wieland

The motor starter on the power bus

Solutions for conveyor technology
The motor starter on the power bus

Full speed ahead

The motor starter

The ***podis***®/***gesis***® motor starters for decentralized applications close to motors are based on the ***podis*** power bus solution and can be used in harsh industrial environments.

Motor starters: In an especially compact housing, the ***podis***®MCU/***gesis***®MCU motor starters combine the function of an electronic motor starter with AS-i control, as well as the connection of up to three sensors. The motor starters are used in applications where three-phase standard motors of up to 1.5 kW are started with either one or two directions of rotation.

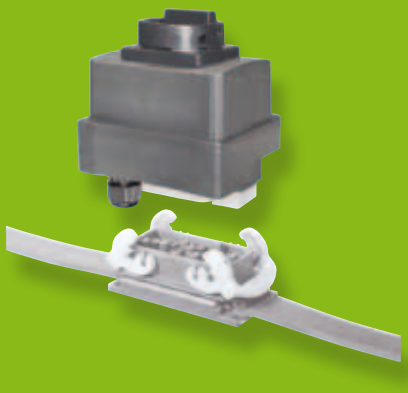
Soft starters: The new ***podis***®MSS/***gesis***®MSS electronic motor soft starters are used for soft starting and stopping of three-phase asynchronous motors. These soft starters start and stop the drive softly so that light materials that are being transported do not slip when the motor is switched on, and in order to protect the drive mechanically. The ramp-up time, the ramp-down time and the breakaway torque can be adjusted continuously.

Maintenance switches: In order to achieve secure isolation of the drives in the event of repair or maintenance, "locally-placed" maintenance switches can disconnect individual conveyor lines or consumers from the mains without the complete system having to be shut down.

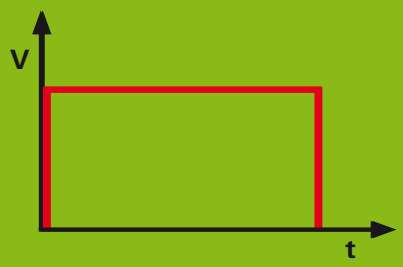
gesis® **motor starter**

podis® **motor starter**

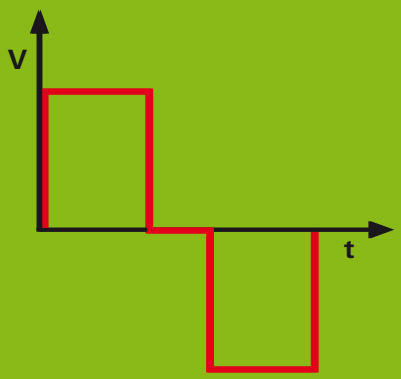
podis® **maintenance switch**



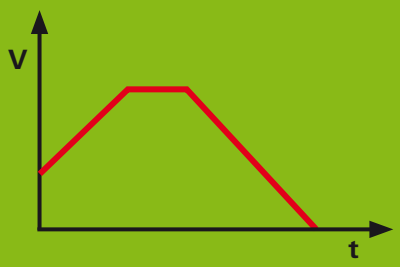
Direct starter



Reversible starter



Soft starter



Record-breaking installation and commissioning time

Fast installation

With the new ***podis***®/***gesis***® motor starters, installation can be carried out up to 70% faster than before.

Space-saving design

The ***podis***® motor starters are compact, and are simply mounted onto the flexible ***podis***® flat cable and terminated via two fast-closing manual locking levers. No more complicated and space-consuming mounting on separate mounting plates, thus saving space and simplifying project planning. Alternatively, the ***gesis***® motor starter can be mounted remotely on a mounting plate.

Easy installation in or on the wiring duct

The compact design enables optimum integration into standard cable management systems. With the ***podis***® motor starter, ingoing and outgoing cables run behind the motor starter in the wiring duct, making side-by-side positioning possible. The remote ***gesis***® motor starter is mounted either at the motor on a separate mounting plate, or directly onto the cable management system

