Model 352PLUS™ Single Loop Digital Controller

Introduction

Features & Benefits

- Same I/O terminal configuration as the original Model 352 Single-Loop Controller supports direct plug-in replacement
- Use of the same hardware, firmware, and configuration as the Model 353 Process Automation Controller affords spare parts continuity and easy integration
- RS485 MODBUS network connection allows multidrop wiring for operation, monitoring, troubleshooting, or configuration from a system workstation
- Local Instrument Link (LIL) network option provides integration with existing systems and higher speed, peer-to-peer communication
- Configurable Console/Local operation for compatibility with existing LIL products
- LonWorks™ digital fieldbus provides flexible I/O expansion and reduced wiring costs for continuous and discrete variables
- Powerful Program Sequence function block when coupled with I/O provided by LonWorks fieldbus provides a powerful replacement for the Model 382 Logic & Sequence Controller
- Graphical configuration program provides a choice of function block or ladder logic configuration
- Configuration downloads directly from a PC through a port on the operator faceplate or over the Modbus or LIL network providing easy accessibility
- Password protection provides individual security for plant personnel
- Factory Configured Options (FCOs) library mimics existing Model 352 FCOs to reduce configuration time on replacement applications
- Coated circuit boards ensure reliable operation and environmental integrity
- Removable Real time Clock/Configuration Board (RTC/CB) option minimizes maintenance and complexity via a simple board replacement technique that stores a complete copy of the control strategy configuration

Description

The Model 352PLUS Single-Loop Digital Controller combines the case mounting and terminal configuration of the Model 352 Single-Loop Controller with the hardware design, firmware, and graphical configuration software of the Model 353 Process Automation Controller. This allows you to achieve the additional capabilities of the Model 353 without disrupting plant operations. To further minimize disruption, 352PLUS circuit boards can provide slide-in replacements with existing Model 352s. Moreover, terminals dedicated to the “No. 3 Input” can be used for various input/output options, including all of the “No. 3 Input” options available with the original Model 352, via a plug jumper arrangement.

Model 352 users will also have previously unavailable controller capabilities. These include the Modbus network as a standard option, PC configuration via the front port, and LonWorks fieldbus capability for additional I/O to support advanced control capabilities. The terminal layout and illustrations on the following page provide an overview of the Model 352PLUS terminals and how they map to the Model 353 I/O functions blocks.

Two models are available. The Model 352P “B” is a basic unit. It includes the MPU with its associated I/O. The Model 352P E provides the full I/O complement with a plug jumper that enables the same No. 3 Input options available with the original 352 to be selected.

Loops can be configured in the Model 352PLUS for control or sequence/logic. Each can have a virtual operator display that can be viewed locally using the LOOP button on the faceplate. Operator data is also mapped to the Modbus or optional LIL network when the virtual faceplate is configured. Alarm management is handled using the L (Loop) & S (Station) indicator lights as defined by the priority assignments and flashing options selected during configuration.

Specifications

See UM352P-1 for detailed specifications. Availability of some I/O will depend on hardware jumper settings (see Table 1).

Function Blocks

See UM353-1 for a detailed function block listing. Availability of some I/O function blocks will depend on hardware jumper settings (see Table 1).

TABLE 1 352P Terminal Connections w/353 Function Block Cross Reference

352P Terminal	Description	352P Terminal ID	Function Block ID
A5	Analog Input Common	**AIC**	AINC
A7	Analog Output 1 +	**AO1+**	AOUT1+
A9	*No. 3 Input (2)*	***No. 3 Input (2)***	*No. 3 Input (2)*
352P Terminal	**Description**	**352P ID**	**Function Block ID**
B2	Network -	**Link -**	
B4	Digital Output 1 +	**DO1+**	DOUT1+
B6	Digital Output 2 +	**DO2+**	DOUT2+
B8	Digital Input 1 +	**DI1+**	DIN1+
B10	*No. 3 Input (2)*	***No. 3 Input (2)***	*No. 3 Input (2)*
352P Terminal	**Description**	**352P ID**	**Function Block ID**
C2	Relay 1 Common	**R1C**	ROUT1c
C4	no connection	**n/c**	n/c
C6	Analog Output Common	**AOC -**	AOUTC
C8	Digital Input 2 -	**DI2 -**	DIN2 -
C10	Digital Input 3 -	**DI3 -**	DIN3 -
352P Terminal	**Description**	**352P ID**	**Function Block ID**
D2	Relay 2 Common	**R2C**	ROUT2c
D4	Analog Input 4 +	**AI4+**	AIN4+
D6	Analog Input 5 +	**AI5+**	AINU1(1)
D8	Analog Input Common	**AIC-**	AINC
D10	Analog Output Common	**AOC-**	AOUTC

Model 352PLUS™ Single Loop Digital Controller

Ordering data

Table 2 Terminals A8, A9, A10, B10 Optional Uses

			Option 3 I/O Jumper Position				
Terminal	**I/O**	**LON**	**T/C**	**RTD**	**FREQ**	**CompPulse**	**Voltage**
A8	AOUTC		AINU2a				
A9	AOUT2+	I/OBUSA	AINU2d	AINU2d		COMMON	VOL IN-
A10	AIN3+	I/OBUSB	AINU2b	AINU2c	DINU+	UP/PULSE	VOL IN+
B10	AIN3-		AINU2c	AINU2a	DINU-	DOWN/DIR	

NOTE: The I/O and Lon options are available with a basic Model 352P B (darker shaded section in above table). Other options require the expanded Model 352P E.

2

Model Number

Order No.

