

AUTO-MATRIX™

The SF1™ is an economical telephone gateway and local operator interface that provides access to devices on Public Unitary Protocol™ (PUP) networks. The SF1 resides at the facility with the PUP devices and communicates via an EIA-485 network.

FEATURES

- ▼ compatible with the entire American Auto-Matrix® family of products
- ▼ menu-driven operator interface allows local and remote point attribute monitoring and programming
- ▼ multitasking operation
- ▼ time-based trending of up to 64 PUP network variables with automatic and on-demand upload feature using SF1 Engineering Tools™ software
- ▼ LCD display and keypad operator interface
- ▼ flexible communications techniques including dial-in and dial-out applications
- ▼ off-line Windows® database creation via SF1 Engineering Tools software
- ▼ nonvolatile clock/calendar
- ▼ alarm handling
- ▼ fully enclosed
- ▼ RJ-11 jack for a telephone line to the (optional) modem
- ▼ named object database
- ▼ 256k-RAM (w/battery backup)



OPERATION

The SF1 communicates on a PUP network from an internal EIA-485 connection over shielded, twisted-pair wire at rates up to 19.2k baud. The SF1 is used for monitoring and operator-initiated control, acting as a high-level network administrator for other PUP units on the network. The SF1 can interface with high-level Auto-Matrix products such as the SAGE^{MAX} area controller through a dialed PHP connection. The SF1 can share the use of a PUP network with peers that are PUP full administrators such as the SOLOTool™, SAGE^{MAX}™, DX1™, and GX1™. As many as 32 PUP devices can be networked to an SF1.

The operator interface (OPI) of the SF1 is a backlit LCD that provides a simple, intuitive English-language menu, with appropriate engineering units, for the operator. The SF1 has four levels of user access to limit high-level control functions like calendars, trends, alarms, and programming to authorized users. The lowest level of access permits monitoring only.

COMMUNICATIONS

The SF1 supports dial-in from a PHP host such as Auto-Pilot™ or the SAGE^{MAX}™. If the PHP “Who

are you?” command is received within five seconds after answering the call, the SF1 uses PHP for the incoming call. Otherwise, the SF1 assumes the caller is a terminal type and the sign-on prompt is sent to the caller.

Since a dial-out system can tie up the modem for long periods of time with dial-out attempts, the SF1 provides two variables to control the frequency of dial-out attempts. One variable specifies the number of dialable entries tried in between “quiet periods” (when the SF1 simply waits for incoming calls). The second variable specifies the length of these “quiet periods” in seconds.

The SF1 provides flexible handling of alarms and can detect alarms from all PUP units on the network. Once an alarm is detected, the SF1 can react in a variety of ways:

- ▼ dialing of a phone number and “ring-once-only” for contacting a paging system.
- ▼ dial out to a remotely located printer with an autoanswer modem to print out a list of alarms.
- ▼ dial out to a human operator or PHP host. If the SF1 does not see the PHP host signal in

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five seconds, it assumes it has reached a human operator (for the SF1, a human operator means a VT100 or compatible terminal).

SF1 ENGINEERING TOOLS

To simplify the SF1 programming process, American Auto-Matrix also offers the *SF1 Engineering Tools* software package. This *Windows* software enables the operator to create and program an entire SF1 database off-line and download the database to a remote SF1 area controller via modem. The operator can also upload system variables, database objects, and trend and alarm information from remote SF1 area controllers. This information can then be modified for use in other *Windows* applications such as word processors or spreadsheets.

SPECIFICATIONS

Communications

- ▼ **Network line signalling:** EIA-485
- ▼ **Network protection:** dual tranzorbs, PTCs, optical, and magnetic isolation
- ▼ **PUP communications speed:** 300 to 19.2k baud, programmable
- ▼ **Network configuration:** multidrop to 5,000 ft. (1.5 km)
- ▼ **Network protocol:** Public Unitary Protocol (PUP)
- ▼ **Two communications ports:** each can support either an EIA-232 card or a 14.4k baud modem (configuration set by customer)

Terminations

- ▼ **EIA-485 network:** 0.2 in. (5.08 mm) pluggable terminal blocks
- ▼ **Local CRT port:** 9-pin EIA-232D, female
- ▼ **Optional RS232D port:** male, PHP direct connect
- ▼ 0.2 in. (5.08 mm) pluggable terminal blocks

Mounting

- ▼ aluminum/steel enclosure
- ▼ flat enclosure door with cutout and mounting brackets

Operating Temperature and Humidity

- ▼ 32 to 104°F (0 to 40°C)
- ▼ 20 to 95% RH noncondensing

Dimensions

- ▼ **Enclosure:** 9.3 x 6.3 x 2.7 in. (23.6 x 16 x 6.8 cm)
- ▼ **Shipping weight:** 6.5 lb. (2.9 kg)
- ▼ **Cut-out:** 7.125 x 5.25 in. (18.1 x 13.3 cm)

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