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Datapanel

Operator Interface Products

Datapanel 1000 Range

Operator's Manual

GFK-1513A

April 1999

Warnings, Cautions, and Notes as Used in this Publication

Warning

Warning notices are used in this publication to emphasize that hazardous voltages, currents, temperatures, or other conditions that could cause personal injury exist in this equipment or may be associated with its use.

In situations where inattention could cause either personal injury or damage to equipment, a Warning notice is used.

Caution

Caution notices are used where equipment might be damaged if care is not taken.

Note

Notes merely call attention to information that is especially significant to understanding and operating the equipment.

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Content of This Manual

This manual describes the following Datapanel operator interface products:

Model Number	Touch Screen
1060	Resistive
1060	Infrared
1062	Resistive
1062	Infrared
1062 (24VDC option)	Resistive
1065	Resistive

Revisions to this Manual

This revision includes the following changes:

- Removal of all information pertaining to obsolete Datapanel Models 1040, 1042, and 1045.
- The Datapanel OI products feature a new enclosure design, which uses plastic clips instead of screws to secure the front and rear sections of the unit (chapter 4).
- Since the download cable is supplied with the Datapanel, the cable fabrication diagram previously included in chapter 4 is not needed and has been deleted.
- Other corrections and clarifications as required.

Related Publications

GFK-1475 *WinCfg Software User's Guide*

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Chapter 1

Quick Start

This section is provided as a simplified introduction and operation guide. See subsequent chapters for more detailed information and explanation. .

For simplicity and to avoid excessive repetition, this manual will generally refer to performing operations by keypad. Where reference is made to keyboard operation, the corresponding function must be configured as a touch region on the non-keyboard models. As used below, "keys" means either membrane keypad keys or touch areas configured to perform the same function.

Mounting the Datapanel

After positioning the Datapanel in the cutout, secure using the spring clamps or nuts supplied with the Datapanel. (Model 1060 is mounted on studs from the rear of the panel.)


Connect Cable

Connect the PLC-Datapanel cable between the PLC and the Datapanel. Connect the Datapanel power.

Startup

On power-up, the Datapanel will enter Run Mode and begin normal operation. The Start Up page will be displayed if one was specified during configuration with WinCfg. Otherwise, page 0 containing the startup logo will be displayed. Two lines of display are reserved for system use. The top line displays a mini alarm log, a communications error log, the date, and the time.

Viewing Other Pages

For a process that is running routinely, you would likely display a page which provides a good summary of process conditions. Other pages provide alternate views of the operation of the process. You can choose another page by typing in the page number and pressing  (ENTER). Alternatively, you can scroll through the pages by pressing the UP or DN keys.

Viewing Overview Groups

Press **OVERVIEW** to see a list of overview groups which were configured for your application. The list of groups is displayed in pages with 30 groups being listed on each page. Use <<< and >>> to move through the pages of the Overview list. Scroll through the pages of the Overview list until the required page is accessed. Use the UP or DN keys to select the required Overview Group from the displayed page. Press **TAGS** to display the tags and values associated with this group. You can return to the first page of the list at any time by pressing **OVERVIEW**.

Printing a Page

If the page being displayed has PRINT assigned to one of the F-keys, pressing that F-key or touch region will output the text content of the page to the printer.

Displaying Alarms

Press **ALARM LOG** to display the Alarm Log. When a tag exceeds its limits, it will remain in the Alarm Log until it has been acknowledged and returns to normal or until it has been overwritten by tags alarming at a later time in an overflowing alarm log. Unacknowledged alarms are displayed in red text on color models.

Acknowledging Alarms

Press **ALARM ACK** to acknowledge an alarm. The first press of the key clears the global alarm bit. Typically, this bit is sent to the controller to silence the audible alarm. Subsequent presses of the key clear each alarm in turn, starting with the earliest of the alarms. Press the UP or DN keys to access other pages of the log.

Adjusting Display Attributes

Press **MODE** to display the Mode Menu (press F5 if a keyboard is available). Press **DISPLAY** to display the Display Control Menu. Press **INCREASE** or **DECREASE** repeatedly to adjust the contrast to the desired level.

Press **ON** to turn the display backlight on, enter a number within the range of 0 to 99 minutes. If the Datapanel keyboard or touch screen is inactive longer than this period the display will be turned off. The display will be turned back on when any key is pressed. If zero is entered, the backlight will remain on at all times.


Press **EXIT** to return to the main Mode menu.

Press **EXIT** to return to the displayed page.


Setting the Time and Date Display

Press **MODE** to display the Mode Menu. Press **OFF-L** to go off-line and display the Off-Line Mode menu. Press **CLOCK** to display the Set Clock menu.

Keypad Models

Press the up-down arrow keys (UP DN) to move from field to field on the display. Using the numeric keypad, type in the desired values for the field, and press .

Touch Models

Press **SET** to access the pop-up screen touch numeric keypad. The active field is displayed at the top of the screen keypad.) To move between the different time/date fields on the display, press  without a value entered to move to the next field. Text will wrap from the last field (seconds) to the first field (year).



Press **UPDATE** to confirm the entries, update the clock, and return to the main Off-Line Menu.

Or, press **EXIT** to abort the option and return to the main Off-Line Menu without changing the clock settings.

Press **EXIT** to return to the main Mode menu. Access the Run Mode by pressing **EXIT**.

Modifying the Process


An operator can modify the on-going process by using the Drive Out function of the Datapanel. This enables fresh values to be transmitted to any configured Drive Out tag. If a softkey has been configured for Drive Out, press that key to access the Drive Out function.

A list of tags available for Drive Out and their associated index numbers will appear on the display. Enter the index number using the numeric keypad or the numeric touch region. Press . (If an incorrect value is entered, the message, **bad input**, is displayed and the value must be re-entered.) Additional Drive Out tags may then be entered. Pressing  a second time, after a value has been transmitted, terminates the Drive Out option and the normal page will be displayed.

Special Drive Out Capabilities

Six types of Enhanced Drive Out can be configured: Macro, Ramp, Jog, Toggle, Recipe, and Direct Write. If a tag with this capability is selected, the designation of the softkeys is re-assigned so that the user-defined labels for the macro, ramp, jog, toggle, recipe, or direct-write functions will be displayed. On touch models, a special touch region may be displayed and may look like a push button.

Macro. Pressing the F-key or touch region defined for the macro function will cause a custom-configured operation to be performed.

Ramp. Pressing the F-key or touch region defined for the ramp function will display the current value and allow this value to be modified by pressing the up-down arrow keys (UP DN). The new value is confirmed by pressing .

Jog. Pressing the F-key or touch region defined for the jog function will cause a digital value to assume a new state as long as the key or region is pressed, and then return to the opposite value when the key is released.

Caution

On IR touch models, limits in the touch hardware prevent the region from detecting a continuous touch after about 10 seconds. After 10 seconds, the Jog stops and sends the opposite value. To Jog again, you must lift your finger off the touch region, then touch again.

Toggle. Pressing the F-key or touch region defined for the toggle function will invert the value of the configured item. For example, this could be used to switch a valve from on to off.

Recipe. Pressing the F-Key defined for the recipe function will run the recipe feature configured. This can load a group of recipe tags with pre-defined values, transmit a group of recipe tags down to the PLC device, or perform both of these tasks with just one press of a key.

Direct Write. Pressing the F-key or touch region defined for the direct-write function will either:

1. Drive Out a preconfigured value.
2. Request operator input of a value to Drive Out.

Password Protection

Some function may be protected at the time of configuration. If so, a prompt is displayed asking for the password. The correct password for the particular option must be entered in answer to the prompt. An incorrect password aborts the request.

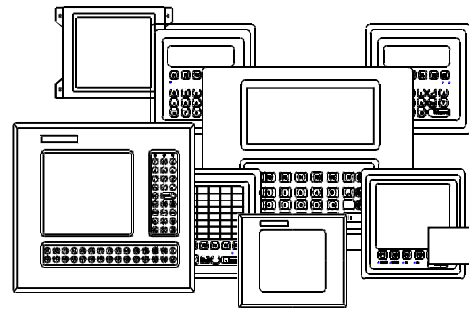
Chapter 2

Introduction to the Datapanel 1000 Range

The Datapanel Family consists of a series of low-cost human-machine interfaces enabling the transfer of data from a Programmable Logic Controller (PLC) and other intelligent control

devices to a comprehensive operator terminal. Datapanel are self-contained, solid state industrial display systems incorporating their own display screens and keypads. The Datapanel 1000 Range within the Datapanel

family of Operator Interfaces (OI) are an ideal replacement for discrete operator input and annunciation devices. Because of its many configurable options, a Datapanel can meet applications ranging from simple pushbutton replacement to complex interfaces beyond the capabilities of most small OIs.

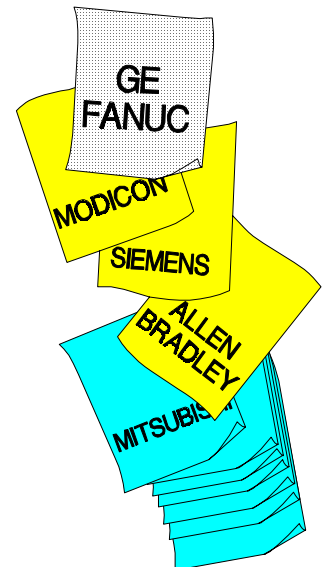


Strong Commonality With Broad Range of Capabilities

With a uniform software and hardware architecture, Datapanel allow you to produce an OI consistent with application budget and performance requirements while maintaining upgradeability. An expanding library of over 80 controller protocols is included with each Datapanel, meaning that a change in control hardware only requires reconfiguring communications and does not mean re-implementing the OI.

