



**CELLFLEX® Coaxial Cable
& RADIAFLEX® Cable
Connectors**

Installation Instruction

1000009476-02
LCF & RCF 12-50 Cables
OMNI FIT™ C02 Connectors

These instructions are written for qualified and experienced personnel. Please study them carefully before starting any work. Any liability or responsibility for the results of improper or unsafe installation practices is disclaimed. Please respect valid environmental regulations for assembly and waste disposal. Always make sure to use appropriate personal protection!

<p>Sample picture of NM-LCF12-C02 Instruction valid for complete C02 series</p>	<p>Measuring tool or Gloves Tape Sealing material e.g. Tape, Sleeve etc.</p> <p>Recommended with Straight line, smooth & fine-teeth saw</p> <p>Pliers Knife Brush Screwdriver Fine file</p> <p>~ 3-5mm ~ 0.15"</p> <p>2 x 24mm (2 x 15/16")</p>	<p>Additionally recommended</p> <p>JSTRIP-12-3</p> <p>Optional</p> <p>Inner conductor cleaner/scrapper CC200EUR</p> <p>manual method</p>
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Safety precaution: Sharp blade => Protective gloves required !

Additional weatherproofing must be used for Lite (Aluminium) cable types, a heat shrink sleeve with adhesive lining must be used for RCF cables!



Manual installation method with standard hand tools

Keep the cable end downwards in order to prevent particles from entering during preparation.

1. Straighten the cleaned cable front part in a length of min. 200mm (8").
Remove the jacket with a knife in the length as shown (it is recommended to use the stripping tool JSTRIP-12-3).
Do not damage the outer conductor!
2. Cut the outer conductor only with a fine toothed hacksaw in a distance of max. two and a half pitches from the jacket on the crest of corrugation. Make sure to cut in a right angle to cable axis! Continue to cut the dielectric with a knife. Do not cut or damage the inner conductor!
3. Remove the trimmed outer conductor. **Take care not to damage the copper cladding of the inner conductor**, as well **take care not to cut in the outer conductor** while carefully cutting the dielectric lengthwise. Remove the dielectric. **It is imperative to achieve a pure metallic contact surface on the protruding length of the inner conductor.** This may be realized by scraping away completely all foam and adhesive (thin layer may appear transparent) from the inner conductor manually (fingernail) or with a dedicated tool (e.g. CC200EUR). Take care not to damage the copper cladding, also make sure not to bend the inner conductor out of the straight line. Use a knife to remove all metal burs from the outer conductor. Remove all particles with a brush.
4. Cut the inner conductor in the length as shown. Take care: do not bend the inner conductor out of the straight line. Make a small chamfer on the inner conductor with a fine file.
5. Cut and remove cable jacket to the dimension shown by knife. Do not damage the outer conductor. Inspect the cable preparation dimensions.
6. Slide the O-Ring onto cable – positioned in the valley before jacket as shown. Wipe a light film of grease on the O-Ring.
7. Push back-nut onto cable and over the O-Ring until stop (first corrugation valley is free/exposed).
8. Put Spring C-Ring into first corrugation valley of the cable.
9. Push back-nut back to the front until stop (Spring C-Ring covered).
10. Push the dielectric a bit to the centre all around in order to have a free space to insert a screwdriver as required for the next work. Keep pushing the back-nut to the front while running the tip of a screw driver (rounded edges) around the outer conductor to separate the foam and create an outer conductor flare. Flare diameter has to be evenly round and concentrically to the cable axis.
11. The flared area (cone) has to be free of any dielectric material, if necessary bend the dielectric back to the centre.
12. Clean the cable end; remove any particles very carefully with a brush. It is not recommended to use steel or similar hard brushes, since these can press particles deeply inside the dielectric. Tip: tape can be used additionally to remove the finest particles.
13. **Check the complete preparation. Careful preparation is the key to good VSWR and especially to proper PIM performance.**
14. Wipe the back-nut O-Ring with a light film of grease.
15. Push connector front part onto prepared cable end; do never turn the front part!
16. Pay attention to straight position of connector parts while tightening the connector by turning the back-nut only (first by hand). Never turn the front part of the connector!
17. Keep the connector body steady and tighten the back-nut of the connector by the use of open end wrenches. Tighten properly, recommended torque is 25 Nm (18.44 ft-lb).
Keep the interface clean; do not remove the protection cap before mating.

