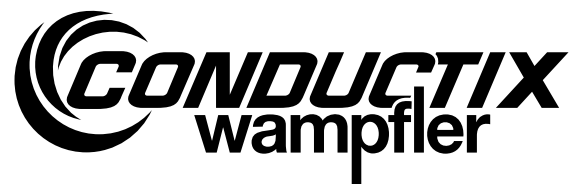


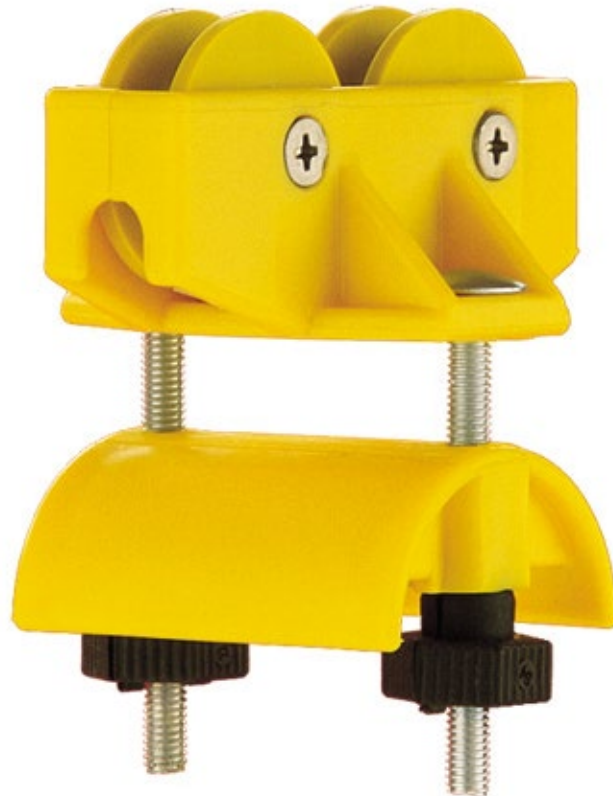
Installation Instructions

Energy feed with tension cable
Program 0210 and 0215



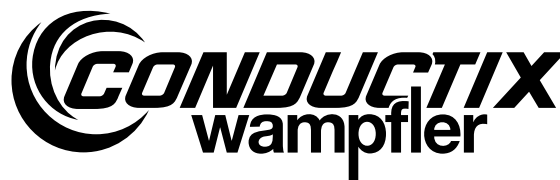
Order number

0211xx-...



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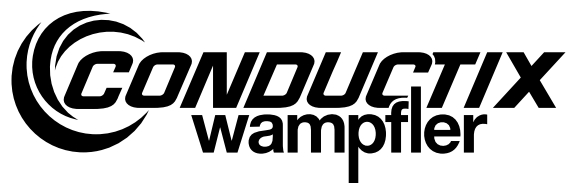


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1 Required tools

1.1 Standard tools

The installation of the energy feeds requires the usual (metric) tools.

1.2 Special tools

To tighten the nuts on flat cable trolleys with split nuts, we recommend the use of the special socket wrench, order no.: 020104.



Fig. 1: Socket wrench

2 Installation

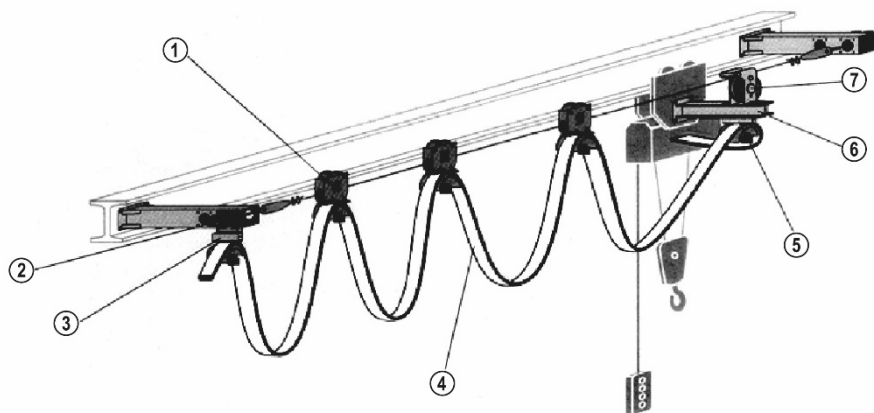


Fig. 2: Installed power feed

Pos.	Description
1	Cable trolley 0216331/021632
2	Holder 020190
3	End clamp 020222-080
4	Flat cable
5	End clamp 020222-080
6	Towing part arm 020531
7	Towing part 021611

