



## 3M™ EBO Latch Connector for PreCONNECT® solutions

### The best of both worlds: Singlemode and expanded beam connectors

Reliable connectors that can be repeatedly plugged in and unplugged while still maintaining constant performance over all fibers – that is what 3M™ EBO has to offer.

The innovative yet extremely simple structure of this expanded beam plug connector permits repeated plugging and unplugging with no loss of performance and no need to clean the end faces. What is more, it is all but insensitive to vibrations and dust. Because the end faces of the fibers do not physically touch one another, the risk of chipping, scratches and damage is eliminated, while simultaneously guaranteeing outstanding IL and RL performance.

In contrast to earlier expanded beam methods, the 3M™ EBO connector uses a new mirror reflex collimation lens in order to expand the light path and overcome the effect of surface particles on the IL and RL performance. Tiny deviations in the fiber alignment in plug connections (lateral offset) are all but eliminated.

This new technology, which has been patented by 3M™, not only permits multimode applications but also makes it possible to use the expanded beam for singlemode applications – something that was not possible in the past, in particular in the case of multiple fibers.

#### Applications

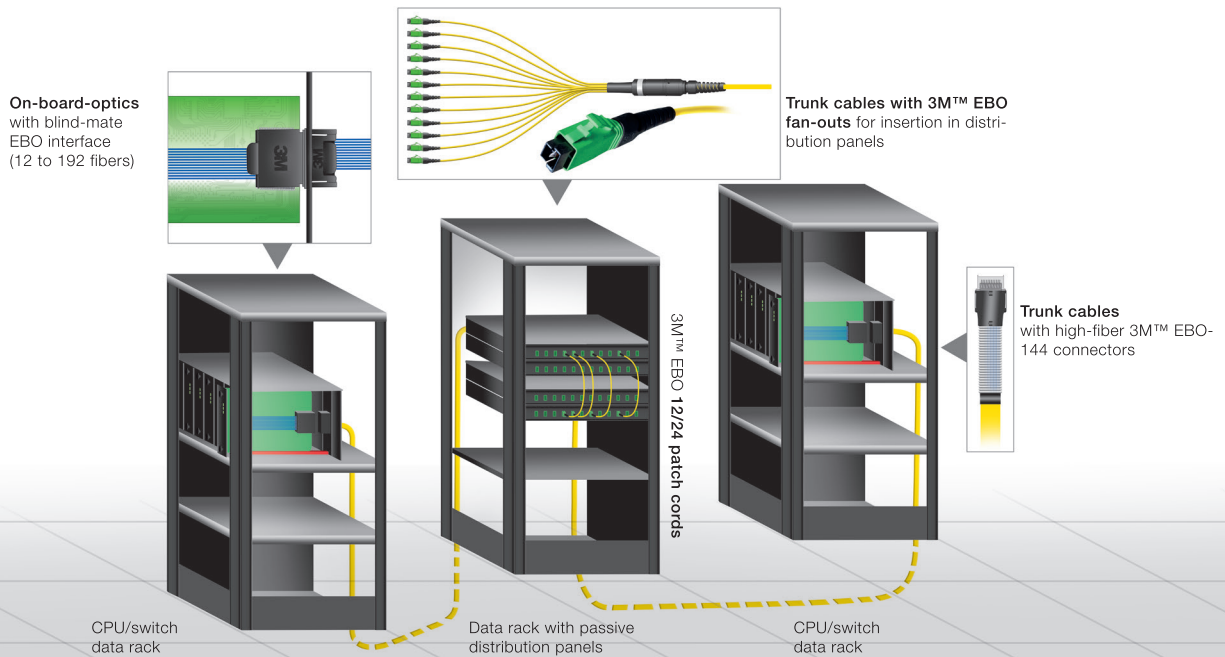
- Trunk cables for data centers
- Data center patch location
- Data center ToR and EoR distribution
- Multi-link use
- Industry 4.0 applications
- Optical board connections
- Chassis plug connections

#### The benefits at a glance

- ✓ Low sensitivity to dust
- ✓ Stable performance even after repeated mating cycles
- ✓ Low insertion and return loss for both singlemode and multimode
- ✓ Scalable up to 144 fibers
- ✓ Low total cost of ownership
- ✓ Forward-looking

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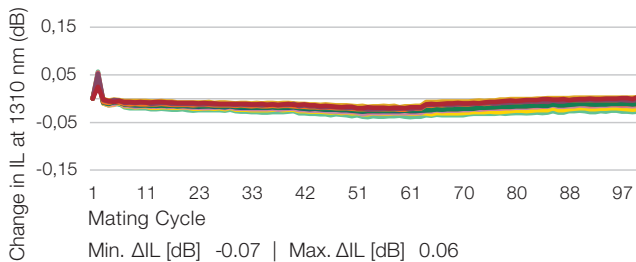
## Applications in hyperscale data centers



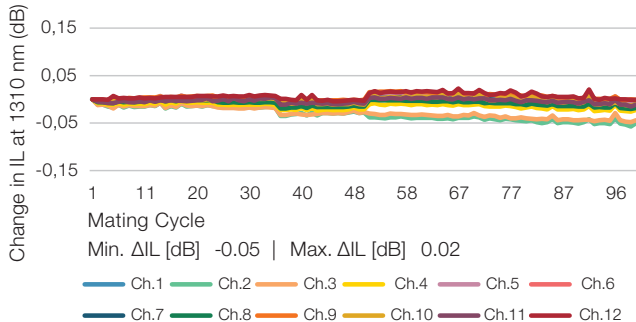
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### Mating cycle test results (singlemode)

Change in IL at 1310 nm Over 100 Mating Cycles, No Cleaning  
Collet secured in housing SampleNo 020

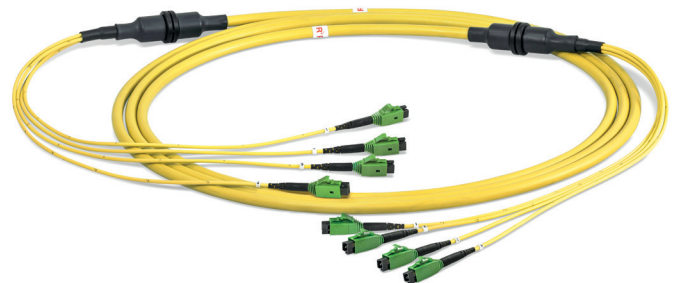


Change in IL at 1310 nm Over 100 Mating Cycles, No Cleaning  
Collet secured in housing SampleNo 0044B



### Technical data (example of 3M™ EBO-12 connector)

| Performance                                      | Singlemode (1310nm)                     | Multimode (850nm) |
|--------------------------------------------------|-----------------------------------------|-------------------|
| Fiber type                                       | OS1   OS2                               | OM3   OM4   OM5   |
| Fibers per ferrule                               | 12                                      | 12                |
| Anti-reflection coating central wavelength in nm | 1310                                    | 850               |
| Optical properties [dB]                          |                                         |                   |
| Insertion Loss (IL)                              | <0.7                                    | <0.3              |
| Return Loss (RL)                                 | >55                                     | >25               |
| Change in loss                                   | Channel-to-channel                      | <0.3              |
|                                                  | Mating test                             | <0.15             |
| Plugging   Plug-in forces [N/Ferrule]            | approx. 0.7                             | approx. 0.7       |
| Qualification                                    | Telcordia GR1435 Controlled Environment |                   |



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