18. Weatherproofing

Important Remarks:

Additional weather protection is necessary when installed on Lite (Aluminium) cables.

In general this is also recommended for Copper cables especially if installed outside.

A heat shrink sleeve with adhesive lining must be used for RCF cables!

Possible methods:

- E.g. with Sealing tape, Weatherproofing kit or Cold Shrink Sleeve on CELLFLEX® cables.
Clean cable and connector and continue according to the applicable installation instruction.
- With Heat shrink sleeve (e.g. Model number HEAT-328-018) on CELLFLEX® or RADIAFLEX® cables:
Roughen the jacket with fine grained sandpaper (e.g. 180 grain) and clean the shrinking area e.g. with cable cleaner. Pre-heat the cable jacket to hand warm and the connector to approx. 60°C (140°F). Slide the heat shrink sleeve into place over the connector body as shown. Shrink the sleeve with a soft yellow flame if using a gas burner or go for hot air gun. Shrink the sleeve onto the connector by smoothly applying a constant flame (heat) with a circular motion until the sleeve will lay flat all around and the hot solvent adhesive discharged all around. Continue with an even circular motion proceeding in direction of the cable until it shrinks smoothly forming a weatherproof seal and the hot solvent adhesive discharged all around on both ends. Note: Do not overheat especially the jacket - max. temperature = 70°C (158°F), shrinking temperature is typically around 130°C (266°F).
A detailed Application Note for the installation of Heat Shrink Sleeves is available online via connector data sheet link.



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	<p>Measuring tool or Gloves Sealing material e.g. Tape, Sleeve etc.</p> <p>Recommended with Straight line, smooth & fine- teeth saw</p> <p>Universal Trimming tool TRIM-SET-L12-C02</p> <p>Pliers Knife Brush 2 x 24mm (2 x 15/16\"/> </p>	<p>Additionally recommended</p> <p>JSTRIP-12-3</p> <p>Optional</p> <p>Inner conductor cleaner/scraper CC200EUR</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);">Trimming tool method</p>
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Safety precaution: Sharp blade => Protective gloves required !

<p>1</p> <p>min. 25 mm (min. 1.0 in)</p>	<p>2</p> <p>Take care – Sharp blades inside !</p> <p>Trim blades Main blade on Top Position of collet guide max. two and a half pitches</p>			
<p>3</p> <p>T1, T2, T3</p>	<p>4a, 4b, 4c, 4d</p>	<p>5</p> <p>8.5 – 9.0 mm (0.33 – 0.35 in)</p>	<p>6</p>	
<p>7</p> <p>0.5x45° 17-18 mm (0,67-0,70 in) 8.5-9.0 mm (0,33-0,35 in)</p>	<p>8</p>	<p>9</p>	<p>10</p>	<p>11</p>
<p>12</p>	<p>13</p> <p>360° min. Insert 1/2\"/> </p>	<p>14</p>	<p>15</p>	<p>16</p>
<p>17</p>	<p>18</p>	<p>19</p>	<p>20</p> <p>25 Nm (18.44 ft-lb)</p>	<p>21</p> <p>Weatherproofing options</p>

Additional weatherproofing must be used for Lite (Aluminium) cable types, a heat shrink sleeve with adhesive lining must be used for RCF cables!



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Installation method with Universal Trimming Tool



TRIM-SET-L12-C02
Consist of:

Body:
Flaring tool:
Insert:

TRIM-U-14-78
TRIM-FL14-12
TRIM-IL12-C02
Insert consist of:

Blade holder: **TRIM-IL12-C02**
Collet: **TRIM-IL12**

Attention:

Trimming tool to be handled and used with great care, blades are extremely sharp!
It is recommended to use protective gloves. Do not use great force.