With a consistent architecture, Datapanel hardware is scaled to meet the cost and performance requirements of each particular model. That means application software can run on all models, providing extensive functionality on even the lowest price Datapanel. Application software makes Datapanel perform with efficiency. A wide range of applications software is built into every model.

An Operator Interface application is not restricted to emulating push buttons. Application software in Datapanel supports development of far more useful OI systems. Operator Interface software is included in every Datapanel. The software supports configuration of simple or complex OIs.



Standard features of all Datapanel 1000 models include:

- **Controller Communications.** Read and write data to the control equipment via a serial port.
- **Broad Protocol Support.** Over 80 protocols supported.
- **Analog Tag Scaling.** Converts raw data to and from engineering units, and adds tag name information. Digital tags may be two or four state.
- **Display Real-Time Data.** Provides information on the current state of the plant process.
- **Optional Display Modes.** Continuous updates, update continuously only when page is displayed, update once when page is first displayed.
- **Alarm Manager.** Checks for analog and digital alarms, maintains a log of active alarms and supports operator acknowledgment of alarms.
- **Graphic Page Display.** Display static and dynamic text on 1000user configured pages per Datapanel. Dynamic elements may be updated from the controller at a limit of how many can be physically put on a page legibly (practically, about 64 maximum) without slowing down the comms. Multiple font sizes allow for emphasis of important data.
- **Overview Display.** Predefined tabular display of Datapanel and controller data.
- **NEMA 4/12 Rated.** Ruggedized for harsh industrial environments.
- **Touch screen:** You can choose either resistive or infrared touch screen technology. “Programmable” function keys are available by configuring touch regions.

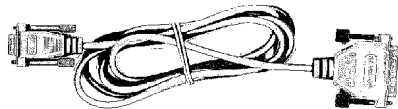
In addition, Model 1065 has an industrial membrane keyboard:

- **Integrated Keypad.** Includes programmable function keys.
- **Soft keys.** 24 keys per page, for up to 4800 user defined buttons per Datapanel. Buttons may change pages, write data, or perform other OI functions.

Components of the System

A Datapanel system includes:

- 1 unit from the Datapanel 1000 Range, incorporating an LCD display screen and touch screen, and an integrated membrane keypad on Model 1065.



- 1 PC-to-Datapanel cable.
- 1 Operator’s Manual (this book)
- Clips for mounting (except Model 1060).
- Operator Interface software (installed)

Although Datapanel systems are self-contained units, the use of a PC is necessary when configuring the system and when databases are being downloaded to the Datapanel.

Industrial Housing

Datapanels are designed for use in demanding industrial applications. With over 15 years experience in meeting the requirements of industrial users, Datapanels avoid the problems that can plague lesser-quality products. All hardware is designed to meet industrial application requirements. Datapanels are of compact shallow design. All front external surfaces are sealed and protected to NEMA 4/12 (IP65) standards against the penetration of water and foreign particles. Datapanels are ideally suited for use as ruggedized panel-mounted units in harsh industrial environments.

Configuration Software

Datapanels are configured using WinCfg software, which is sold separately.

WinCfg requires a PC-compatible computer running either Windows 98®, Windows NT®, or Windows 95®.

To configure the Datapanel, WinCfg is used to create a database for the Datapanel. The database and communications protocol are loaded to the Datapanel via a serial port, and the OI can then be put on-line. A single copy of WinCfg can be used to configure any of the Datapanel Range.

WinCfg features include:

- Menu-driven Windows-based configuration software
- WYSIWYG interface
- Extensive use of toolbars for easy access to features
- On-line, context sensitive help
- Configures all Datapanel Models
- Over 80 protocols supplied
- Database print function

For details on using WinCfg software, refer to the *WinCfg Software User's Guide*, GFK-1475.

Windows 95®, Windows 98®, and Windows NT® are registered trademarks of Microsoft Corporation.

Chapter 3

Overview of Datapanel 1000 Range

A brief description of each of the Datapanel is given below. A summary of Datapanel features and capabilities is given in Table 3-1. Chapter 4 provides information on installing the Datapanel, Chapter 5 provides operational information, and Chapter 7 provides detailed specifications. Both passive color and active-matrix color technologies are offered.

Hardware Features Common to the Data Panel 1000 Range

- 80386SX40 CPU
- 1 Meg RAM
- VGA 640x480 pixel display
- 10.4" diagonal screen
- 29 line by 80 column text
- 16 color
- Resistive or infrared analog touch screen
- Two RS232 serial ports (one serial port on infrared versions)
- Real-time clock
- UL, CUL and CE approved
- 110/240 VAC power
- PC104 expansion supports DeviceNet, Genius, Profibus and others

Runtime Software Features Common to the Datapanel 1000 Range

- 1000 registers, 2000 bits
- Displays static and dynamic text in 36 variable font sizes in 16 colors
- Static color bitmaps or animated bitmaps controlled by process points
- Trending and trend records (Wizard)
- Meters
- Bar charts
- Point scaling
- Read/write PLC values
- Ramp PLC registers, Toggle PLC bits, Jog bit with feedback
- Messaging
- Configurable push button objects
- Overview mode with 100 pre-configured display pages
- Alarm Manager
- 200 display pages
- Bitmaps
- Line drawing (circle/rectangle templates)
- Frames (with a 3D backdrop that can be raised or recessed)

Datapanel 1000 Range Models

The range is comprised of the following models:

Datapanel Model 1060 and 1062

These models have touch screen technology in full color, but no keypad. These models use active-matrix TFT color technology which provides a high quality of color. The 1060 is stud mounted; the 1062 has a bezel and is clip mounted.

Datapanel Model 1065

This model has touch screen technology in full color and keypad. It has a bezel and is clip mounted.

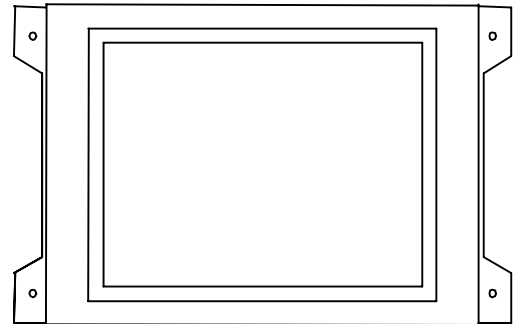
Minimum Customer Supplied Hardware

A PC, or equivalent, running Windows 3.1, Windows NT, Windows 95, is required to configure Datapanel and transfer databases and protocol to the Datapanel:

- 486 DX2/66
- 8 MB RAM
- VGA Color Display
- 20 MB Hard Disk Space

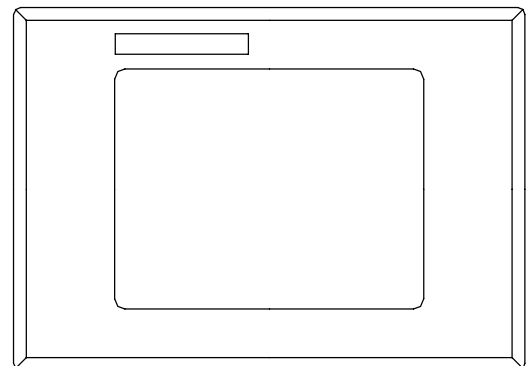
Datapanel Model 1060

Datapanel Model 1060 is designed for OEM use. The modular construction allows mounting from the rear onto studs. No product or board labels are displayed, giving full control over the panel appearance. A 640x480 pixel screen with 16 colors is provided. Graphics, bitmap animation and variable size text are supported. Choice of resistive or infrared touch screen.



Datapanel Model 1062

Datapanel Model 1062 has the traditional aluminum bezel surrounding the touch screen. Mounting is through a hole in the panel. The unit is held by clips. A 640x480 pixel screen with 16 colors is provided. Graphics, bitmap animation and variable size text are supported. Choice of resistive or infrared touch screen.



Datapanel Model 1065

Datapanel Model 1065 provides a solution for applications with complex data entry requirements. Twenty four function keys can be configured per screen and a full alphanumeric keypad is provided. A 640x480 pixel screen with 16 colors is provided. Graphics, bitmap animation and variable size text are supported. The Model 1065 has active matrix color. The membrane keys are relegendable.

