Safe and reliable power supply

DCL-Pro compact conductor line

DEMAG

Safe and reliable power supply

Mobile machinery needs reliable power supply. Conductor lines are the tried and tested solution for reliable power supply to cranes and other moving equipment that operate on fixed travel paths.

DCL-Pro compact conductor lines set new standards for continuous operation. DCL-Pro features innovative technology all along the line. The highly rugged enclosure profile has a low deadweight and its flexible configuration provides for a wide performance range, ensuring safe and reliable power supply and control signal transfer along straight and curved tracks.

The current collector system has been developed with absolute reliability in mind to ensure safe and reliable operation also over a long service life.

The patented connection arrangement with prepared modules makes assembly much easier – and cuts the time required for installation.

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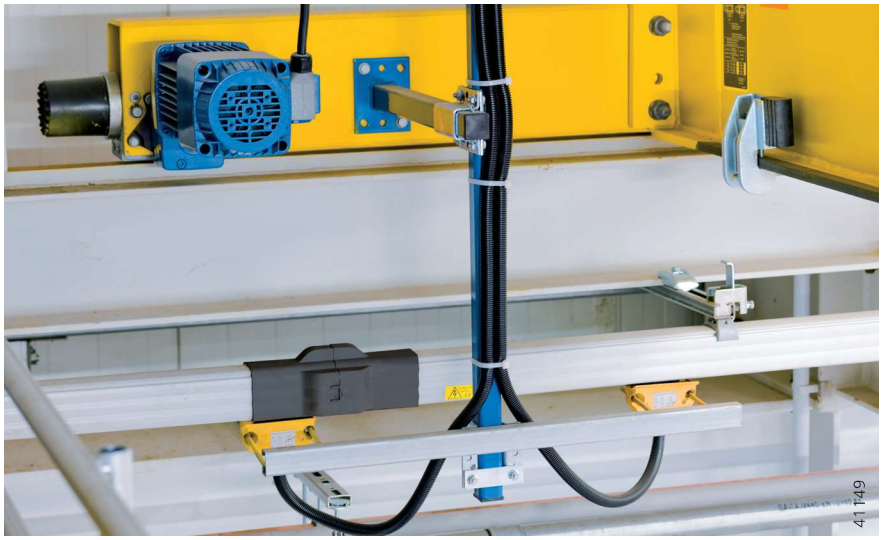


Power all along the line: DCL-Pro for a single-girder overhead travelling crane

A further benefit of the system includes full DCL-Pro compatibility with its proven predecessor DCL, enabling existing installations to be extended with ease.

DCL-Pro provides for safe and reliable power supply.

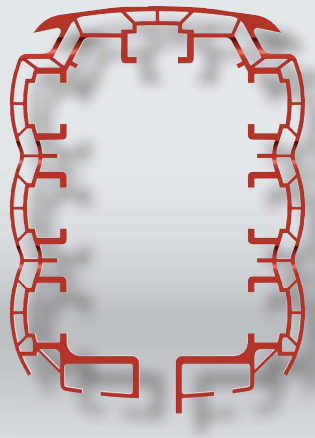
Developed to meet practical needs, Demag DCL-Pro includes a number of innovative features which give you benefits all along the line. It features an attractive design and incorporates many engineering details:

- High profile section rigidity with a low deadweight
- Reliable expansion compensation at each joint
- Long service life thanks to optimised current collector trolley design
- Up to seven conductors for rated currents up to 200 A in continuous operation and control signal transfer
- Fast installation thanks to pre-assembled connection system
- Easy to service: the system can be inspected at every joint
- Fast replacement of straight sections
- Precise attachment to C-section rails or by means of threaded pins
- Existing installations can be easily extended, since the system is compatible with its DCL forerunner

Perfect down to the last detail: DCL-Pro used to supply power and control signals

