SOFTWARE HOUSE

From Tyco Security Products

iSTAR Edge
One-,Two- or Four-Reader IP Edge Device

Features That Make a Difference:

- Controls and powers all access control devices at the door to minimize installation costs

- Optional Power over Ethernet (PoE) module features PoE Plus with enough power for two doors and associated devices

- Powerful iSTAR feature set including anti-passback and advanced peer-to-peer clustering

- Localized access control decision-making with storage for over 400,000 personnel records

- Jumper-selectable 12 or 24 VDC for lock power

- Dedicated input for fire alarm interlock releases door locks during fire conditions

- Local LCD and LEDs provide clear startup and troubleshooting information

- AES 256 network encryption; FIPS 197 listed

- Compatible with C•CURE 9000 and C•CURE 800/8000

iSTAR Edge is a powerful, IP edge access control device that provides a strong feature set to secure any door. Available in one-, two- or four-reader models to provide the right size controller for your specific application. Its optional Power over Ethernet (PoE) module provides ample power for two doors, and allows iSTAR Edge to leverage existing network infrastructure to reduce installation costs.

iSTAR Edge increases overall system reliability by providing localized decision-making at each door. The controller has a robust local cardholder database of over 400,000 personnel records and local alarm and event buffering in the event communication to the host is unavailable.

iSTAR Edge has been designed to drastically lower installation and startup costs. Embedded lock power management, including powered (wet) lock outputs with individual resettable fused protection, eliminates the need for additional power supplies and fused power distribution boards normally required for traditional installations. Combined with removable connectors, a local display for quick troubleshooting, and status LEDs, iSTAR Edge streamlines even the toughest installation. Furthermore, with remote web diagnostics, you can find and fix performance issues anywhere in your facility using a web browser.

The iSTAR Edge enclosure has expansion capability for up to two input/output modules[1], and is protected with a built-in tamper switch to ensure the controller is not accessed by unauthorized personnel. Security risks are significantly reduced with encrypted communications and denial-of-service protection against network intrusion, making iSTAR Edge a highly secure network device.
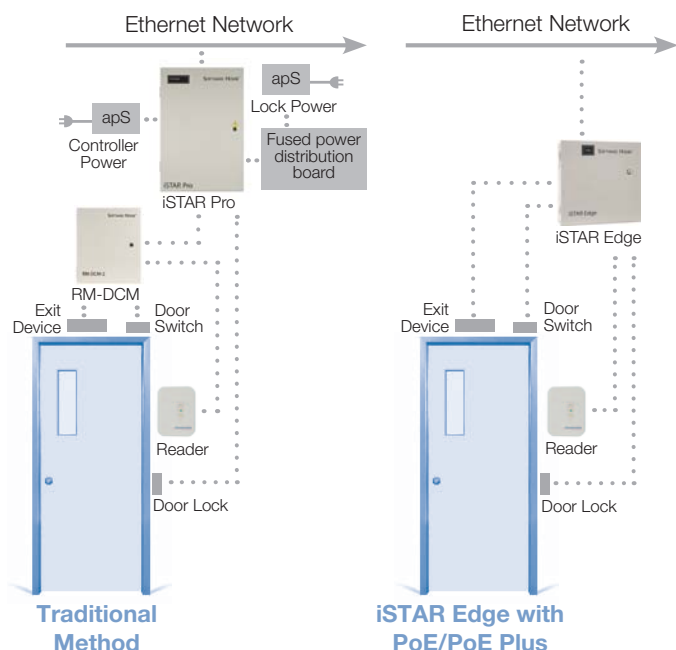
(1) Not available on one-reader model

Features

Lower Installation Costs

iSTAR Edge features both PoE and PoE Plus capabilities which allow you to use your existing network to power two doors. While PoE provides enough power for one door and one to two readers, PoE Plus allows for up to 25.5W of power, enough for two doors and associated readers, locks, local annunciators, and exit devices. Wiring and equipment costs are lowered dramatically with PoE technology, and since PoE is provided as an optional module, you only pay for PoE when you need it.

iSTAR Installation Comparison

Ethernet Network

apS
Lock Power
apS
Controller Power
Fused power distribution board
iSTAR Pro
RM-DCM
Exit Device
Door Switch
Reader
Door Lock
Traditional Method

Ethernet Network

iSTAR Edge
Exit Device
Door Switch
Reader
Door Lock
iSTAR Edge with PoE/PoE Plus

By providing powered (wet) lock outputs that power locks and other devices directly, iSTAR Edge eliminates the need for additional interposing relays and distribution boards. Each output is protected with a resettable PTC fuse and can supply up to 0.75 A of current. When powered through PoE or PoE Plus, the output voltage level is selectable between 12 and 24 VDC, and when powered with a local DC source, the output voltage follows the input voltage (12 or 24 VDC). Each output can be switched between wet and dry for ultimate flexibility.