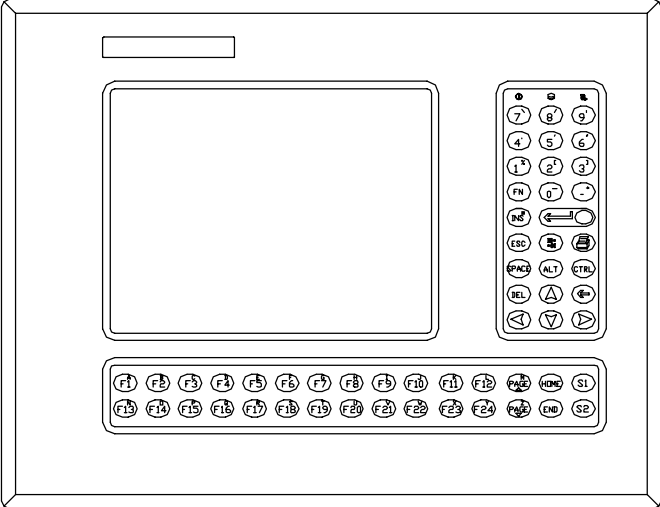


Table 3-1. Summary of Datapanel Features and Capabilities

Features	1060	1062	1065
Processor	80386SX-40MHz	80386SX-40MHz	80386SX-40MHz
LCD Display Size (pixels) (mm) (in.)	640x480 211.2x158.4 mm (8.31x6.24 in.)	640x480 211.2x158.4 mm (8.31x6.24 in.)	640x480 211.2x158.4 mm (8.31x6.24 in.)
Display Capability with minimum text size	80 characters, 29 lines	80 characters, 29 lines	80 characters, 29 lines
Minimum Text Size (pixels)	8w x 16h	8w x 16h	8w x 16h
Database Size	131k; 204k on expanded models	131k; 204k on expanded models	131k
Backlight	CCFT	CCFT	CCFT
Memory, Flash	512KB Flash	512KB Flash	512KB Flash
Memory, SRAM or DRAM	512KB DRAM (up to 8 MB)	512KB DRAM (up to 8 MB)	512KB DRAM (up to 8 MB)
Serial Ports	2 RS232 (1 on IR models)	2 RS232 (1 on IR models)	2 RS232
Additional Ports	Parallel, Keyboard, Ext. Floppy Disk Drive	Parallel, Keyboard, Ext. Floppy Disk Drive	Parallel, Keyboard, Ext. Floppy Disk Drive
Standard Software Features	Tag Scaling, Static and Dynamic data display, Alarm Manager, Read/Write to controller, Overview Display, Configurable Function Keys, Downloadable Database and Protocol, Variable text sizes, Meters, Trend Records (Wizard), Bitmaps, Line drawing, and Frames	Tag Scaling, Static and Dynamic data display, Alarm Manager, Read/Write to controller, Overview Display, Configurable Function Keys, Downloadable Database and Protocol, Variable text sizes, Meters, Trend Records (Wizard), Bitmaps, Line drawing, and Frames	Tag Scaling, Static and Dynamic data display, Alarm Manager, Read/Write to controller, Overview Display, Configurable Function Keys, Downloadable Database and Protocol, Variable text sizes, Meters, Trend Records (Wizard), Bitmaps, Line drawing, and Frames
Bar Graphs	Yes	Yes	Yes
Bitmap Graphics	Yes	Yes	Yes
Real-Time Trends	Yes	Yes	Yes
VT 100 Emulation	No	No	No
PC104 Expansion	Yes	Yes	Yes

Table 3-1. Summary of Datapanel Features and Capabilities - Continued

Features	1060	1062	1065
Function Keys per Page	None	None	24, relegendable
Data Entry Keypad	None	None	55 keys, plus ENTER
Touch Screen	Yes	Yes	Yes
Controller Protocols	Over 80 supplied, including GE Fanuc, Modicon, Allen Bradley, Square D, Mitsubishi, Omron, Siemens, Idec. Call for details.	Over 80 supplied, including GE Fanuc, Modicon, Allen Bradley, Square D, Mitsubishi, Omron, Siemens, Idec. Call for details.	Over 80 supplied, including GE Fanuc, Modicon, Allen Bradley, Square D, Mitsubishi, Omron, Siemens, Idec. Call for details.
Analog Tags	1000	1000	1000
Digital Tags (2 bits/tag)	1000	1000	1000
Display Pages	1000 w/ expanded flash disk	1000 w/ expanded flash disk	200
NEMA, UL, CUL, CE	4/12, UL, CUL, CE	4/12, UL, CUL, CE	4/12, UL, CUL, CE
Environmental	0 to +40 Deg C Operating Temp	0 to +40 Deg C Operating Temp; 2G from 57 to 500 HZ vibration	0 to +40 Deg C Operating Temp
Dimensions (Inches)	13.50 Wide x 8.60 High x 3.10 Deep [add 0.6" to depth for each PC104 expansion card]	15.20 Wide x 10.83 High x 3.25 Deep [add 0.6" to depth for each PC104 expansion card]	17.66 Wide x 13.64 High x 4.80 Deep [add 0.6" to depth for each PC104 expansion card]
Weight (lb.)	11.0 without cards. Add weight of cards installed.	13.0 without cards. Add weight of cards installed.	17.0 without cards. Add weight of cards installed.
Panel Cutout (Inches)	9.50 W x 7.50 H Four mounting stud locations 12.5 W x 7.0 H	14.40 W x 10.00 H	16.86 W x 12.84 H
Power Input	90-250 VAC, 50-60 Hz	90-250 VAC, 50-60 Hz or 24 VDC	90-250 VAC, 50-60 Hz

Chapter 4

Installing the Hardware

Physical Characteristics

Model 1060

This model of the Datapanel 1000 Range is mounted as a single unit on a metal plate. The physical dimensions and the required panel cutouts are shown in Table 4-1.

Models 1062 and 1065

These models of the Datapanel 1000 Range are housed in two metal enclosures forming the front and the rear sections of the unit. The system electronics are mounted to the front section. The rear section of the housing is a simple cover designed to fully enclose the system hardware. The two sections are secured to one another by snapping them together; the four plastic clips (one located near each corner) should fully latch to one another. On the Model 1065, the front section forms a bezel with a large central aperture giving access to the LCD display and to the membrane keypad. The gasket on the Model 1062/1065 is located around the backside of the bezel, and provides conformity with IP65 (NEMA 4/12) rating when it is mounted through a panel. The Model 1060 has a gasket located on the front around the LCD; this model has no bezel. The physical dimensions and the required panel cutouts are shown in Table 4-1.

Table 4-1. Physical Dimensions and Panel Cutouts

Features	1060	1062	1065
Dimensions in Inches (mm)	13.50 Wide x 8.60 High x 3.10 Deep [add 0.6" to depth for each expansion card] (342.9 Wide x 218.44 High x 78.74 Deep)	15.20 Wide x 10.83 High x 3.25 Deep [add 0.6" to depth for each expansion card] (386.08 Wide x 275.08 High x 82.55 Deep)	17.66 Wide x 13.64 High x 4.80 Deep [add 0.6" to depth for each expansion card] (448.56 Wide x 346.46 High x 121.92 Deep)
Panel Cutout (Inches)	9.50 W x 7.50 H. Four mounting stud locations 12.5 W x 7.0 H	14.40 W x 10.00 H	16.86 W x 12.84 H

Mounting Datapanel

Model 1060

The mounting method for the Model 1060 is shown in Figure 4-1. The Datapanel comes with a gasket glued in place on the front bezel to ensure compliance with protection ratings. The Datapanel is mounted to the rear of the panel on four #8-32 x 1.5 inch studs around the perimeter of the bezel cutout. The studs are part of the user design and fabrication of the panel. Access to the rear of the unit is necessary so that the panel can be secured to the studs.

After positioning the Datapanel onto the four studs protruding from the rear of the panel, move the Datapanel forward into the cutout. Secure the Datapanel by placing four #8 lock washers and four #8-32 steel nuts on the top of the studs protruding through the mounting ears of the Datapanel chassis. Tighten the nuts evenly so that the gasket on the front of the Datapanel is compressed uniformly around the cutout. It is important that the nuts are not over-tightened as the gasket or the chassis may become deformed resulting in an improper mounting of the Datapanel.

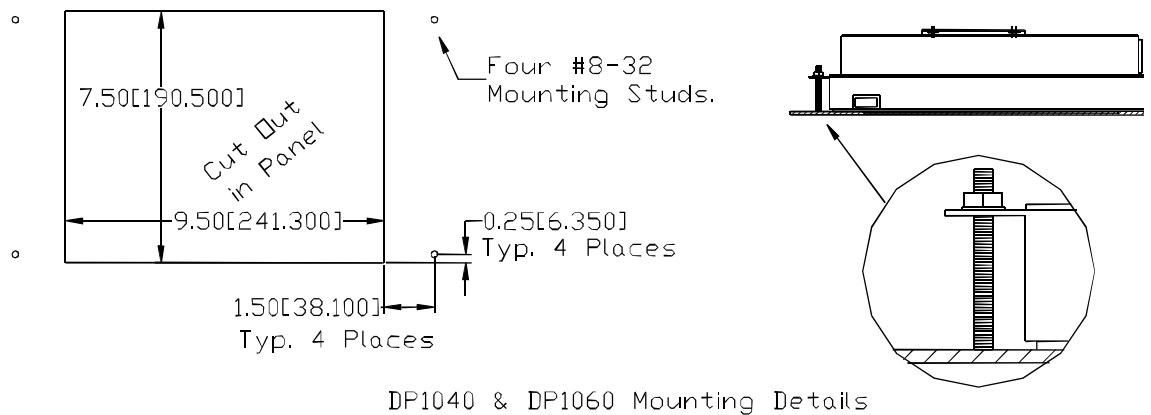


Figure 4-1. Mounting Method for Model 1060

Models 1062 and 1065

The Datapanel comes with a gasket glued in place on the bezel to ensure compliance with protection ratings. The Datapanel is secured using small retaining clips. The mounting points for the clips are located on the front section of the Datapanel. Access to the rear of the unit is necessary so the clips can be fitted.

After positioning the Datapanel in the cutout, the unit is then secured using the retaining clips as shown in Figure 4-2. Working from the rear of the panel, the clips must be located in the slots shown in the diagram. The clips should be tightened evenly to ensure proper mounting of the Datapanel.

A total of 10 clips are used to secure Model 1062 and 12 clips are used to secure Model 1065.