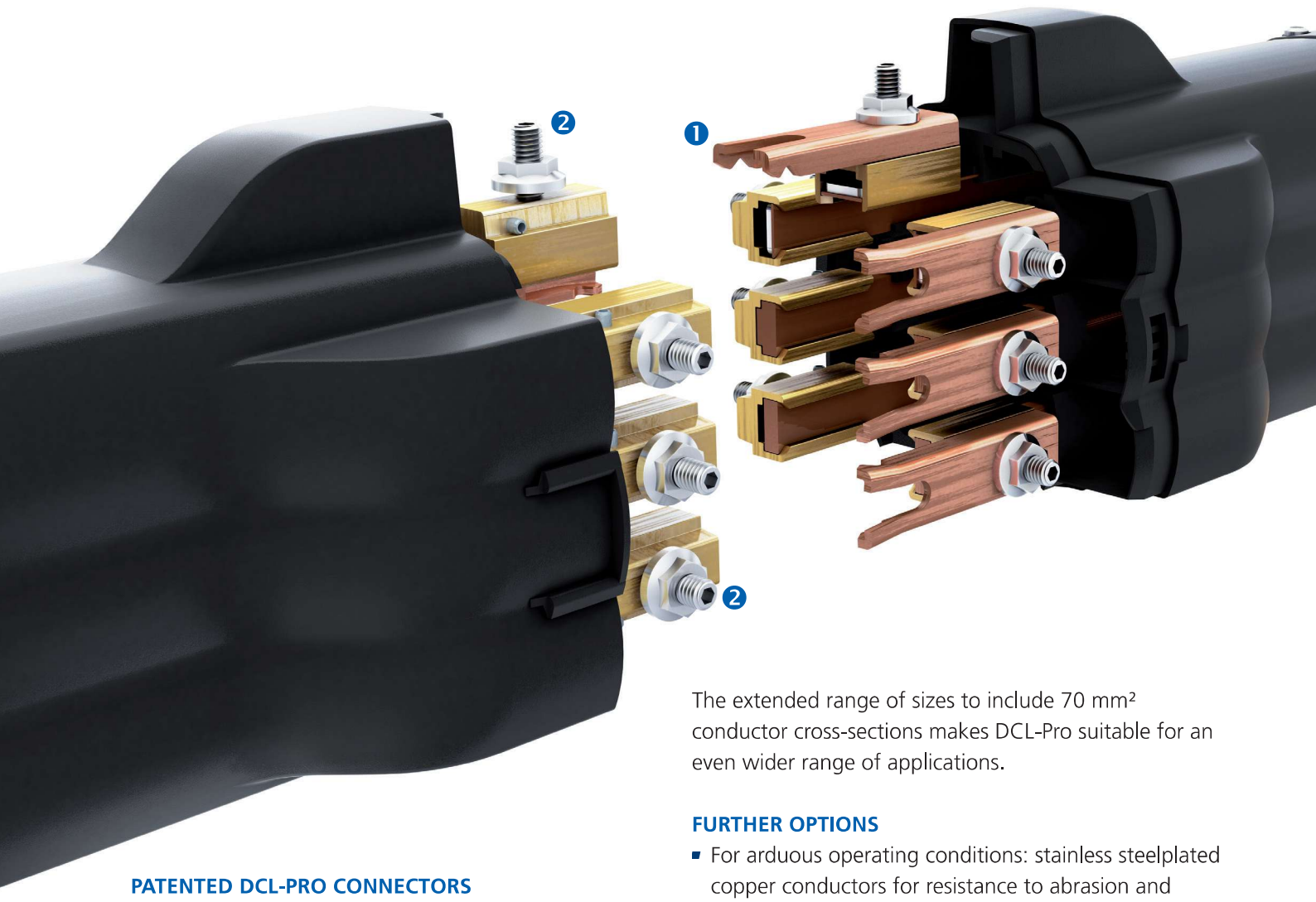
ENCLOSURE PROFILE FEATURING HONEYCOMB PATTERN

- High resistance to flexing
- Low deadweight
- Channel for larger copper profile now extended up to 70 mm² cross-section
- Curved routing possible using curve sections
- Full compatibility with the existing DCL system



Versatile range of applications

Demag DCL-Pro Compact Line provides for reliable supply to mobile equipment: power and control signals are supplied exactly where they are needed. Fitted with up to seven conductors, DCL-Pro supplies currents up to 200 A.



PATENTED DCL-PRO CONNECTORS

❶ Retaining clips for a secure hold
❷ Pre-assembled screw connection with threaded pin and nut

The extended range of sizes to include 70 mm² conductor cross-sections makes DCL-Pro suitable for an even wider range of applications.

FURTHER OPTIONS

- For arduous operating conditions: stainless steelplated copper conductors for resistance to abrasion and corrosion
- Silver-graphite contacts for reliable transfer of low-strength signals

UNMATCHED SPEED AND EASE OF INSTALLATION

The patented connection system enables Demag DCL-Pro Compact Line to be assembled quickly and easily. The rail elements are supplied pre-assembled and do not have any loose parts.