Basic SLDC PLUS
Expanded SLDC PLUS

Power Supply
- 120/240 Vac (80-264 Vac), 47-63 Hz
- 24 Vdc, +20%, -15%

Mounting Case
- Terminal Connections - 40
- Not Required

Operator's Display Panel
- Analog & Digital Displays[1]
- Not Required - Includes Blank Panel
- Delete - Panel Not Included[2]

No. 3 Input Options
- Additional Analog Input & Output[3]
- LonWorks Remote I/O Fieldbus[5]
- Frequency Input[4]
- Computer Pulse[4]
- Isolated Voltage Input[4,6]
- Thermocouple/MV Input[4]
- RTD Input (DIN Curve, US Curve)[4]

Link Interface
- LIL RS-422 - Half Duplex
- Not Required

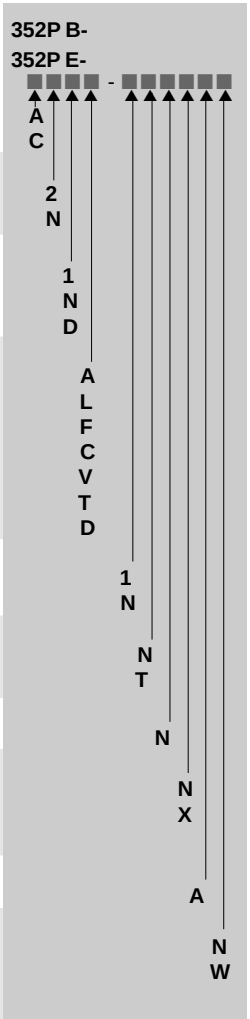
Removable Configuration Board
- Not Required
- RTC/CB

Reserved for Future Use
- Reserved for Future Use

Modification Options
- Reserved for Future Use
- Controller Modified as detailed in order bill of material

Design Level
- Design Level A

Electrical Approval
- Not Required
- ABS & FM/CSA non-incendive Class I, Div. 2, Groups A, B, C, D

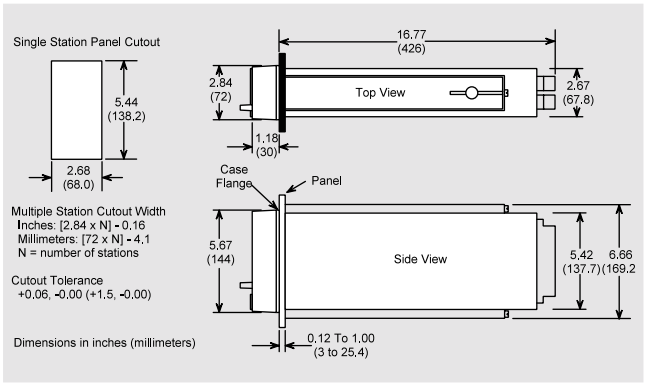


1) Required with LonWorks I/O.
2) Only furnished with mounting option N.
3) 352P B only.
4) 352P E only.
5) 352 P B or P E.
6) Choose option V if no additional third input options are desired.

Accessories

- Graphical Configuration Software (P/N 1i|config™ Vx.xx[1]) – Windows™ 95/NT™ software for configuration of the Model 352PLUS and creation of a function block diagram. Configuration can be transferred using the built-in front panel connector, the Modbus, or the LIL network connections.
- Blank Filler Panel (P/N 15738-168) –Blank unit panel for uniform control room appearance when panel includes space for future controllers.
- Loop Identification Card – Custom-printed loop identification for flipdown access door. Up to 5 lines with 24 characters per line can be specified.
- Permanent Instrument Tag – Stainless steel instrument tag permanently attached to the Model 352P casing. Two lines with up to 15 characters per line can be specified.

Mounting Dimensions



1) X.XX specifies the software revision number. This will be defined by Siemens as the latest revision.

Controllers

Model 353 Process Automation Controller

with Ethernet Communication (Design Level B)

Introduction

Features & Benefits

- Affords easy integration with and migration to existing systems
- Multiple loop capabilities for indication, control, logic, or sequencing accommodate comprehensive process control needs
- Scalable hardware provides lower entry costs, without limiting future needs
- Full configuration capability via front faceplate push-buttons allows quick field changes without requiring additional tools
- Ethernet communication is standard, providing peer-to-peer communications.
- RS485 MODBUS® network connection allows multi-drop wiring for operation, monitoring, troubleshooting, or configuration from a system workstation
- Front panel PC connection accommodates local configuration, monitoring, or troubleshooting using the graphical configuration software
- Real Time Clock provides status ouput based on time of day. Removeable configuration media stores a complete backup copy of the control strategy configuration
- Factory Configured Options (FCOs) facilitate fast configuration for common applications
- Password protection provides individual security for various plant personnel
- Graphical configuration program provides a choice of function block or ladder logic configuration
- Short case design allows mounting in 12" deep cabinets
- Coated circuit boards ensure reliable operation and environmental integrity

Description

The Model 353 Process Automation Controller is a stand-alone, microprocessor-based industrial controller designed for a broad range of process applications. It can serve as a simple single-loop controller or as a multi-loop controller with complete control and logic functions for a small unit batch or continuous process. The Model 353's standard Ethernet communication enables it to function as an integral element in a plant system.

Loops are configured for control, sequence, or logic as needed within the Model 353. Each configured loop can have a virtual operator display that is viewed locally using the LOOP button on the faceplate and is mapped to network communication for a plant operator station. Alarm management is handled using the L (Loop) & S (Station) indicator lights along with the priority assignments and flashing options of each alarm.