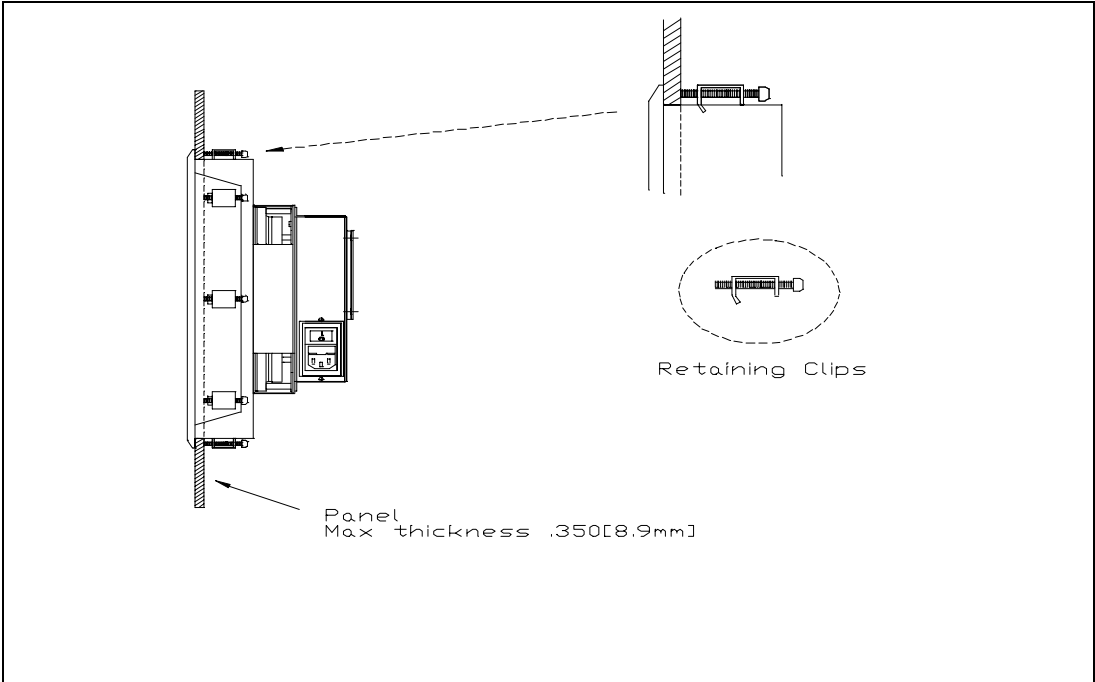


Figure 4-2. Datapanel Mounting Clamps

Connecting Cables

Two connecting cables are required when using the Datapanel:

- The download cable is used when transferring databases or protocols from the configuration software to the Datapanel. The cable enables connection to a standard PC. For non-standard PCs, consult the PC manual to check the pin configuration at the PC end of the cable. This cable is supplied with the Datapanel.
- The cable used to connect Datapanel to the controller. As a general guide, the only pin connections required at the Datapanel end are Tx, Rx, Signal, Ground; with RTS connected to CTS. Refer to your controller documentation for details of connections at the controller end. This cable is not supplied with the Datapanel.

Chapter 5

Operation Guide

Overview

Operation of all models of the 1000 Range Datapanel is similar, except that some models have membrane keypads and some have only touch screens. On touch-screen only models, any of the keypad functions can be performed by configuring suitable touch regions. For instance, a touch area can be configured to resemble an F-key, labeled with an F-key number, and configured to perform the same function as the corresponding physical key on the keypad models.

For simplicity and to avoid excessive repetition, this manual will generally refer to performing operations by keypad. Where reference is made to keyboard operation, the corresponding function must be configured as a touch region on the non-keyboard models. Configuration information is provided with the WinCfg configuration software. As used below, "keys" means either membrane keypad keys or touch areas configured to perform the same function.

Datapanel Modes

The Datapanel operates in one of two modes:

- Run Mode - enables real time processes to be viewed from configured displays downloaded to Datapanel.
- Off-line - enables the configuring of the communications port, setting the date and time, loading databases and protocols, and enabling or disabling alarm checking.

On power-up, the Datapanel will enter Run Mode and begin normal operation. The Start Up page will be displayed if one was specified during configuration with the configuration software. Otherwise, page 0 containing the startup logo will be displayed. The screen layouts of all Datapanel are similar in appearance, but vary slightly according to the capabilities of the various models. The top line of display is reserved for system use and displays a mini alarm log, a comms block error log, the date, and the time as shown in Figure 5-1. The remainder of the screen can be configured for display. On Model 1065, if so configured, the bottom line displays descriptive text for the top twelve function keys as shown in Figure 5-1. Any of the keys may be assigned other labels and functions during configuration with the configuration software. They may have different labels and functions on different display pages. When the keys are programmed in this

manner, they are often referred to as *softkeys*. Other models do not have physical F-keys, but touch regions can be configured to perform these functions.

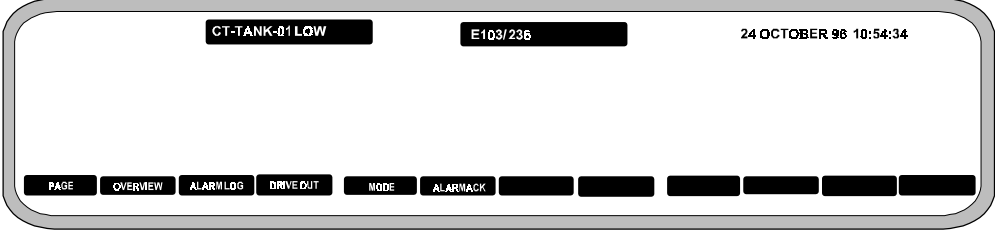


Figure 5-1. Example of Screen Touch-Region Function Keys (Model 1065).

The default Model 1065 Run Mode F-keys are:

- F1 = **PAGE** - displays configured pages. Often, the first page is configured as an index or menu of all other pages.
- F2 = **OVERVIEW** - displays configured overview groups.
- F3 = **ALARM LOG** - displays the alarm log.
- F4 = **DRIVE OUT** - allows the operator to write to the controller.
- F5 = **MODE** - allows the operator to switch between the Run Mode and Off-line.
- F6 = **ALARM ACK** - allows the operator to acknowledge alarms.

Except for the Alarm and Overview screens, the touch region function keys are not pre-configured on the 1000 Range. On the Model 1065, as shown in Figure 5-1, the configuration software can configure the top row of physical function keys to have a softkey equivalent on the screen. On the models without keyboard, the configuration software can be used to configure touch regions in any screen location to accomplish various functions.

Pop-up Touch Keypads

During the configuration of the Datapanel, pop-up keypads may be included on a page. Two such keypads are shown in Figure 5-2. The keypad on the left is used for ramping analog tags. The keypad on the right is used for numeric data input. For further information on keypad configuration and use, see the WinCfg User's Guide, GFK-1475

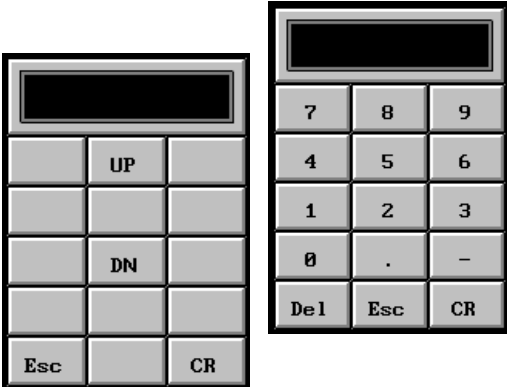


Figure 5-2. Examples of Pop-Up Keypads


Typical Operation Scenarios

Routine Processing

For a process that is running routinely, you would likely display a page which provides a good summary of process conditions. The page might include a trend chart showing performance over some time period, a bar chart showing the availability of a critical process supply, and other elements showing constantly updating values of parameters indicating process efficiency (e.g., cans filled per hour, gallons of fruit juice per minute, kW of electricity consumed.)

Viewing Other Pages

Other pages provide alternate views of the operation of the process. For instance, this would be useful if you noticed a change in some parameter and you wanted more detail on that aspect of the process.

On keyboard models, you can choose another page by typing in the page number and pressing  (ENTER). Alternatively, you can scroll through the pages by pressing the UP or DN keys. The DN key displays the next page; the UP key displays the previous page. The logo page or the Start Up page will appear when you press **PAGE**. If so configured by the configuration software, the Start Up page may show a list or menu of other pages. If so configured, you can use a re-defined F-key or a touch region to access other pages.

On non-keyboard models, touch regions must be configured to provide access to other pages.

Viewing Overview Groups

Press the **OVERVIEW** F-key or corresponding configured touch region to see a list of overview groups which were configured for your application. Each group contains a maximum of 10 configured tags which have been grouped together during configuration because they are relevant to each other, e.g., temperatures or pressures. There may be up to 150 groups. The list of groups is displayed in pages with 30 groups being listed on each page. When the **OVERVIEW** key or touch region is pressed, the designation and function of some of the softkeys change. For instance, one of the F-key label displays a left-chevron design (<<<) and another displays a right-chevron design (>>>). On non-keyboard models, corresponding touch regions must be configured for this purpose.

Use <<< to move backwards through the pages of the Overview list. Use >>> to move forwards through the pages of the Overview list. Scroll through the pages of the Overview list until the required page is accessed. The range of Overview Groups on a particular page of the list is shown at the top of the display. Use the UP or DN keys or configured touch regions to select the required Overview Group from the displayed page. Press **TAGS** to display the tags and values associated with this group. You can return to the first page of this list at any time by pressing **OVERVIEW** or the corresponding configured touch region.

Printing a Page

If the page being displayed has **PRINT** assigned to one of the F-keys or configured touch region, pressing that F-key or touch region will output the text content of the page to the printer. For instance, you may want to do this at the end of a shift in order to have a permanent record of conditions at that time. Graphics on the page will not be printed.

Alarm Conditions

If one of the configured tags exceeds its limits, an alarm message will appear in the mini alarm log window and be added to the alarm log. Press the **A.ACK** (alarm acknowledge) F-key or corresponding touch region to acknowledge the alarm(s).

