



**IEEE 802.3cg LC Copper Connector Interface for
enterprise networking applications**

Scott Keith

Masood Shariff

CommScope Systems Engineering

Supporters

| NAME | COMPANY |
|------|---------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| NAME | COMPANY |
|------|---------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

Outline

- Broad market potential for LC Copper Connector Interface in the enterprise segment
- What is a LC Copper Connector Interface ?
- Advantages of LC structure
- Advantages of LC footprint
- Usability
- Minimal effort for the industry

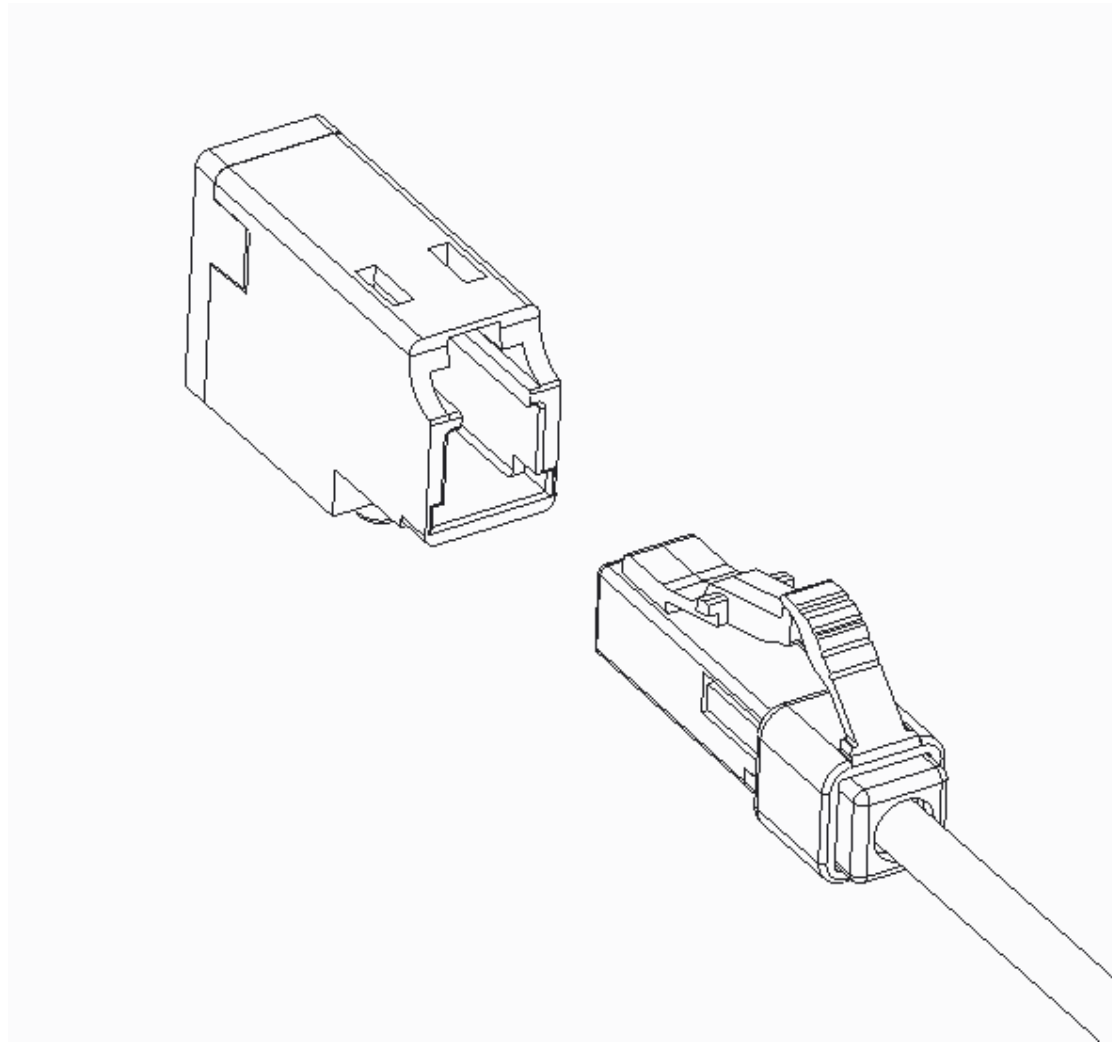
Broad market potential for 1-pair Copper LC Style connector in enterprise segments