User defined pushbuttons in each loop can be used for traditional functions, such as Console/Local, External/Internal Switching or individual user requirements, such as Start, Stop or Jog. Multiple variables are displayed on the operator faceplate and viewed using the D button. User defined units assigned to each variable are displayed via the UNITS button. Complete configuration of the Model 353 is available using buttons located behind the flipdown ID door.

A built-in library of preconfigured control strategies (FCOs) enable selection of common basic controller types for quick field set-up. A large selection of reusable function blocks enable simple changes to FCOs or the design of a custom control strategy to meet the needs of specific process control application. The Model 353 Configuration Utility accommodates design, downloading, uploading, and on-line monitoring capabilities for improved management of controller configurations. In addition, sequencer/logic loops can be configured and monitored on-line in ladder diagram format for those more familiar with this language.

Model 353 Process Automation Controller

with Ethernet Communication (Design Level B)

Technical data

Specifications

Electrical & Environmental

Power Supply

Standard: 120/240 Vac (85 to 264 Vac); 47 to 63 Hz
Optional: 24 Vdc, +20%, -15%

Power Requirements

25 Watts, 40 VA (max.)

2-Wire Transmitter Power

Voltage: 25 Vdc ±3V
Current: 120 mA, short circuit protected

Hazardous Area Approvals Pending

FM/CSA: Class I, Division 2, Groups A, B, C & D
ABS
CE
(Consult Siemens for current approvals)

Ambient Temperature Range

Operating: 32 to 122°F (0 to 50°C)
Storage: -40 to 185°F (-40 to 85°C)

Climate Conditions - IEC654-1

Class B3 - Standard Mounting
Class D1 - Installed per instructions in Class D1 enclosure

Electrostatic Discharge

IEC 801-2

RFI Protection

IEC 801-3

Electrical Transients

IEC 801-4

Net Weight

6 lbs.

Heat Dissipation

80 BTU/Hr.

Scan Time

Varies with configuration: 20 msec (minimum)

Inputs

Analog Inputs (non-isolated)

1-5 Vdc, 4-20 mA with included 250 resistor
MPU Controller Board: Qty 3
I/O Expander Board: Qty 1

Digital Inputs (isolated)

0-1 Vdc OFF, 15-30 Vdc ON
MPU Controller Board: Qty 3
I/O Expander Board: Qty 1

Analog Input, Universal (isolated)

Thermocouple: J, K, T, E, S, R, B & N
RTD: DIN 43760, US (NBS126), JIS C-1604
Slidewire: 500-5000
Ohms: 0-5000
Millivolt: Narrow: -19.0 to 19.0 mV; Wide:-30.0 to 77.0 mV
I/O Expander Board: Qty 2

Digital/Frequency Input, Universal (isolated)

Frequency Range: 0 to 25,000 Hz
Minimum Operating Frequency: 0.05 Hz
ON Voltage: 4-30 Vdc
OFF Voltage: 0-1 Vdc
Input Current: <5 mA @ 30 Vdc
I/O Expander Board: Qty 2

Outputs

Analog Outputs (non-isolated)

4-20 mA into 800 ohms (max.)
MPU Controller Board: Qty 2
I/O Expander Board: Qty 1

Digital Outputs (non-isolated)

Open Collector Transistor (emitter @ station common)
Load Voltage: 30Vdc (maximum)
Load Current: 100 mA (maximum)
Off State Leakage Current: <200 A @ 30 Vdc
MPU Controller Board: Qty 2

Relay Outputs (SPDT)

Contact Rating: 5A @ 120 Vac, 2.5 A @ 230 Vac, Resistive Load
Minimum Current: 100 mA @ 10 mVdc; 150 mA @ 50 mVac
I/O Expander Board: Qty 2

Optional Boards

Local I/O Expander

Communication

Front configuration port: RS232 MODBUS
Rear port: RS485 MODBUS
Ethernet: MODBUS/TCP

Standard Configuration

Nine of the most common control strategies have been stored in a built-in library and can be selected with a single pushbutton entry. These control strategies, which can be customized to accommodate individual needs, are:

- Single-Loop Controller with Tracking Setpoint
- Single-Loop Controller with Fixed Setpoint
- Ratio Set Controller with Operator Setpoint Limits
- Single-Loop Controller with Operator Setpoint Limits
- Cascade Loop Controller
- Cascade Loop Controller with Operator Setpoint Limits
- External Set Controller with Tracking Setpoint
- External Setpoint with Fixed Setpoint
- Dual Loop controller

Function Blocks

Control strategies within the Model 353 are configured using the following function blocks, which are stored in memory. The total number and type of I/O function blocks available in the Model 353 depend on the installed hardware, and when available, can be used as needed within a configured loop. Loop function blocks can be used in the quantities indicated within each loop. Each configured loop can contain one operator display block & one controller block*.

