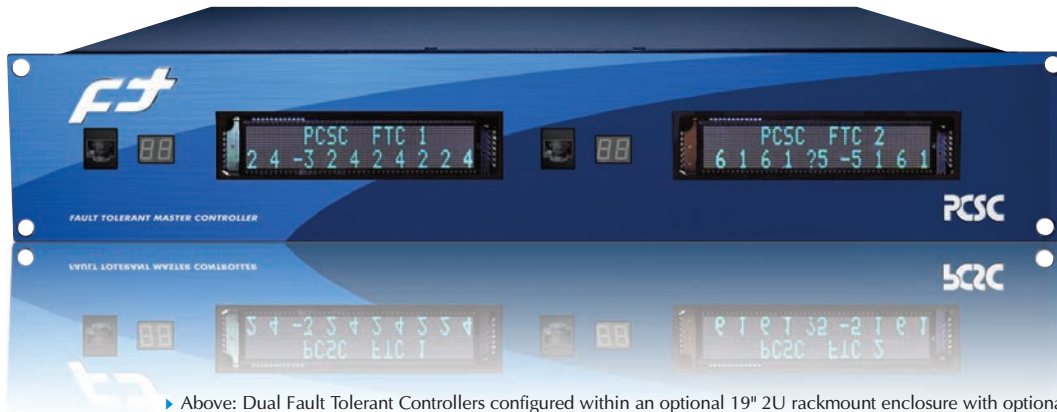


Fault Tolerant FT™ Controller



Above: Dual Fault Tolerant Controllers configured within an optional 19" 2U rackmount enclosure with optional dual vacuum fluorescent displays. Fault Tolerant Controllers are also available in standard enclosures.

A Higher Level of Reliability for Access Control

PCSC offers the world's first patented Fault Tolerant (FT) Controller Series creating the highest level of reliability with its automated process of system recovery for access control, alarm monitoring and output control systems. The FT Architecture (FTA) is the next evolution of building security management designed with a Virtual Point Definition network, integrated peer-to-peer and redundant communications. The FT system is designed to automatically recover regardless of communication or controller failure.

The FT system may be designed with an "Active/Active" or "Active/Inactive" system architecture. If for any reason, a primary controller fails, an alternate controller shall automatically take over the duties of the failed controller. The progression of successors to a faulty controller shall continue to provide security without any degradation in system operations.

The FTA consists of one or more Fault Tolerant Controllers (FTC) and Door Interface Modules (DIM). The FTCs and DIMs are designed with an *Open Standards Operating System* utilizing *Hydra Protocol* to provide the highest level of system operations and reliability. The DIM is currently offered in a Dual Door Module (DDM) or Single Door Module (SDM).

PCSC's Hydra Protocol not only maintains communication integrity but also provides a network database manager to control system parameters, access, alarm and output data. Utilizing peer-to-peer communication, the Hydra Protocol communicates system updates with other FTCs within its network. Changes to data such as: cardholder, input and output statuses are automatically updated among the appropriate FTC. Hydra Protocol also contains a firmware management application to maintain firmware integrity of its DIMs. It maintains the approved firmware and firmware level and automatically updates older versions of DIM firmware, eliminating any security breach or service time.



The Fault Tolerant system utilizes a series of sub-systems, DIMs (Door Interface Modules) to ensure higher level security architecture, providing a simple installation and a low cost security solution.



Sub-system
Compatible Door
Interface Modules (DIMs).
See reverse for details



Dual Door Module (DDM)



Single Door Module (SDM)

Fault Tolerant Security System
U.S. Patent No. 7,644,299

System Standard Features

- Fault Tolerant Process
- Automatic Hot Cutover
- Fail Safe Operations
- Open Systems Platform
- Open Architecture Protocol
- Ethernet / PoE Communication
- Peer to Peer Communications
- Homeland Security Threat Level Control
- Auto Alternate Communication Routing-3 Types
- Access Action for Disabled Persons
- Supervisory Controlled Entry Authorization
- Onboard Rechargeable Battery Circuit
- Event Control Card Logic
- Cardholder or Card Group Action
- User Programmable Input Action
- Dynamic Input to Output or Group Output Linking
- Global Anti-Passback
- 3 Levels of Anti-Passback Control
- Automatic Card Activation and Deactivation by Date and Time
- User Configurable Cardholder and History Capacity
- User Selectable Input Monitoring Modes

High Security Features:

- "Threat Level" Card Authorization Logic
- Two Person Minimum Occupancy Rule
- Escort Capable and/or Required
- 5 State Alarm Monitoring
- 2 Stage Alarm Control
- Alarm Latching
- AC Power Fail Notification
- DC Low Power Notification
- Supervised Readers
- Supervised Tamper
- Supervised REX
- FIPS 201 and TWIC Compliant

Options and Upgrades

Second and Third Communication Port

Power Supply with Battery Charger

Enclosures:

2U - 19" Rack Mount Housing with Vacuum Fluorescent Display

Specifications

Power Consumption: Maximum 1.0 Amps @ 12 VDC

Environmental: 32°-115° F (0°-46° C)

Humidity: 0 - 90% Non-Condensing

Enclosure Dimensions

16 AWG CRS Enclosure with Supervised Tamper, Lock, and Key

Medium (M): 18" h x 11.5" w x 6" d (45.7 cm x 29.2 cm x 15.2 cm)

Large (L): 21.6" h x 16.1" w x 5.7" d (55.4 cm x 40.9 cm x 14.5 cm)

Rackmount (2U): 3.5" h x 19" w x 13" d (8.9 cm x 48.3 cm x 36.8 cm)

Weight: (M) 25 lbs. (17.2 Kg), (L) 35 lbs. (24.2 Kg), (2U) 15 lbs. (6.8 Kg)

System Hardware Features

FT Controller

- 32 Bit ARM Processor and Architecture
- Battery Backed Memory (1 year)
- Battery Backed Clock Calendar (1 year)
- Onboard Ethernet Communication
- PoE (optional)
- Wireless Mesh Communications (Optional)
- Seven Segment Status Display
- Host Online Notification
- FLASH Memory
- 5 State Alarm Monitoring
- Supervised Tamper
- Separate Tamper Input
- Battery Charger Output
- Electronically Protected Power Input
- Powered Lock Output
- Vacuum Florescent Display (optional)
- UL 294 & UL 294B

FT Controller Capacities

- FTC Controller Support: Maximum 112 DIMs per FTC
- Cardholders: 20,000 (standard) – 250,000+
- History Transactions: 20,000 (standard) – 250,000+
- Each Cardholder Supports 16 Access Groups
- Simultaneous Multi Card Format Recognition
- Multiple Site Codes (16)
- 16 to 512 Five-State Inputs Supervision*
- 16 to 512 Temperature Monitoring*
- 16 to 512 Relay Outputs*

* Please consult your PCSC representative for configuration availability

Door Interface Module (DIM) Features

DDM – Dual Door Module

- 32 Bit ARM Processor and Architecture
- Onboard Ethernet Communication
- PoE (optional)
- Wireless Mesh Communications (Optional)
- Dual Ethernet Communications (Optional)
- FLASH Memory
- 3 Communication Ports
- Seven Segment Status Display
- Host Online Notification
- Tamper
- Separate Tamper Input
- Battery Charger Output
- Electronically Protected Power Input
- 5 State Alarm Monitoring
- 2 Weigand Reader Ports
- 2 Door Lock Form C Relay Outputs
- 2 REX Inputs
- 2 Door Position Inputs
- 2 Alarm Shunt Outputs
- 4 Voltage Outputs
- 4 Sense Inputs
- Powered Lock Output
- UL 294 & UL 294B

SDM – Single Door Module

- 32 Bit CPU
- Onboard PoE Communication
- 1 Weigand Reader Port
- 1 Door Lock Form C Relay Output
- 1 REX Input
- 1 Door Position Input
- Powered Lock Output
- Hardware Equivelant: UL 294 Listed HID EdgePlus® ES400

Cabling Requirements

Switch-to-FT Controller: Cat 5/6
Maximum 328 ft. (100 m)

Switch-to-DDM: Cat 5/6
Maximum 328 ft. (100 m)

Switch-to-SDM: Cat 5/6
Maximum 328 ft. (100 m)

DIM-to-Reader:
6 Conductors (22 AWG with Overall Shield)
Maximum 500 ft. (152 m)

DIM-to-Door Lock: 2 Conductors (18 AWG)
Maximum 2,000 ft. (609 m)

DIM-to-Door Status: 2 Conductors (22 AWG)
Maximum 2,000 ft. (609 m)

DIM-to-REX: 2 Conductors (22 AWG)
Additional 2 Conductor (18 AWG for Powered REX Devices)
Maximum 2,000 ft. (609 m)