Easy to Setup

iSTAR Edge supports Dynamic Host Configuration Protocol (DHCP) to simplify installation. For easy setup, iSTAR Edge also support Domain Name System (DNS), which translates domain names into IP addresses, and WINS, a system that determines the IP address associated with a particular computer on the network.

Effective Communication with Clusters

iSTAR Edge features advanced peer-to-peer cluster communications so that controllers can communicate with each other without requiring host intervention. A single connection from the host supports multiple controllers through a TCP/IP subnet. User-defined groups of up to 16 controllers (clusters) can be created to enhance security by separating a widely dispersed facility into different controlled areas. A cluster is led by a master controller which manages the primary communication between the host computer and the remaining controllers within the cluster. The master controller communicates all event and cardholder data between the cluster and the C•CURE 9000 host.

Additionally, controllers within a cluster can communicate through the master to link events and control anti-passback in the area secured by the cluster. To ensure constant security, clusters also feature a secondary communication path in the event the master controller loses communication with the network.

Keypad Commands and Extended Card Numbers Enhance Security

Keypad commands provide a powerful way to activate events such as triggering a duress call, sounding an alarm, locking and unlocking doors - directly from an RM reader keypad. Commands can be configured to require a card presentation and/or a PIN to validate the command.

iSTAR Edge supports extended card numbers, which help with compliance with certain U.S. federal guidelines (such as FIPS 201) that require a Cardholder Unique Identifier (CHUID). In addition, iSTAR Edge supports card numbers of up to 256 bits, eliminating the need for multiple facility codes, site codes, or offset in order to avoid card duplication. Longer card numbers offer greater protection against card duplication and are especially valuable to customers who require card numbers that exceed ten digits.

Improves Life Safety

A dedicated input for a fire alarm tie-in automatically releases selected door lock outputs in the event of a fire condition. The fire input may be unsupervised or supervised, and the release circuit does not require software programming for operation. In addition, a second input for a manual keyswitch is provided, such that the door lock outputs will not re-energize unless authorized safety personnel confirm the safety of the building via the keyswitch. The keyswitch functionality is enabled via an onboard dip switch.

Flexible Card Management

iSTAR Edge allows you to assign up to five cards per cardholder record rather than having to create a separate record for each card. This simplifies the management and maintenance of personnel records. You can assign a PIN as one of the cards for a flexible and secure solution. iSTAR Edge can support up to 128 card formats systemwide and ten card formats per reader including smart cards, and PIV II and TWIC formats. This expanded ability to use multiple card types (such as 26-bit, 37-bit, or Corporate 1000) at a single reader frees you from having to consolidate or re-issue new cards.

Data Security is Critical

iSTAR Edge features strong 256-bit AES network encryption between the controller and host, and between controllers within a cluster. Multi-key and password authentication and built-in denial-of-service protection provide a barrier against intrusion. Additionally, iSTAR Edge addresses the needs of businesses to protect critical security data. With instant database backup and restore capabilities, iSTAR Edge provides a highly reliable security solution and ensures that important data is protected, even during communications failure.

iSTAR Edge Board Layout

Easily Test and Troubleshoot

iSTAR Edge devices include a built-in suite of diagnostics to test and troubleshoot hardware components such as inputs, outputs, reader ports, last card read, and battery voltage. In addition, you can retrieve real-time status and diagnostics of:

- controller time/boot time
- total/available memory
- connection status
- firmware and OS versions
- hardware (MAC) and IP addresses
- downloaded clearances and cardholders

Plus, iSTAR Edge includes a local LCD and LEDs for easy installation and quick troubleshooting.

