

# IEEE Update: MPO-16 APC

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# Agenda

- MPO and MPO-16 TIA Standardization
  - Background
  - Current Status
  - Next Steps
- Preliminary MPO-16 APC BR Data
  - Feedback from IEEE relative to PAM4



# Background: MPO vs MPO-16

## Comparison of FOCIS 5 vs FOCIS 18 Connectors

FOCIS 5

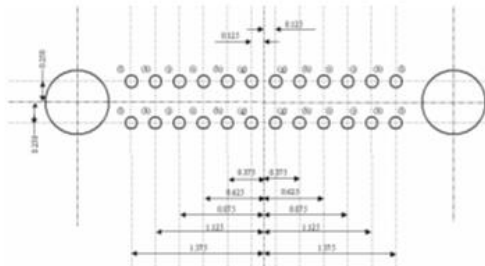
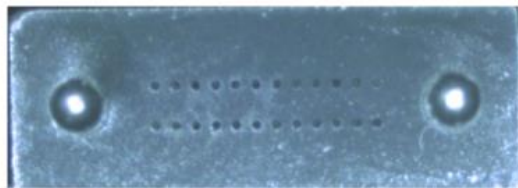
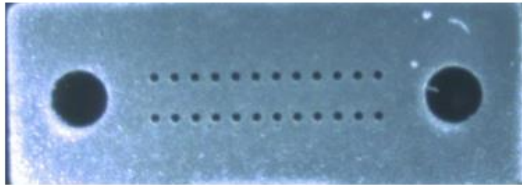


Figure 1 – FOCIS 5 24-fiber connector (2x12)  
(Top to Bottom) Female Ferrule Photo, Male Ferrule Photo, FOCIS 5 drawing

FOCIS 18

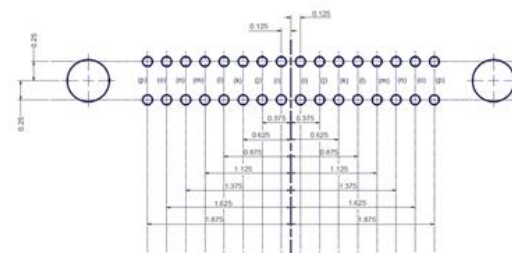


Figure 2 – FOCIS 18 32-fiber connector (2x16)  
(Top to Bottom) Female Ferrule Photo, Male Ferrule Photo, FOCIS 18 drawing

- TIA-604-5-E and TIA-604-18 are commonly referred to as FOCIS 5 and FOCIS respectively.



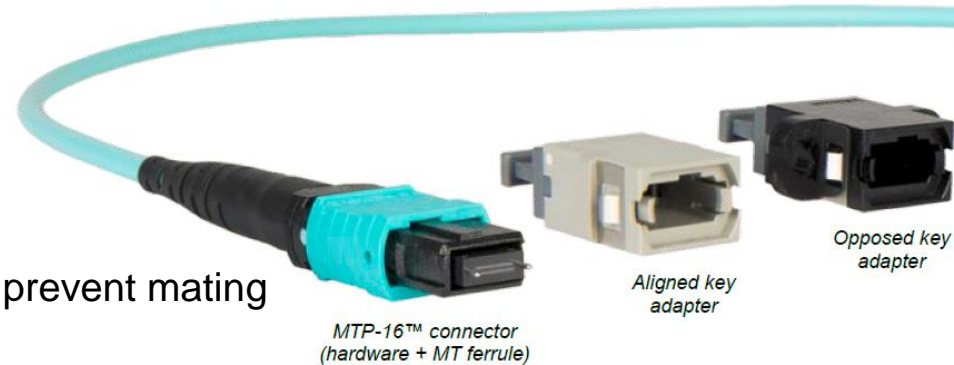
# Current Status & Next Steps

## ■ FOCIS 18 (MPO-16) similar to FOCIS 5 (MPO)

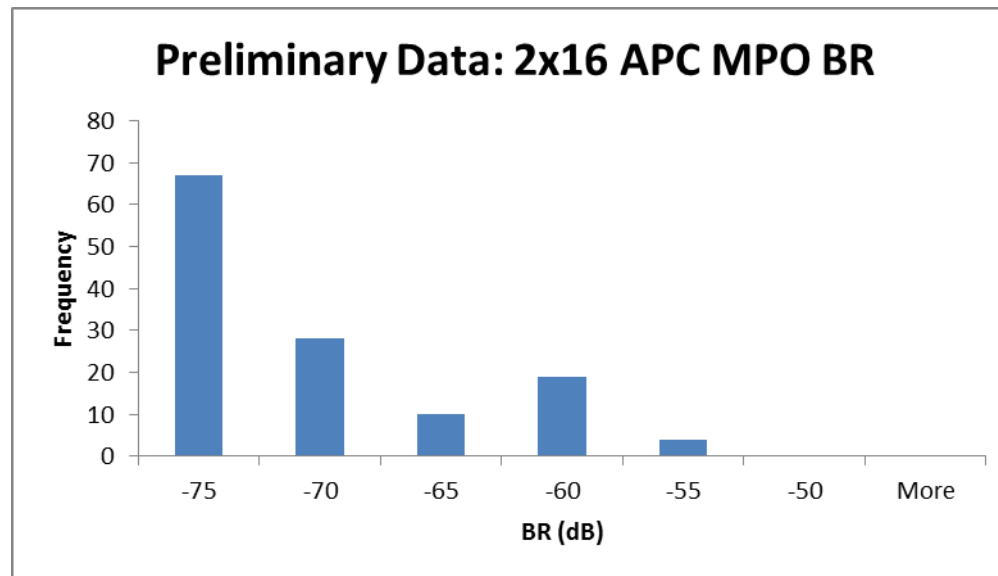
- Published in Q42015
- Same MT ferrule footprint
- Same fiber pitch in X & Y axes
- Different pin/hole diameter
- Different pin/hole pitch
- FOCIS 18 limited to two rows maximum
- FOCIS 18 uses an offset connector key to prevent mating with FOCIS 5 compliant connectors
- FOCIS 18 defines a flat polish only
  - Initial launch to support MM
  - Flat is the norm for all MPO MM
  - APC is the norm for all MPO SM
- FOCIS 18 MM connectors now readily available in 1x16 and 2x16 formats

## ■ Current MPO standard activity:

- FOCIS 5 to be revised after completion of IEC 2-row APC spring force Optical Interface definition
- FOCIS 18 is gaining industry interest for an APC variant to support SM...



# Request for Feedback: Initial MPO-16 APC BR Data



- Now developing APC MPO-16 variant (1x16 & 2x16) to support SM applications
  - Will be similar to the FOCIS 5 APC variant (in terms of 8deg angle, etc)
  - Will harmonize with IEC 2 -row APC Optical Interface spring force definition
  - Q42016: Estimated timeline for release to be available for early adopters
- Preliminary BR data collected on SM, 2x16 APC prototypes
  - Looking for guidance from IEEE with respect to BR vs MPI threshold for PAM4 signals
  - Actual BR spec TBD but preliminary data supports spec of  $\sim \leq -55\text{dB}$
  - Note: Samples have not been optimized for IL/BR performance

# Thank You

## Q&A

The USCONEC logo features the letters 'USCONEC' in a bold, sans-serif font. The 'U' and 'S' are white with a green outline, while 'CONEC' is solid green. The logo is positioned in the bottom left corner of the slide, above a decorative wavy line of thin, overlapping lines that spans the width of the slide.

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