352P Process Automation Controller

The 352P design allows the user 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.

Model 352 users will also have previously unavailable controller capabilities. These include the MODBUS network as a standard option and PC configuration via the front port. 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 function blocks.

Two models are available. The Model 352P "B" is a basic unit. It includes the MPU with its associated I/O. It is a replacement for the original Model 352 basic controller. The Model 352P "E" provides the full I/O complement of the original Model 352. It is a replacement for the original Model 352 expanded controller and the Model 351 controller.

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.

process
INSTRUMENTATION

The Model 352PLUS Single-loop Digital Controller combines the case mounting and terminal configuration of the original Model 352 Single-loop Controller with the hardware design, firmware, and graphical configuration software of the Model 353 Process Automation Controller.

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Table 1 352P Terminal Connections with 353 Function Block Cross Reference

352P Terminal	Description	352P Terminal ID	Function Block ID
A4	Analog Input 1 +	AI1+	AIN1+
A5	Analog Input Common	AIC	AINC
A6	Analog Input 2 +	AI2+	AIN2+
A7	Analog Output 1 +	AO1+	AOUT1+
A8	No. 3 Input	No. 3 Input	See manual
A9	No. 3 Input	No. 3 Input	See manual
A10	No. 3 Input	No. 3 Input	See manual

352P	Terminal Description	352P ID	Function Block ID
B1	Network +	Link +	—
B2	Network –	Link –	—
B3	no connection	n/c	—
B4	Digital Output 1 +	DO1+	DOUT1 +
B5	Transmitter Power + 26 Vdc	+26 V	—
B6	Digital Output 2 +	DO2 +	DOUT2 +
B7	Digital Output Common	DOC –	DOUTC
B8	Digital Input 1 +	DI1 +	DIN1 +
B9	Digital Input 1 –	DI1 –	DIN1 –
B10	No. 3 Input	No. 3 Input	See Manual

352P Terminal	Description	352P ID	Function Block ID
C1	Relay 1 Normally Open	R1NO	ROUT1no
C2	Relay 1 Common	R1C	ROUT1c
C3	Relay 1 Normally Closed	R1NC	ROUT1nc
C4	no connection	n/c	—
C5	Analog Output 3 +	AO3 +	AOUT3 +
C6	Analog Output Common	AOC –	AOUTC
C7	Digital Input 2 +	DI2 +	DIN2 +
C8	Digital Input 2 –	DI2 –	DIN2 –
C9	Digital Input 3 +	DI3 +	DIN3 +
C10	Digital Input 3 –	DI3 –	DIN3 –

352P Terminal	Description	352P ID	Function Block ID
D1	Relay 2 Normally Open	R2NO	ROUT2no
D2	Relay 2 Common	R2C	ROUT2c
D3	Relay 2 Normally Closed	R2NC	ROUT2nc
D4	Analog Input 4 +	AI4 +	AIN4 +
D5	Analog Input Common	AIC –	AIN4C/AINU1C
D6	Analog Input 5 +	AI5 +	AINU1
D7	Analog Input 6 +	AIN6 +	AIN3 +
D8	Analog Input Common	AIC –	AINC
D9	Analog Output 2 +	AO2 +	AOUT2 +
D10	Analog Output Common	AOC –	AOUTC

Note: See UM352P-1 for detailed specifications. Availability of some I/O will depend on model selection and hardware jumper settings.

Specifications

Electrical and 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 (maximum)

2-Wire Transmitter Power
Voltage: 25 Vdc ±3V
Current: 120 mA, short circuit protected

Inputs

Analog Inputs (non-isolated)
1-5 Vdc, 4-20 mA with included 250 resistor

Digital Inputs (isolated)
0-1 Vdc OFF, 15-30 Vdc ON

Analog Input, Universal (isolated)
Thermocouple, RTD, Millivolt

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

Outputs

Analog Outputs (non-isolated)
4-20 mA into 800 ohms (maximum)

Digital Outputs (non-isolated)
Open Collector Transistor (emitter@station common)
Load Voltage: 30 Vdc (maximum)
Load Current: 100 mA (maximum)

Relay Outputs (SPDT)
Contact Rating: 5A @ 120 Vac, 2.5 A @ 230 Vac,
Resistive Load

Accessories *(not included)*

Optimize performance of the 352P Process Automation Controller with Siemens companion configuration software, graphical software, and operator workstation. These products allow for easy configuration, and convenient, efficient operation of your process automation controller.

i|config
i|config is a Microsoft® Windows®-based configuration utility for Siemens Model 352Plus Single-Loop Digital Controller. i|config supports development of controller configurations on a Windows-compatible PC. Configurations are downloaded or uploaded via standard front port or network communications.

Features and Benefits
- Easy user interface
- Supports function block and ladder logic configuration languages
- Library of standard control loop configurations
- Online monitoring of process values permits verification of control logic
- Supports all 352P series controller firmware levels
- Upgrades older firmware level configurations to a more current version

i|ware
i|ware is a suite of software utilities that provides a comprehensive operator graphical interface for supervision of a controlled process or operation. The application runs on a computer with Microsoft Windows operating system. Communications with controllers and field devices occur through OPC servers.

Features and Benefits
- The i|ware OPC servers auto-generate the 352P series controller point database, saving hours of engineering time.
- During run-time mode, i|ware auto-generates fully functional, 352P series controller status and loop faceplate displays.
- GraphWorX32 is both the graphical development and run-time environment software.
- i|ware supports historical and real-time trending, as well as alarm management.

i|station
The i|station is an operator workstation with i|ware and i|config pre-installed. It is a 15-inch, flat-panel PC with a resistive touchscreen. It is designed for operation in industrial environments and meets IP 65 specifications.

Features and Benefits
- 15 inch flat panel PC with resistive touchscreen
- Microsoft Windows XP Professional SP2 operating system
- IP65/NEMA 4 front panel protection for industrial applications