To assemble the sections, the connectors simply click together and only one nut needs to be tightened per conductor. Additional expansion joints do not need to be installed.

The seamless rail joints are kind to the sliding contacts and increase the service life of the system. Assembly is further simplified by the connecting method, which is the same for all conductor cross-sections.

High speeds make it possible to use DCL-Pro for universal applications – at speeds of up to 200 m/min, the system is also suitable for storage and retrieval machines, for example.

Compatibility: DCL-Pro current-collector trolleys can also be operated in existing DCL systems.

WEAR RESISTANCE FOR A LONGER SERVICE LIFE

The wheels of the current collector trolley provide for smooth travel and unlimited mobility. The travel wheels and guide rollers are made of reinforced materials for an extended service life. The roller shape is optimised for operation in straight and curved tracks.

Current collector trolley:
Longer service life thanks to optimised travel wheels and guide rollers

EXCELLENT SAFETY FEATURES

The narrow opening in the enclosure profile prevents almost any accidental contact with the conductors on the inside, which enables DCL-Pro to be used within arm's reach without the need for any additional safety measures. An optional sealing lip provides effective protection against dust and moisture to IP24. Fire protection is provided to meet UL94 V-0 requirements as a matter of course.

VERY EASY TO SERVICE

DCL-Pro sections can be installed and removed at any point along the track. This enables inspections to be carried out quickly and sliding contacts to be replaced with ease.

Rapid and exact installation

SIMPLE AND RELIABLE ATTACHMENT

Whatever the design of your support superstructure might be – the DCL-Pro connectors make the system much easier to install and ensure that it is securely held in place.

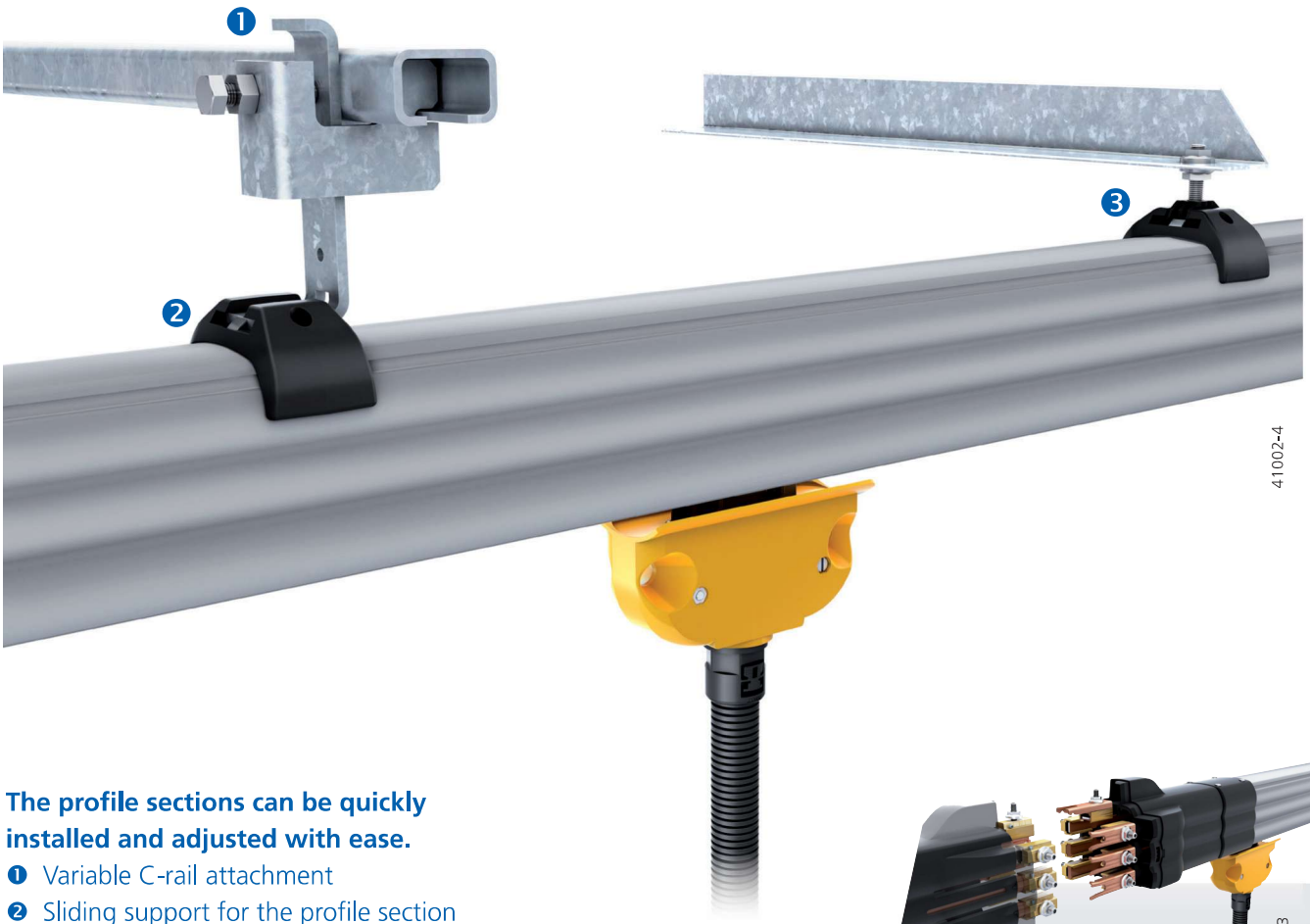
The profile sections can be precisely aligned and attached using the sliding suspensions with their retaining bolts.