Station Hardware I/O

AIN1-4 - Analog Input
AINU1-2 - Analog Input Universal
AOUT1-3 - Analog Output
DIN1-4 - Digital Input
DINU1-2 - Digital Input, Universal
DOUT1-2 - Digital Output
ROUT1-2 - Relay Output

Ethernet Peer-To-Peer I/O

AIE01-32 - Analog Input Ethernet
AOE01-32 - Analog Output Ethernet
AWE01-32 - Analog Write Ethernet
CIE01-32 - Coil Input Ethernet
CWE01-32 - Coil Write Ethernet
DIE01-32 - Digital Input Ethernet
DOE01-32 - Digital Output Ethernet
DWE01-32 - Digital Write Ethernet

Loop Function Blocks

A/M - Auto/Manual
ACS01-99 - ARC Cosine
ADD01-99 - Addition
AGA3 - Orifice Metering of Natural Gas
AGA7 - Measurement of Gas by Turbine Meters
AGA8 - Compressibility Factors of Natural Gas
ALARM - Alarm
AND01-99 - AND Logic
ASN01-99 - ARC Sine
ATD01-05 - Analog Trend Display
ATN01-09 - Arc Tangent
BATOT - Batch Totalizer
BATSW - Batch Switch
BIAS - Bias
CHR01-99 - Characterizer
CMP01-99 - Comparator
COS01-99 - Cosine
DAM01-99 - Deviation Amplifier
DIV01-99 - Division
DNC01-99 - Divide by N Counter
DTM01-99 - Dead Time Table
DYT01-99 - Delay Timer
E/I - External/Internal Transfer
ESL - Event Sequence Logger
EXP01-99 - Natural Exponentiation
EXT01-99 - Exponentiation
FTG01-99 - Falling Edge Trigger

GB01-99 - Gain & Bias
HLD01-99 - Hold
ID* - ID Controller
LL01-99 - Lead/Lag
LMT01-99 - Limit
LN01-99 - Natural Logarithm
LOG01-99 - Logarithm Base 10
MTH01-99 - Math
MUL01-99 - Multiplication
NND01-99 - NAND Logic
NOR01-99 - NOR Logic
NOT01-99 - NOT Logic
ODC* - Operator Display for Controllers
ODS* - Operator Display for Sequencers
ODA* - Operator Display for Analog
ODD* - Operator Display for Discrete
ODP* - Operator Display for Pushbutton
ONOFF* - ON OFF Controller
OR01-99 - OR Logic
ORSL - Override Selector
OST01-99 - One Shot Timer
PB1SW - PB1 Switch
PB2SW - PB2 Switch
PB3SW - PB3 Switch
PCOM - Phase Communication
PD* - PD Controller
PID* - PID Controller
PIDAG* - PIDAG Controller
PRSEQ - Program Sequencer
QHD01-99 - Quickset Hold
RATIO - Ratio
RCT01-99 - Repeat Cycle Timer
RLM01-99 - Rate Limiter
ROT01-99 - Retentive On Timer
RSF01-99 - RS Flip-Flop
RTG01-99 - Rising Edge Trigger
RTT01-99 - Real Time Clock Trip
SCL01-99 - Scaler
SEL01-99 - Signal Selector
SETPT - Setpoint
SIN01-99 - Sine
SPLIM - Setpoint Limit
SRF01-99 - SR Flip-Flop
SRT01-99 - Square Root
SUB01-99 - Subtraction
TAN01-99 - Tangent
TH01-99 - Track & Hold
TOT01-99 - Totalizer
TSW01-99 - Transfer Switch
XOR01-99 - Exclusive OR Logic

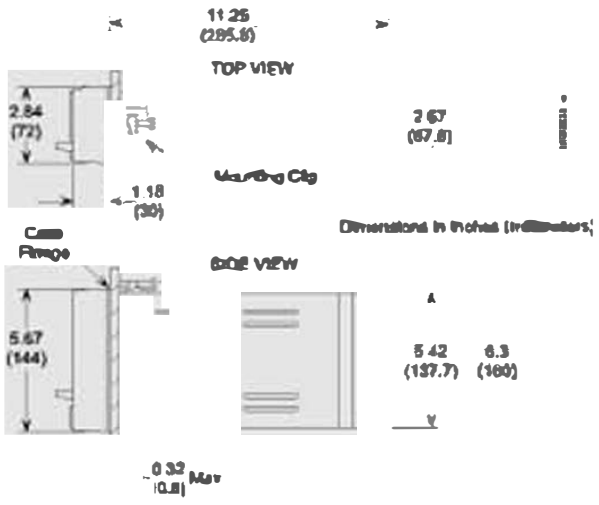
NOTE:
Each configured loop can have one operator display block and one controller block.

Accessories

Accessories

Graphical Configuration Software (TGX:ICONFIG-V4.00, Consult Siemens for latest version) Windows® 95/NT™/2000/XP software for configuration of the Model 353 and creation of the function block diagram. Configurations can be transferred using the built-in front panel connector, the Modbus network, or the Multi Media card.

Mounting Dimensions



Controllers

Model 353 Process Automation Controller

with Ethernet Communication (Design Level B)

Ordering data

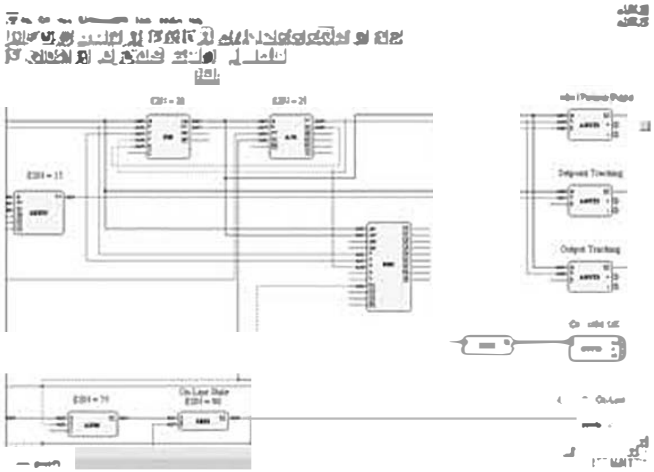
Model Number		Order No.
Process Automation Controller w/Ethernet Communication	**TGX: 353**	
Controller Board • 120/240 Vac (85-264 Vac); 47-63 Hz • 24 Vdc, +20%, -15%		**A**
Mounting Case • Standard Case with Ethernet Connector • High Shock & Vibration Case w/ Ethernet Connector		**D** **4** **5**
Operator's Display Panel • Fixed Analog & Digital Displays		**F**
Expander Board • Not Required • Local I/O Expander (T/C, RTD, Frequency, Relay, ..)		**N** **1**
Multi Media Card • MMC		**C**
ModificationOption • Not required • Controller modified as detailed in order Bill of Material)		**N** **X**
Design Level • Design Level B		**B**
Electrical Approval • Not required • FM/CSA Class I, Div. 2, Groups A, B, C, D suitable for non-incendive (CE Compliant) • FM/CSA Class I, Div. 2, Groups A, B, C, D suitable for non-incendive (CE Compliant & ABS Approved)		**N** **4** **W**
Sample Model Number	**TGX:353**	**A4 FN CNB 4**

