

900 Control Station (900CR Series) Specifications

51-52-03-102, May 2021



Introduction

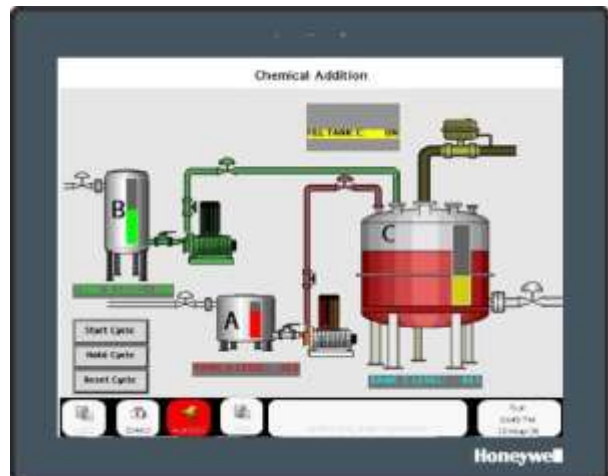
The New 900 Control Station (900CR series) operator interface from Honeywell compliments the ControlEdge HC900 Process & Safety Controller with a unique combination of predefined display features and custom display development tools to deliver ease of use and high flexibility in an efficient and affordable package. The color display and finger touch user interface enhances process monitoring while simplifying online controller changes. The Station Designer software used to configure the interface works in conjunction with the ControlEdge HC900 Controller configuration software to automatically build a Control Station database that exactly matches the unique, user configured, controller database. This highly integrated operation eliminates the time-consuming task of assigning controller communication register addresses to the operator interface parameters used to build displays. The standard database of the Control Station allows all available controller tags to be imported without restriction or costly price adders, eliminating the risk of running out of tag resources in the middle of your project.

The hardware of the 900 Control Station is designed to handle tough industrial environments with polycarbonate case design and water tight, type 4X/IP66, front bezel assembly. and active alarm status.

The new 900CR is the perfect solution for applications that require the operator to monitor and control more than just a single device. With up to four serial ports and two Ethernet ports, these HMI displays can connect to multiple serial and Ethernet devices simultaneously, including variable frequency drives, bar code scanners, etc.

The 900CR HMI performs the functions of a multiple protocol converter, using up to four high-speed serial communications ports and one or two 10/100 Base-TX Ethernet ports. The SD card slot can be used to collect your trending and datalogging information as well as load the unit's configuration file, allowing configuration changes to be made and saved to the card for later transfer.

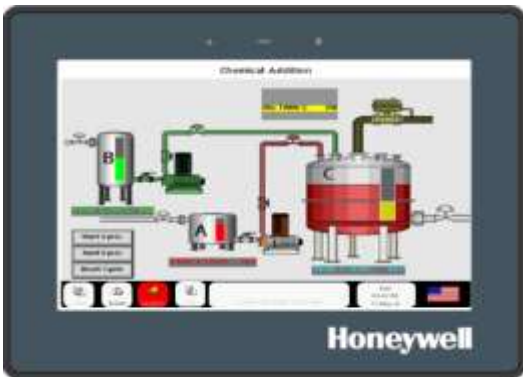
The 900 Control Station is available in 4-inch, 7-inch, 10-inch or 15-inch display size. All models are configured using Station Designer PC configuration software. Station Designer v3.1.7100 offers easy to use drag and drop communications configuration, while the embedded image library allows the programmer to create intuitive screens and prompts for the operator.



New 900 Control Station 15" model



New 900 Control Station 10" model



New 900 Control Station 7" model



New 900 Control Station 4" model

Connecting the 900CR to the HC900 controller can be via Ethernet using CAT 5 cable and RJ45 connectors or via RS485 serial communications. Ethernet is recommended for new installations while RS485 connections may be used with pre-existing ControlEdge HC900 controller installations. Two USB host ports and one USB device port are also provided to extend data export functions, automate data entry via bar code, transfer controller configurations and recipes and to support configuration upload/download and maintenance functions. A Flash memory socket is provided so that a Flash card can be used to collect your trending and data logging information, accept screen print files, as well as to store larger configuration files.

Models		
Model Number	900CR04-xx	4.3" Control Station
	900CR07-xx	7" Control Station
	900CR10-xx	10.4" Control Station
	900CR15-xx	15" Control Station

Note: The old phased-out Control Stations (900CS10-00/900CS15-00) will not support import of HC900 software configuration file (*.cde) v7.0 and above. For HC Designer v7.0 and above please migrate to new 900CR series Control Stations with Station Designer v3.1.7100 and above.

