

opticalCON[®] CHASSIS CONNECTORS



opticalCON®

Chassis Connectors



opticalCON® DUO

2-channel fiber optic connection system



opticalCON® QUAD

4-channel fiber optic connection system



opticalCON® MTP® 12

12-channel fiber optic connection system

NEW



opticalCON® MTP® 24

24-channel fiber optic connection system

Features & Benefits

Small form factor

Automatic sealing shutter

Simple integration



opticalCON DUO



NO2-4FDW-A



Standard LC connector



opticalCON QUAD



NO4FDW-A



Standard LC connector



opticalCON MTP 12



NO12FDW-A



MTP® ELITE MALE connector



opticalCON MTP 24

NEW



NO24FDW-A



MTP® ELITE MALE connector



opticalCON® DUO ADVANCED

Chassis Connector



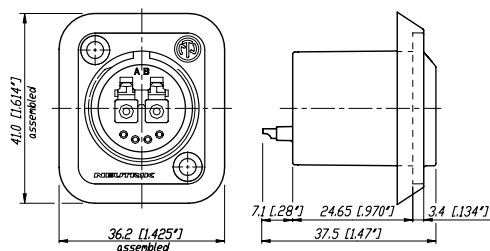
NO2-4FDW-A with SCDP-0

- Ruggedized and dirt-protected 2-channel fiber optic connection system
- Shutter with silicon gasket protects optical connection from dust and dirt
- Suggested OEM equipment connectors due to LC front compatibility
- Accommodates standard LC connectors on the rear for simple installation
- Dust and water resistant according to IP65 in mated condition
- Connection on the front side either by rugged opticalCON or standard LC connector
- Color-coded rubber sealing gasket SCDP-*

Example: opticalCON DUO Chassis with transceiver adapter and SFP transceiver



NAO2*-SFP-LC



**SETTING
STANDARDS**

Technical Data

Technical Data Optical Chassis Connector

| Optical connector | | LC-Duplex |
|-------------------|--------------------------------|-------------|
| | | Feedthrough |
| Fiber | Multimode, Singlemode PC / APC | • |
| Insertion loss | < 0.4 dB / connection | • |
| min. Return loss | PC > 50 dB | • |
| | APC > 60 dB | • |

MECHANICAL

| | | |
|------------------------------|---------|---|
| Insertion / withdrawal force | < 45 N | • |
| Lifetime (mating cycles) | > 5'000 | • |

ELECTRICAL

| | | |
|-------------------------------|--------------------------------|----------------|
| Number of electrical contacts | 4 (5) ² | • |
| Rated current | 6 A | • |
| | 10 A (contact 1+4) | • |
| Contact resistance | < 7 mΩ | • |
| Insulation resistance | - initial: > 10 GΩ | • |
| | - after damp heat test: > 1 GΩ | • |
| Dielectric strength | 1500 V dc | • |
| Rated voltage | 50 V ac | • ¹ |

MATERIAL

| | | |
|---------------------|---|---|
| Shell | Zinc diecast (ZnAl4Cu1), black chrome plating | • |
| Insert / Insulation | Polyamid PA 6, PBT 30% GR | • |
| Insert colour | MM: black, SM PC: blue; SM APC: green | • |
| Contacts | female: Brass (CuZn39Pb3) | • |
| Contact surface | Gold (gal 0.2 µm Au over 2 µm Ni) | • |
| Split sleeve | Ceramics | • |

ENVIRONMENTAL

| | | |
|------------------|---------------------------|---|
| Operating temp. | -40°C to +75°C | • |
| Flamability | UL94 HB | • |
| Solderability | complies with IEC 68-2-20 | • |
| Protection class | in mated condition IP65 | • |

¹ ... Not compatible to SMPTE 304M standard. Suitable for indoor (studio) camera links considering specific conditions acc. to IEC 60664-1 like pollution degree 1, overvoltage category 1 and rated voltage. For detailed information ask for the White Paper "opticalCON @ SMPTE Indoor Applications".