i|config™ Controller Configuration Utility

Introduction

Features & Benefits

- Windows®XP or 7 operating system provides powerful graphical interface
- Automatic line routing and interloop wiring reduces overall drawing time
- User selected tag names in a reference list allow easy interconnection between continuous and discrete loops
- Choice of function block and adder logic format provides application versatility
- Easy cut, copy, and paste capabilities allow control strategies to be duplicated and shared between multiple controllers for reduced configuration time
- User defined line styles and colors permit visual separation of continuous and analog signals for easier understanding of control loops
- Line layering capability allows viewing of continuous and discrete signals independently or together
- Comprehensive drawing package facilitates creation of text comments and graphical illustrations for better understanding of the control strategy
- Application Library provides quick start-up and baseline for more complex configurations



Description

The i|config™ Configuration Utility provides the tools to create a loop controller graphical interface and manage a loop controller configuration. Based on the 32-bit Windows technology, the software allows configuration of discrete control in function block or ladder logic. Moreover, comprehensive drawing capabilities allow the inclusion of comments and illustrations that further explain the control circuit to be included.

Loops for continuous control are configured in function block form, while discrete loops are configured in either ladder logic or function block. The software's reference list allows user's to create tags that interconnect discrete signals between function block loops and contacts or coils in the ladder logic. Interconnecting signals from comparators or alarms on measured variables, such as pressure, flow and temperature, eliminate the need for external pressure switches or thermal switches.

Depending on the user's preference, function block interconnection can be performed via Windows-based dialog boxes or point and click wiring with a cursor. A dynamic drag and drop feature allows user to easily move function blocks to create an intuitive signal flow design. Function block parameters are entered and modified via clear dialog boxes.

For documenting and archiving configurations, the configuration utility supports a variety of printing options. Standard print features, such as portrait and landscape, various paper sizes, and print preview are supported. In addition to graphical view printing, a list of all the parameters configured in the station can be printed. This list permits easy troubleshooting during start-up or maintenance.

To order the i|config Configuration Utility kit, which includes installation CD, the user's manual, and a cable to connect a PC to the front port of the Model 353, specify part P/N i|config Vx.xx[1].

System Requirements

- Model 353 with software version 1.2 or higher
- Windows XP or 7
- Pentium 600 Mhz or higher processor
- 512 MB of memory
- 1 GB of free disk space
- CD Rom Drive

1) x.xx specifies the software's revision number. This will be defined by Siemens as the latest revision

Model 353 Process Automation Controller Ethernet Remote I/O

Features & Benefits

- Web Browser Configuration enables simple setup and calibration without the need for special configuration or calibration software.
- Ethernet Protocol allows the use of standard Ethernet network hardware and cables.
- Direct Network Interface. Each module has its own built-in micro controller for Ethernet communication thus eliminating the need for bus couplers or common bus interfaces.
- Complete Isolation of the I/O, power, & network circuits provide easier installation including greater improved safetyand noise immunity.
- Network Security is provided by password protection for configuration & calibration.
- Wide Ambient Temperature Range provides reliable operation from -20 to 70°C.
- Simple System Integration provided by standard 353 function blocks enable configuration of update rates, range units, engineering units, etc in less time.
- Wide Range of Module Types including Current & Voltage inputs; Discrete inputs and outputs; Thermocouple, RTD, ACCurrent, & Resistance inputs solve complete I/O needs.

Description

These modules will extend the I/O of the 353 controller in applications requiring larger data collection. Modules transfer data using standard Ethernet networking techniques.Modules can be mounted local to the controller or in remoteareas. A wide range of analog and discrete modules are available to meet most process applications.