Highlights

- Hardened industrial platform may be mounted close to the process for greater operator efficiency.
- Configured using Station Designer 3.1.7100 software
- Three or four isolated serial communication ports, (2 RS-232 and 1 or 2 RS-422/485) - model dependent
- One USB device port to load the unit's configuration or transfer data to and from a PC
- SD card socket for loading database in the field
- Industrial TFT LCD color display
- NEMA 4X/IP66 front panel
- Three front panel LED indicators
- Power unit from 10-30 VDC supply
- Resistive analog touchscreen
- Station Designer configuration software automatically builds communication paths and completes parameter identifications
- Web access to view and manage your process from anywhere
- Large assortment of prebuilt displays, display widgets and tag binding feature
- Fully manage ControlEdge HC900 controller function blocks such as PID, setpoint programmers, etc.
- Integrate ControlEdge HC900 controller alarms/events or build them into the interface
- Prebuilt recipe management functions

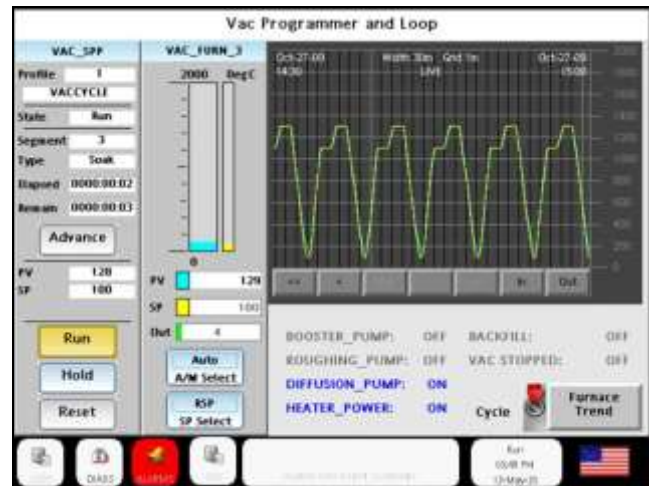
- Create custom displays using the graphic editing tools of Station Designer software
- Build custom displays using a large assortment of prebuilt industrial graphic objects (valves, tanks, vessels etc.)
- Extend interface functions with robust scripting functions (if-then-else)
- Prebuilt display navigation features and pre-assigned function buttons to get on-line quickly
- Improve status monitoring and system troubleshooting with more than 70 standard controller screens - (no setup required)
- Maintain records of process performance with flexible data logging and trending
- Math and Scripting for your more demanding applications
- Multiple languages for global applications
- Generate batch reports to track the processing of production lots
- Transfer controller configurations and recipes via portable USB memory
- Visually track programmed setpoint status with a unique Ramp/Soak profile display
- Transfer user security profiles from station to station via portable USB memory
- Pre-built summary displays to monitor controller I/O and signals
- Verify action before operate touch screen function

Controller Displays

Controller status displays are a standard feature of the 900 Control Station and may be used to verify controller setup parameters and/or troubleshoot controller diagnostics. Accessed via the main menu key, these displays require no pre-configuration and become available when a database is downloaded and an operator interface is connected to a controller. Examples of status displays include controller Ethernet port setup, local and expansion rack diagnostics, host communications connections, peer connections, redundant system status, Modbus slave status, I/O status and others.

Operate Displays

Displays used by the operator are developed by selecting from a predefined list of displays, creating custom displays with function block widgets (predefined graphic objects designed to interface with ControlEdge HC900 function blocks) or ground up custom development using a combination of drawing tools, predefined graphic objects, imported graphic objects, action and navigation buttons. The quantity of displays supported is not artificially limited. Typical uses can have 50 or more user defined displays, depending on complexity.



A Check-Before-Operate prompt may be added to any touch screen action to request verification of the selected action before it is executed. This verification is useful in preventing inadvertent actuations of touch screen features during process operation.

Languages

The 900 Control Station supports multiple languages that may be switched directly from the station's operating displays. With Station Designer software, the user may include English, German, French, Spanish and Italian from the languages that are included with the software, or other languages may be added by expanding its lexicon library. The software also supports accessing the translation libraries of Microsoft® and/or Google® for any un-translated text strings used in the product during configuration.

Alarm/Events

Alarms and Events in the 900 Control Station are an integral part of the setup of analog and digital signal tags in the interface. Two alarms or events per signal tag are standard and additional levels may be added when needed. Alarms and Events configured in the ControlEdge HC900 using Controller Designer software are also accommodated in the station. Automatic or manual acknowledgement, delay action, and emailing of alarm status are standard user selections. Alarm detections may be on a high value condition, low value condition, deviation above or below a setpoint, value within a band, value equal to a setpoint, value not equal a setpoint, raising value, falling value or changing value. ControlEdge HC900 controller alarms may be presented in groups as defined in the controller or they may be fully integrated with the station alarms without grouping.

Active alarm notification is provided with an indicator button that is present on all user displays. Pressing the button allows viewing alarm groups or viewing alarm detail, including time of occurrence, and allow for user acknowledgement when the option is enabled. A selectable pulsing display action is also available to call an operator’s attention to a high priority alarm condition.

Events configured in the controller or assigning event action to digital signals in the station causes the event description data to be annunciated in the display tray of the interface. This feature allows for prompting operators to perform specific tasks when action is needed.

An Alarm and Event Summary display is provided to indicate the time and sequence in which alarms and events occurred, when they were acknowledged and when the alarm condition cleared. The active event message may also be cleared from the display tray from this display.