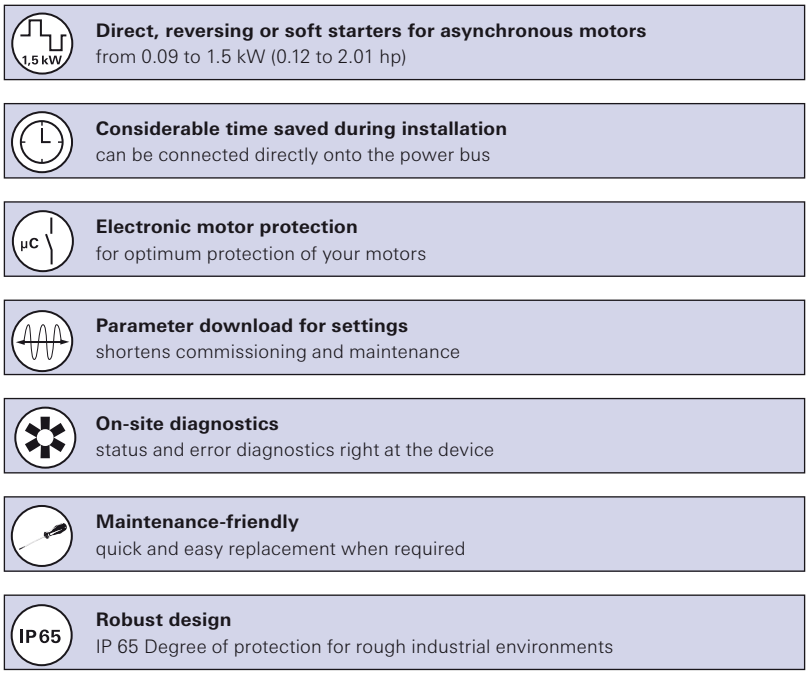
Intelligent motor control

The ***podis***/***gesis***® motor starters can be operated as direct, reversing or soft starters of three-phase asynchronous motors up to 1.5 kW (2.01 hp). After the start-up phase, a switchover from the semiconductors to the internal mechanical bypass relays takes place.

Easy operation and optimum diagnostics

Easy configuration via AS-Interface. When a motor starter is replaced, the settings are saved and can be automatically transferred from the controller to the new motor starter.

LED displays for status and error messages make fast on-site troubleshooting possible in the event of a fault, thus reducing expensive downtimes.



Direct, reversing or soft starters for asynchronous motors
from 0.09 to 1.5 kW (0.12 to 2.01 hp)

Considerable time saved during installation
can be connected directly onto the power bus

Electronic motor protection
for optimum protection of your motors

Parameter download for settings
shortens commissioning and maintenance

On-site diagnostics
status and error diagnostics right at the device

Maintenance-friendly
quick and easy replacement when required

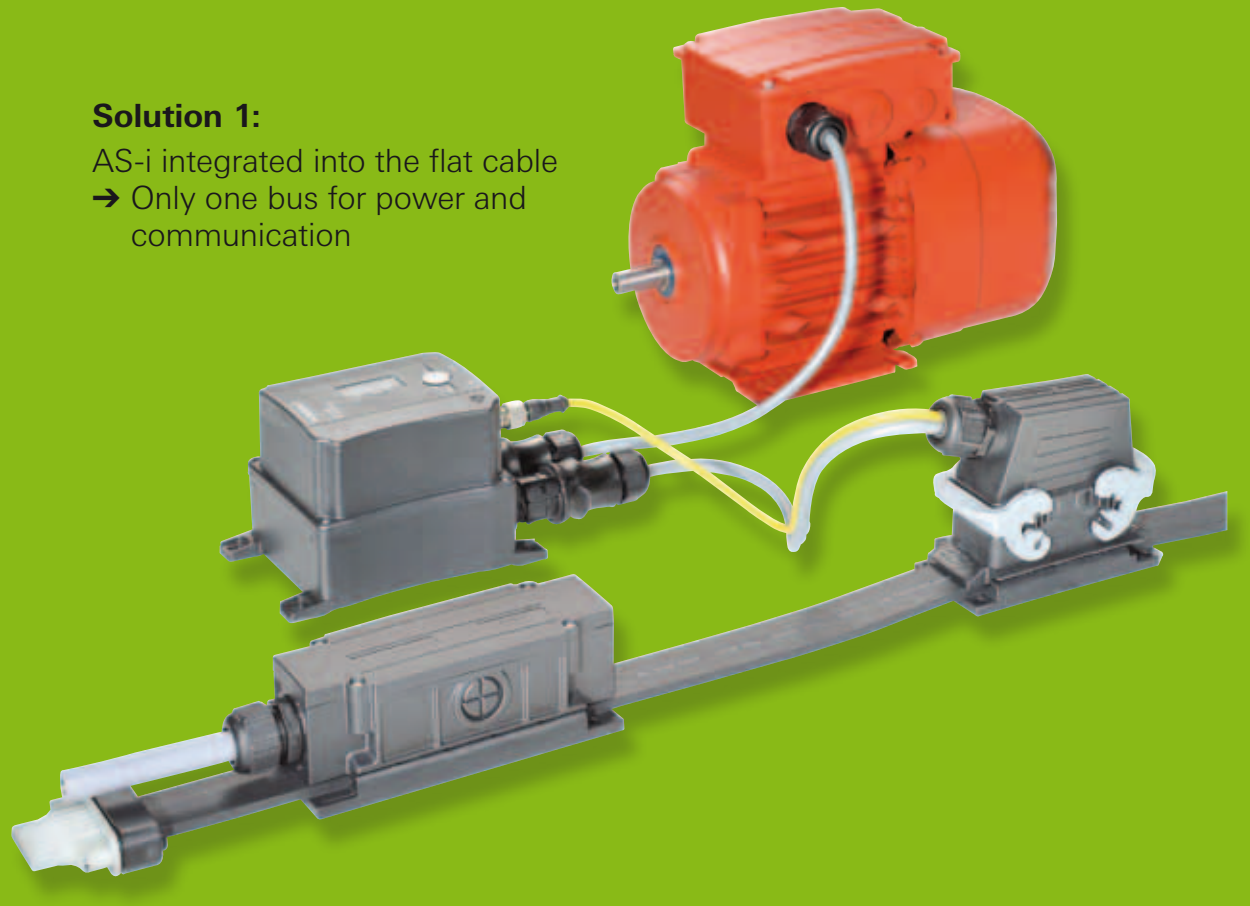
Robust design
IP 65 Degree of protection for rough industrial environments