Model 353 process Automation Controller Ethernet Remote I/O

Ordering data

Model Number	Order No.
Remote I/O	A6X:
Ethernet I/O Modules	
• DC Current Input - 6 Differential Channels [961EN-4006]	30001750
• DC Voltage Input - 6 Differential Channels [962EN-4006]	30001751
• DC Current Input - 12 Single Ended Channels [963EN-4012]	30001752
• DC Voltage Input - 12 Single Ended Channels [964EN-4012]	30001753
• Thermocouple/MV Input - 4 Channels [965EN-4004]	30001754
• Thermocouple/MV Input - 6 Channels [965EN-4006]	30001755
• RTD/Resistance Input - 4 Channels [966EN-4004]	30001822
• RTD/Resistance Input - 6 Channels [966EN-4006]	30001823
• DC Current Output - 4 Channels [972EN-4004]	30001824
• DC Current Output - 6 Channels [972EN-4006]	30001827
• DC Voltage Output - 4 Channels [973EN-4004]	30001829
• DC Voltage Output - 6 Channels [973EN-4006]	30001831
• Discrete Input - 12 Channels [981EN-4012]	30001832
• Discrete Output - 12 Channels [982EN-4012]	30001833
• Discrete Input/Output - 12 Channels [983EN-4012]	30001835
Ethernet I/O Module Accessories	
• Ethernet Switch - 5 Port [900EN-5005]	30001964
• AC Current Sensor [5020-350]	30001965
• Ethernet Cat5 Cable - 3 ft. [5035-355]	30001966
• Ethernet Cat5 Cross-Over Cable - 5 ft. [[5035-360]	30001967
• Universal Power Supply - 24Vdc/600mA [PS5R-B24]	30001969
• Universal Power Supply - 24Vdc/2.1A [PS5R-D24]	30001970
• Universal Power Supply - 24Vdc/5A [PS5R-F24]	30001955
• DIN Rail - 3.0 in. long [DIN RAIL 3.0]	30001956
• DIN Rail - 16.7 in. long [DIN RAIL 16.7]	30001957
• Rack Mount Kit - 19 in. [20RM-16-DIN]	30001958
• User Manuals on CD [5035-547]	30001959

Features & Benefits

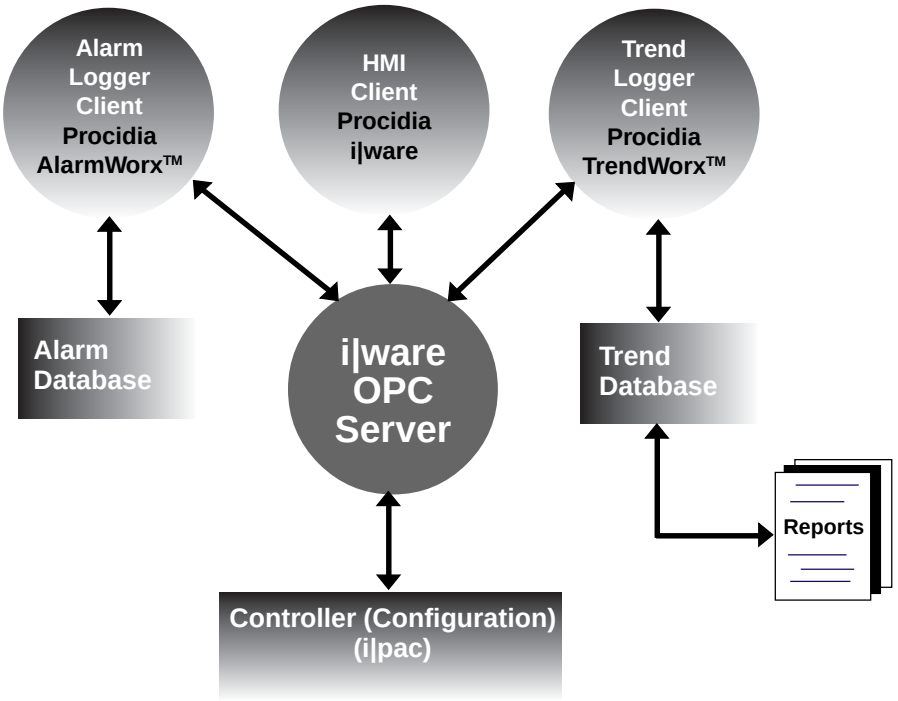
- Universal location for all process information so you only have to enter information once, which significantly minimizes manual errors
- The OPC data server automatically reads the network, identifies attached controllers, and generates a global system database within a few minutes
- i|ware OPC data server can be used with any OPC client to facilitate plantwide communications
- Ability to test communication with the controller prior to generating an HMI interface
- Support of other protocols, such as Moore's Local Instrument Link (LIL), Modbus, and Ethernet, to integrate with your other control systems and field devices
- Monitoring mode that allows on-line value viewing and checking

Description

i|ware server is an OPC-compliant data server that generates a system-wide global database with the click of a mouse. i|ware OPC server acts as the universal location for all of your process information, including tags, alarms and history. So, you only ever have to enter information once, which significantly minimizes the possibility of manual errors and cuts your configuration time in half.

The OPC data server automatically reads the network to see what controllers are attached and generates a global system database. This database maintains itself and updates live process variables, plus changes to the controllers, such as tag and range values. Your system database and HMI—complete with status screens, group displays, and control and sequencer faceplates—are automatically created from your control strategy data.

Because it is an OPC-compliant server, the i|ware OPC server integrates with the HMI and any other OPC-compliant clients to facilitate plant-wide communication. It also provides a standard mechanism to transfer data from one to the other. Besides decreasing your costs and increasing your bottom-line, this approach allows you to move to start-up more quickly.



Introduction

Features & Benefits

- Five levels of screens are automatically created, based on controller strategy, eliminating days of HMI development time
- 50 ms dynamic animation updates provide operators with up-to-the-minute information
- Powerful display creation and animation tools, coupled with an advanced symbol library, expedite operator interface customization
- Built-in expressions and calculations, as well as display, trending, and alarm management functions, deliver comprehensive operator information
- Scalable and fixed scale displays that allow information to be displayed in the form and manner required for a particular application
- Embedding of ActiveX® controls and OLE objects to display information from other systems and devices
- Ability to log, time-stamp, and store controller alarms and events on a PC hard drive for later review and analysis