² ... Shell ground contacts

opticalCON DUO Chassis

| | Type | Colour | Plating | Fiber | Solder contacts | Shell ground contact | Wiring |
|--------------|---------|---------------|--------------|-------|-----------------|----------------------|--------|
| NO2-4FDW-A | Chassis | ¹⁾ | Black Chrome | 2 | 4 | - | - |
| NO2-4FDW-1-A | Chassis | ¹⁾ | Black Chrome | 2 | 4 | 1 | - |

¹⁾ ... Coloured labeling to indicate the fiber mode included (black: M, blue: SM PC, green: SM APC)

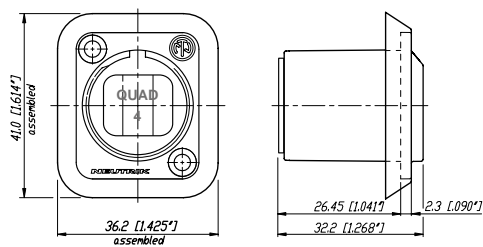
opticalCON® QUAD ADVANCED

Chassis Connector



NO4FDW-A with SCDP-0

- Ruggedized and dirt-protected 4-channel fiber optic connection system
- For point-to-point multichannel routing
- Laser protective metal shutter seals dust proof with two-component rubber gasket
- Dust and water resistant according to IP65 in mated condition
- Accommodates standard LC connectors on the rear for simple installation
- Color-coded rubber sealing gasket



**SETTING
STANDARDS**

Technical Data

Technical Data Optical Chassis Connector

| Optical connector | | PC |
|-------------------|--------------------------------|-------------|
| | | Feedthrough |
| Fiber | Multimode, Singlemode PC / APC | • |
| Insertion loss | < 0.4 dB / connection | • |
| min. Return loss | PC > 50 dB | • |
| | APC > 60 dB | • |

MECHANICAL

| | | |
|------------------------------|---------|---|
| Insertion / withdrawal force | < 45 N | • |
| Lifetime (mating cycles) | > 5'000 | • |

MATERIAL

| | | |
|---------------------|---|---|
| Shell | Zinc diecast (ZnAl4Cu1), black chrome plating | • |
| Insert / Insulation | Polyamid PA 6, PBT 30% GR | • |
| Insert colour | MM: black, SM PC: blue; SM APC: green | • |
| Split sleeve | Ceramics | • |

ENVIRONMENTAL

| | | |
|------------------|-------------------------|---|
| Operating temp. | -40°C to +75°C | • |
| Flamability | UL94 HB | • |
| Protection class | in mated condition IP65 | • |

opticalCON QUAD Chassis

| | Type | Colour | Plating | Fiber | Solder contacts | Shell ground contact | Wiring |
|----------|---------|---------------|--------------|-------|-----------------|----------------------|--------|
| NO4FDW-A | Chassis | ¹⁾ | Black Chrome | 4 | - | - | - |

¹⁾ ... Colored labeling to indicate the fiber mode included (black: M, blue: SM PC, green: SM APC)



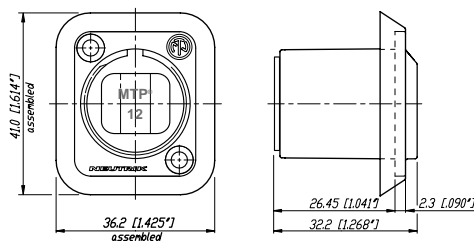
opticalCON® MTP® 12 ADVANCED

Chassis Connector



NO12FDW-A with SCDP-0

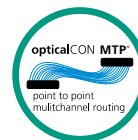
- Ruggedized and dirt-protected 12-channel fiber optic connection system
- For point-to-point multichannel routing
- Laser protective metal shutter seals dust proof with two-component rubber gasket
- Dust and water resistant according to IP65 in mated condition
- Accommodates standard MTP® ELITE MALE connectors on the rear for simple installation*
- Rubber sealing gasket



* ... MTP® is a trademark of US Conec (www.usconec.com)



**SETTING
STANDARDS**



Technical Data

Technical Data Optical Chassis Connector

| | | |
|-------------------|--------------------------------|-------------------|
| Optical connector | | MTP® ELITE female |
| | | Feedthrough |
| Fiber | Multimode, Singlemode PC / APC | • |
| Insertion loss | < 0.9 dB / connection | • |
| min. Return loss | PC > 50 dB | • |
| | APC > 60 dB | • |

MECHANICAL

| | | |
|------------------------------|---------|---|
| Insertion / withdrawal force | < 45 N | • |
| Lifetime (mating cycles) | > 2'500 | • |

