

Qoltec[®]



USER MANUAL

SC/APC fibre-optic quick-connect coupler

Model: 54494

About the product

The SC/APC fibre optic quick-connect coupler allows fibre optic cables to be terminated without the need for splicing. The coupler is designed for single-mode installations and can be used during the installation, repair or upgrade of fibre optic networks.

The product is mainly used with flat subscriber cables measuring 2×3 mm. It can also be used with cables with diameters of 2.0 mm and 3.0 mm, provided the cable is correctly secured within the connector housing.

Technical specifications

Connector type: SC/APC

Fibre type: single-mode

Connector length: 50 mm

Supported cable diameter: 2.0–3.0 mm

Recommended cable type: 2×3 mm flat subscriber cable

Installation method: mechanical, without fibre splicing

Tools required

The following may be required for correct installation:

- a cable stripper,
- fibre stripper,
- a precision fibre optic cutter,
- scissors for aramid fibres,
- lint-free wipes,
- isopropyl alcohol for cleaning fibres,
- optical power metre or fibre optic tester.

Note: Only use tools designed for working with optical fibres.

Safety guidelines

Note: Please read the entire manual before starting the installation.

1. Do not look directly at the fibre end or into the port of an optical device. Invisible laser radiation may cause damage to your eyesight.
2. Disconnect the optical signal source before starting work.
3. Optical fibre fragments are very sharp. Collect them in a sealable container and do not touch them with bare hands.
4. Do not leave fibre fragments on the table, floor or clothing.
5. It is recommended that you wear safety goggles when cutting and preparing the fibre.
6. Protect the end faces of the connector from dirt, dust, moisture and mechanical damage.
7. Do not touch the prepared fibre or ferrules with your fingers.
8. The connector must be installed in a clean and dry place.
9. Do not use the connector if its housing, clamping element or ferrule is damaged.

Cable preparation

1. Check that the type of cable and fibre is compatible with the intended use of the quick-connect coupler.
2. Open the quick-connect housing in accordance with the product design.
3. Slide the fasteners, sheath or connector nut onto the cable before stripping the insulation.
4. Strip the appropriate length of the cable's outer sheath.
5. In the case of a 2 × 3 mm flat cable, carefully separate the reinforcing elements from the fibre.
6. Remove the aramid fibres or reinforcing elements over the length required to secure the cable.
7. Use a stripper to remove the protective coating from the fibre, exposing the glass fibre.
8. Clean the exposed fibre with a lint-free cloth moistened with isopropyl alcohol.
9. Wait until the cleaning agent has completely evaporated.

Note: When stripping the insulation, do not bend, twist or apply excessive pressure to the fibre.

Trimming the fibre

1. Place the prepared fibre in a precision fibre-optic cutter.
2. Set the required fibre length in accordance with the quick-connect design or the markings on the mounting guide.
3. Make a perpendicular and even cut.
4. Do not touch the fibre end after cutting.
5. If the fibre has become soiled, damaged or cut unevenly, it must be re-prepared.
6. The quality of the cut has a direct impact on the attenuation and stability of the connection.

Fitting the quick-connect coupler

Figure 1 in the appendix

1. Ensure that the quick-connect coupler's locking mechanism is in the assembly position.
2. Insert the prepared fibre into the guide hole.
3. Insert the fibre slowly, without using excessive force.
4. Continue inserting until you feel slight resistance or reach the indicated installation point.
5. A slight bend in the fibre or cable may indicate that the fibre has been correctly aligned with the fibre inside the quick-connect coupler. However, do not allow the cable to be sharply bent.
6. Close the lever, latch or locking mechanism of the connector.
7. Secure the cable sheath and reinforcing elements in the connector housing.
8. Close the housing, cover or retaining nut.
9. Check that the cable is securely fastened and does not come out of the connector when pulled gently.
10. Fit a dust cap onto the ferrule if the connector is not to be connected immediately.
11. Do not twist the fibre whilst inserting it, and do not repeatedly open and close the clamping mechanism.

Checking the installation is correct

Once installation is complete, you should:

- visually check that the connector housing is properly closed,
- check that the cable is securely fastened,
- clean the end face of the connector using a suitable fibre-optic connector cleaning tool,
- measure the connection's attenuation,
- if necessary, check the connection using a fibre optic tester.

If the attenuation is too high or the connection is unstable, you should:

- disconnect the optical signal source,
- check the cleanliness of the ferrule,
- check that the fibre is cut correctly,
- reassemble the connector.

Connecting the connector

1. Remove the dust cap before connecting.
2. Clean the connector ferrule.
3. Check that the adapter or socket is designed for SC/APC connectors.
4. Insert the connector into the adapter until it clicks into place.
5. Do not connect an SC/APC connector to an adapter intended solely for SC/UPC connectors.
6. SC/APC connectors have an angled polish and should not be mated with SC/UPC connectors. Incorrect mating may result in high attenuation and damage to the connector end faces.

Removing the connector

1. Disconnect the optical signal source.
2. Hold the connector by the housing, not by the cable.
3. Release the latch and pull the connector straight out of the adapter.
4. Do not pull on the cable or bend the connector sideways.
5. Once disconnected, fit the dust cap.

Cleaning and maintenance

1. Before each connection, check the ferrule and clean it if necessary.
2. Use only cleaning agents and tools designed for fibre-optic connectors.

3. Do not use ordinary tissues, paper towels or compressed air containing oil or moisture.
4. Do not use aggressive chemicals.
5. Secure the connector with a dust cap when not in use.
6. Store the product in a dry and clean place.

Troubleshooting

Problem	Possible causes
No signal	the fibre has not been fully inserted, the fibre is broken, the ferrule is dirty, the wrong type of fibre has been used, the connector has not been properly snapped into the adapter.
Excessive attenuation	an uneven or angled fibre cut, contamination of the connector's end face, incorrect length of the prepared fibre, a gap between the fibres inside the quick-connect coupler, fibre damage during stripping, connection of an SC/APC connector to an SC/UPC connector.
The cable slips out of the connector	incorrect securing of the cable sheath, the housing is not fully closed, incorrect cable diameter, incorrect positioning of the reinforcing elements.

The correct operation of the quick-connect coupling depends primarily on:

- careful cable preparation,
- a clean and even fibre cut,
- maintaining the correct length of exposed fibre,
- correct insertion of the fibre into the connector,
- cleanliness of the ferrule's end face.

The specific lengths for stripping the sheath and fibre coating, as well as the cutting length, must be adjusted to the design of the specific quick-connect model, the markings on its housing or the accompanying installation guide.

Disposal

A worn-out or damaged connector must be disposed of in accordance with local waste regulations. Fibreshards must be placed in a sealed, puncture-resistant container.

Do not dispose of loose fibre fragments in a standard waste bin.

Attachment

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