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2.1 Installing the energy feed

There are two types of cable end fastener:

- A Tension cable end fastener with two split nuts
- B Tension cable end fastener with split nut and redirection roller

Slack h [% of 1]	Recommended variant ¹⁾		
	Program 210	Program 215 (1 tension cable)	Program 215 (2 tension cables ²⁾)
0.63	Not recommended	B	B
0.80		B	B
1.00		B	B
1.25		B	B
1.60	A	A and B	B
2.00	A	A and B	B
2.50	A	A and B	B
3.20	A	A and B	B

¹⁾ For applications in which a constant cable slack must be ensured even during temperature fluctuations, variant B must always be selected

²⁾ Both cables run through a compensating roller on a counterweight as an endless loop

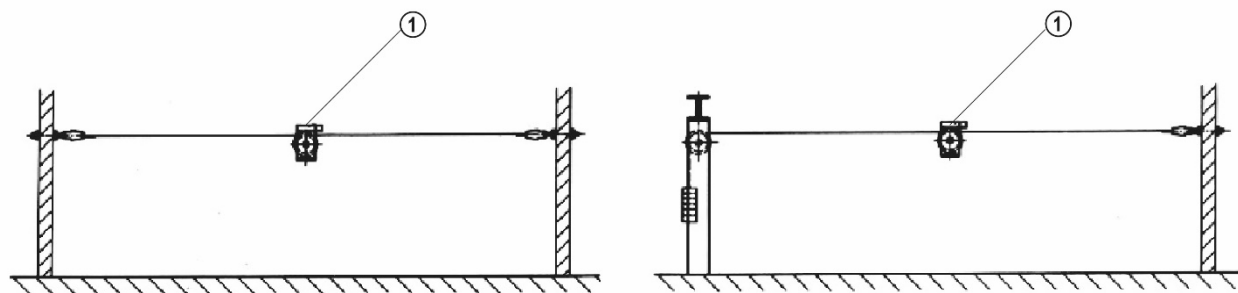


Fig. 3: Type of arrangements of cable end fasteners

Pos.	Description
1	Towing arm

2.1.1 Tension cable end fastener with two split nuts

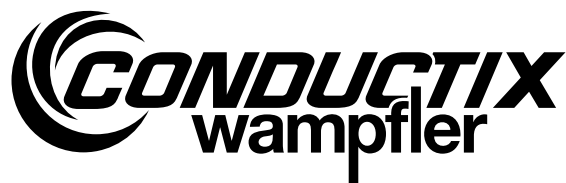
- Screw both cross arms to the customer-provided structure.
- Insert the tension cable into one of the opened split nuts and fasten it with cable clamps.
- Place the premounted split nuts into the cross arm.
- Thread the towing part and the cable trolley onto the tension cable.
- Assemble the loose end of the tension cable with the remaining split nut, insert into the cross arm, and secure it against slipping out.
- Insert the towing part arm into the towing part and screw it onto the mobile consumer.
- Attach the end clamp on the feed side and start to lay the cables (see 2.2).
- Once the cables are clamped into the cable train, the cable is clamped onto the clamping bolts by tightening the nuts.

2.1.2 Tension cable end fastener with split nut, redirection roller, and clamping weight

- Insert the tension cable into the opened split nut and fasten with cable clamps.
- Place the premounted split nuts into the cross arm and tighten it.
- Thread the towing part and the cable trolley onto the tension cable.
- Guide the loose end of the tension cable is guided over the redirection roller and clamp it to the counterweight.
- Insert the towing part arm into the towing part and screw it onto the mobile consumer.
- Attach the end clamp on the feed side and start to lay the cables (see 2.2).