MATERIAL

| | | |
|---------------------|---|---|
| Shell | Zinc diecast (ZnAl4Cu1), black chrome plating | • |
| Insert / Insulation | Polyamid PA 6, PBT 30% GR | • |
| Insert colour | MM: black, SM PC: blue; SM APC: green | • |

ENVIRONMENTAL

| | | |
|------------------|-------------------------|---|
| Operating temp. | -40°C to +75°C | • |
| Flamability | UL94 HB | • |
| Protection class | in mated condition IP65 | • |

opticalCON MTP®12 Chassis

| Type | Colour | Plating | Fiber | Solder contacts | Shell ground contact | Wiring |
|-----------|-----------------------|--------------|-------|-----------------|----------------------|--------|
| NO12FDW-A | Chassis ¹⁾ | Black Chrome | 12 | - | - | - |

¹⁾ ... Colored labeling to indicate the fiber mode included (black: M, blue: SM PC, green: SM APC)



opticalCON® MTP® 24 ADVANCED

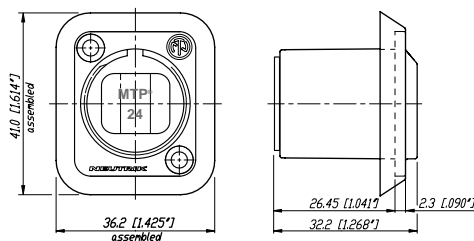
Chassis Connector

NEW



NO24FDW-A with SCDP-0

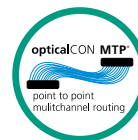
- Ruggedized and dirt-protected 24-channel fiber optic connection system
- For point-to-point multichannel routing
- Laser protective metal shutter seals dust proof with two-component rubber gasket
- Dust and water resistant according to IP65 in mated condition
- Accommodates standard MTP® ELITE MALE connectors on the rear for simple installation*
- Rubber sealing gasket



* ... MTP® is a trademark of US Conec (www.usconec.com)



**SETTING
STANDARDS**



Technical Data

Technical Data Optical Chassis Connector

| | | |
|-------------------|--------------------------------|-------------------|
| Optical connector | | MTP® ELITE female |
| | | Feedthrough |
| Fiber | Multimode, Singlemode PC / APC | • |
| Insertion loss | < 0.9 dB / connection | • |
| min. Return loss | PC > 50 dB | • |
| | APC > 60 dB | • |

MECHANICAL

| | | |
|------------------------------|---------|---|
| Insertion / withdrawal force | < 45 N | |
| Lifetime (mating cycles) | > 2'500 | • |

MATERIAL

| | | |
|---------------------|---|---|
| Shell | Zinc diecast (ZnAl4Cu1), black chrome plating | • |
| Insert / Insulation | Polyamid PA 6, PBT 30% GR | • |
| Insert colour | MM: black, SM PC: blue; SM APC: green | • |

ENVIRONMENTAL

| | | |
|------------------|-------------------------|---|
| Operating temp. | -40°C to +75°C | • |
| Flamability | UL94 HB | • |
| Protection class | in mated condition IP65 | • |

opticalCON MTP®24 Chassis

| Type | Colour | Plating | Fiber | Solder contacts | Shell ground contact | Wiring |
|-----------|-----------------------|--------------|-------|-----------------|----------------------|--------|
| NO24FDW-A | Chassis ¹⁾ | Black Chrome | 24 | - | - | - |

¹⁾ ... Colored labeling to indicate the fiber mode included (black: M, blue: SM PC, green: SM APC)



Ordering Information

Accessories for Chassis & Couplers



Accessories for Chassis



SCNO-FDW-A



SCD-NC



SCDP-*



SCCD-W

| | |
|------------|--|
| SCNO-FDW-A | Rugged sealing cover for opticalCON chassis connectors |
| SCD-NC | Rubber sealing cover for opticalCON chassis connectors |
| SCDP-* | D-Size sealing gaskets for chassis, color coding (*: 0- black, 2- red, 4- yellow, 5- green, 6- blue, 9- white) |
| SCCD-W | Spring-loaded cover to seals D-size chassis connectors, IP65 rated |

*: 0- black, 1- brown, 2- red, 3- orange, 4- yellow, 5- green, 6- blue, 7- violet, 8- grey, 9- white



¹⁾: find part numbers on www.neutrik.com

COUPLER

Weatherproof opticalCON coupler (adapter) for cable extensions.



