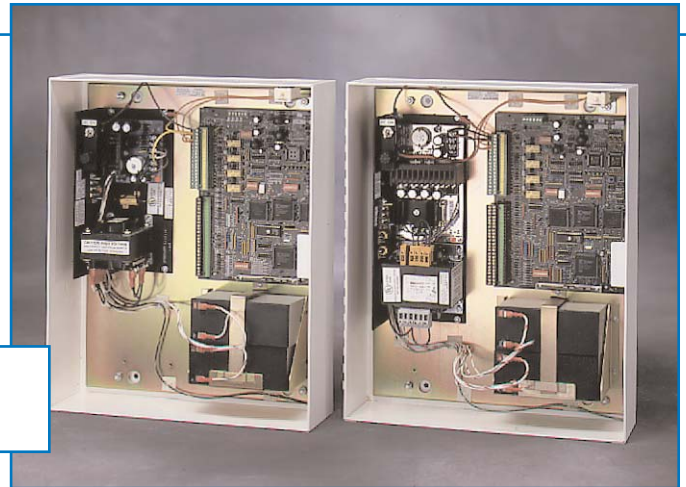


Networked Intelligent Controllers

ACUR2 & ACUR4



The ACUR2 and ACUR4 Networked Intelligent Controllers provide a cost effective solution to the provision of two and four-reader and/or keypad installations while optimizing the flexibility and reliability required for today's access control and alarm monitoring environment.

Using a sophisticated 16-bit microprocessor, the ACUR2 can control up to two readers and/or keypads, and the ACUR4 can control up to four readers and/or keypads. These controllers incorporate most of the features of the ACU2 products, combined with the RRE2A and RRE4 Remote Reader Electronic (RRE) interfaces.

Features

- Supports two (ACUR2) or four (ACUR4) readers and/or keypads. The R2 is expandable via a single RS-485 port to four readers/keypads and the R4 is expandable through two RS-485 ports to eight readers. Both utilize multi-dropped RRE modules or single-stage readers for RS-485 expansion.
- Supports magnetic stripe, Wiegand, barium ferrite, infrared barcode, proximity, biometric and smart card technologies for readers and cards. Variable card formats; multiple site and company codes are supported on a reader-by-reader basis.
- Alarm Monitoring: ACUR2 includes four and the ACUR4 includes eight supervised six-state alarm inputs configurable for door contacts, request-to-exit, intrusion detection or general alarms.
- The ACUR2/ACUR4s also contain four auxiliary output relays which, can be locally or globally linked to single or multiple alarm inputs with conditional activation. Included in both controllers are four relay outputs configurable for door locks, local annunciation or auxiliary outputs.
- Supports Remote Input Modules (RIM) and Remote Relay Modules (RRM) to a maximum of 64 (ACUR2) or 128 (ACUR4) remote input or output points.
- Provides local and global alarm masking capabilities initiated from readers, keypads or operators.
- Full system database and parameters downloaded for real-time local processing and control of readers and/or keypads.
- Provision for UPS battery backup for controller, readers, modems and door locks standard.
- Both controllers are fully functional ACU panels integrated with electronic interfaces for support of readers and/or keypads.
- Communication to the host is via RS-232, RS-485, leased line modem, or LAN with the optional LAN kit.





System Description

The ACUR2s and ACUR4s interface with all SAPPHIRE, SAPPHIRE Pro and DIAMOND II systems and offer the latest in features and flexibility with an overall design for reliability, durability, ease of installation and maintenance. The ACUR2/ACUR4 also interface with all of InfoGraphics' ACU panels, and are compatible with the earlier S100/200, the ONE-32 PLUS and ONE-32 MP series of host computers.

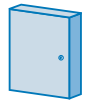
The ACUR2s can be expanded to four readers by using RRE Modules (RRE-1s, RRE2-1s or RRE2A-1s). It can also be expanded to include a combination of up to four RIMs and RRM. The ACUR4 can be expanded to eight readers by using RRE modules (RRE-1s, RRE2-1s, RRE2A-1s or RRE4-1s). It can also be expanded to include a combination of up to eight RIMs and RRM.

For further details on the expanded input and output capabilities, see the ACU Remote Modules datasheet.

Local Database

The ACUR2/ACUR4's local database is downloaded from the server to provide local access control processing even when communication to the server is lost. The local database includes storage of 10,000 card records (optionally up to 128,000) each stored with PIN, timezone and door authorization parameters. When a card is presented to a reader, the ACU retrieves that record from its local database to determine if that individual is authorized for entry at that door, on that day and time, and, if authorized, activates the appropriate door strike relay. When the transaction is complete the access event is transmitted to the server for storage on disk. If communication has been lost between the ACU and the server, the event is stored locally until communication is restored, at which time, stored events are transmitted to the server for storage on disk. A minimum of 1,000 event transactions can be stored in local memory. The actual number of transactions that may be stored is dynamically allocated depending on memory size and number of cardholders.

