

# Installation Instructions



Energy feed with tension cable  
Program 0210 and 0215

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**Order number**  
0211xx-...

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## Energy feed with tension cable Program 0210 and 0215

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### 1 Required tools

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#### 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

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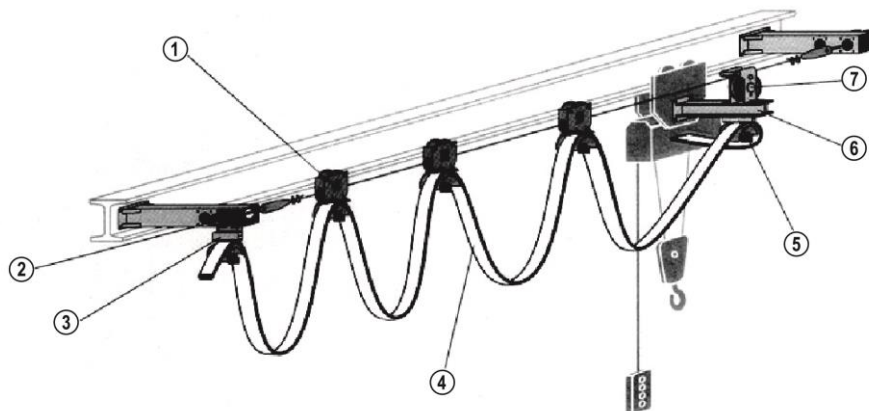


Fig. 2: Installed power feed

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 <sup>1)</sup>		
	Program 210	Program 215 (1 tension cable)	Program 215 (2 tension cables <sup>2)</sup> )
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

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

<sup>2)</sup> Both cables run through a compensating roller on a counterweight as an endless loop

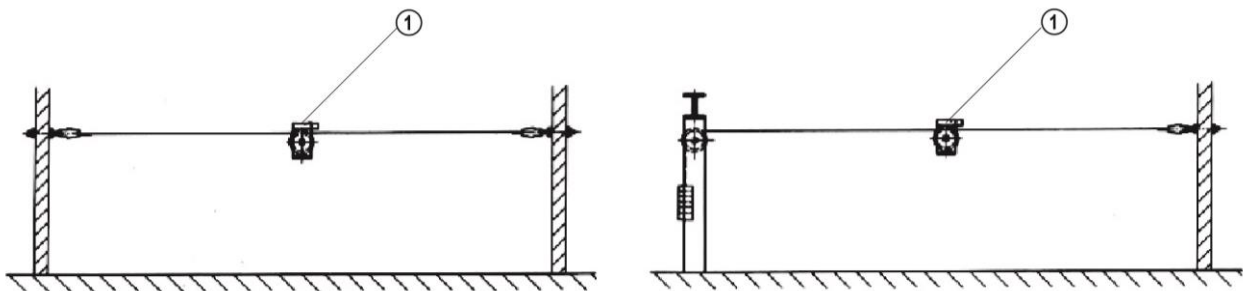


Fig. 3: Type of arrangements of cable end fasteners

Pos.	Description
1	Towing arm

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### 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

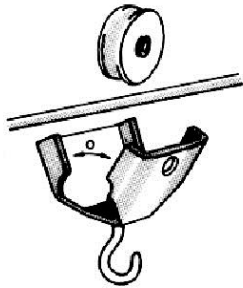
- Insert the tension cable into the opened split nut and fasten with cable clamps.
- Place the premounted split nuts into the cross arm and tighten it.
- Thread the towing part and the cable trolley onto the tension cable.
- Guide the loose end of the tension cable is guided over the redirection roller 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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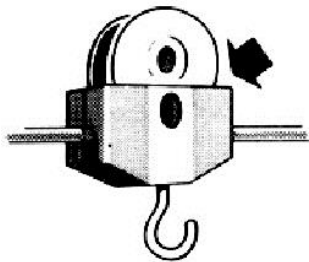
### 2.1.3 Installation of cable trolleys 021111, 021112, 021115, 021116, and 021117 (conditional)

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



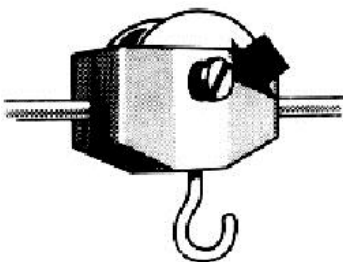
→ Remove the screw and roller and spread the cable trolley apart.

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.