Description

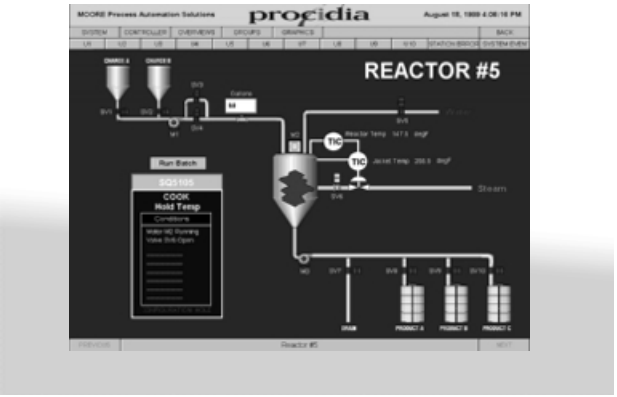
i|ware is a comprehensive operator interface—including status screens, group displays, control faceplates, and loop detail and tuning screens—that is automatically created from the controller database. That makes your job easier and significantly reduces costs by completely eliminating your initial HMI development effort. But, you can still add graphics and modify the screens that i|ware makes for you to customize the overall look and feel.

i|ware enhances the interface between client and server applications using a standard mechanism to transfer data from one to the other. The standard, OPC, facilitates plant-wide communication, because it integrates i|ware with any other OPC-compliant software or system. i|ware also includes Ethernet communications that eliminate the need for integration with fieldbus technology and dramatically reduce networking costs.

Enterprise Edition

The Enterprise Edition provides alarm monitoring and historical trending. The alarm and trend servers support a comprehensive list of features. ArchiveX viewers permit quick and easy customization of viewer display format. Alarm logging and trend repports are also available.

i|ware supports VBA scripting for custom applications. Login sercurity is available.



Specifications

Recommended Requirements

- i|station operator workstation
  - or -
- Plant Workstation
  - Pentium 2.0 GHz or higher processor
  - 1 GB RAM
  - 40 MB of available hard disk space for applications
  - 1 GB hard disk space for historical database
  - CD ROM drive
  - SVGA 800x600 resolution monitor (256 colors) or better
  - Microsoft Windows 95/98 or Windows NT 4.0 service release 6.0, XP Professional
  - Microsoft DCOM
  - Microsoft Internet Explorer version 3.02 or higher
  - Trend WorX32

Model Number

Order No.

i|ware

	TGX:
iware PC Operator Interface Software Ver. 3.00	
• BasicV3.00_500pt	IWARE B05V300
• EnterpriseV3.00_500pt	IWARE E05V300
• EnterpriseV3.00_1500pt	IWARE E15V300
• EnterpriseV3.00_unlimited	IWARE EULV300
• EnterpriseV3.00_TimeDemo_1yr_500pt	IWARE ETDV300
• OPCServers_Modbus_EN_LIL	IWARE OPCV300
iWare PC Operator Interface Software Ver. 3.00 Upgrades	
• BasicV3.00_500pt_Basic_500pt	IWUB05V300B05
• EnterpriseV3.00_500pt_Basic_500pt	IWUE05V300B05
• EnterpriseV3.00_1500pt_Basic_500pt	IWUE15V300B05
• EnterpriseV3.00_unlim_Basic_500pt	IWUEULV300B05
• EnterpriseV3.00_500pt_Enterprise_500pt	IWUE05V300E05
• EnterpriseV3.00_1500pt_Enterprise_500pt	IWUE15V300E05
• EnterpriseV3.00_unlim_Enterprise_500pt	IWUEULV300E05
• EnterpriseV3.00_1500pt_Enterprise_1500pt	IWUE15V300E15
• EnterpriseV3.00_unlim_Enterprise_1500pt	IWUEULV300E15
• EnterpriseV3.00_unlim_Enterprise_unlim	IWUEULV300EUL

Controllers

i|station for 353 Series Controller

Introduction

Features & Benefits

- Proven operator interface prepacked with i|config, i|ware, and i|ware OPC server, reduces system start-up and test time
- - 15" color Thin Film Transistor (TFT) 1024 x 768 LCD
  - Desk-top operation for greater application versatility
- Industrial-grade luminance of 200 cd/m2 and backlight lifetime of up to 20,000 hours that afford a long, trouble-free life

Description

i|station is an industrial operator workstation with pre-installed user interface and configuration software, allowing you to connect to a live process right away. This sleek unit, which features an analog resistive screen with a guaranteed 30 million-touch lifetime, boasts a wide viewing angle for better operator observation.

Designed for reliable operation in the harshest of industrial environments, i|station is built to NEMA 4/12 and IP65 specifications. It also features advanced communication capabilities via four serial ports and an onboard Ethernet controller. Plus, i|station's modular design reduces your maintenance and upgrade effort to little more than removal of the front panel.

Specifications

i|station WINDOWS XP

General

Display Type: TFT color LCD
Size: (diagonal) 15" (381 mm)
Max. resolution: 1024 x 768
Max. colors or grayscales: 256 K
Dot size: 0.012" x 0.012" (0.297 x 0.297 mm)
Luminance: 200 cd/m2
Viewing angle: 100°
Temperature: 32 to 122°F (0 to 50°C)
VR controls: Brightness
Simultaneous mode: Yes
LCD MTBF: 50,000 hours
Backlight MTBF: 20,000 hours
CPU: Intel® Pentium 2.4 GHz
Dimensions:
16.54" x 12.72" x 4.17" (420 x 323 x 106 mm)
Weight: 14.3 lbs. (6.5 kg)
Front panel protection: IP65/NEMA4-compliant
HDD:
IDE HDD interface [2.5" (63.5 mm) HDD bay]
Memory: 1 GB