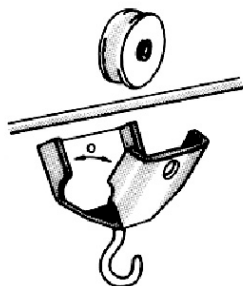
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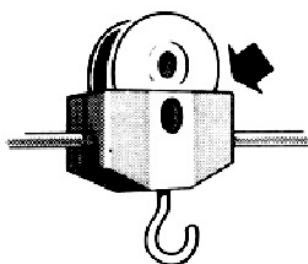
2.1.3 Installation of cable trolleys 021111, 021112, 021115, 021116, and 021117 (conditional)

Cable trolleys can be installed with a clamped cable or wire:



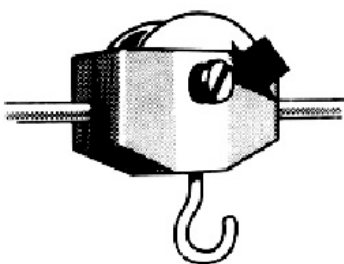
→ Remove the screw and roller and spread the cable trolley apart.

Fig. 4: Spreading the cable trolley



→ Guide the cable trolley upwards, push it together on the sides, and insert the roller.

Fig. 5: Inserting the roller



→ Tighten the screws.

Fig. 6: Tightening the screws

For cable trolley 021111 or 021112, cable collars 020111/020114 or connector eye 020113 are inserted, and the hook is pushed together at the end.

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2.2 Installing cables



WARNING!

An electrician must perform the electrical connection of the system!

- Mark the cable(s) (for example using chalk) to show the fixed installation length and then for the loop lengths l_{loop} (see project documentation).
- Lay the cables into the cable holder starting from the end clamp.
- While aligning the cables, be sure that the markings on the cables are in the middle of the saddles. Repeat this procedure for all cables.
- Clamp the cables by tightening the nuts.
- Connect the cables and start the cable train system.



WARNING!

If multiple flat cables must be laid per cable trolley, the flat cable with the greatest thickness (usually the main power cable) must be placed topmost.



WARNING!

For round cables, the cables with the largest diameters are suspended directly under the cable trolleys, while all other cables are suspended below them in order of diameter.

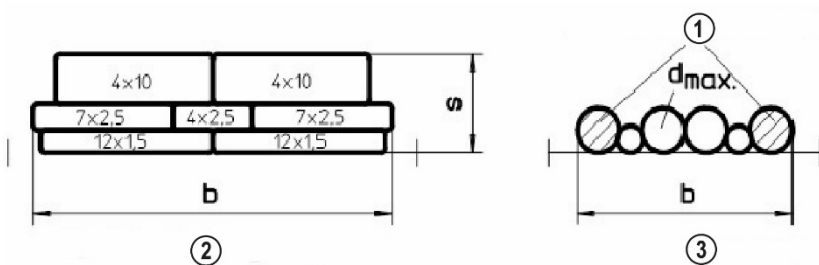


Fig. 7: Flat and round cable trolleys

Pos.	Description
1	Main power cables
2	for flat cable trolleys
3	for round cable trolleys

- Once the cables are clamped into the cable train, they can be connected to the consumer and to the feed.

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2.3 Interface to the mobile consumer - setting up the towing part

To tow the energy feed, a towing arm is mounted on the mobile consumer. This engages into the towing part placed at the end of the energy feed.

2.4 Preassembly as an alternative

The energy feed can also be ordered completely preassembled. The preassembled cable train is simply placed into the tension cable mounted on-site and connected. Please ask our preassembly service about this option.

2.5 Example of an energy feed with flat cable saddles (flat or round lines, hoses next to one another)

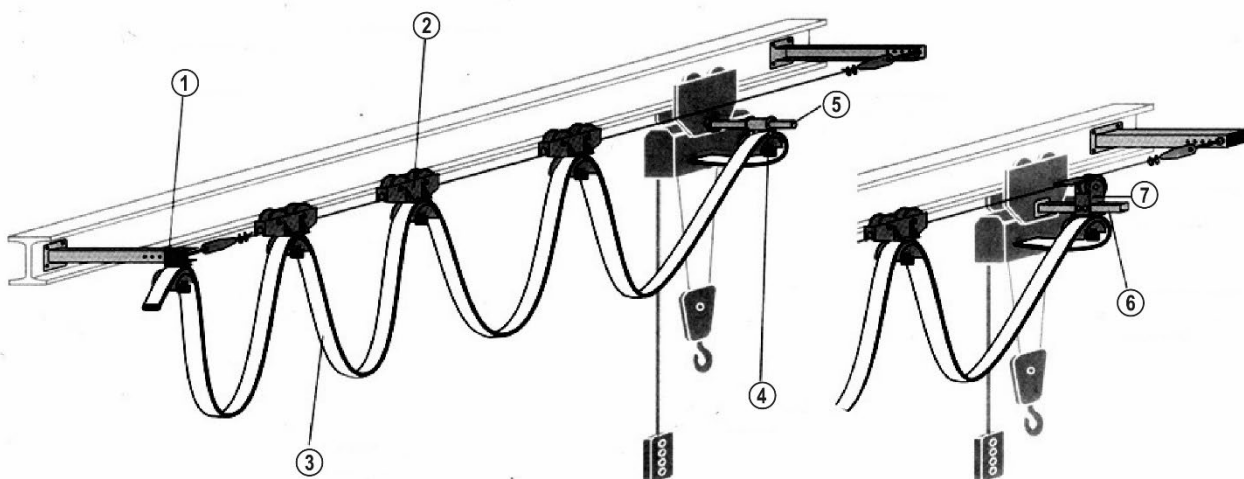
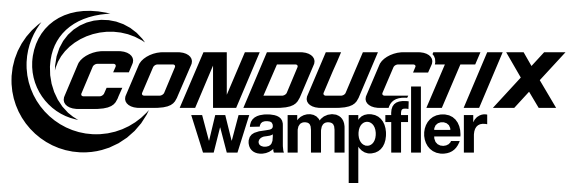