| Cable Number | Description | Belden Cable Number (or approved equal) | Maximum Distance |
|--------------|--|---|------------------|
| ① OR | Communication (RS-485) | #9842 or Alpha #6222C, 24 AWG, 2-pair, individual shields, braid overall shield | 4,000' (1,220 m) |
| | Power (24 VDC) | And #9407 (paired) or Alpha #1172C, 22 AWG, 2-conductor/unshielded | 1,000' (305 m) |
| | | Or #9409 (paired) or Alpha #1897C, 18 AWG, 2-conductor/unshielded | 4,000' (1,220 m) |
| ① | Communication (RS-485) and power (24 VDC) | #9329-22 AWG, 3-pair/individual shields | 1,000' (305 m) |
| | | Or #9369-18 AWG, 3-pair/individual shields | 4,000' (1,220 m) |
| ② | Door Contact Input | #9407-22 AWG, 2-conductor (unshielded) | 1,000' (305 m) |
| ③ | Exit Request Button/Sensor Input | #9407-22 AWG, 2-conductor (unshielded) | 1,000' (305 m) |
| ④ | Door Lock Control from Controller or RRE | #9409-18 AWG, 2-conductor (unshielded) | 1,000' (305 m) |
| ⑤ | Standard Reader Keypad (only) Communications | #9514-22 AWG, 8-conductor (typical) or | 500' (152 m) |
| | | #3006A-22 AWG, 16-conductor (both shielded) | 10' (3 m) |
| ⑥ | Controller to Host Communication or other ACU panels | #9842-24 AWG, 2-pair/individual shields | 4,000' (1,220 m) |



Communication Options

The ACUR2/ACUR4 are available with a full dial-up control facility when connected over normal dial-up telephone lines to any of the SAPPHIRE, SAPPHIRE Pro and DIAMOND II servers. The dial-up software is designed to allow the ACURs to access up to eight preprogrammed telephone numbers through an optional modem to annunciate alarms and upload transaction history.

The optional modem is powered from the ACUR2/R4's UPS power supply and consequently can continue communications in the event of a local power failure.

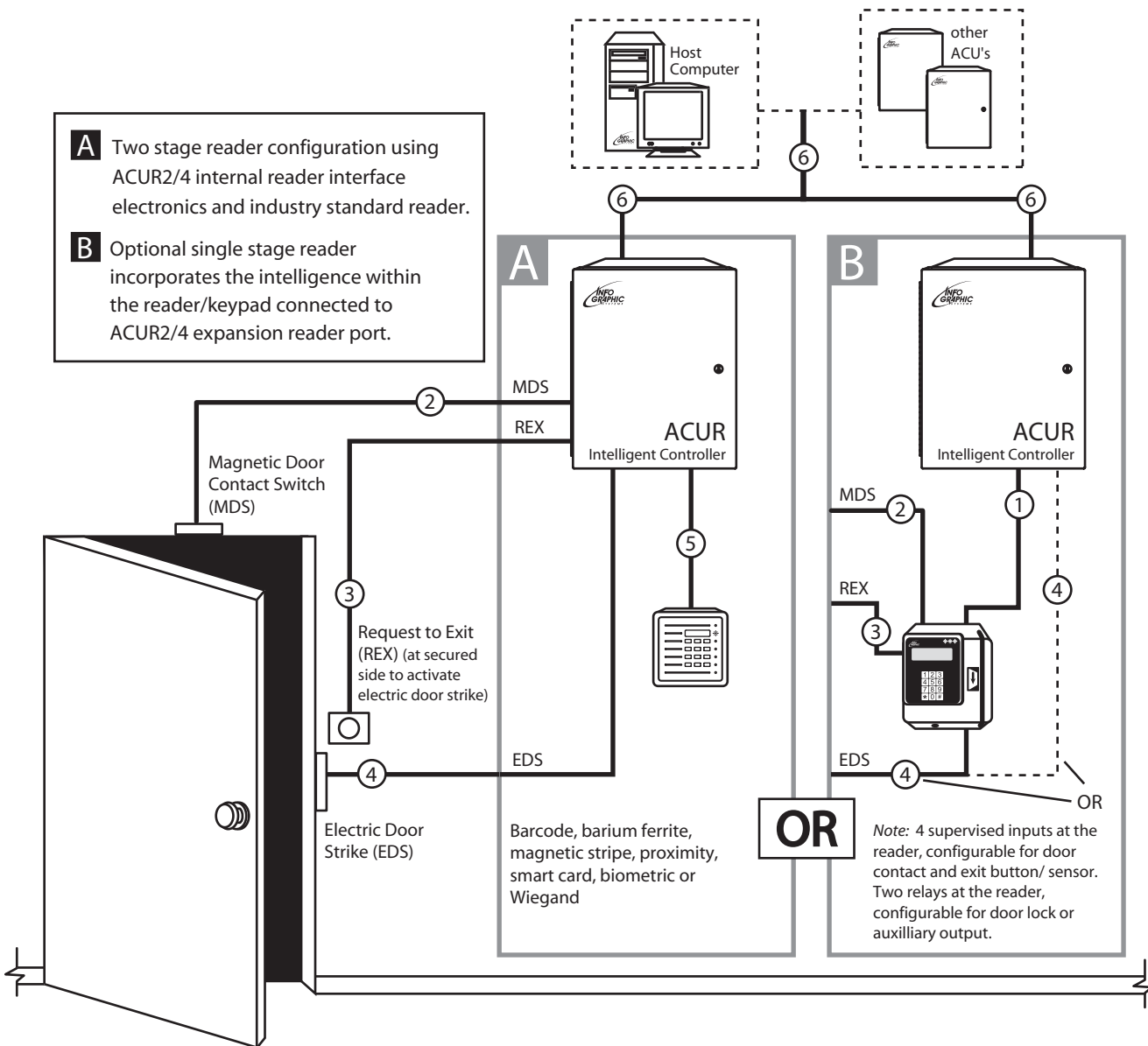
The ACUR2 dial-up communication facility can be programmed to ensure a secure communication path for alarms in addition to the normal upload and download

