KEYSCAN
ACCESS CONTROL SYSTEMS
FROM KEYSCAN INC.

CIM
Communication Interlink Module

CIM : Communication Interlink Module

Keyscan's next generation communication module

Driven by innovation, Keyscan continues to exceed expectations with the introduction of the CIM (Communication Interlink Module).

The Keyscan CIM is a new communication control module designed to use a CAN Bus communication network to provide optimized server to Access Control Unit (ACU) communication as well as give users an all new ACU to ACU network providing inter-panel communication for global functions including anti-passback, global input/output and global time zones.

In addition to providing server to ACU and global inter-panel communication, the Keyscan CIM also includes an impressive host of new features including ground loop protection, enhanced device-based diagnostic capabilities, improved speed and unprecedented reliability.
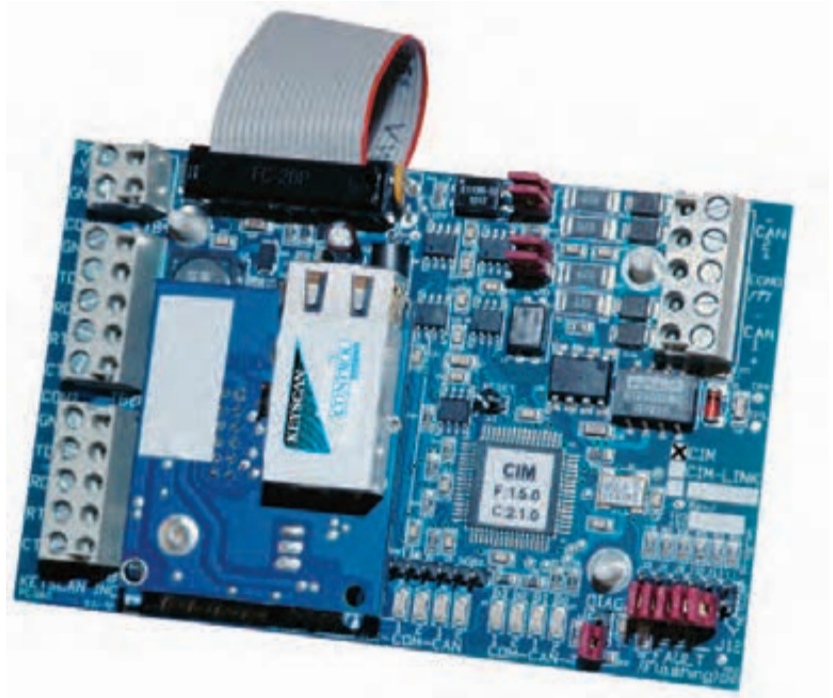
Keyscan CIM shown with optional NETCOM2P or NETCOM6P (encrypted) network communication adapter

How Keyscan CIM works

The Keyscan CIM utilizes a Controller Area Network (CAN) Bus infrastructure to establish a communication network among multiple ACUs as well the ACUs and a server. The capabilities of CAN surpass those of other serial communication technologies.

The Keyscan CIM offers many advantages. It combines the robust CAN Bus protocol with a hardware interface that is superior to the standard commercial-grade CAN Bus. It is a fully isolated CAN Bus using high speed digital isolation devices that separates ground reference of the CIM and ACU from the ground reference of the CAN Bus transceiver. This reduces problems found when there is a difference in ground potential between units. This is often seen in multi-building installations or in poor grounding conditions.

This isolation further protects the CIM, and connected ACU, from lightning or electrical surges reducing the occurrence of module failure. It also ensures a single unpowered CIM cannot adversely affect the data of the CAN Bus.

A common-mode filtering at the CAN Bus transceiver reduces ground referenced noise from the CAN Bus which improves signal quality reducing bit errors and bus faults.

DC biased termination resistors provide the necessary termination of the CAN Bus cabling but also ensure the full potential of the CAN Bus signal is utilized.

Benefits of using Keyscan's CIM

Standardized Cabling: The Keyscan CIM establishes communication links for each control panel with Keyscan's CAN Bus communication protocol using one twisted pair cable for server to ACU communication and another twisted pair for global communication, all standard CAT5 cabling.