Alarm and Event Summary			
10:14:58	15/04/2009	Accept	Vacuum Furnace High Alarm
10:14:52	15/04/2009	Accept	Vacuum Furnace Hi Hi Alarm
10:07:55	15/04/2009	Alarm	Vacuum Furnace Hi Hi Alarm
10:07:48	15/04/2009	Alarm	Vacuum Furnace High Alarm
14:15:05	14/04/2009	Event	End of Cycle - Unload Furnace - Turn Off Power
13:57:48	14/04/2009	Event	End of Cycle - Unload Furnace - Turn Off Power



SOE

Sequence of Events (SOE) in the 900 Control Station are an integral part of the setup digital signal tags in the interface. SOE configured in the ControlEdge HC900 using Controller Designer software are also accommodated in the station.

ControlEdge HC900 controller SOE events will be presented in SOE Event Summary page. SOE Event Summary display is provided to indicate the time stamp and sequence in which SOE occurred.

No.	Date and Time	Location Tag	Source	Description	Condition	State
0001	03/26/18 15:53:21:4638	CONTROLLER	SIG4	SIG4	SoeEvt	OFF
0002	03/26/18 15:53:21:4396	CONTROLLER	SIG3	SIG3	SoeEvt	OFF
0003	03/26/18 15:53:21:4194	CONTROLLER	SIG2	SIG2	SoeEvt	OFF
0004	03/26/18 15:53:21:3912	CONTROLLER	SIG1	SIG1	SoeEvt	OFF
0005	03/26/18 15:53:18:7666	CONTROLLER	SIG4	SIG4	SoeEvt	ON
0006	03/26/18 15:53:18:7338	CONTROLLER	SIG3	SIG3	SoeEvt	ON
0007	03/26/18 15:53:18:7056	CONTROLLER	SIG2	SIG2	SoeEvt	ON
0008	03/26/18 15:53:18:6738	CONTROLLER	SIG1	SIG1	SoeEvt	ON

PgUp PgDn Prev Next

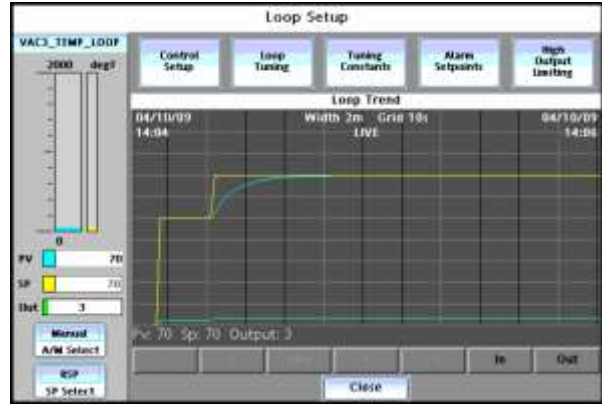
Standard Displays

Standard displays are provided to allow the 900 Control Station to read and present ControlEdge HC900 controller setup parameters, monitor controller performance, view communications status of the various controller communication ports, perform I/O calibrations, diagnose problems and more. See the following examples.

In addition to detailed controller displays, several graphic display templates, interactive function block graphic widgets and predefined navigation buttons and tools are provided to accelerate interface setup and configuration. See the following examples.



Example of Standard display



Example of Loop tuning trend



Example of Standard display

SPP1

Profile

PROF_001

State

Segment

Type

Elapsed

Remain

PV

SP

SPEU01

MY_HOA_BLOCK_001

RUNNING

Hand

Example of Setpoint Programmer and HOA Block widgets



Example of Standard display

Station Designer Software makes available more than 70 standard displays for controller operation, status and maintenance, including display widgets to allow users to quickly build semi-custom displays for interaction with the controller's principle function blocks. Recipe selection of setpoint profiles, setpoint schedules, sequences and variables stored in the controller is also supported.

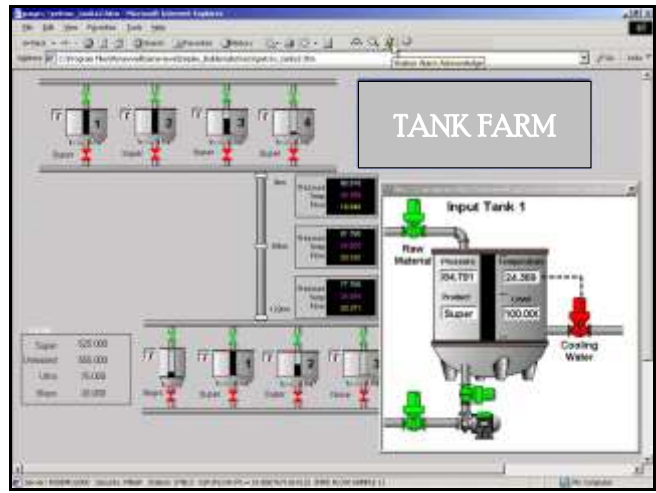
Setpoint Programmer Pre-plot Display

This unique display supports graphically viewing the entire Ramp/Soak profile of a setpoint programmer function block on a single trend object. Prior to starting the setpoint programmer the operator can view the profile the setpoint will follow during the operation of the setpoint programmer function block. Once the program is started, the actual setpoint value is highlighted on the trend profile, as well as the process variable under control. A touch button on the display provides access to a similar display for the Auxiliary Setpoint value, which dynamically tracks the auxiliary setpoint and its associated process variable under control. The display also includes the on/off status of the 16 setpoint programmer event outputs and provides touch buttons to start, hold, advance and reset the program.