Displaying Alarms

Press the **A.LOG** (alarm log) F-key or corresponding touch region to display the Alarm Log. A sample alarm log is shown Figure 5-3. The capacity and display characteristics of the logs are described in the table below. If the capacity of the log is exceeded, the earlier alarms will be lost. When a tag exceeds its limits, it will remain in the Alarm Log until it has been acknowledged and returns to normal or until it has been overwritten by tags alarming at a later time in an overflowing alarm log.

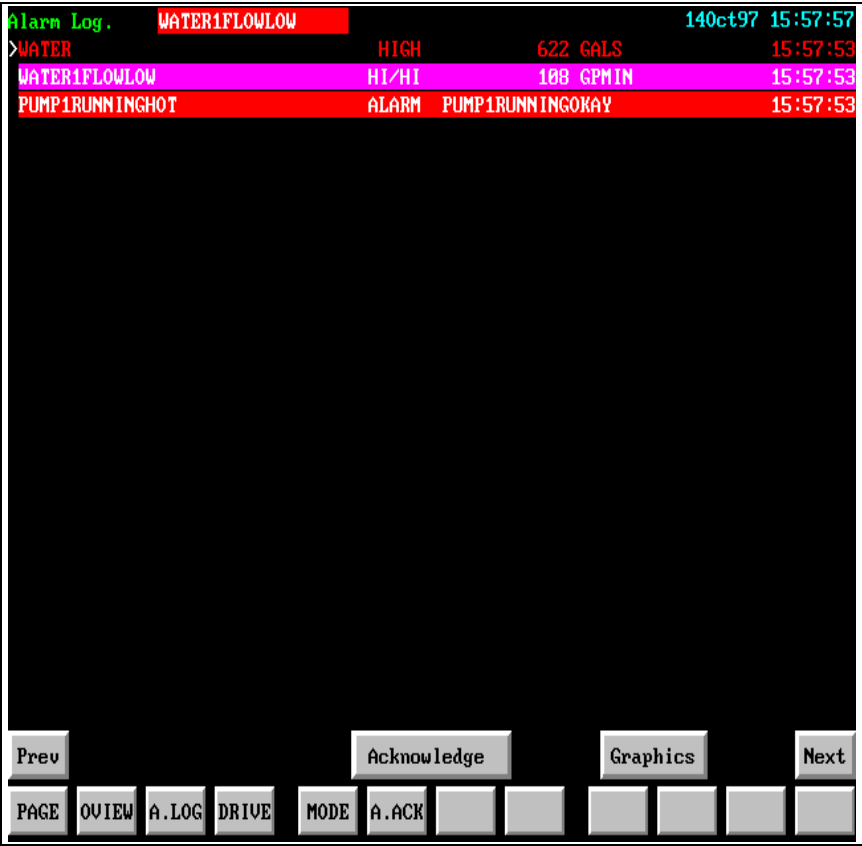


Figure 5-3. Sample Alarm Log

Unacknowledged alarms are displayed in red; acknowledged alarms are displayed in black.

Acknowledging Alarms

Press **A.ACK** F-key or corresponding touch region to acknowledge an alarm. The first press of the key clears the global alarm bit. Typically, this bit is sent to the controller to silence the audible alarm. Subsequent presses of the key clear each alarm in turn, starting with the earliest of the alarms. Press the UP or DN keys or corresponding touch areas to access other pages of the log.

Additional Alarm Information

Alarm characteristics are shown in Table 5-1.

If the Datapanel has been configured to do so, selected alarms will be printed automatically as they occur. The mini alarm log shows the earliest unacknowledged alarm. The mini alarm log is updated as each alarm is acknowledged. When all alarms have been acknowledged, the mini alarm log is removed until another alarm condition occurs.

The **A.LOG** function key is displayed only if alarms are enabled. If the alarms were configured disabled or have been disabled in the Off-line option, the **A.LOG** and **A.ACK** function keys will be displayed blank.

Table 5-1. Alarm Log Characteristics

Item	Characteristic
Alarm Capacity	200
Alarms/Page	25
Mini Alarm Log	12 characters of tag name
ACK method	Red text means not acknowledged
ANALOG ALARMS	
1 st Column	Not used
2 nd Column	32 characters of tag name
3 rd Column	6 characters of alarm type
4 th Column	12 characters of value
5 th Column	10 characters of units
6 th Column	Not used
7 th Column	8 characters of time
DIGITAL ALARMS	
1 st Column	Not used
2 nd Column	32 characters of tag name
3 rd Column	6 characters of alarm type
4 th Column	31 characters of value
5 th Column	Not used
6 th Column	Not used
7 th Column	8 characters of time

Modifying the Process



An operator can modify the on-going process by using the Drive Out function of the Datapanel. This enables fresh values to be transmitted to any configured Drive Out tag. If a softkey has been configured for Drive Out, press that key to access the Drive Out function.

Password Protection

The Drive Out function can be password protected at the time of configuration. If so, when Drive Out is attempted, a prompt is displayed asking for the password. As there are three Drive Out options, three Drive Out passwords may have been configured, referenced to which display you

have on the screen when you request Drive Out: Page, Monitor, and Overview. The correct password for the particular option must be entered in answer to the prompt. An incorrect password aborts the request. The Drive Out procedure is largely the same for each of the three options.

Selecting a Tag and Entering a Value


A list of tags available for Drive Out and their associated index numbers will appear on the display. Enter the index number using the numeric keypad or the numeric touch region. Press . (If an incorrect value is entered, the message, **bad input**, is displayed and the value must be re-entered.) Additional Drive Out tags may then be entered. Pressing  a second time, after a value has been transmitted, terminates the Drive Out option and the normal page will be displayed.

Special Drive Out Capabilities

Enhanced Drive Out

Six types of Enhanced Drive Out can be configured: Macro, Ramp, Jog, Toggle, Recipe, and Direct Write. If a tag with this capability is selected, the designation of the softkeys is re-assigned so that the user-defined labels for the toggle, ramp, recipe, or direct-write functions will be displayed. On touch models, a special touch region may be displayed and may be configured to look like a push button. Macro and Ramp are not available with pushbuttons

Macro. Pressing the F-key or touch region defined for the macro function will cause a custom-configured operation to be performed.

Ramp. Pressing the F-key or touch region defined for the ramp function will display the current value and allow this value to be modified by pressing the up-down arrow keys (UP DN). The new value is confirmed by pressing .

Jog. Pressing the F-key or touch region defined for the jog function will cause a digital value to assume a new state as long as the key or region is pressed, and then return to the opposite value when the key is released.

Caution

On IR touch models, limits in the touch hardware prevent the region from detecting a continuous touch after about 10 seconds. After 10 seconds, the Jog stops and sends the opposite value. To Jog again, you must lift your finger off the touch region, then touch again.

Toggle. Pressing the F-key or touch region defined for the toggle function will invert the value of the configured item. For example, this could be used to switch a valve from on to off.

Recipe. Pressing the F-Key defined for the recipe function will run the recipe feature configured. This can load a group of recipe tags with pre-defined values, transmit a group of recipe tags down to the PLC device, or perform both of these tasks with just one press of a key.

Direct Write. Pressing the F-key or touch region defined for the direct-write function will either:

1. Drive Out a preconfigured value.
2. Request operator input of a value to Drive Out.

Chapter 6

Special Operations: Mode Menu



Figure 6-1. Mode Menu

The Mode Menu is shown in Figure 6-1. This menu is normally not used during routine operation of the Datapanel. It allows the operator to display information about the Datapanel, change the attributes of the display, or operate the Datapanel in the off-line mode. Press **MODE** F-key or corresponding touch region to display the Mode Menu.

Exit

Press **EXIT** to return to the startup page.

Other Access To The Mode Menu

If a Mode access has not been configured for the Datapanel, the Mode Menu can be accessed by the procedure described below.

1. Turn the Datapanel off.
2. Connect the Datapanel to the WinCfg computer and start the configuration software.

3. Select File, Transfer, Utility, Special, Mode Screen.
4. Turn Datapanel power on. The Mode Menu will appear on initialization.
5. After performing the desired configuration, exit the Mode Menu.
6. Restore the Datapanel connection to the controller.

About Menu

Press **ABOUT** to display information about the Datapanel as shown in Figure 6-2. This information cannot be edited. Press **EXIT** to return to the main Mode menu.



Figure 6-2. About Menu

Display Control Menu

Press **DSPLY** to view the Display Control Menu shown in Figure 6-3. This menu allows the operator to change the display contrast setting, change the size of the pop-up keypad (small or large), or to switch the backlight on or off. Unless the backlight is configured OFF with WinCfg, the default is ON.



Figure 6-3. Display Control Menu

Press **INC** repeatedly to increase the contrast to the desired level.

Press **DEC** repeatedly to decrease the contrast to the desired level.

Press **ON** to turn the display backlight on. The Datapanel will display the prompt:

Enter delay period in minutes -

If you want the display to be turned off after a period of inactivity, enter a number within the range of 0 to 99 minutes. If the Datapanel keyboard or touch screen is inactive longer than this period the display will be turned off. The display will be turned back on when any key is pressed. If zero is entered, the backlight will remain on at all times.

On keyboard models, enter the time period using the numeric keypad. On other models, a numeric keypad touch region will be displayed for entering the number.

Press **OFF** to turn the backlight off. This should be done in environments where the backlight is not needed in order to conserve power and extend the life of the backlight.

Press **EXIT** to return to the main Mode menu.

Off-Line Mode

The **Off-line** mode enables the operator to set the date and time, load databases and protocols, and enable or disable alarm checking. When the Off-Line option is accessed, all controller communications and alarms are inactive and the mini alarm log is not displayed. The real time clock is not displayed but is running as a background task.