Ground Loop Tolerance: Keyscan's CIM maximizes electrical isolation to earth ground providing tolerance against ground loops.

Fault Tolerance: Unlike traditional communication devices, if one Keyscan CIM goes down due to unforseen circumstances, it won't take the entire loop down with it. The CAN Bus communication protocol offers non-interrupted communication of remaining devices on the CAN Bus network.

Communication speeds: Provides optimized communication speeds, up to 115K BPS.

Enhanced Diagnostic Capabilities: Provides a myriad of communication diagnostics annunciated with on-board LEDs for quick and easy device-based troubleshooting.

Auto Bit Rate Configuration: The CIM is designed to automatically match bit rate speed with ACU configuration. This convenient feature dramatically reduces installation time.

Network Adaptation: The CIM is designed to support Keyscan's plug-on TCP/IP network adapter NETCOM2P/NETCOM6P (encrypted) for fast and trouble-free network based server to ACU communication.

Ribbon Cable: The Keyscan CIM uses a simplified ribbon cable connection to ACU for fast installation.

Global Communication

Utilizing Keyscan's refined CAN Bus communication network, the CIM delivers impressive global communication capabilities that meet the demands of the most sophisticated access control implementations. When connected with CIMs, access control units on the CAN Bus network have ACU to ACU communication without server dependence. This permits a host of new features and capabilities that benefit both system design and installation flexibility.

Global Time Zone Control: The Keyscan CIM provides enhanced time zone control across ACUs connected to the CAN Bus global network. Manual time zone triggers or override commands may now be recognized across a series of ACUs rather than on an individual ACU basis.

Global Anti-Passback: The CIM product provides the enhanced capability to define an ingoing reader on one ACU and an outgoing reader on any other ACU on the Global CAN Bus. This provides a highly versatile anti-passback solution for any enterprise.

Global Lock Down Control: Keyscan CIM or CIM-Link allows for initiation of a globalized command via a supervised input or Present 3, to activate a lock down across all globally connected ACUs.

Global Input and Output Control: ACUs connected via CIM or CIM-Link devices now benefit from integrated global input/output control. This PC independent feature permits any ACU's auxiliary input to trigger an alarm output on any globally connected ACU equipped with optional global auxiliary relays.

Keyscan CIM-Link - Global Network (LAN/WAN) Connectivity Module

Keyscan has designed the CIM-Link, a TCP/IP companion module, which incorporates multiple CIM CAN Bus communication loops into a single global infrastructure. This promotes even greater global communication flexibility. Keyscan's CIM-Link module extends CAN Bus based ACU to ACU communication via a common LAN/WAN network. This maximizes system design options by expanding ACU to ACU functionality to multiple independent CAN Bus global networks utilizing common LAN/WAN (TCP/IP) infrastructure.
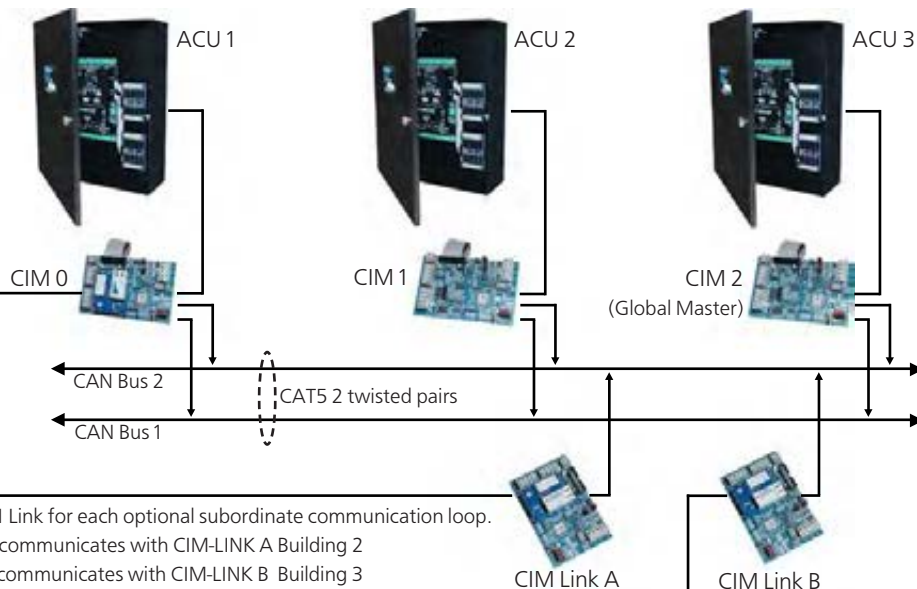
Connecting multiple optional CIM communication loops