Two variants are available to attach the system to a superstructure:

- C-rail for fine adjustment in two axes
- Threaded pins for vertical alignment

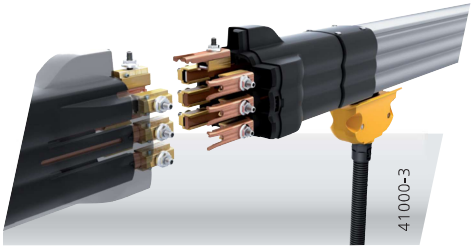
PERFECTLY TAILORED SOLUTION

The profile sections are supplied in lengths, as required. Thanks to its clever interface design, DCL-Pro can also be modified on site, if necessary. Solutions to meet such specific needs can be easily achieved by means of the connector cap adapter.

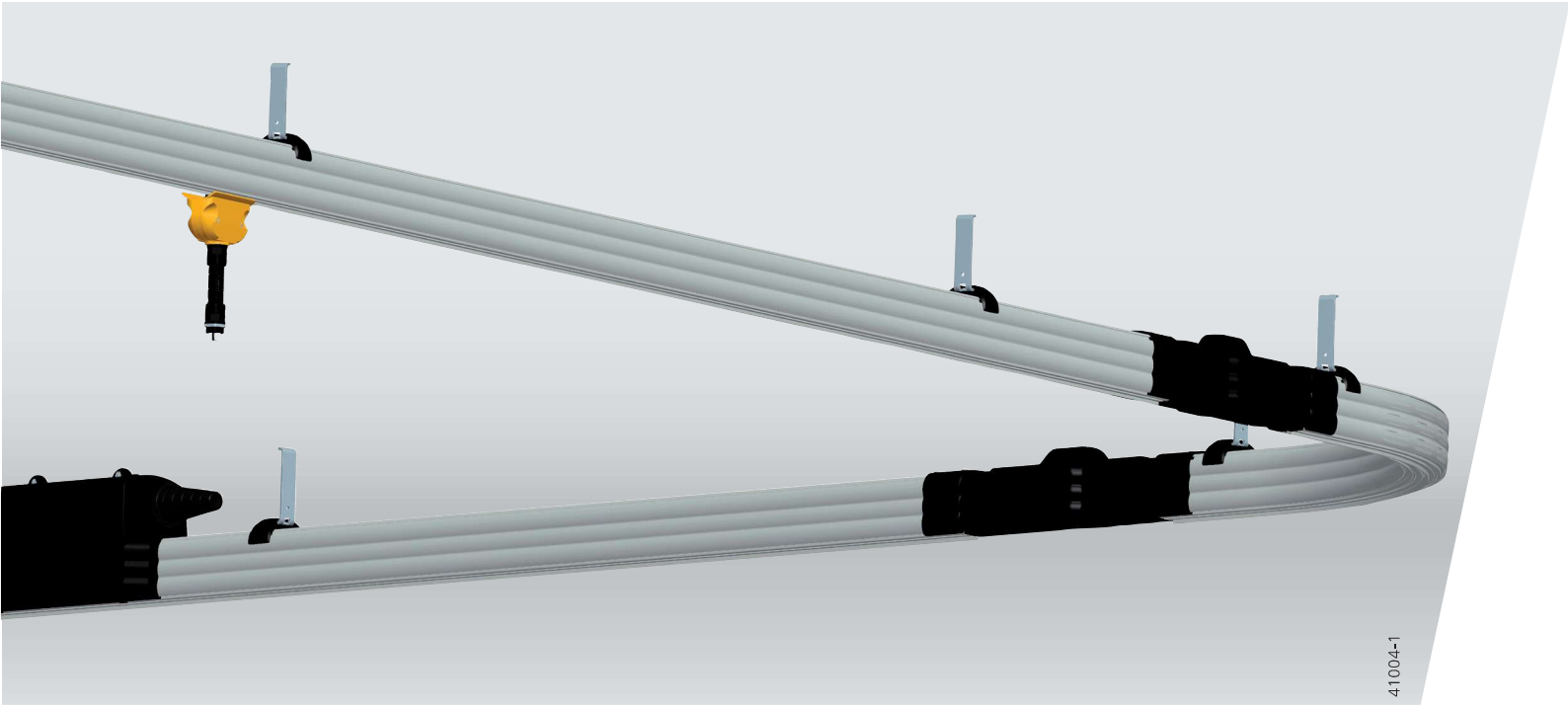


The profile sections can be quickly installed and adjusted with ease.

❶ Variable C-rail attachment
❷ Sliding support for the profile section
❸ Attachment with threaded pin



Connector cap adapter for precise adjustment on site



Individual configurations – simple assembly: DCL-Pro for solutions tailored to meet specific needs

TRACK ROUTING TO MEET SPECIFIC NEEDS

Whether for straight or curved tracks or circuits, DCL-Pro offers the flexibility required to create track layouts that match the exact requirements of your installations. Straight profile sections as well as various curved sections with differing radii are available to meet these needs.

- Straight track sections
  - Standard lengths of 4,000 mm, which can be modified during assembly, if required
- Curved sections
  - For implementing L-shaped, U-shaped and S-shaped track layouts as well as for circuits
  - Available for angles ranging from 15° to 360°
  - Minimum radius of 800 mm

UNIVERSAL POWER INFEED

DCL-Pro is designed for ease of assembly and can be simply modified to meet local site requirements. The powerfeed can be installed anywhere along the line or at the ends of the track. The cables are also quickly connected.

- Powerfeed end cap
