



The RS2 System Control Processor is the heart of every RS2 access management system.

The RS2 Family of Access Management Hardware

RS2 Technologies has developed an integrated family of access management hardware that can be configured to meet a wide variety of applications. It is built around our workhorse System Control Processors, which are 32-bit microcontroller-based units that are scalable from 1 MB to 12 MB, making them a cost-effective solution for very small to very large systems. A variety of input/output modules, multiplexers, communications packages, and other options provides almost unparalleled flexibility for system configuration.

System Control Processors

The System Control Processor is the heart of the RS2 access management system and includes our SCP and EP Series models. Each SCP model stores its own database as well as all schedule information, including unlock/relock times, access times and holiday information. The SCP also supports precision card access, elevator access control, extended door unlock/allowed open timing (ADA required), and includes a full range of anti-passback capabilities.

The SCP and EP lines include these features:

- Communication options include serial, dial-up, or TCP/IP
- Memory configurations from 1 MB to 12 MB
- Support for up to 64 reader/input/output I/O panels
- Card capacity from 5,000 to 395,000 cards
- Variable event storage capacity from 1,000 to 100,000 events
- Two or four RS-485 2-wire channels
- “If.../Then...” type macro capability
- Flash firmware capability for easy field upgrades
- Support for up to 8 different card formats/technologies
- UL 294 recognized, CE approved, and RoHS compliant
- Onboard lithium battery for RAM backup and tamper/power failure status monitoring

System Control Processors are available in these configurations:

SCP & SCP-E

The **SCP** is available in a standard 1 MB memory configuration, and is expandable to 4 MB, making it cost effective for small to very large applications. A single SCP, along with I/O modules, will support up to 64 readers, 512 input points or 512 output relays.

The **SCP-E** is an enhanced version of the SCP. It is available in memory configurations from 1 to 8 MB and comes standard with an onboard RJ-45 Ethernet port. A typical SCP-E with 8 MB of memory would hold up to 250,000 cards and 2,500 events. It can be configured for a redundant communication channel (serial/dial-up/TCP-IP) and for 128-bit AES data encryption with the host computer. Both the SCP and SCP-E have four RS-485 downstream ports, as well as a dial-up option.

MINI-SCP & MINI-SCP-E

The **MINI-SCP** comes standard with 512 KB of memory and two RS-485 downstream ports. A typical MINI-SCP would hold up to 10,000 cards and 2,500 events. Host communication options include serial and dial-up. When paired with I/O modules, the MINI-SCP will support up to 64 readers and 512 input points or 512 output relays. The **MINI-SCP-E** combines all the features of the MINI-SCP with an onboard RJ-45 Ethernet port.

The SCP-E and MINI-SCP-E are available in 10 MB & 100 MB Ethernet configurations.

EP-1502 & EP-2500

The EP Series includes the **EP-1502** and **EP-2500**. Both are based on a 32-bit micro-controller and support multi-grouped holidays, precision access and multiple time zones. Both units feature AES 128-bit NIST Certified Encryption, and are UL 294 recognized, CE (RoHS) compliant, and HSPD-12/FIPS 201 compliant. They support up to 8 active card formats, PIN, and biometric access verification, and are PIV-II, CAC, and TWIC card compatible. A single EP-1502 or EP-2500, when combined with interface panels, will support up to 64 readers, 512 input points or 512 output relays. Communication ports include a primary 10/100 Ethernet port, an RS-232 port, an RS-485 (2-wire) port, and a dial-up option. The EP-2500 has two RS-485 ports and supports redundant host communications if the primary link fails.

The **EP-1502** is available in a standard 6 MB memory configuration, which will hold up to 197,000 cards and store 50,000 events. It supports up to 32 access levels per card and will support two doors, making it ideal for two-door systems.

The **EP-2500** is an enhanced version of the EP-1502. It is available in a standard 12 MB memory configuration, which will hold up to 395,000 cards and store 50,000 events.



Peripherals and Enclosures

RS2's selection of field input/output (I/O) modules, multiplexers, enclosures, and other options adds functionality and flexibility to the System Control Processor line. RS2 also offers a wide range of proximity, biometric, and magnetic stripe card readers and a large selection of proximity and smart cards.

MR-50 and MR-52 Input/Output Modules – The **MR-50** will interface one card reader, one general-purpose input monitor point, two control relays, and associated door hardware. Its compact 2.75" x 3.25" (75 mm x 85 mm) size makes it ideal for applications requiring installation at or near the door it is controlling. The **MR-52** will interface two card readers, four general-purpose input monitor points, four control relays, and associated door hardware.



RS2 I/O Modules are designed to interface with a variety of card readers, general purpose input monitor points, and output control relays.

Both the **MR-50** and **MR-52** pass access request and status change information to the SCP for processing. When not connected to an SCP, the units are capable of locally processing access requests based on facility code verification. Both models include these features:

- Support for magnetic, Wiegand, and proximity card readers, as well as keypads and integrated keypad readers
- Hardware interface and card format settings are loaded through software commands
- Inputs and relays assignable to door-related functions or general purpose I/O
- Relays can be configured for fail-safe or fail-secure operation
- 2-wire RS-485 serial communications at speeds up to 38.4 KBps
- Supervised or unsupervised inputs
- Up to 8 facility codes may be active in each unit

MR-16OUT and MR-16IN Interface Modules – The **MR-16OUT** will interface 16 output control relays to an access management system through an SCP. Relays are often used for status annunciation and for general facility control such as lighting, heating/cooling, door and elevator control. Relay operation may be initiated by direct operator commands, by time schedules, or by event-based procedures.

The **MR-16IN** will interface 16 general-purpose input monitor points and two control relays to an access management system through an SCP. Inputs are often used in alarm monitoring applications such as door sensors, glass break sensors, water/water flow sensors and smoke detector applications. The **MR-16IN** can also be used in elevator applications that require floor select capability. Both the **MR-16OUT** and **MR-16IN** include these features:

- 12-24 VDC operation
- 2-wire RS-485 serial communications at speeds up to 38.4 KBps
- Dedicated cabinet tamper and power monitor inputs
- Relays can be configured for fail-safe or fail-secure operation
- Relays support "On", "Off", and "Pulse" commands

Multiplexers – The **MUX-8** is an eight-port RS-485 multiplexer that takes an RS-485 or RS-232 input and multiplexes eight 2-wire RS-485 communication channels. Common uses are for star topology wiring schemes, home-run wiring, or when wiring distances exceed the 4000-foot limit of the RS-485 standard. The **MUX-8** offers the added flexibility of expanding a single data line into multiple data lines providing numerous installation configuration options.



Enclosures and Options – The **NCL** is an 18-gauge steel enclosure, designed with flexibility and easy installation in mind. The rugged 18" x 15" x 4" (45.7 cm x 38.1 cm x 10.2 cm) case accommodates multiple board configurations, including up to three full-size boards or five mid-size boards. And, by utilizing optional **4AP** adapter plates, installation of as many as eight I/O modules is made possible. Standard features include a dedicated cabinet tamper switch, a cabinet security lock and a multipurpose hardware cabinet legend. Ten electrical knockouts help simplify installation.

Options for the **NCL** include the **4AP** adapter plate, **LIN-PS** and **SW-PS** power supplies, and **BAT-70** battery backup, which includes a rechargeable 7.0 Ah (@ 12 VDC) battery. Power supplies are available in either a 4 A switching model or a 2.5 A linear model. Both power supplies include battery charger and power fail detection.