Building 1

Communication Loop Master (optional)

ACUs communicate via Keyscan's new CIM infrastructure. These ACUs are interlinked with CAN Bus 1 establishing a link with the Keyscan communication server via USB, Serial or TCP/IP communication options. These ACUs are also interlinked with CAN Bus 2 delivering ACU to ACU global communication.

ACU 1

ACU 2

ACU 3

CIM 0

CIM 1

CIM 2
(Global Master)

CAN Bus 2

CAT5 2 twisted pairs

CAN Bus 1

Install 1 CIM Link for each optional subordinate communication loop.
CIM Link A communicates with CIM-LINK A Building 2
CIM Link B communicates with CIM-LINK B Building 3

CIM Link A

CIM Link B

Ethernet (LAN/WAN)   ← Virtual Connection   Virtual Connection →

Building 2

Communication Loop Subordinate (optional)

CIM Link A

CAN Bus 2

CAT5 2 twisted pairs

CAN Bus 1

CIM 0

CIM n

ACU 1

ACU 2
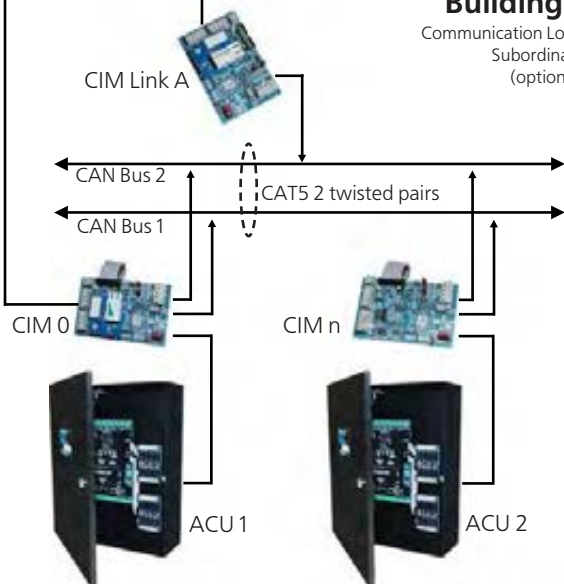
Building 3

Communication Loop Subordinate (optional)

CIM Link B

CAN Bus 2

CAT5 2 twisted pairs

CAN Bus 1

CIM 0

CIM n

ACU 1

ACU 2
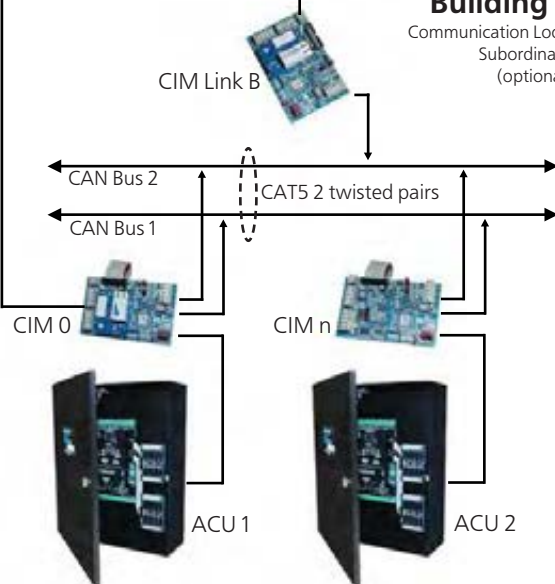
To learn more contact your Keyscan Regional Sales Manager or call: 1 888 KEYSCAN (539.7226)