The motor starter mounted remotely from the power bus – *gesis*®MCU

Für jede Applikation die passende Lösung:

Solution 1:

AS-i integrated into the flat cable
➔ Only one bus for power and communication



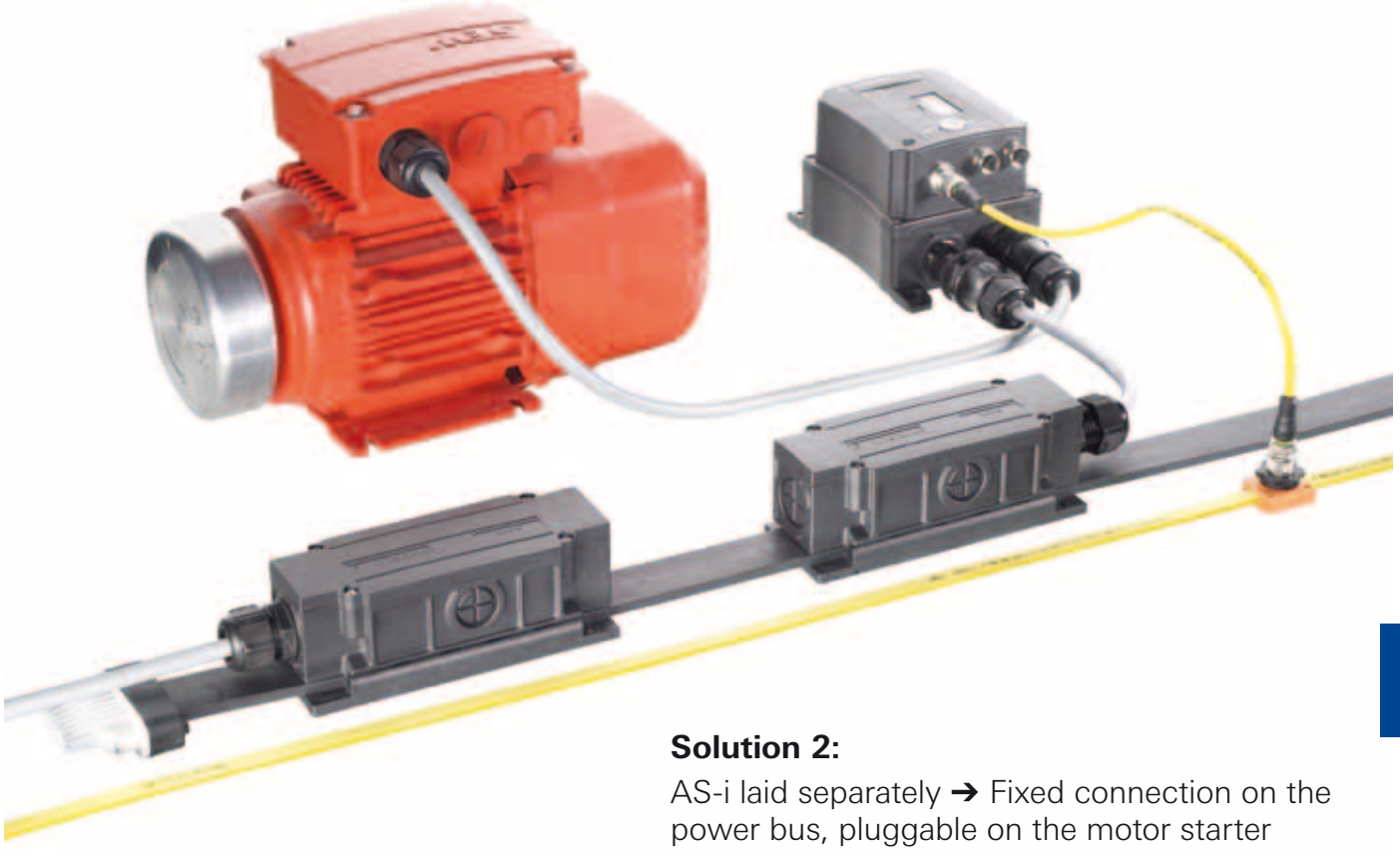
gesis®MCU PA V 3I/W1,5
Direct/reversing starter, remote

gesisMCU PA V 3I/W1.5; reversing starter for three-phase asynchronous motors with electronic motor protection of 0.09-1.5 kW / 400 VAC; standard AS-i slave; AS-i specification 3.0 for 31 participants; auxiliary power from AS-i; 3 external digital initiator inputs via two M12 sockets; power (400 V) feed-in via RST 20i5 black, plug; motor output via RST 20i5 black, socket; parameterization of nominal motor current, minimum current, current asymmetry, reversing break, blocking of rotational direction (direct starter) via parameter download AS-i; diagnosis on the device via LED or AS interface