- The LC Copper Connector Interface can be used in MICE1 environments in a variety of applications including:
 - Building Automation Systems
 - Intelligent Building Systems
 - Lighting systems
 - Data center management systems
- The LC Copper Connector Interface is not intended for industrial MICE2, MICE3 environments or for process control applications

What is a LC Copper Connector Interface?

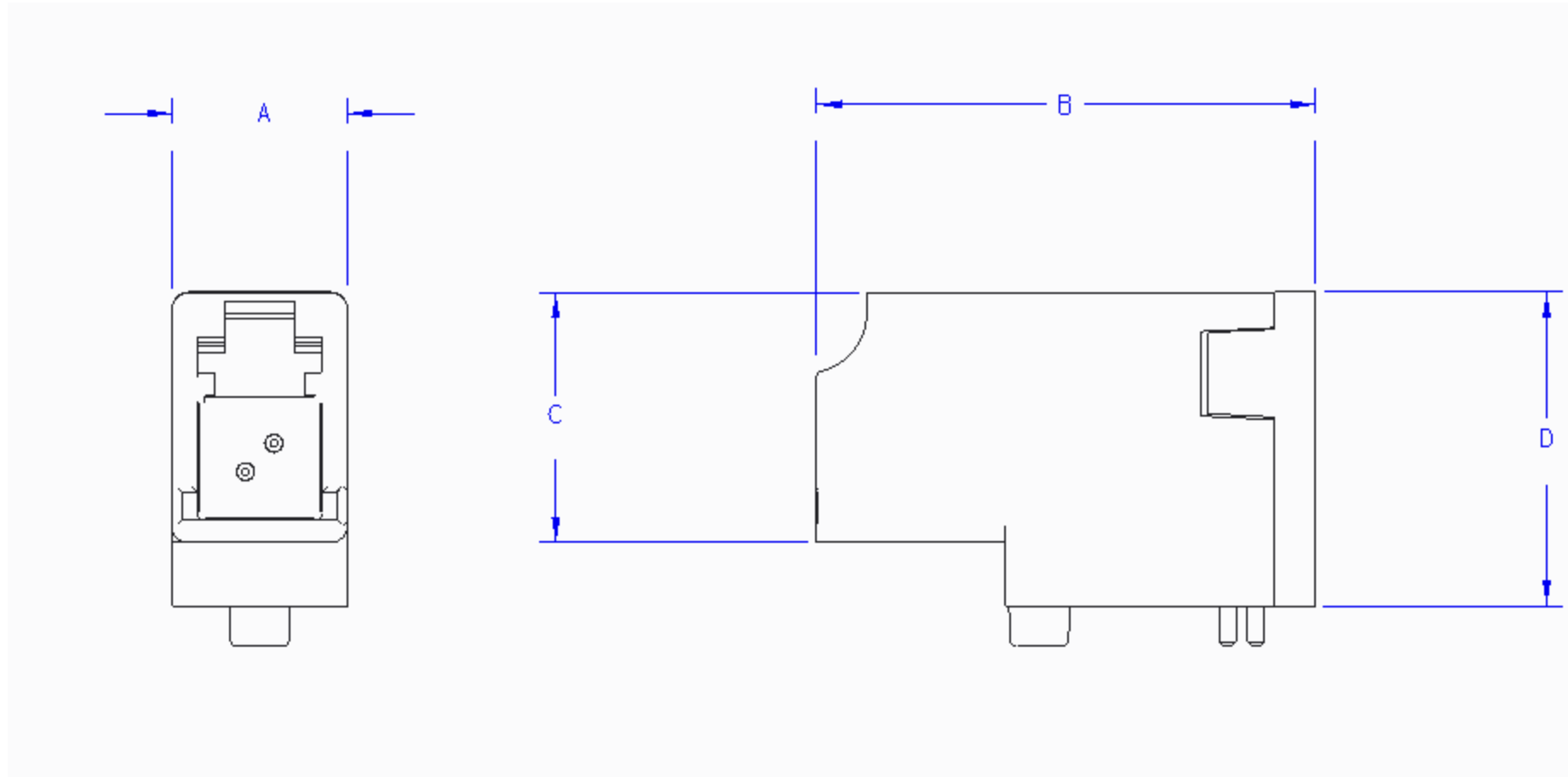
- The LC Copper Connector Interface uses the body and external features of the LC connector to connect 1-pair to another 1-pair in balanced twisted pair cabling
- Uses the familiar axial “push pull” mechanism to engage and disengage the connection
- Has a latch with tactile feedback to indicate when the connection is completed
- Connection can be disengaged by pressing the latch and pulling out the free connector (exactly like an LC)
- The internal fiber core of an LC connector is replaced with a copper interface to create a contact mating surface and terminate copper conductors
- The industry know interface performance of the LC is maintained resulting in reliable user interface