Choose an iSTAR Architecture That Makes Sense for Your Application

Providing a security solution that is unsurpassed in the industry for its versatility and security, iSTAR Edge devices can be used together in the same system with iSTAR Pro and iSTAR eX controllers. This provides an enterprise solution that recognizes that even the largest corporations have smaller branches and facilities that may need to use the same security standards without enormous overhead. iSTAR Edge and iSTAR eX controllers may also be part of the same cluster along with the iSTAR Pro when using C•CURE 9000.

The four-reader iSTAR Edge allows expansion to a third and fourth reader using RM-4, RM-4E, or RM readers connected using the RS-485 RM bus. (Note: The two-reader model is not upgradable to a four-reader model).
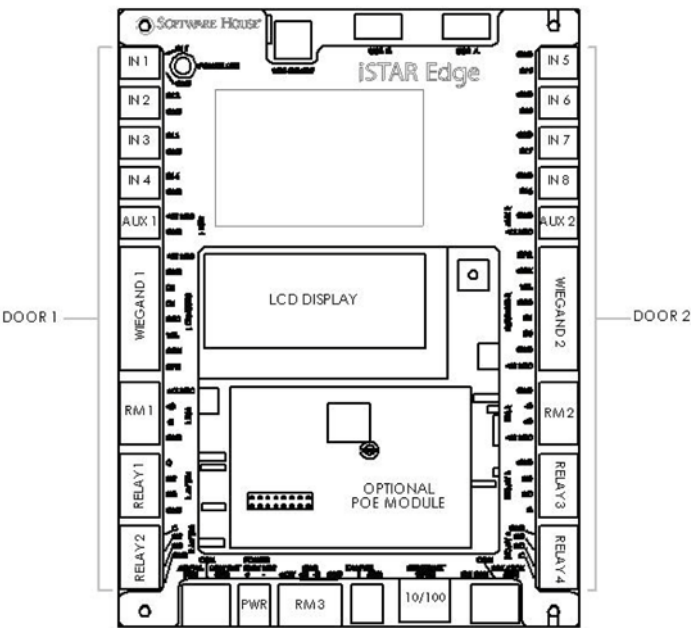
iSTAR Edge Feature Comparison			
	One-Reader	Two-Reader	Four-Reader
Wiegand Reader Ports	1	2	2
Supervised Inputs	4	8	8
Tamper, AC Fail, Low Battery Inputs	Yes	Yes	Yes
Outputs	2	4	4
RM Ports	0	3	3
Input/Output Expansion	No	4-I8, 4-R8	8-I8, 8-R8
RM-4, RM Reader Support	No	Yes, 2 max	Yes, 4 max
USB Ports	0	3	3
Fire Alarm Inputs (FAI)	Yes	Yes	Yes
Local Display (LCD)	Yes	Yes	Yes
Power over Ethernet (PoE)	Yes, optional	Yes, optional	Yes, optional
FIPS 197	Yes	Yes	Yes

Model Numbers	Description
ESTAR001	iSTAR Edge 1-reader, with enclosure
ESTAR001-POE1	iSTAR Edge 1-reader, with enclosure & PoE module
ESTAR001-MB	iSTAR Edge 1-reader, motherboard only
ESTAR001-MBP	iSTAR Edge 1-reader, motherboard with PoE module
ESTAR002	iSTAR Edge 2-reader, with enclosure
ESTAR002-POE1	iSTAR Edge 2-reader, with enclosure & PoE module
ESTAR002-MB	iSTAR Edge 2-reader, motherboard only
ESTAR004	iSTAR Edge 4-reader, with enclosure
ESTAR004-RM	iSTAR Edge 4-reader, with enclosure & two RM-4 modules pre-mounted
ESTAR004-MB	iSTAR Edge 4-reader, motherboard only

Specifications

Physical

Dimensions (H x W x D)
  Enclosure . . . . .305 x 305 x 101 mm (12 x 12 x 4 in)
  Board . . . . .190 x 146 x 25 mm (7.5 x 5.75 x 1 in)
Enclosure Material . . . . 18g steel, with lock and tamper
Expansion . . . . Includes mounting standoffs for two point expansion modules (I8, I8-CSI, R8 or RM-4)
Environmental . . . . 0° to 50° C (32° to 122° F) 5 to 95% relative humidity, non-condensing
Weight with Enclosure . . . . 4.2 kg (9.3 lbs)

Electrical

Power Requirements . . . . .12 VDC (-15/+20%) or 24 VDC (-15/+25%), auto-sensing Board only: 200 mA@12 VDC or 100 mA@24VDC; Max. of 3.8 A@12 VDC or 3.1A@24VDC for board plus all attached devices.