Custom Displays

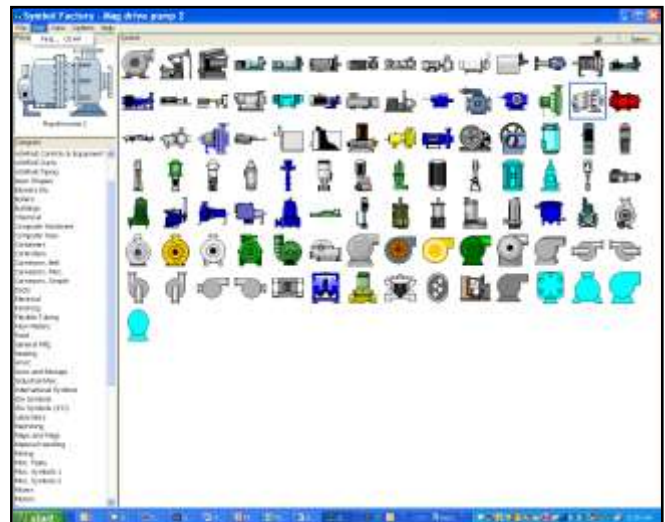
In addition to standard displays, the 900 Control Station supports a full array of custom graphic displays that may be created using objects drawn with basic drawing tools, an assortment of object primitives, pre-defined widgets matching controller functions, graphic symbols selected from an extensive assortment of objects in the standard image library and/or imported JPEG, bitmap or WMF files. Visibility controls allow the user to hide or make objects visible as determined by the state or value of a parameter in the controller or station. Animation is supported to add movement and dynamic features to custom displays to improve operator visibility.



Example of custom display

Symbol Library

The 900 Station Designer Software contains over 4000 industrial graphic objects in over 60 different categories to provide realistic graphic images for your application. Detailed images of various types of pumps, valves, tanks may be overlaid one on top of another and have actions assigned. Animation is supported with objects moving within a specified display field. Graphic images of Motors, blowers, pumps and other process equipment make creating accurate process views a fast and easy operation. Images support color selection, may be sized, oriented on the display and inserted in a predefined animation area having multiple positions linked to values in the database.



Symbol library

Recipes

The 900 Control Station provides standard displays to allow operators to select from the recipes stored in the internal memory of the ControlEdge HC900 controller for fast and easy product changeover.

Recipes may be, a setpoint profile used with the setpoint programmer function block, setpoint schedules, or sequences used with the Sequencer function block or Variable recipes with of up to 50 Variables each. Recipes of the specific type are selected from a list, by name, from a list read from the controller. Recipes are created using Designer Software or Utilities Software and are stored in the ControlEdge HC900 controller. Recipes added to the ControlEdge HC900 controller after the database import operation during operator interface configuration will also be accessible from the Control Station recipe list.

Data Logging

The 900 Control Station will log tagged data at user-specified rates and automatically apply a time/date stamp. The information is stored in CSV (Comma-Separated Variable) file format, allowing easy access from almost any PC application program, such as Microsoft Excel®. Data logs may be stored in volatile RAM memory for short term, non-critical data viewing or they may be stored on more secure archiving media such as Flash memory module or USB memory modules. The number of concurrent log files supported is dependent on the available storage memory, data sample rates and file size allocations.

Data logging is stored to a Flash memory module in the industry standard CSV format. The number of data logs in the Station and the number of controller tags in a Log file are not limited. Before data is sent to the Flash module, it is held in a History Buffer in RAM memory where it may be viewed as short term history using a Trend Viewer object.

The validity of stored data may be secured by the addition of cryptographic signatures on the samples of stored data. The signature is a unique 32-bit value that is included with the data samples, adding one more parameter to the log record. The signature value is derived using an algorithm that uniquely identifies the values within a dataset, similar to a checksum on a software program. Changing any value within the dataset causes a signature mismatch between the data and the signature. A utility application is provided with Station Designer software to allow users to validate if a CSV file has been altered or not. Any value that is changed will invalidate all records in the file following the changed value.

1	➔	😊	Date,Time,Pv,Sp,TC1,TC2,TC3,Signature
2		😊	2009/03/23,19:00:00,965,985,949,930,912
3		😊	2009/03/23,19:00:06,1006,1026,989,970,952
4		😊	2009/03/23,19:00:12,1046,1066,1030,1011,992
5		😊	2009/03/23,19:00:18,1087,1107,1070,1051,1032
6		😊	2009/03/23,19:00:24,1127,1147,1111,1091,1072
7		😊	2009/03/23,19:00:30,1164,1184,1148,1128,1109
8		😞	2009/03/23,19:00:36,1195,1200,1177,1158,1140

Data Validated via Signatures

1		😊	Date,Time,Pv,Sp,TC1,TC2,TC3,Signature
2		😊	2009/03/23,19:00:00,965,985,949,930,912
3	➔	😞	2009/03/23,19:00:06,1006,1026,989,970,952
4		😞	2009/03/23,19:00:12,1046,1066,1030,1011,992
5		😞	2009/03/23,19:00:18,1087,1107,1070,1051,1032
6		😞	2009/03/23,19:00:24,1127,1147,1111,1091,1072

Altered Data Detected via Signatures

Concurrent Batch Reports

Up to 8 batch reports may be established and run concurrently in the 900 Control Station. Each report contains a header area with up to 8 user defined parameters to identify the batch. Digital signals from the controller start and stop the batch. Data may include analog signals gathered on a time schedule, alarms and events that are being monitored, and user entered comments.