This function is often password protected at the time of configuration. If so, when Off-Line is attempted, a prompt is displayed asking for the password. The correct password must be entered in response to the prompt. An incorrect password aborts the attempt to go off-line.

Press **OFF-L** to go off-line and display the Off-Line Mode menu shown in Figure 6-4. When finished, press **EXIT** to return to the main Mode menu. The system will revert to the main Mode Menu but will remain Off-line until Run Mode is accessed by pressing **EXIT**. The clock and the mini alarm log will again display.

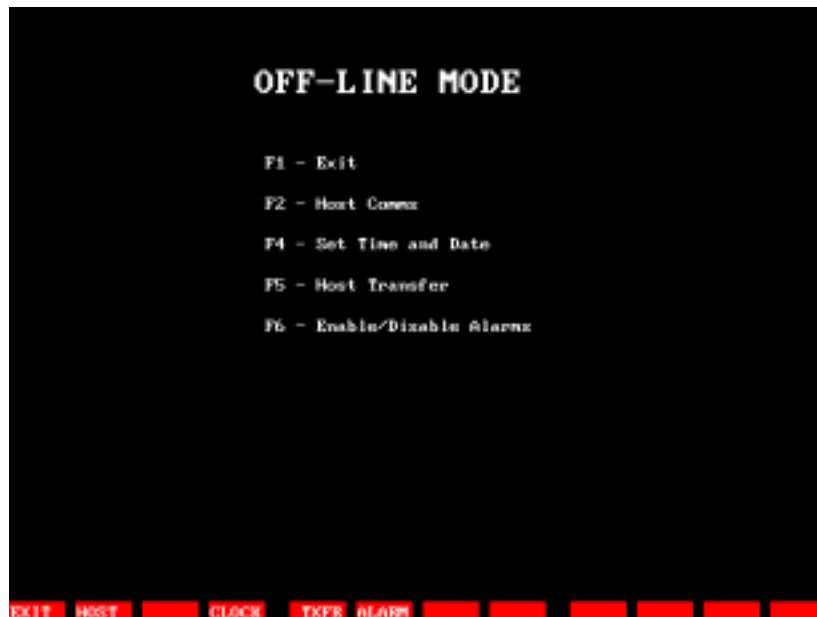


Figure 6-4. Off-Line Mode Menu


Set Time and Date Display

Press **CLOCK** to display the Set Clock menu shown in Figure 6-5.




Figure 6-5. Set Clock Menu

Keypad Models

Press the up-down arrow keys (UP DN) to move from field to field on the display. Using the numeric keypad, type in the desired values for the field, press .

Touch Models

Press SET to access the pop-up screen touch numeric keypad. The active field is displayed at the top of the screen keypad. To move between the different time/date fields on the display, press  without a value entered to move to the next field. Text will wrap from the last field (seconds) to the first field (year.)

All Models

Press UPDATE to confirm the entries, update the clock, and return to the main Off-Line Menu.

Press EXIT to abort the option and return to the main Off-Line Menu without changing the clock settings.

Host Transfer

Press TXFR to access the Host Transfer display shown in Figure 6-6. This menu is used to enable data transfer between the Datapanel and the WinCfg PC. To exit the transfer, press EXIT.

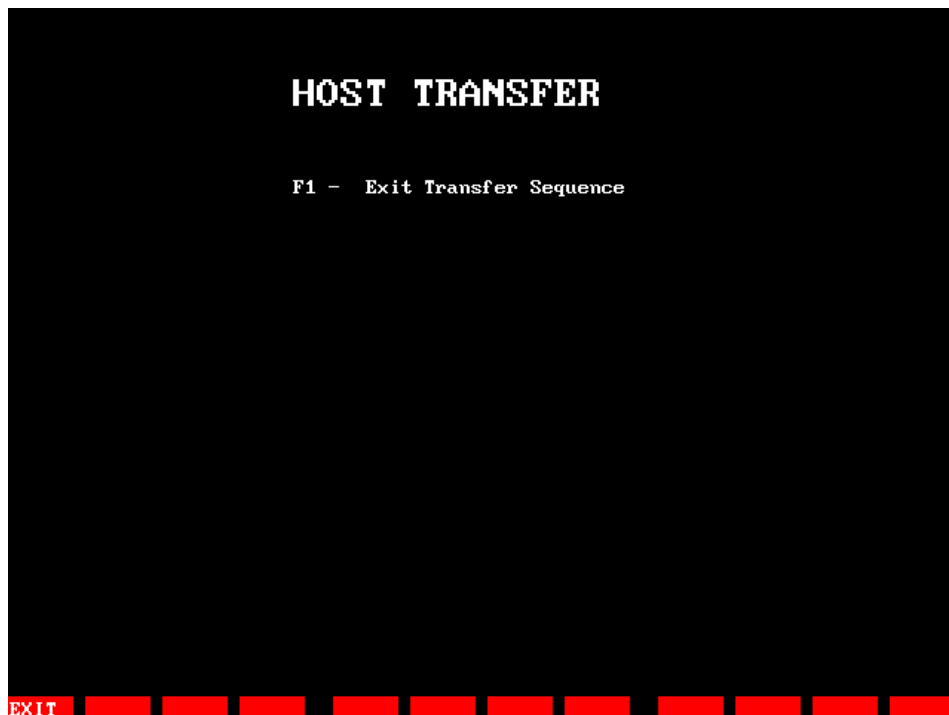


Figure 6-6. Host Transfer Display

The actual transfer of the data is under the control of the PC. The following messages will be displayed in the message area of the display:

When downloading a Protocol:

Loading Communications Protocol ...
and on the same line when complete, **Protocol installed.**

When downloading a Database:

Loading Database ...
and on the same line when complete, **Database installed.**

When uploading a Database:

Uploading Database ...
and on the same line when complete, **Database transferred.**

When a communications error occurs:

Transfer Failed

Enable/Disable Alarms

Press **ALARM** to access the alarm option. The label of one of the F-keys will change to **ENAB**, another will change to **DISAB** as shown in Figure 6-7. Press **ENAB** to enable alarms. Press **DISAB** to disable alarms. Press **EXIT** to return to the Off-Line Menu. This option is useful to prevent excessive alarm logging during periods of operation with known process discrepancies or during process testing.



Figure 6-7. Alarms Control Display

PLC Fault Screens

User GE-Fanuc SNP/SNP-X (protocol 68) will have another button available on the MODE screen. F5 is labeled FAULT. These screens allow the user to view the current run-mode of a PLC device and its PLC and I/O Fault tables. If write privileges are enabled, these tables may be cleared from the Datapanel and the run-mode changed.

Configuring PLC Fault Screen Options

Additional configuration is required if the Datapanel is used in a multi-drop application or the Datapanel is to have the ability to modify the fault table or the run-mode of the PLC. If a multi-drop network is connected to the Datapanel, the SNP IDs of the PLCs must be entered using the PC configuration tool . Similarly, if the Datapanel is to have write privileges, this must be set with the PC configuration tool. Neither of these options is the default.

Selecting the PLC

If a multi-drop network is used, or SNP/SNP-X is chosen for both Port 1 and Port 2, the user will be prompted for which PLC they wish to communicate with after pressing FAULT on the MODE screen. The arrow keys may be used to highlight the correct SNP ID and the F-key labeled PORT toggles the communication port selection. The ENTER F-key continues to the PLC Faults screen.

PLC Faults Screen

This screen displays the PLC Faults log of the PLC.

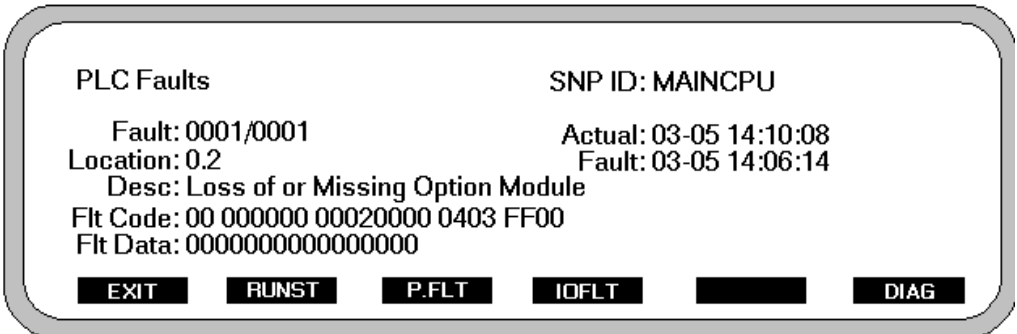


Figure 6-8. PLC Faults Log

- Information is presented as follows:
- Fault lists the displayed fault number out of the total number of faults registered in the system.
- Location gives the rack and slot that reported this fault.
- Desc provides a short text description of the problem.
- Actual shows the current time in the PLC.

Fault provides the time stamp of the reported fault. Since the PLC clock may not be synchronized with the Datapanel, these entries can be significantly different from the Datapanel time and/or the current time of day.

If DIAG is pressed, the Fault Code and Fault Data lines appear. These provide more detailed fault codes that can be referenced in GE-Fanuc literature or with technical support.

Other function keys at the bottom of the screen include: RUNST, which changes to the Set PLC State page; IOFLT, which changes to the I/O Faults page; and EXIT, which returns to the MODE screen. If write privileges are enabled, the fifth function key will be labeled CLEAR. Pressing it will clear the PLC fault log in the PLC. If the PLC is password protected, the user will be prompted for a Level 2 SNP password.

I/O Fault Screen

The I/O Fault Screen displays the I/O Faults log in the PLC.