Description	Type	Order No
gesis®MCU	**PA V 3I/W1,5**	83.234.0009.5

Technical data	
Supply voltage of AC 50 Hz (V)	400
Supply voltage - voltage type	AC
Rated operating current of the motor (A)	4.0
Nominal power of the motor (min.- max.) (kW)	0.09 - 1.5
Frequency range (Hz)	50 - 60
Number of inputs	3
Number of motor outputs	1
AS-i specifi cation	V3.0
Slave type	Standard slave
Current consumption of AS-i (mA)	max. 200
Motor current parameterization available	yes
Brake activation	no
Motor protection via thermistor	no
Motor protection via thermal motor model	yes
Switching rate	max. 1000/h
Conductor connection power feed-in	Plug connection RST20i5
Connection type AS-i	Plug connection M12
Connection type Sensors	Plug connection M12
Connection type Motor output	Plug connection RST20i5
Degree of protection	IP65
Wall mounting	jes
Mounting orientation	horizontal and vertical
Ambient temperature	-20…+40°C (>40°C Derating)
W x H x D (mm)	104 x 161 x 96
Approvals	-

The motor soft starter mounted remotely from the power bus – *gesis*®MSS



Solution 2:

AS-i laid separately ➔ Fixed connection on the power bus, pluggable on the motor starter

gesis®MSS PA V 3I/W1,5 motor soft starter, remote

gesisMSS PA V 3I/W1.5; motor soft starters with reversing function for three-phase asynchronous motors of 0.09 - 1.5 kW / 400 V AC; standard AS-i slave; AS-i specification 3.0 for 31 participants; auxiliary power from AS-i; 3 external digital initiator inputs via two M12 sockets; power (400 V) infeed via RST20i5 black, plug; motor output via RST20i5 black, socket; function: Soft starting and stopping; reversing function; electronic motor protection; parameterization of nominal motor current, ramp-up time/deceleration time; minimum current, current asymmetry, reversing break, blocking of rotational direction (direct starter) via parameter download AS-i; diagnosis on the device via LED or via AS-Interface

Description	Type	Order No
gesis®MSS	**PA V 3I/W1,5**	83.235.0009.5

Technical data	
Supply voltage of AC 50 Hz (V)	400
Supply voltage - voltage type	AC
Rated operating current of the motor (A)	4,0
Nominal power of the motor (min.- max.) (kW)	0.09 - 1.5
Frequency range (Hz)	50
Number of inputs	3
Number of motor outputs	1
AS-i specification	V3.0
Slave type	Standard slave
Current consumption of AS-i (mA)	max. 200
Motor current parameterization available	yes
Starting voltage	0-100%
Starting time	0,1-10s
Deceleration time	0,1-10s
Brake activation	no
Motor protection via thermistor	no
Motor protection via thermal motor model	yes
Switching rate max.	1000/h
Conductor connection power feed-in	Plug connection RST20i5
Connection type AS-i	Plug connection M12
Connection type Sensors	Plug connection M12
Connection type Motor output	Plug connection RST20i5
Degree of protection	IP65
Wall mounting	yes
Mounting orientation	horizontal and vertical
Ambient temperature	-20…+40°C (>40°C Derating)
W x H x D (mm)	104 x 161 x 96
Approvals	-