	A	B	C	D	E	F	G	H
1	Date	Time	Type	PV	SP	PV	SP	
2	3/16/2010	13:32:07	Header	8 Character ID=GLASSLAM				
3	3/16/2010	13:32:07	Header	Product Code=GLASS LAMINATION				
4	3/16/2010	13:32:07	Header	Product Type=SAFETY GLASS				
5	3/16/2010	13:32:07	Header	Operator Name/No=WILLIAM SHATTER				
6	3/16/2010	13:32:07	Header	Equipment ID=AUTOCLAVE 1				
7	3/16/2010	13:32:07	Header	Recipe No=001				
8	3/16/2010	13:32:07	Header	Customer=HONEYWELL SECURITY				
9	3/16/2010	13:32:07	Header	Order No=PO TYG1239675DF6390W43701				
10	3/16/2010	13:46:05	Data	-10	0	0	100	
11	3/16/2010	13:46:10	Data	-10	0	10	100	
12	3/16/2010	13:46:15	Data	-10	0	26	100	
13	3/16/2010	13:46:20	Data	-10	0	42	100	
14	3/16/2010	13:46:25	Data	-10	0	55	100	
15	3/16/2010	13:46:30	Data	-10	0	66	100	
16	3/16/2010	13:46:35	Data	-10	0	74	100	

Sample Batch Report

Data Access

There are 6 methods available to access data stored on the Flash memory module.

1. Transfer data from Flash memory to a removable USB memory module.
2. Use the FTP server to allow remote clients to connect to the station and upload the log files.
3. Use a Synchronization Manager to push log files to an FTP server on a periodic basis.
4. Use a Web server to access log files over the station's Ethernet port using a Web browser such as Microsoft Internet Explorer.
5. Mount the flash memory module as a drive on a PC and allow logs to be copied via Windows® Explorer.
6. Access log files via the optional WIFI wireless interface.

Web Access

The 900 Control Station supports Web access to data and displays from remote locations.

CS Web Server	
Option	Description
View Data	Display a list showing available data pages.
View Batch Logs	Download batch files from the data logger.
View Continuous Logs	Download continuous files from the data logger.
Remote View	Display a view of the HMI's display and keyboard.

- The *Data Log Access* property is used to enable or disable Web access to the files created by the Data Logger.
- The *Remote Viewing* property is used to enable or disable a facility by which a Web browser can be used to view the current contents of a Control Station display.
- The *Remote Control* property is used to enable or disable an option by which the remote viewing facility is extended to allow a Web browser to be used to simulate the pressing of keys on the operator panel, thereby allowing remote control of the panel or the ControlEdge HC900 Controller it controls.
- The *Custom Site* property is used to enable or disable a facility by which files stored in the WEB directory of the Flash memory card are exposed via the Web server.
- The *Security* properties are used to restrict Web server access to hosts whose IP address matches the mask and data indicated.

- The *Authentication* properties are used to restrict access to any user connecting onto the Web server when Authenticated Users is selected. Upon connection, the user will be required to enter the Username and Password defined under Logon Username (Max 31 characters) and Logon Password (Max 15 characters). Both are case sensitive.

You may thus use the Control Station's custom site facility to create a completely custom Web site using your favorite third-party HTML editor, and—by inserting certain sequences and storing the resulting files on the station's flash memory card and expose this site using the station's Web server.

Bar Code Data Entry

The USB port supports keyboard and bar code reader inputs for entry of ASCII data into English text and numeric fields for items such as batch report header information, comment fields on displays or recipe selection.

Email Notification

Alarms that are configured in the station may be configured to send an email notification to specified addresses when the alarm is present. Event messaging is also supported to announce other events in the system. You can choose to email alarm messages to one person or to several people simultaneously. The Email server provides support for a device name to identify the source of email data and a name used for SMTP Authentication.

FTP Server

The 900 Control Station's FTP server provides a method to exchange files between the station and a remote computer running an FTP client application. The station will act as a server, waiting for the client application to connect and upload or download files.

The FTP Server may be set to Disabled (restricting all remote access), Enabled for anonymous Read-only access, or anonymous read and write access.

Typical types of files exchanged via FTP include data log files of process performance history and print screen files generated using the print screen key of the station.

A log file is also available to track remote interactions via FTP with the flash memory module of the station, useful in debugging FTP operations.

Security

Station Designer contains powerful features that allow you to define which operators have access to which display pages, and limit those operators' ability to make changes to specific data using a user profile with password protected access and object based controls. The number of user profiles permitted is not limited.

When enabled by Station Designer, the station also provides a security logging facility that can be used to record changes to data values, indicating when the change occurred and by whom it was performed.

Web access security is also provided to limit remote user's access to control and edit functions and/or all remote access.

The security credentials setup for all operators within a Station may be exported to a USB memory device and loaded into another station to duplicate security access rights.