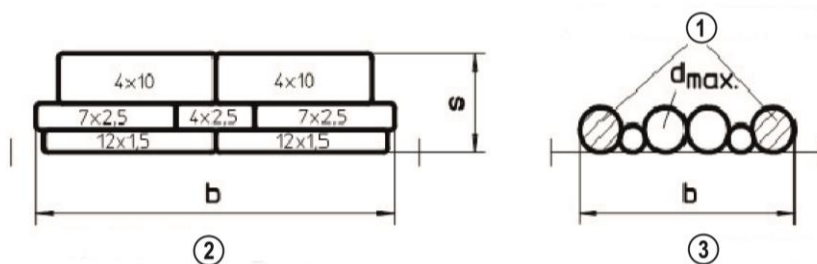


Fig. 7: Flat and round cable trolleys

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)

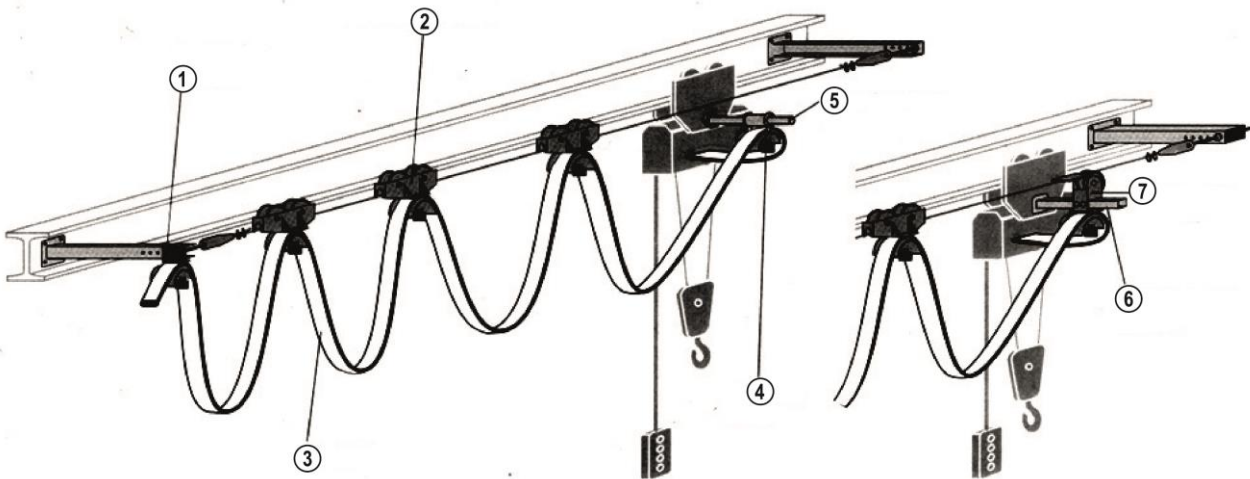


Fig. 8: Installed energy feed with flat cables

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.

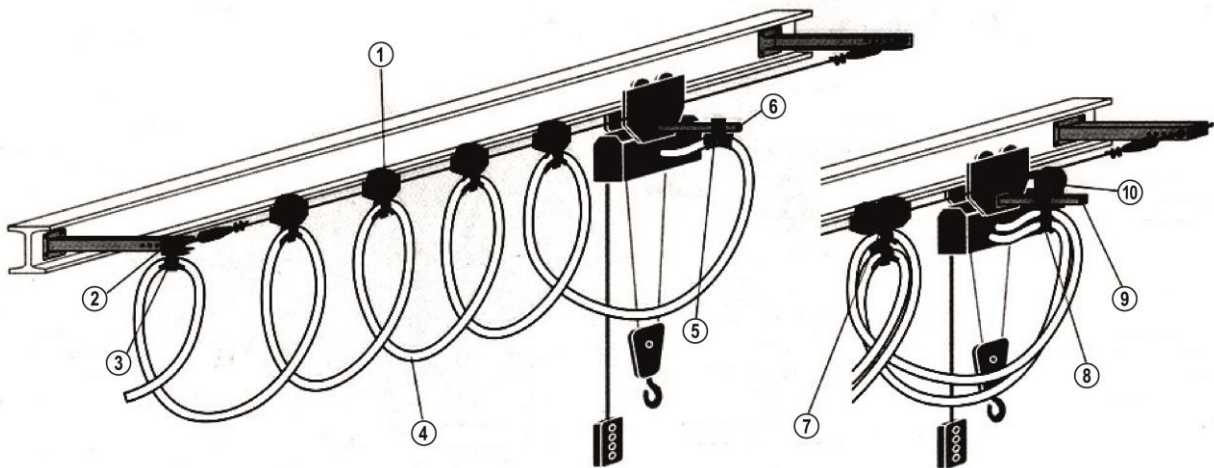


Fig. 9: Installed energy feed with round cables

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

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