Network (LAN): Novell NE2000 compatible,
100/01Base-T interface
I/O ports:
- 4 serial ports: 3 RS-232, 1 RS-232/422/485
- 1 parallel port
- PCMCIA Type II x 2, Type III x 1
- 1 PS/2 mouse and keyboard interface
- Mic-in, Line-in, Line-out, and game port
- 2 USB ports

Bus expansion:
One expansion slot for half-size PCI/ISA card

Power Supply

Output rating: 80 W (max.) AC 85 to 264 V inlet
Input voltage: 115 to 230 Vac at 47 to 63 Hz
Output voltage: +5 V at 12 A, +12 V at 1 A
MTBF: 50,000 hrs
Safety: Meets UL, CSA, CE

Environmental

Operating temperature: 32 to 122°F (0 to 50°C)
Relative humidity:
10 to 95% at 104°F (40°C), non-condensing
Shock: 10 G peak acceleration (11 msec. duration)
EMI: Meets FCC/CE Class A

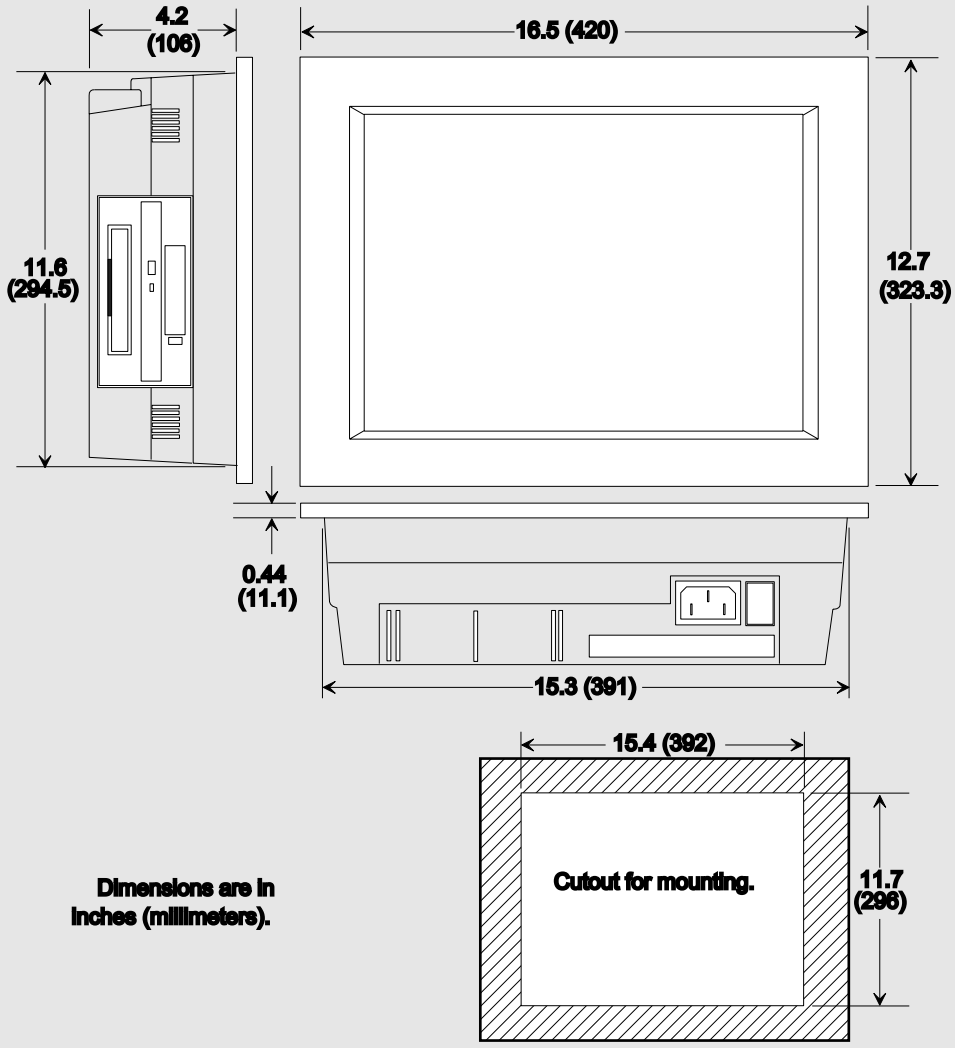
Touchscreen

Type: Resistive
Resolution: Continuous
Light transmission: 75%
Controller: RS-232 interface
Power consumption: +5 V at 200 mA
Lifetime: 30 million touches

Accessories

- Table top stand
- Keyboard & mouse
- DB9F/MJ11 cable adapter
- MJ11 cable assembly

Mounting Dimensions



Controllers

i|station i|station for 353 Series Controller

Ordering data

Model Number	Order No.
iStation	TGX:
iStation Flatpanel LCD Operator Interface	
• iStation 15” Monitor, WinXP (includes iWARE-B05-V3.00 & iCONFIG)	ISTATION1501D
• iStation 15” Monitor, WinXP (includes iWARE-E05-V3.00 & iCONFIG)	ISTATION1502D
• iStation 15” Monitor, WinXP (includes iWARE-E15-V3.00 & iCONFIG)	ISTATION1503D
• iStation 15” Monitor, WinXP (includes iWARE-EUL-V3.00 & iCONFIG)	ISTATION1504D
iStation Accessories	
• Table Top Mounting Stand (include with 15” Desk Top Applications)	16357-264
• Keyboard (include with all i\stations)	16357-262
• Y Cable Adapter for KB & Mouse (included with iSTATION)	16357-261
• Mouse (included with all I\stations)	16357-263

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