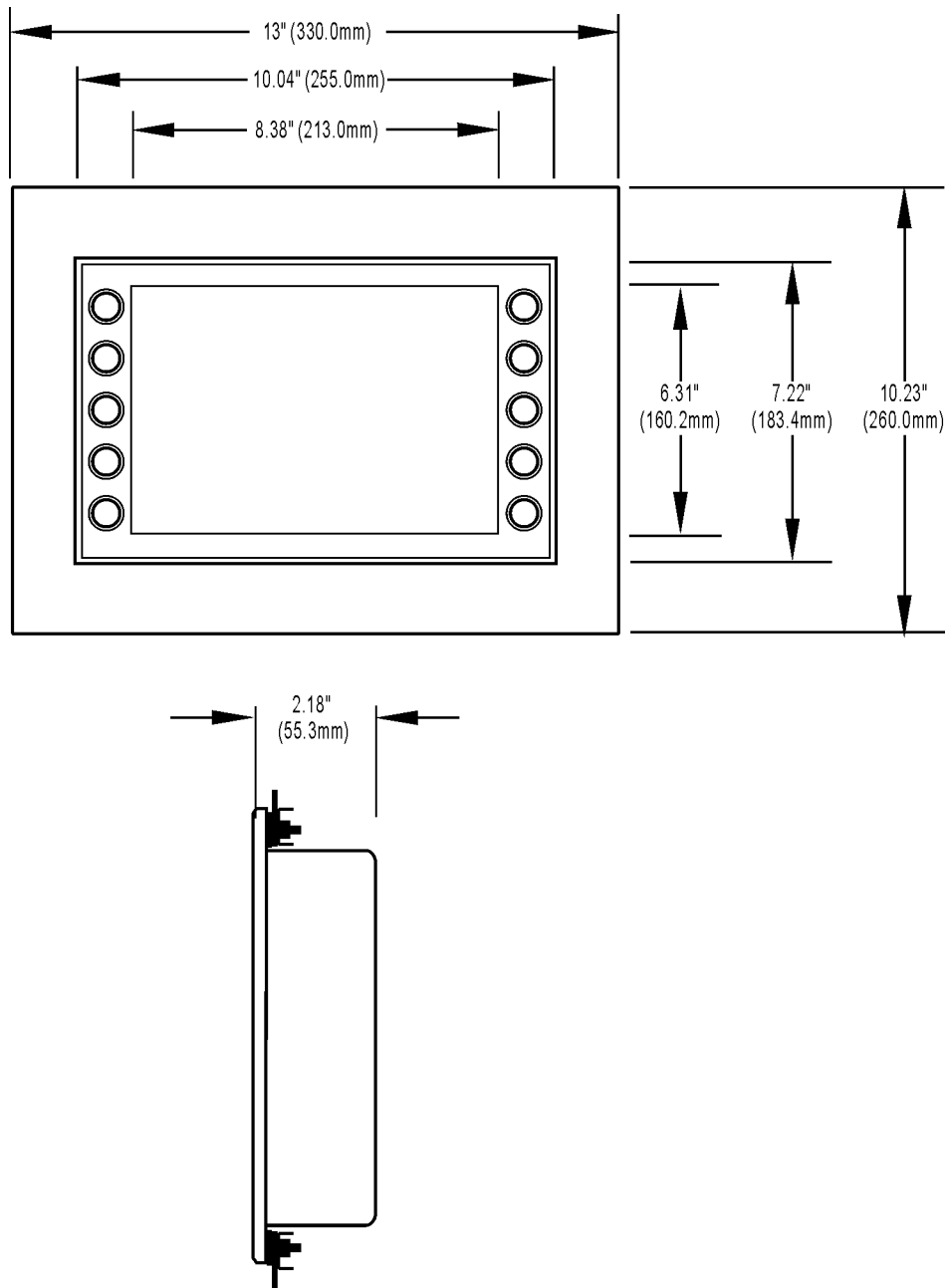
OptoTerminal Operator Interfaces

Dimensions—OptoTerminal-G70



OptoTerminal Operator Interfaces

Dimensions—OptoTerminal-G75



More About Opto 22

Products

Opto 22 develops and manufactures a broad array of reliable, flexible hardware and software products for industrial automation, remote monitoring, data acquisition, and machine-to-machine (M2M) applications.

SNAP PACs (Programmable Automation Controllers)

Programmable automation controllers (PACs) are multifunctional, multidomain, modular controllers based on open standards and providing an integrated development environment. Models include the standalone SNAP PAC S-series and the rack-mounted SNAP PAC R-series. Both handle a wide range of digital, analog, and serial functions and are equally suited to data collection, remote monitoring, process control, and discrete and hybrid manufacturing.

SNAP PACs are based on open Ethernet and Internet Protocol (IP) standards, so you can build or extend a system without the expense and limitations of proprietary networks and protocols.

ioProject Software Suite

Opto 22's ioProject Software Suite provides full-featured and cost effective control, HMI (human machine interface), and OPC software to power your Opto 22 hardware.

These fully integrated software applications share a single tagname database, so the data points you configure in ioControl™ are immediately available for use in ioDisplay™ and OptoOPCServer™. Commands are in plain English; variables and I/O point names are fully descriptive.

ioProject Basic offers control and HMI tools and is included in your purchase of a SNAP PAC controller. ioProject Professional, available for separate purchase, adds OptoOPCServer, options for Ethernet link redundancy or segmented networking, and support for legacy Opto 22 mistic™ I/O units.

SNAP Ethernet I/O

Based on worldwide standards Ethernet and Internet Protocol (IP), SNAP Ethernet I/O systems offer flexibility in their network

connectivity and in the software applications they work with, including:

- Opto 22's own ioProject suite of control, HMI, and OPC software
- Modbus®/TCP software and hardware
- Third-party HMIs and other OPC client software
- Database, email, network management, and other enterprise systems
- Custom applications developed with the free OptoMMP Driver Toolkit

SNAP Ethernet I/O also works with SNAP PACs to build a complete automation system: PACs provide central control and data distribution; SNAP Ethernet I/O provides local connection to sensors and equipment and includes distributed intelligence for local control, counting, latching, thermocouple linearization, PID loop control, and more.



Quality

Founded in 1974 and with over 85 million devices sold, Opto 22 has established a worldwide reputation for high quality products. All are made in the U.S.A. at our manufacturing facility in Temecula, California. Because we do no statistical testing, and each part is tested twice before leaving our factory, we can guarantee most solid-state relays and optically isolated I/O modules for life.

Free Product Support

Opto 22's Product Support Group offers free, comprehensive technical support for Opto 22 products. Our staff of support engineers represents decades of training and experience. Product support is available in English and Spanish, by phone or email, Monday through Friday, 7 a.m. to 5 p.m. PST.

Free Customer Training

Hands-on training classes for SNAP PACs, ioProject software, and SNAP Ethernet I/O are offered at our headquarters in Temecula, California. Each student has his or her own learning station; classes are limited to nine students. Registration for the free training class is on a first-come, first-served basis. See training.opto22.com for more information.

Purchasing Opto 22 Products

Opto 22 products are sold directly and through a worldwide network of distributors, partners, and system integrators. For more information, contact Opto 22 headquarters at 800-321-6786 or visit the website at www.opto22.com.

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