Please refer to the instruction of the Universal Trimming Tool in addition!

Keep the cable end downwards in order to prevent particles from entering during preparation.

1. Straighten the cleaned cable front part in a length of min. 200mm (8"). Remove the jacket with a knife in the length as shown (it is recommended to use the stripping tool JSTRIP-12-3). Do not damage the outer conductor!
2. Insert cable into trimming tool, so that min. 3 corrugations are in front of the main trim blade. Position collet guide of trimming tool in the first corrugation nearest to the trimmed cable jacket. The cable also fits properly to the complete base of the tool. The main blade is located on the crest (top) of the corrugation.
3. Rotate trimming tool around the cable in direction of the arrow shown on the tool by touching tool turning points T1 and T2 only. Do not use any additional force greater than the preset trimming tool spring tension. If the outer conductor is cut, continue turning the tool whereby the tool can be touched on tool turning points T1, T2 and T3 until the dielectric and jacket is cut. Then open blade housing and remove the tool.
4. Remove the trimmed outer conductor. **Take care not to damage the copper cladding of the inner conductor**, as well **take care not to cut in the outer conductor** while carefully cutting the dielectric lengthwise. Remove the dielectric. **It is imperative to achieve a pure metallic contact surface on the protruding length of the inner conductor**. This may be realized by scraping away completely all foam and adhesive (thin layer may appear transparent) from the inner conductor manually (fingernail) or with a dedicated tool (e.g. CC200EUR). Take care not to damage the copper cladding, also make sure not to bend the inner conductor out of the straight line. Remove all particles with a brush.
5. Cut the inner conductor in the length as shown. Take care; do not bend the inner conductor out of the straight line.
6. Provide the cable inner conductor with a chamfer using the deburrer of the tool. For this purpose insert cable inner conductor into the chamfer tool, press the tool carefully turning it a few times.
7. Carefully cut the jacket lengthwise with a knife, do not damage the outer conductor. Remove the jacket. Inspect the cable preparation dimensions.
8. Slide the O-Ring onto cable – positioned in the valley before jacket as shown. Wipe a light film of grease on the O-Ring.
9. Push back nut onto cable and over the O-Ring until stop (first corrugation valley is free/exposed).
10. Put Spring C-Ring into first corrugation valley of the cable.
11. Push back nut back to the front until stop (Spring C-Ring is covered).
12. Push the dielectric a bit to the centre all around in order to have a free space to insert the flaring pin of the tool as required for next step. If necessary bend a small part of the outer conductor to the outside in order to get enough free space for the flaring pin.
13. Insert the inner conductor into the corresponding hole of the flare tool (Marking 1/2"-C02), make sure that the flaring pin is located between outer conductor and foam/dielectric (in the free space made before). Keep pushing the back nut to the front while pressing the tool slightly and turn it a few times clockwise to flare the outer conductor. Flare diameter has to be evenly round and concentrically to the cable axis.
14. The flared area (cone) has to be free of any dielectric material, if necessary bend the dielectric back to the centre.
15. Clean the cable end; remove any particles very carefully with a brush. It is not recommended to use steel or similar hard brushes, since these can press particles deeply inside the dielectric. Tip: tape can be used additionally to remove the finest particles.
16. **Check the complete preparation. Careful preparation is the key to good VSWR and especially to proper PIM performance.**
17. Wipe the back nut O-Ring with a light film of grease.
18. Push connector front part onto prepared cable end; do never turn the front part!
19. Pay attention to straight position of connector parts while tightening the connector by turning the back nut only (first by hand). Never turn the front part of the connector!
20. Keep the connector body steady and tighten the back nut of the connector by use of open end wrenches. Tighten properly, recommended torque is 25 Nm (18.44 ft-lb). Keep the interface clean; do not remove the protection cap before mating.
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Possible methods:

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