Math & Formulas

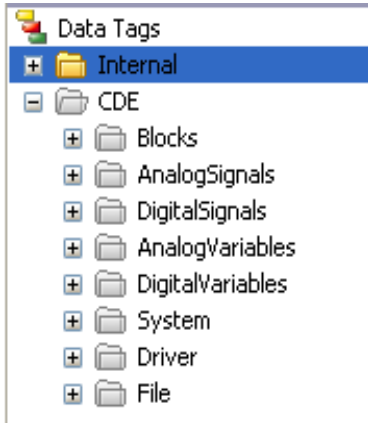
Values within the 900 Control Station may be the result of mathematical expressions created during configuration with Station Designer. Expressions may be performed using signal tag data and constants in Decimal, Binary, Octal or Hexadecimal format and operations performed using integer or floating point math. Expressions may also include comparisons (comparing one value to another) with operator (<, >, =, etc.) to generate a 0 (false) or 1 (true) output value.

Programs

When actions become too complex to fit on a single line of an expression, or they demand more complex decision making logic, Station Designer provides a facility to create and manipulate user developed programs. If, then, else decision statements, switch statements, loop and while loop constructs, do loop statements and other instructions are available for users to develop their own custom programs. User programs may be set to run when referenced or be scheduled to run in the background.

Database Import

ControlEdge HC900 Controller configuration files created with ControlEdge HC900 Control Designer software may be imported into Station Designer to automatically construct a station database that exactly matches the controller's configuration.



A database mismatch between the controller's database and the station's database is automatically detected when the station is communicating with the controller, eliminating any possibility of erroneous data exchanges.

Transporting Controller Configurations and Recipes

ControlEdge HC900 controller configuration files and recipe files developed using Process Control Designer software or Process Control Utilities software may be placed on a USB memory device and transferred to the controller using pre-built displays in the station. Controller configurations and 900 Control Station configuration images may also be copied from the controller or station onto a USB device for performing maintenance, record keeping or transferring from one system to another.

Database Capacity

900 Control Stations support up to 30,568 signal tags in a user's configuration database. Each internal or controller designated tag assigned by the user consumes one of these tags. In addition, each function block imported from a controller's database (.cde file) will consume a quantity of signal tags. The table below indicates the number of tags consumed by each instance of a function block, by type, in a user's controller configuration.

Block Type	Tags
AGA - Details	81
AGA - Gross	38
Alternator	125
Calendar Event	440
Device Control	10
Four Selector Switch	8
HOA (Hand Off Auto) Switch	6
AMB Loop	25
CARBON Loop	76
ONOFF Loop	36
PID Loop	70
TPSC Loop	55
PPO	15
Pushbutton - Analog	6
Pushbutton - Digital	6
Ramp	37
Sequencer	83
Setpoint Programmer	67
Setpoint Scheduler	148
Stage	49
XYR5000 Base	3
XYR5000 Transmitter	21
XYR6000 Transmitter	30
Analog Signal	5
Analog Variable	3
Digital Signal	2
Digital Variable	2

Specifications – apply to all models unless noted**CONTENTS OF PACKAGE**

- 900CR Control Station Operator Interface
- Hardware packet and plate for mounting unit into panel
- Terminal block for connecting power
- Panel gasket

SAFETY SUMMARY

All safety related regulations, local codes and instructions that appear in the manual or on equipment must be observed to ensure personal safety and to prevent damage to either the instrument or equipment connected to it. If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Do not use the unit to directly command motors, valves, or other actuators not equipped with safeguards. To do so can be potentially harmful to persons or equipment in the event of a fault to the unit.



CAUTION: Risk of Danger.
Read complete instructions prior to installation and operation of the unit.



WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR AREA IS KNOWN TO BE NON-HAZARDOUS.



WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.

SPECIFICATIONS

POWER:

Must use a Class 2 circuit according to Nation Electrical Code (NEC), NFPA-70 or Canadian Electrical Code (CEC), Part I, C22.1 or a Limited Power Supply (LPS) according to IEC/EN 60950-1 or Limited-energy circuit according to IEC/EN 61010-1.

Power connection via removable three position terminal block.

Supply Voltage: 10 to 30 VDC, Class 2 source.

MODEL	4.3-INCH				7-INCH				10.4-INCH				15-INCH			
Input Voltage (Volts)	10V	12V	24V	30V	10V	12V	24V	30V	10V	12V	24V	30V	10V	12V	24V	30V
Typ. Power HMI only (Watts)	5.5	6.0	6.0	6.0	9.0	9.0	9.0	9.0	12.5	12.0	12.0	12.5	18.0	17.5	17.5	17.5
Max Power HMI only (Watts)	7.0	7.5	7.5	7.5	12.5	12.0	12.5	12.5	16.5	16.0	16.0	16.5	23.0	22.0	21.5	22.0
Max Power HMI w/Module (W)	12.0	13.0	13.0	13.0	17.5	17.5	18.0	18.0	21.0	21.0	21.5	22.0	28.0	27.5	27.0	27.5

BATTERY: Lithium coin cell. Typical lifetime of 5 years, nominal.

To maintain UL rating, replacement battery must be: Red Lion CRA000 BT3V0 00000, Rayovac BR1225X-BA or Panasonic BR1225A/BN.