  - Direct powerfeed at the end of the track via the connector cap
- Centre powerfeed
  - Can be installed at any point along a straight track
- Small curve and centre powerfeed
  - Special power supply arrangement for curved tracks
  - Alternative line powerfeed arrangement for small sizes (10 and 15 mm²)
- Entry and ramp section
  - Reliable power supply arrangement for mechanically and electrically isolated track segments

Powerfeed arrangement at any point along the track

Connector end cap with powerfeed arrangement at the end of the track

Special power supply arrangement also for curved tracks

Enclosure profile and conductors						
Enclosure material	PVC					
Standard length [mm]	4,000					
Number of conductors/poles	7					
Max. suspension distance [mm]	2,000					
Max. voltage [V AC] [1]	24 to 690					
Size/conductor cross-section [mm²]	10	15	25	38	56	70
Permissible current [A] at 100% CDF [2]	65	80	100	130	175	200
Ambient temperature to DIN [°C]	-30 to +70					
Type of enclosure	IP23 / IP24 [3]					
Fire protection	to UL94 V-0 spec.					
Minimum curve radius [mm]	800					

[1] DC on request
[2] up to 35°C
[3] with profile seal

Current collector trolley	
Number of poles: power	4
Max. number of poles: control signals	3
Max. rated current IN at 80% CDF [A]	40 (Bz) [4] / 20 (Gr) [5] 40 (Bz) / 20 (SiGr) [6]
Connection cross-section:	
Power [mm²]	6 2,5
Control cable [mm²]	2.000
Standard cable length [mm]	100
Max. fusing [A]	200

[4] with bronze sliding contact
[5] with graphite sliding contact for arduous operating conditions
[6] with bronze (power conductors) and silver-graphite contact (control-signal conductors) for high currents and control signal transfer free of interference

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