Fig. 8: Installed energy feed with flat cables

Pos.	Description
1	End clamp 021163
2	Cable trolley 021113/021114
3	Flat cable
4	Towing part 021127
5	Towing part arm 021136
6	Towing part arm 020195
7	Towing part 021123

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2.6 Example of an energy feed with round cables, spiral hoses (in separate cable holders)

For round cables, the cables must be inserted into the cable holder without any twisting.

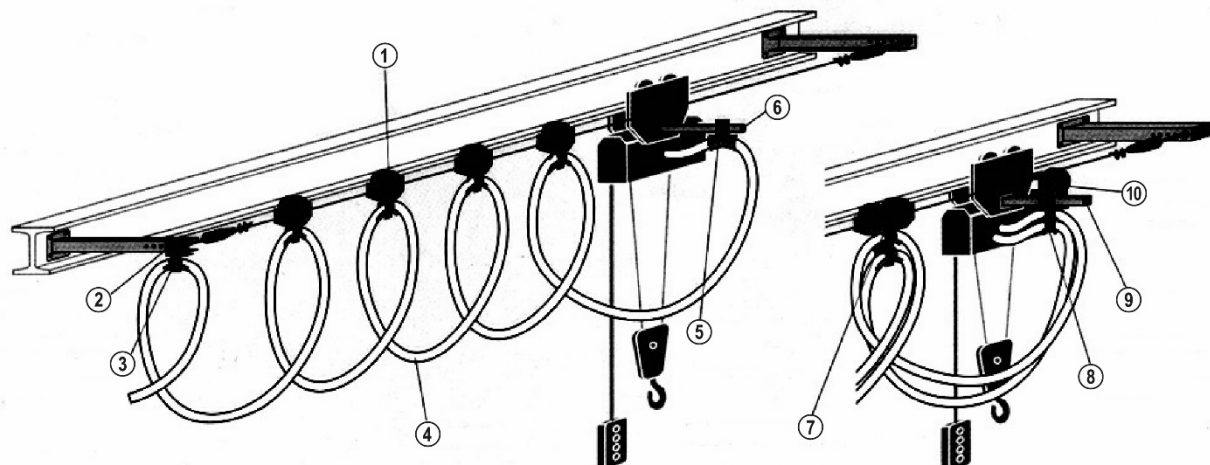


Fig. 9: Installed energy feed with round cables

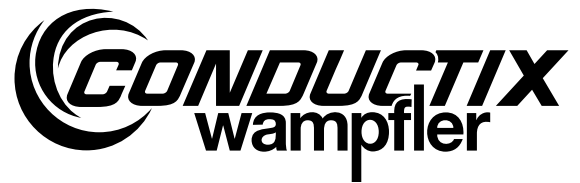
Pos.	Description
1	Cable trolley with collar or holder
2	End clamp 021164
3	Cable holder 020131
4	Round cable
5	Towing part 021126
6	Towing part arm 021136
7	Cable trolley with cable holder
8	Cable holder 020131
9	Towing part arm 020195
10	Towing part 021124

3 Testing during installation

During installation of the cable system, it is recommended that one of the cable trolleys provided be used to verify problem-free movement.

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Energy feed with tension cable
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