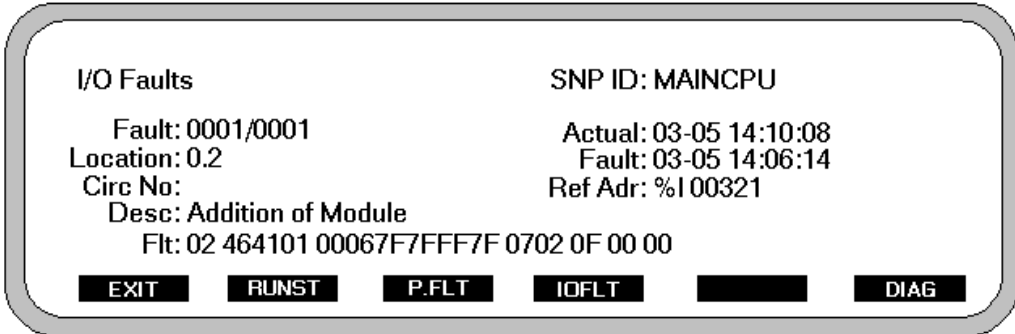


Figure 6-9. PLC I/O Faults Screen

The fields are similar to those in the PLC Faults screen.

Circ No is the point on a multi-point card, such as digital input 4 of a 16-pt module. Reference address provides the PLC table mapping of the card.

Set PLC State

This screen allows the user to view and modify the PLC's run-state.

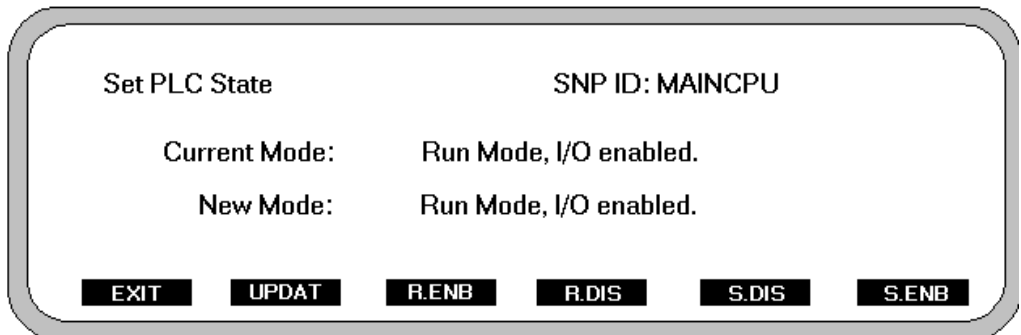


Figure 6-10. PLC Run/Stop Mode Screen

Current Mode states the present mode of the PLC. New Mode will change to reflect the last button the user pressed from four mode options.

R.ENB will change the new mode to Run Mode, I/O enabled.

R.DIS (only available for certain PLC models) will change the new mode to Run Mode, I/O disabled.

S.DIS will change the new mode to Stop Mode, I/O disabled.

S.ENB will change the new mode to Stop Mode, I/O enabled.

UPDAT is only available if write permissions have been set in the PC Configuration tool. Pressing update will attempt to change the current mode to the new mode selected. If the PLC is password protected, the user will be prompted for a Level 2 SNP password. Successful operation is marked by the current mode changing to the new setting.

EXIT returns to the PLC or I/O Fault screen.

Chapter 7 Specifications

Hardware Specifications

Display

Text can be displayed in a variety of sizes by changing the height and width of the text. The default size is displayed with a height and width of 1 x 1 (see table below for pixel relationships). This can be increased so that text of 4 x 4 size can be configured. The top line of the display is reserved for system use and displays the date, time, and any communications errors. The bottom line can be configured to display descriptive text for the function keys. The display area and display characteristics of the models in the Datapanel 1000 Range are specified in Table 7-1.

Table 7-1. Display Area and Characteristics

Features	1000 Range
LCD Display Size (pixels)	640x480
mm (in.)	211.2x158.4 mm (8.31 x 6.24 in.)
Display capability with minimum text size	80 char, 29 lines
Minimum Text Size (pixels)	8w x 16h

Touch Models

Some models in the Datapanel 1000 Range use an infrared touch system which provides 60 columns and 80 rows. Other Datapanel 1000 Range models use an analog resistive touch membrane with a resolution of 1024 x 1024 touch regions. This membrane is overlaid on the display area.

Backlight

The backlight type is CCFT. The backlight of the display can be switched ON or OFF on all models in the Datapanel 1000 Range. Operation of the backlight is defined during configuration by the configuration software. In addition, the operator can control the backlight using the Display Control screen of the Mode Menu, which has touchable function key labels for on/off, etc.

Keypad

Datapanel Model 1065 incorporates built-in membrane keypads with audible feedback as described in Table 7-2. In addition, the keypad contains four keys that are inactive on these models: Home, End, S1, and S2. The keys can be relegend. Refer to detailed instruction supplied separately with the Datapanel.

Table 7-2. Keypad Characteristics

Features	Model 1065
Function Keys	24
Data Entry and Navigation	28

Technical Specifications

The technical specifications are given in Table 7-3.

Table 7-3. Technical Specifications

Features	Datapanel 1000 range
Processor	80386SX-40MHz
Memory, Flash	512KB Flash
Memory, SRAM or DRAM	1 Meg DRAM (up to 8 MB)
Database Size	131k; 204k for expanded units
Serial Ports	2 RS232 (1 on IR models)
Additional Ports	Parallel, Keyboard, Ext. Floppy Disk Drive

Electrical Specification

Power Requirements

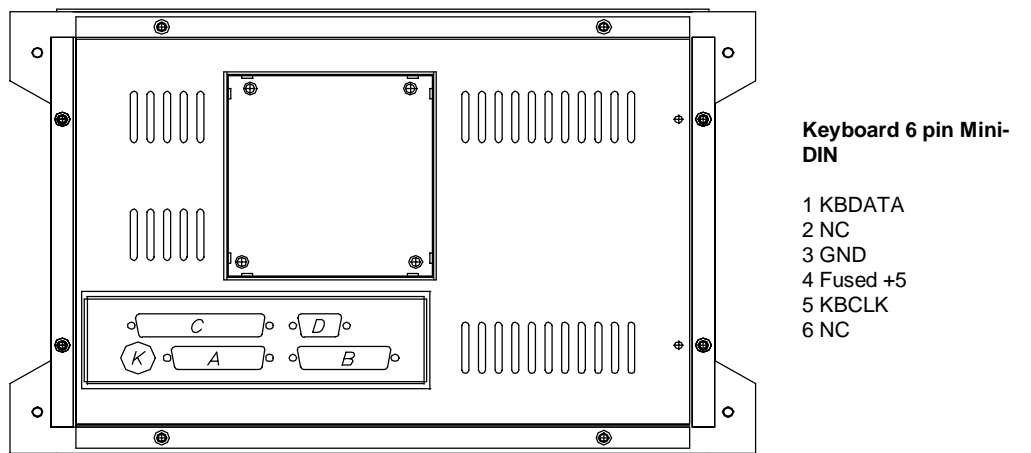
The power requirements are given in Table 7-4. The steady state current consumption of the Datapanel is dependent on the supply voltage.

Table 7-4. Power Requirements

Model	Input Power
1060 1062 (except for IC752SPL106) 1065	90-250 VAC)

Ports and Pinouts

Ports and Pinouts for the Datapanel 1000 Range are given in Figure 7-1.



*K - Keyboard A - Parallel Port (Printer)
B - Com1 (RS232) C - Floppy Drive Port
D - Com2 (RS232) Not Available on IR versions.*

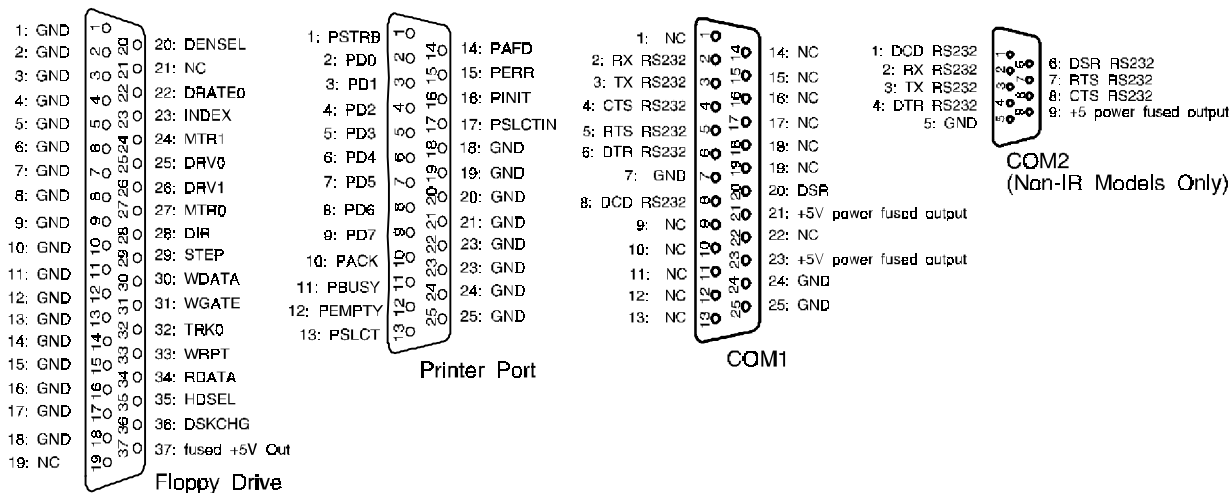


Figure 7-1. Datapanel 1000 Range Ports and Pinouts

Caution

The floppy port is a non-standard port that only works with the IC752FPY001 Floppy Drive accessory. Use of a standard floppy drive and cable could result in damage to the display and/or floppy drive.