LCD DISPLAY:

MODEL	4.3-INCH	7-INCH	10.4-INCH	15-INCH
TYPE	TFT	TFT	TFT	TFT
COLORS	16M	16M	16M	16M
PIXELS	480 x 272	800 X 480	800 X 600	1024 X 768
BRIGHTNESS	500 cd/m ²	430 cd/m ²	400 cd/m ²	350 cd/m ²
BACKLIGHT TYPE	LED	LED	LED	LED
BACKLIGHT LIFE	30K HR TYP.	50K HR TYP.	50K HR TYP.	50K HR TYP.

TOUCHSCREEN: Four-wire resistive analog

MEMORY:

On Board User Memory: 512 Mbyte of non-volatile Flash memory.

Memory Card: SD slot accepts standard capacity cards.

COMMUNICATION CAPABILITIES:

USB Device Port: Isolated and adheres to USB specification 2.0 full speed only using Type B connection.
USB DEVICE PORT IS FOR SYSTEM SET-UP AND DIAGNOSTICS AND IS NOT INTENDED FOR PERMANENT CONNECTION.

USB Host Ports: Comply with Universal Serial Bus Specification Rev 2.0. Support data transfers at (high speed, full speed).
Hardware over current protected (0.5 A max per port).

Serial Ports (2): Ports are individually isolated. Format and Baud Rates for each port are individually software programmable up to 115,200 baud.
Port to Port Isolation: 1500 Vrms for 1 minute.
Signal Isolation: 500 V.

Ethernet Port: 10 BASE-T / 100 BASE-TX
RJ45 jack is wired as a NIC (Network Interface Card).
Isolation from Ethernet network to operator interface: 1500 Vrms

ENVIRONMENTAL CONDITIONS:

Operating Temperature Range: -10 to 50 °C
Storage Temperature Range: -20 to 70 °C
Vibration to IEC 68-2-6: Operational 5-500 Hz, 2 g
Shock to IEC 68-2-27: Operational 30 g
Operating and Storage Humidity: 0 to 85% max. RH non-condensing
Altitude: Up to 2000 meters
Installation Category II, Pollution Degree 2 as defined in IEC/EN 60664-1

CERTIFICATIONS AND COMPLIANCES:

CE Approved
EN 61326-1 Immunity to Industrial Locations
Emission CISPR 11 Class A
IEC/EN 61010-1
RoHS Compliant
UL Hazardous: Class 1, Division 2, Groups A, B, C and D; File #E317425
Type 4X Indoor / IP66 Enclosure rating (Face only)

CONNECTIONS: High compression cage-clamp terminal block
Wire Strip Length: 0.3" (7.5 mm)
Wire Gauge Capacity: 12 to 24 AWG (3.31 to 0.20 mm²) copper wire
Torque: 4.4-5.3 inch-lbs (0.5-0.6 N-m)

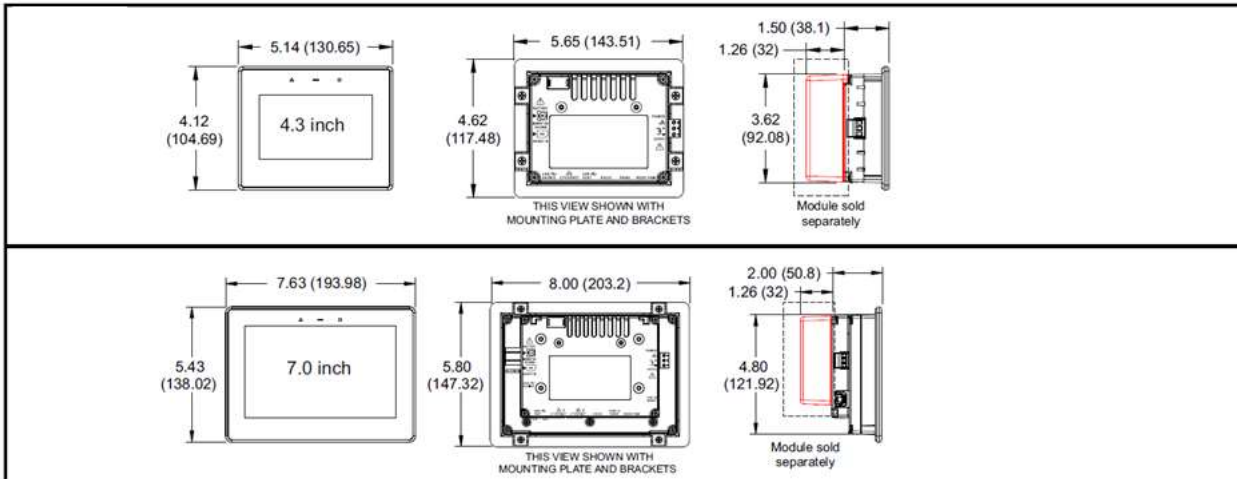
CONSTRUCTION: Polycarbonate enclosure with Type 4X/IP66 rating when correctly fitted per the mounting instructions provided.
Protection against mechanical impact up to 5 Joule, IK08 per IEC 62262.