facilities. The system allows the segregation of separate *Alarm Only* ports at the server to ensure that a reporting path is always available for alarm annunciation no matter how many panels may be undergoing the upload or download of database information simultaneously.

Integrated Interface

Reader Architecture

The ACUR2 and the ACUR4 offer the flexibility of Reader Interface Electronic installations in either of two configurations (see below).



ACUR2 & ACUR4 Networked Intelligent Controllers

Specifications

Standards - All ACUR2 and ACUR4 controllers are designed in accordance with the following standards:

- UL 294
- FIPS 46-1
- UL 1076
- MIL-STD 450B
- NISPOM
- FCC CLASS A
- DCID 1/21
- CE

Dimensions

Height: 20.12 in (51.1 cm)

Width: 16.50 in (41.9 cm)

Depth: 5.00 in (12.7 cm)

Weight (w/ batteries):

45 lbs (20.4 kg)

Weight (w/o batteries):

33 lbs (15 kg)

Environmental

Maximum: +65C (+150F)

Minimum: 0C (+32F)

Humidity: 0 to 95% relative

Power

- 24 VDC @ 4 Amp output, 120/240 VAC, 50/60 Hz, 1 Amp, 120 Watts maximum
- 24 VDC @ 8 Amp output, 120/240 VAC, 50/60 Hz, 2 Amp, 120 Watts maximum

Options

- Expanded memory version for local storage of up to 50,000 or 128,000 card records
- Dial-up modem
- Network interface
- Gel-cell batteries for UPS
- DES encryption

Ordering Information

Networked Intelligent Controller Options

| Part Number | Description |
|--------------|--|
| ACU-BAT-1 | 2 12-volt, 7-Amp gel cell batteries without mounting bracket |
| ACU-BAT-2 | 2 12-volt, 7-Amp gel cell batteries with mounting bracket |
| ACU-BAT-4 | Battery mounting bracket with hardware (no batteries) |
| ACUR2/R4 DES | DES Encryption option |
| ACU-PAK-D1 | Dial-up kit |
| ACU-LAN-KIT | LAN kit |

Order Numbering

Select one from each column to determine proper model number for ordering. See example below.

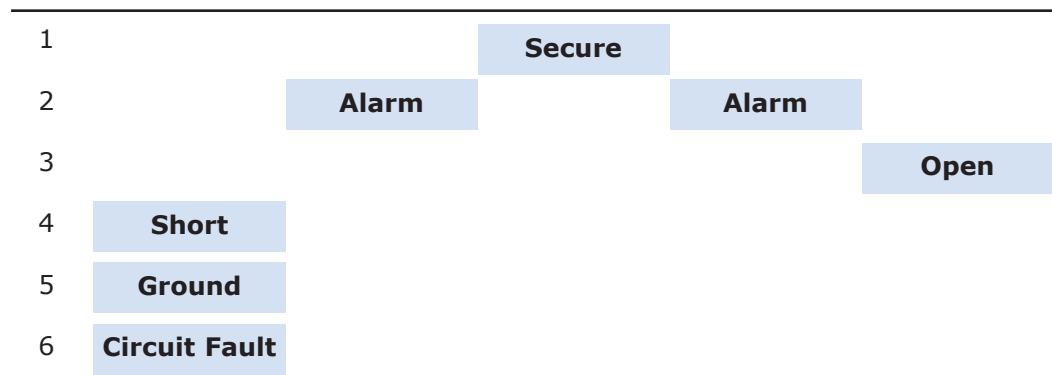
| Controller Type | Card Capacity | Power Supply | Enclosure | Comm. Options |
|-----------------|-----------------------------------|--|-----------------------------------|--|
| ACUR2 ACUR4 | A-10,000 C-50,000 D-128,000 | 0-None 1-4A, 24 VDC 2-8A, 24 VDC | A-None B-Standard C-NEMA 12 | 0-None 1-Dial-up 2-Network Interface |
| ACUR2 | C | 2 | B | 1 |

Example: ACUR2-C2B1

A two-reader controller with 50,000 card capacity, power supply (8 Amp, 24 VDC), standard enclosure and dial-up communications.

Six-state Supervision

All alarm input points of the ACUR2/R4, RRE and RIM are fully supervised using parallel/series end-of-line resistor network. Six-state supervision indicates all wiring conditions.



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