The motor starter mounted directly onto the power bus – *podis*®MCU

Plug – Configure – Start

1 Plug together

Power, AS-i, and motor cable connection

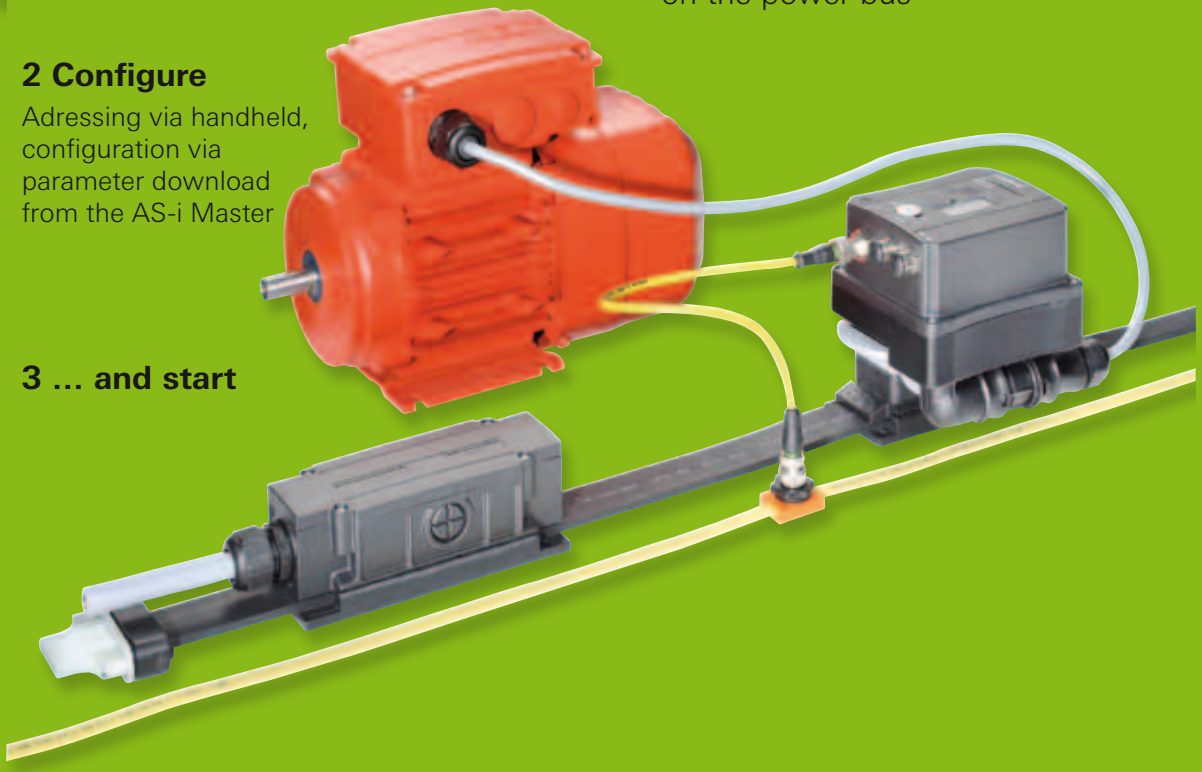
2 Configure

Adressing via handheld, configuration via parameter download from the AS-i Master

3 … and start

Solution 3:

AS-i laid separately
➔ Motor starter plugged directly on the power bus



podis®MCU FA C 3I/W1,5
Direct/reversing starter, direct plug-in

podis®MCU FA C 3I/W1.5; reversing starter for three-phase asynchronous motors with electronic motor protection of 0.09-1.5 kW / 400 VAC; standard AS-i slave; AS-i specification 3.0 for 31 participants; auxiliary power from AS-i; 3 external digital initiator inputs via two M12 sockets; power (400 V) plug-in feed via ***podis*** outgoing flat cable FCS 4 7 SI BU (75.015.5153.1); AS-i via M12 socket; motor output via RST 20i5 black, socket; parameterization of nominal motor current, minimum current, current asymmetry, reversing break, blocking of rotational direction (direct starter) via parameter download AS-i; diagnosis on the device via LED or AS interface