NAO2S-H1W-A



NAO4MW-A



NAO12MW-A



NAO24MW-A

| | Type | Colour | Plating | Fiber | Solder contacts | Shell ground contact | Wiring |
|---------------|---------|--------|---------|------------------------------|--------------------------|----------------------|---------------|
| NAO2M-H1W-A | Coupler | black | black | 2 x LC-Duplex Multimode PC | 4 x 0.75 mm ² | ● | ISO/IEC 11801 |
| NAO2S-H1W-A | Coupler | blue | black | 2 x LC-Duplex Singlemode PC | 4 x 0.75 mm ² | ● | ISO/IEC 11801 |
| NAO2SA-H1W-A | Coupler | green | black | 2 x LC-Duplex Singlemode APC | 4 x 0.75 mm ² | ● | ISO/IEC 11801 |
| NAO2SA-H1W-AX | Coupler | green | black | 2 x LC-Duplex Singlemode APC | 4 x 0.75 mm ² | ● | crossed |
| NAO4MW-A | Coupler | black | black | 4 x Multimode PC | - | - | ISO/IEC 11801 |
| NAO4MW-AX | Coupler | black | black | 4 x Multimode PC | - | - | crossed |
| NAO4SW-A | Coupler | blue | black | 4 x Singlemode PC | - | - | ISO/IEC 11801 |
| NAO4SW-AX | Coupler | blue | black | 4 x Singlemode PC | - | - | crossed |
| NAO4SAW-A | Coupler | green | black | 4 x Singlemode APC | - | - | ISO/IEC 11801 |
| NAO4SAW-AX | Coupler | green | black | 4 x Singlemode APC | - | - | crossed |
| NAO4SW-A-X | Coupler | red | black | 4 x Singlemode PC | - | - | ISO/IEC 11801 |
| NAO12MW-A | Coupler | black | black | 12 x Multimode PC | - | - | Type A |
| NAO12SAW-A | Coupler | green | black | 12 x Singlemode APC | - | - | Type A |
| NAO24MW-A | Coupler | black | black | 24 x Multimode PC | - | - | Type A |
| NAO24SAW-A | Coupler | green | black | 24 x Singlemode APC | - | - | Type A |

X ... for crossed fiber wiring



**SETTING
STANDARDS**





Transceiver Adapter

TRANSCEIVER ADAPTER

The opticalCON Transceiver Adapter connects an opticalCON chassis (NO2-4FDW*) and a LC SFP transceiver. NAO2*-SFP-LC consists of two LC-SFP adapters, 2 flat gaskets (1 mm and 2 mm) and one NO2-4FDW-A without copper contacts.



MM Transceiver Adapter
grey

SM Transceiver Adapter
blue

SM APC Transceiver Adapter
green

- Eases design integration of the opticalCON chassis connectors (NO2-4FDW*) in combination with SFP transceivers
- Compatible with all LC SFP transceivers
- Automatic sealing shutter of the opticalCON avoids transceiver soiling
- Enables use of rugged opticalCON or conventional LC connectors
- Avoids vandalism, opticalCON "protects" the transceiver

| | | |
|---------------|-------|--|
| NAO2M-SFP-LC | grey | MM Transceiver Adapter + opticalCON chassis (NO2-4FDW-A) without copper contacts |
| NAO2S-SFP-LC | blue | SM Transceiver Adapter + opticalCON chassis (NO2-4FDW-A) without copper contacts |
| NAO2SA-SFP-LC | green | SM APC Transceiver Adapter + opticalCON chassis (NO2-4FDW-A) without copper contacts |

NAOBO - Breakout ADAPTER

NAOBO is a flexible chassis mounting and adaption solution with cable strain relief to meet any kind of standard fiber connector (e.g. LC, SC, ST). It can be fixed to a rack with a cable tie. The breakout adapter can be mounted straight or angled.



NAOBO (KIT)



Application
example



- Flexible chassis mounting solution
- Adaption solution to meet existing non-opticalCON fiber installation
- NAOBO can be equipped with any D-size chassis connector

| | |
|-------|---|
| NAOBO | Breakout Adapter Kit consisting of: 1 NAOBO plastic housing, 1 counter nut, 1 90° rear shell, 1 PG-gland, 1 cable tie and 2 screws |
|-------|---|