Optional PoE Plus Module

Standards Supported . . . . PoE (802.3af), 12.95 W min; PoE Plus (802.3at), 25.5 W min Power negotiation uses two-state physical discovery (LLDP-MED not supported)
PoE Standard Selection. . . . . Jumper-selectable
Lock Power Voltage . . . . Jumper-selectable between 12 and 24 VDC; applies to all four outputs
Power Available for
Attached Devices[2] . . . . PoE: 600 mA@12 V or 300 mA@24 V PoE Plus: 1400 mA@12 V or 700 mA@24 V
Heat Dissipation . . . . 90 BTU/HR typical
Memory and RTC Backup. . . . . . . Four standard AA alkaline batteries provide automatic database backup to flash memory
Battery Life . . . . Five years (estimated – without power interruptions)

System Memory

Memory. . . . . 64 MB RAM, 128 MB flash EEPROM

Cardholder capacity

One clearance, one card/person, ten-digit cards 400,000
Ten clearances, one card/person, ten-digit cards 230,000
One clearance, five cards/person, ten-digit cards 130,000
Ten clearances, five cards/person, 40-digit cards 85,000

Note - Memory allocation is dynamic and shared between cardholders, event storage, and configuration information.

Network Communications

Ethernet Ports . . . . One, 10/100Base-T
Network Encryption . . . . AES 256-bit, FIPS 197

Readers

Number of Readers
Supported . . . . One, two, or four
Types of Readers Supported . Wiegand and RM (RM only for readers 3 and 4)
Reader Technologies
Supported . . . . Multi-Technology, Proximity, Smart Card (incl. PIV II & TWIC), Wiegand and Magnetic Stripe (RM only)
Maximum Distance to Door. . RM: 1,219 m (4,000 ft); Wiegand: 150 m (500 ft)
Reader Power Available. . . . . 12 VDC, 1.5 A total (including aux power and RM port power)
RM Bus Communications . . . Three ports, RS-485 half duplex, two wire, plus optional two wires for device power (One-reader model does not have RS-485 ports)

Inputs

Supervised Inputs . . . . Eight, single or double-resistor (One-reader model would have four)
Fire Alarm Interlock Inputs . . . Two, fire alarm input and manual keyswitch override (supervision supported)
Additional Inputs . . . . Tamper switch, power fail, and low battery
Input Expansion. . . . . Up to 32 additional inputs using I8 input modules on RM bus (64 additional with 4-reader model)
Auxiliary Power Available . . . 12 VDC; two (350mA each) (One-reader model has one port)

Outputs

Outputs . . . . Four, individually configurable via jumper as power sourcing (wet), or dry contact relay (one-reader model has two)
Output Power, Wet . . . . 12V or 24 VDC, 0.75A (If iSTAR Edge powered locally, output voltage follows input voltage. If using PoE/PoE Plus, jumper-selectable between 12 and 24 VDC)
Output Protection,
Per Output. . . . . PTC resettable fuse, 0.75 A, snubber, transzorb
Output Rating, Dry . . . . 30V AC/DC, 3 A
Output Expansion . . . . Up to 32 additional Form C relay outputs using R8 output modules on RM bus (up to 64 additional with 4-reader model)

Regulatory

Access & Burglar. . . . . UL 294, UL 1076, ULC/ORD C1076, CSA C22.2 No. 205
Fire . . . . UL 2043 (for use in plenum air handling spaces)
Safety . . . . EN 60950, IEC 60950 (2- or 4-reader only)
EMI/EMC. . . . . FCC Part 15 Class A (Class B with shielded Ethernet cable), EN 55022, EN 55024, EN 50130-4, AS/NZS CISPR 22, ICES-003
Physical. . . . . EN 50130-5, EN 50133-1
Encryption . . . . FIPS 197
Environmental . . . . RoHS
International. . . . . CE, cULus, C-Tick

(2) Please refer to iSTAR Edge Power Budget Calculator for details.
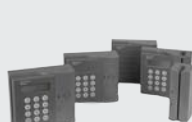
Related Products

C•CURE 9000

C•CURE 9000 SiteServer

C•CURE 9000 Web Client

RM Series Card Readers

Approvals