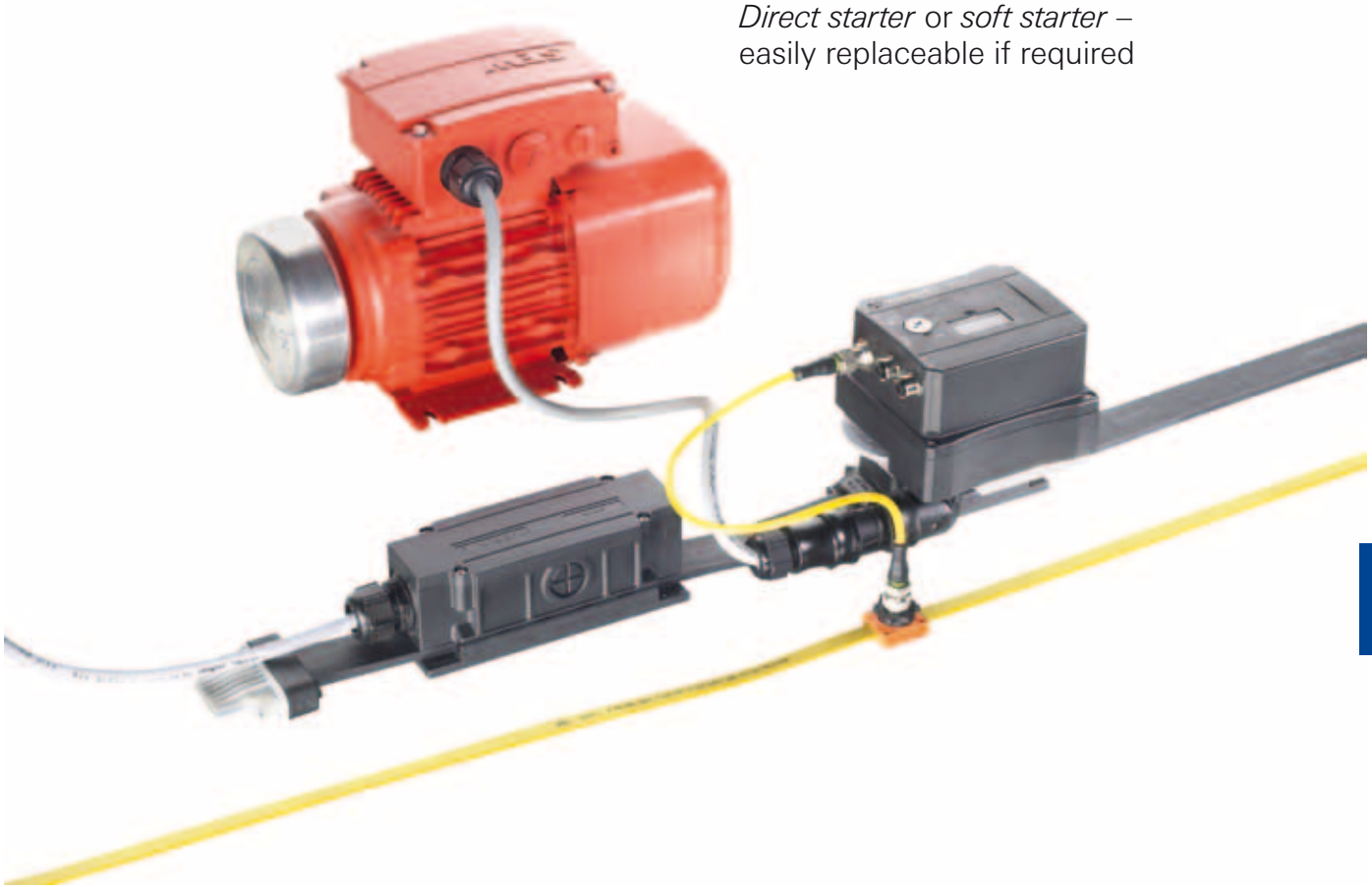
Description	Type	Order No
podis®MCU	**FA C 3I/W1,5**	83.222.0009.5

Technical data	
Supply voltage of AC 50 Hz (V)	400
Supply voltage - voltage type	AC
Rated operating current of the motor (A)	4.0
Nominal power of the motor (min.- max.) (kW)	0.09 - 1.5
Frequency range (Hz)	50 - 60
Number of inputs	3
Number of motor outputs	1
AS-i specification	V3.0
Slave type	Standard slave
Current consumption of AS-i (mA)	max. 200
Motor current parameterization available	yes
Brake activation	no
Motor protection via thermistor	no
Motor protection via thermal motor model	yes
Switching rate	max. 1000/h
Conductor connection power feed-in	Plug connection ***podis***CON
Connection type AS-i	Plug connection M12
Connection type Sensors	Plug connection M12
Connection type Motor output	Plug connection RST20i5
Degree of protection	IP65
Wall mounting	yes
Mounting orientation	horizontal and vertical
Ambient temperature	-20…+40°C (>40°C Derating)
W x H x D (mm)	104 x 130 x 139
Approvals	-

The motor soft starter mounted directly onto the power bus – *podis*®MSS

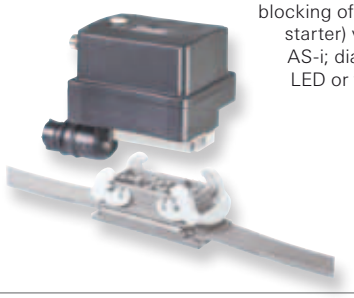
Solution 4:

Direct starter or *soft starter* – easily replaceable if required



podis®MSS FA C 3I/W1,5 motor soft starter direct plug-in

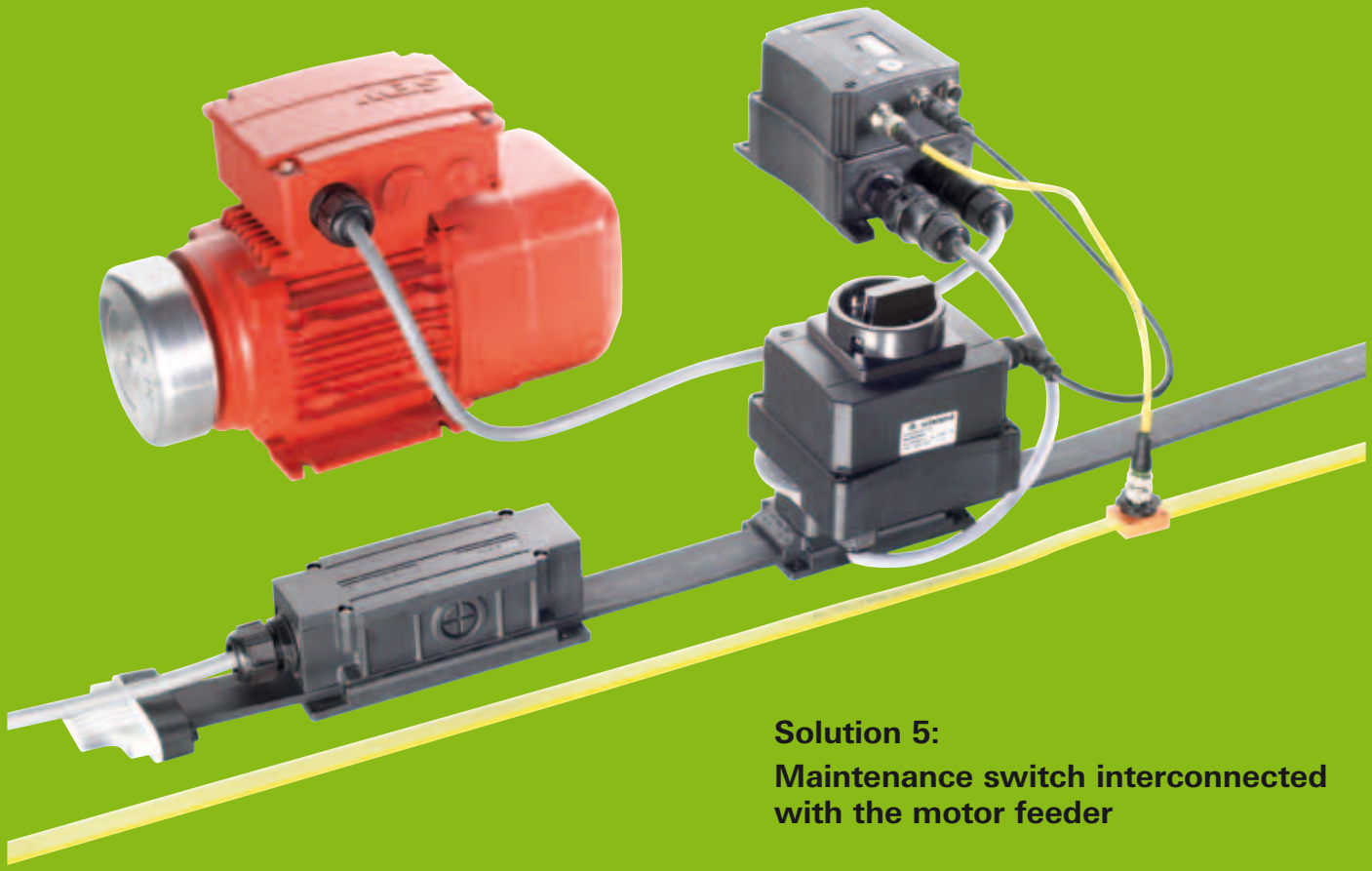
podis®MSS FA C 3I/W1.5; motor soft starter with reversing function for three-phase asynchronous motors of 0.09-1.5 kW / 400 V AC; standard AS-i slave; AS-i specification 3.0 for 31 participants; auxiliary power from AS-i; 3 external digital initiator inputs via two M12 sockets; power (400 V) infeed via podisCON flat cable outgoing feeder (75.015.5153.1) pluggable; motor output via RST20i5 black, socket; function: Soft starting and stopping; reversing function; electronic motor protection; parameterization of nominal motor current, ramp-up time/ deceleration time; minimum current, current asymmetry, reversing break, blocking of rotational direction (direct starter) via parameter download AS-i; diagnosis on the device via LED or via AS-Interface



Description	Type	Order No
podis®MSS	**FA C 3I/W1,5**	83.223.0009.5

Technical data	
Supply voltage of AC 50 Hz (V)	400
Supply voltage - voltage type	AC
Rated operating current of the motor (A)	4,0
Nominal power of the motor (min.- max.) (kW)	0.09 - 1.5
Frequency range (Hz)	50
Number of inputs	3
Number of motor outputs	1
AS-i specification	V3.0
Slave type	Standard slave
Current consumption of AS-i (mA)	max. 200
Motor current parameterization available	yes
Starting voltage	0-100%
Starting time	0,1-10s
Deceleration time	0,1-10s
Brake activation	no
Motor protection via thermistor	no
Motor protection via thermal motor model	yes
Switching rate max.	1000/h
Conductor connection power feed-in	Plug connection *podis*CON
Connection type AS-i	Plug connection M12
Connection type Sensors	Plug connection M12
Connection type Motor output	Plug connection RST20i5
Degree of protection	IP65
Wall mounting	yes
Mounting orientation	horizontal and vertical
Ambient temperature	-20…+40°C (>40°C Derating)
W x H x D (mm)	104 x 152 x 139
Approvals	-