Typical fixed and free LC connector

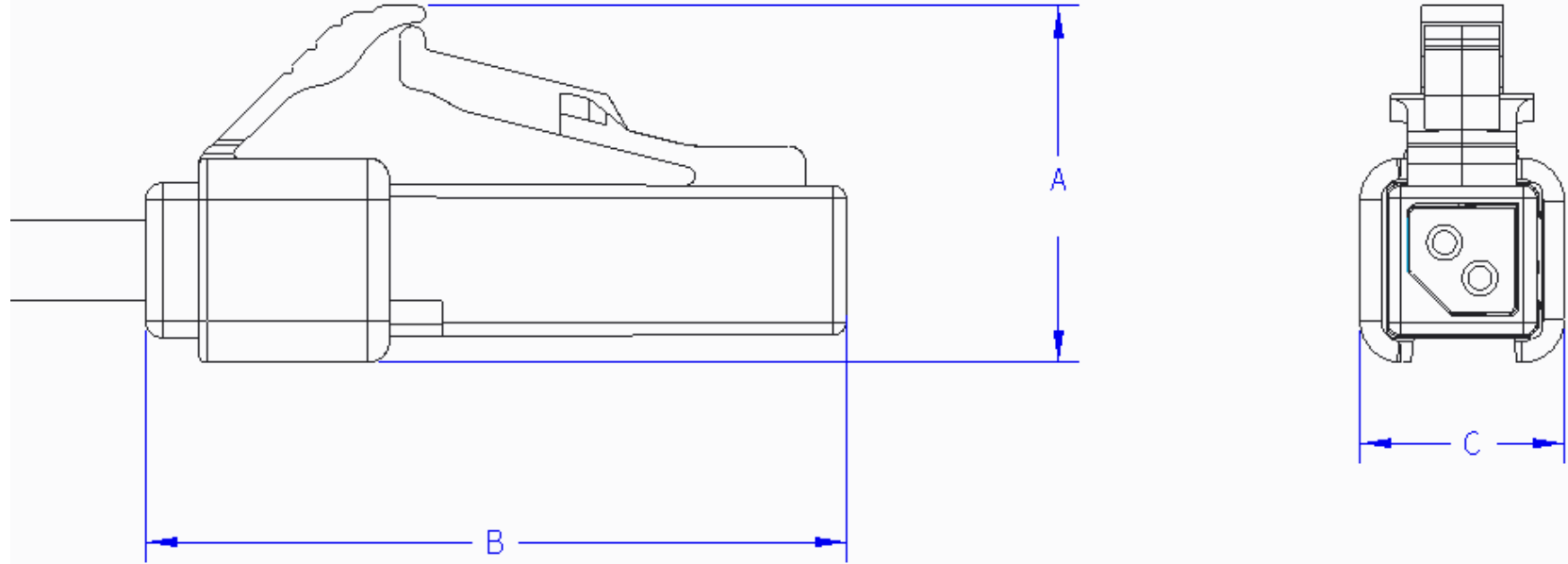


Typical fixed connector

| LETTER | NOMINAL (APPROX.) mm |
|--------|-------------------------|
| A | 7 |
| B | 19 |
| C | 9 |
| D | 12 |



Typical Free Connector



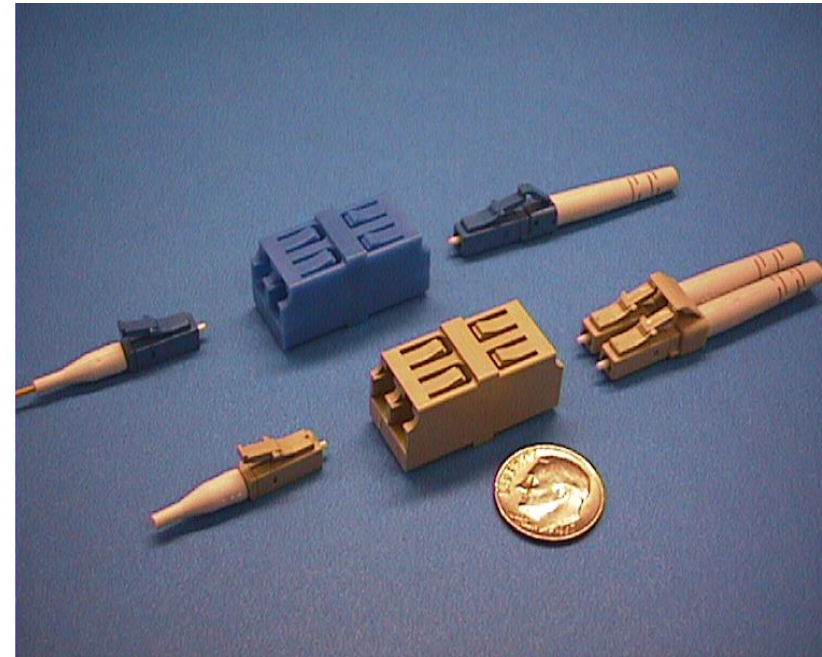
| LETTER | NOMINAL (APPROX.) mm |
|--------|-------------------------|
| A | 10.5 |
| B | 22 |
| C | 6 |

Advantages of LC structure

- LC structure is practical, convenient, and easy to use
- It protects the contents of the connector well, not allowing dust, dirt, or damp humidity to affect performance
- The quick release latching mechanism is easy, familiar, and reliable
- No twists, turns, or simultaneous push and turn required
- The body of the LC is strong and can withstand standard specifications for axial, side, and rotational forces typical in high density patch panels, bulk heads, or equipment.
- The LC can be mounted as an MDI connector for equipment or used as a bulkhead connector in patch panels, outlets, consolidation points

Advantages of LC footprint

- The LC adapter footprint is 8 mm by 8 mm nominal
- This is about ¼ the size of an RJ45 connector saving real estate for the equipment as well as the bulk heads
- Interoperability of the mechanical interface is reliable and well established in the standards



Usability

- The usability of the LC is a big factor in its adoption and growth across large segments of the LAN/MAN/WAN networks
- Axial push pull operation is easy and the familiar click assures users that a good connection has been made
- Equipment designers, patch panel designers, and engineers have access to much detailed information to integrate the LC into their design and installation
- With billions of LCs installed around the globe, technicians, system integrators, and end users are familiar with how to use an LC, so minimal re-training is required

Minimal effort for the industry

- LC fixed and free connector manufacturing system and tools are available and can be used for LC Copper Connector Interface decreasing the relative cost of development, manufacturing, and time to market
- The industry and the consumer will benefit from the economies of scale available to the industry with the LC structure and footprint
- The Copper LC may be mounted in a standardized 8 x 8 mm patch panel and bulk head openings common in many different segments of the market

COMMSCOPE®

Thank You

Scott Keith
Masood Shariff