MOUNTING REQUIREMENTS: Maximum panel thickness is 0.25" (6.35 mm) with included stiffener plate, or 0.375" (9.53 mm) without plate. For NEMA 4X / IP66 sealing, the stiffener plate and a panel with a minimum thickness of 0.06" (1.52 mm) is recommended.
Mounting Screw Torque: **CAUTION: DO NOT OVERTIGHTEN CLAMPS**
4", 7" and 10": 4.0 lbf-in (0.45 Nm).
15": 2.0 lbf-in (0.23 Nm).

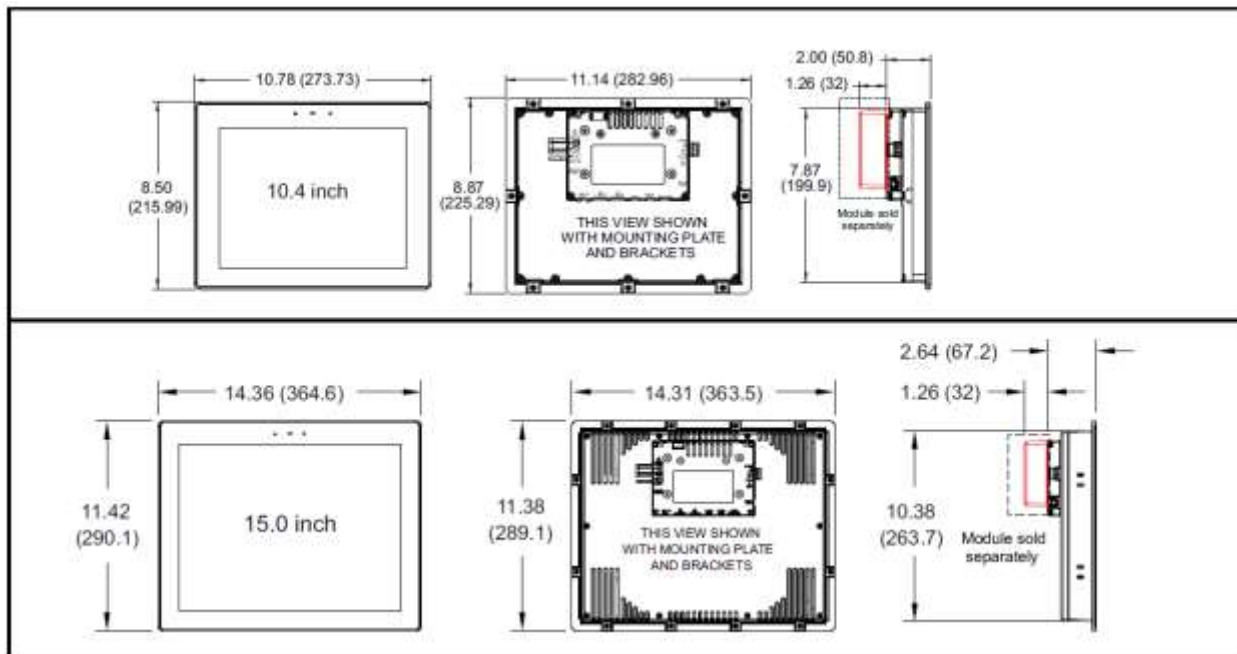
WEIGHT: Unit weight with stiffener plate and clips
900CR04-xx : 1.00 lb (454 g)
900CR07-xx : 2.01 lb (913 g)
900CR10-xx : 3.16 lb (1.435 Kg)
900CR15-xx : 5.84 lb (2.649 Kg)

Dimensions

900CR04-xx / 900CR07-xx



900CR10-xx / 900CR15-xx



Sales and Service

For application assistance, current specifications, pricing, or name of the nearest Authorized Distributor, contact one of the offices below.

ASIA PACIFIC

Honeywell Process Solutions,
(TAC) hfs-tac-support@honeywell.com

Australia

Honeywell Limited
Phone: +(61) 7-3846 1255
FAX: +(61) 7-3840 6481
Toll Free 1300-36-39-36
Toll Free Fax:
1300-36-04-70

China – PRC - Shanghai

Honeywell China Inc.
Phone: (86-21) 5257-4568
Fax: (86-21) 6237-2826

Singapore

Honeywell Pte Ltd.
Phone: +(65) 6580 3278
Fax: +(65) 6445-3033

South Korea

Honeywell Korea Co Ltd
Phone: +(822) 799 6114
Fax: +(822) 792 9015

EMEA

Honeywell Process Solutions,
Phone: + 80012026455 or
+44 (0)1344 656000

Email: (Sales)

FP-Sales-Apps@Honeywell.com

or

(TAC)

hfs-tac-support@honeywell.com

AMERICA'S

Honeywell Process Solutions,
Phone: (TAC) 1-800-423-9883 or
215/641-3610
(Sales) 1-800-343-0228

Email: (Sales)

FP-Sales-Apps@Honeywell.com

or

(TAC)

hfs-tac-support@honeywell.com

Specifications are subject to change without notice.

For more information

To learn more about ControlEdge HC900
Controller, visit www.honeywellprocess.com
Or contact your Honeywell Account Manager

Process Solutions

Honeywell

1250 W Sam Houston Pkwy S
Houston, TX 77042

Honeywell Control Systems Ltd
Honeywell House, Skimped Hill Lane
Bracknell, England, RG12 1EB

Shanghai City Centre, 100 Jungi Road
Shanghai, China 20061

www.honeywellprocess.com



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