Data Retention

No battery backup is provided. Two flash chips (512 and 128 kbytes) are used to provide non-volatile memory retention. The 128 kbyte chip is used for Boot.

Real-Time Clock

Real-time clock is standard on Datapanel 1000 Range models.

Environmental Conformity

Datapanel 1000 Range models conform to the following environmental standards: 4/12, UL, CUL, CE, IP65. In addition, all models in the Datapanel 1000 Range are designed to satisfy the requirements and conditions of the following specifications. All units in the Datapanel Range remained operational when tested for temperature, humidity and vibration to the specifications shown in Table 7-5.

Table 7-5. Test Specifications

	All Models
Temperature	Operating Temp. 0 to +40 °C, Storage Temp. -20 to +60°C
Humidity	5 to 85 % non – condensing
Vibration	0.012 inch peak for 10 to 57 Hz, 2 G from 57 to 500 Hz

Networking with Datapanel

Using an external RS-232 to RS-485 line converter, Datapanel can be configured to network to a number of controllers on an RS-485 network, providing only one Datapanel is acting as communication master on the network. More than one Master on a network cannot be used. The controller must also be operating on the network.

PC104 Capability

Datapanel in the 1000 Range have PC104 capability. Current network protocols available in PC104 form include Genius and Profibus.

Appendix *Error Codes*

A

Standard Comms Error Codes

101	Timeout
102	Checksum Received Error
103	Bad Character Received Format Error
104	Bad Message Framing Error
105	Bad Message Format Received
106	NAK Response Received
107	Comms Block Format Error
108	Invalid Command

System Error Codes

29	.More than 8 page-activated comms blocks activated by the page.
120	Tag Conversion error - unreasonable limits configured in an Analog Tag Record.
121	No Comms File.
122	No Comms Blocks.
123	Invalid Comms Block Time base.
124	Invalid Comms Block Type.

Controller Errors

If any errors are displayed which are not listed in the above tables, please refer to the protocol online help in the configuration tool.

ACK	See Acknowledgment.
Acknowledgment	The action taken by the user to indicate the acceptance of the information presented by the system.
Alarm	An abnormal situation detected by the system, e.g., the violation of predefined limits by an input variable from the plant.
Alarm Limits	Limits set at the time the Datapanel was configured.
Alphanumeric	Alphabetic and numeric characters only.
Alphanumeric Display	A display of alphabetic and numeric characters only.
Analog	The characteristic of being able to take on any of a continuously variable range of values.
Analog Tag	An identifying name for an analog variable. See also Tag.
Analog Variable	A term used to describe a 16-bit integer, 32-bit integer, or floating-point number which may take many values.
ANSI	A character set optimized for the support of the French, German and Scandinavian characters.
Application Program	A user-defined program written to perform specific actions in addition to the system software functions.
Area Coloring	The coloring of a defined display area with a defined color.
ASCII	American Standard for Computer Information Interchange. Defines what numeric codes are used to represent numbers, punctuation and letters of the alphabet.
Attributes	The characteristics assigned to a graphic element such as: Blink, Position, Color.
Background Color	That part of the display that appears not to change as contrasted with a bar graph which changes with the value of the displayed parameter.
Backup	To copy and store data as a precaution against loss or damage. Also, the copy so created.
Bar Graph	A filled rectangular area whose height or horizontal length changes in proportion to a variable.
Baud, Baud Rate	User-configurable rates at which communication takes place between the system and the controller.
Bit	A binary digit having a value of 0 or 1. An area of memory dedicated to storing a binary value.
Bit Table	An area of memory dedicated to storing multiple bits.
Bitmap	A file that stores a graphic image in terms of bits. These bits are mapped to the screen to create the image.
Blinking	The effect created on a portion of a graphic which will allow it to change between two defined states at a specific rate.

Boot	
Browse	Scanning data in order to locate a required item.
Byte	A group of 8 consecutive bits.
Commands	Information sent from the Datapanel to the controller to control or modify the plant process.
Comms Block	See Communications Block.
Communications Block (Comms Block)	A group of user configured information describing a particular communications operation between the Datapanel and the controller.
Communications Protocol	The “language” to be used when the system communicates with a controller. It contains the rules used to establish contact, receive/transmit data, detect transmission errors, etc.
Configure	To set up the display system in accordance with the needs of a particular user. This includes user-specific displays, alarm criteria, etc.
Contiguous	A group of items stored in adjacent locations.
Controller	An industrial device that handles the Input/Output of plant voltages and signals, e.g., a Programmable Logic Controller.
Data	Information relating to the operation of the plant process.
Database	A structured set of data. In the Datapanel, databases are configured to customize the product to satisfy the needs of the user.
Datapanel	A self-contained, solid-state industrial display system incorporating its own display screen and keypad.
Datapanel Address	The Datapanel Register or Bit Table address to or from which data is to be transferred.
Digital	The characteristic of being able to take on only one of two possible states or conditions.
Digital Tag	An identifying name for a digital variable. See also Tag.
Download	Transmitting data from the configuration tool to the Datapanel.
Drive Out	The capability of the Datapanel which allows it to send information to the controller.
Drop-Down	A menu or list which appears in Windows upon selection of a menu item.
Dynamic	Any data element (tag value, graphic item, etc.) that can have changing values.
Firmware	Software (database, applications) stored in non-volatile memory, e.g., EPROM.
F-Key	See Function Key.
Flash memory	See Firmware.
Function Key	A key on a keyboard or keypad whose function is determined by software and may vary depending on the state of the software. Current definitions of the Datapanel function keys are displayed on the screen.
HMI (Human-Machine Interface)	Device enabling the two way transfer of data between a human and machine.
Host	Device on which the controlling software is resident.
I/O	See Input/Output.
Import	The ability to transfer configuration information into the Datapanel configuration tool from another application like a spread sheet.
Input/Output	A general expression for the input and output of binary data to or from a device. model.
Keyboard	A collection of physical keys used by the user to communicate with the computer system.
Keypad	An operator keyboard with a reduced number of keys, e.g., numeric and/or function keys.
LED	Light Emitting Diode. Typically used as a status indication light.

Macro	A collection of instructions or program statements which can be activated collectively.
Master	The device controlling network communications.
Membrane	A continuous film intended to protect a device from the ingress of dust or liquid.
Mimic	A display which factually represents the plant. It provides the status of each displayed plant item. Mimics may be shown on monitors or wall displays.
Mini-Alarm Log	One of the Alarm area displays available when using the Datapanel. This display is found on all the Run Mode displays in the upper part of the screen.
NEMA	National Electrical Manufacturers Association. A group which sets American standards for enclosures which protect electronic equipment from the adverse affects of liquids, ingress of dust and physical shocks. Also, the standard created.
Network	An interconnected group of communicating devices.
Off-line	A condition where run time operations are suspended, so that system settings can be changed.
On-line	The system is communicating to external devices with dynamic data being updated.
Operator	The person who uses the system for its practical purpose such as to interface with the plant process. Not necessarily the one who configured the system. See also User.
Overview Group	A set of tags configured to be displayed together.
Page	One of 200 (1000 in expanded versions of models 1060 and 1062) user configurable displays on the Datapanel.
Parallel	A data transfer mechanism using multiple transfer paths.
Parameter	A value set when the system is configured.
Parity	The means of checking the validity of a data character.
Password	A code used to show the authority of the user to gain access to various sensitive features of the system. For example, changes to the display design would normally be password-protected to guard against changes by unauthorized users.
PC	IBM Personal Computer or any computer generically similar.
Pixel	The smallest picture element of a display surface that can be independently assigned a color or intensity.
Plant Process	A series of actions or treatments designed to produce a desired end under the control or monitoring of a PLC or other intelligent controller.
PLC	Programmable Logic Controller.
Process	See Plant Process.
Process Variable	A variable parameter of the production process.
Programmable Logic Controller	An industrial device that handles the Input/Output of plant voltages and signals.
Protocol	The format, structure and procedure required to communicate with a controller.
RAM	Random Access Memory.
Ramp Drive-out	Pre-configured analog drive-out (Tag/Register) with a specific increment/decrement value.
Raw Data	Data read from the controller before being scaled into engineering values.
Real-Time Data	Current data.
Register	An internal memory location used for storing 16-bit representation of analog data in the Datapanel or controller.
Remote Address	The register or bit table address in the controller to or from which data is to be transferred.
Run Time	The operating state of the system. See also On-line.
Scaled Data	Raw data whose value has been modified to conform to prescribed engineering units.
Serial	A data transfer mechanism using a single transfer path.
Slave	The device which responds to a master over a network.

System Register	Same as any other register (see Register) but reserved for use by the system and cannot be modified by the user..
Tag	An analog or digital variable held in the Datapanel, usually representing an analog or digital variable in the controller. Includes additional information such as a name, size of the controller variable, scaling factors, alarm limits, etc.
Tag Record	An area of the database containing the information for a particular tag.
Tag Table	A group of Tag Values in the Datapanel.
Tag Value	The current value of the tag. This may be a scaled engineering value associated with the Tag Record.
Toggle	The action of inverting the value of a two-state item, such as a bit or a two-state digital tag.
Toolbar	A group of icons which provide easy access to other windows, menus or operations.
Touch Region	An area of the screen dimensionally defined to produce a program response when touched or pressed.
Trend	The graphical display of a variable in the form of a trace drawn with reference to X and Y coordinates.
Upload	Database transfer from Datapanel to WinCfg.
User	The person using WinCfg to configure a Datapanel. See also Operator.
WinCfg	A Windows-based tool for configuring Datapanel.

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