The maintenance switch on the power bus



Solution 5:
Maintenance switch interconnected with the motor feeder

podis®SWITCH F CM 3P1S 25A maintenance switch direct plug-in

podis SWITCH F CM 3P1S 25A; ***podis*** CON plug with maintenance switch; 400 V AC, 3-pole with additional auxiliary contact; switch position indicator on M12 plug; rated continuous current Iu = 25 A; switching capacity according to AC23A/B = 11 kW / 400 V; according to AC3 = 7.5 kW / 400 V

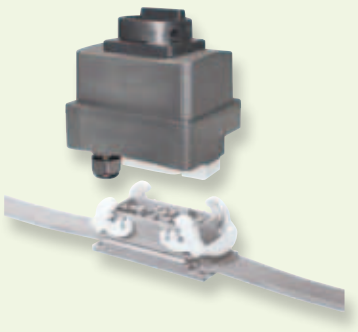
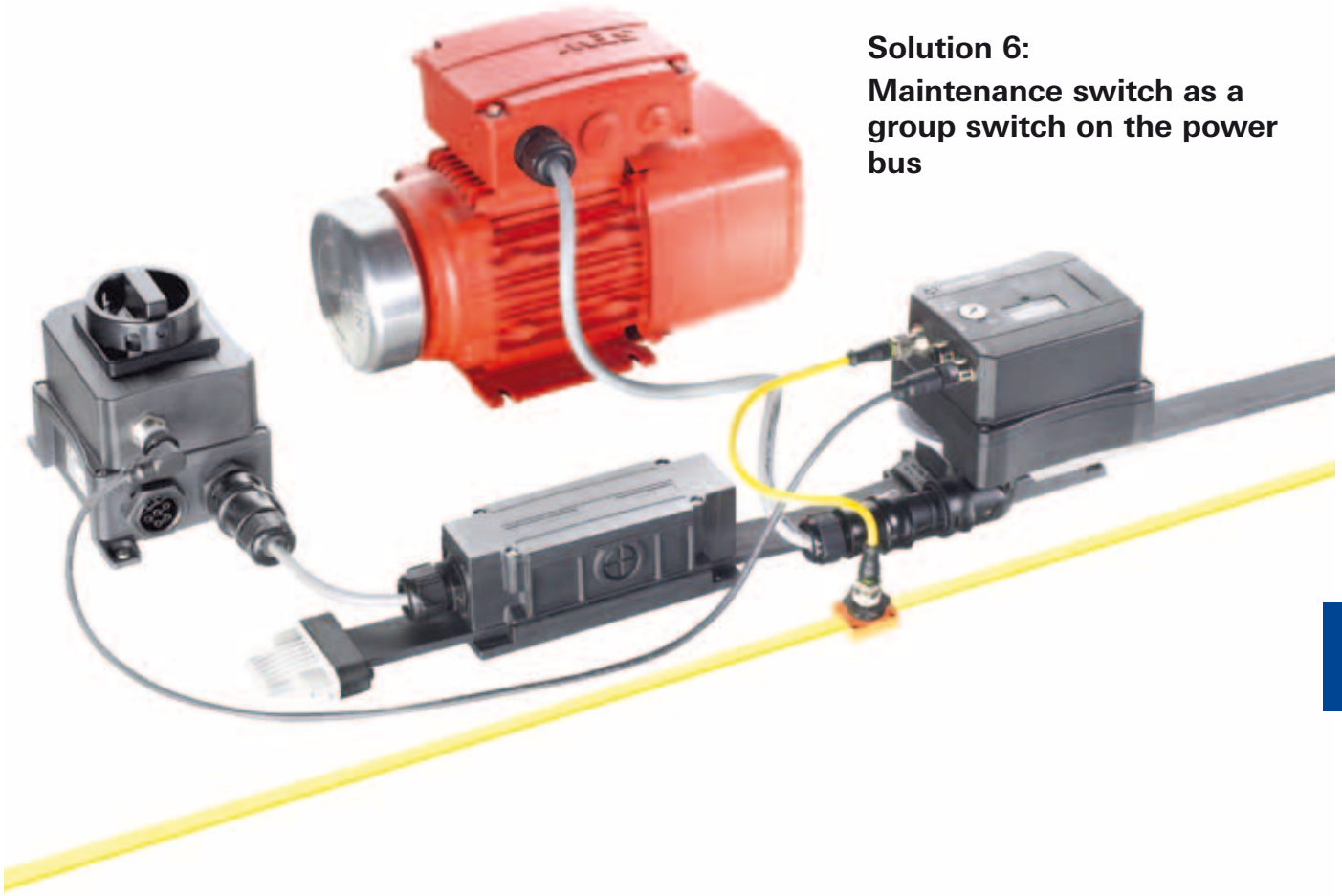


Figure similar (here with M20 screw connection)

Description	Type	Order No
podis®SWITCH	**F CM 3P1S 25A**	83.226.0009.5
Technical data		
Nominal voltage (V)		400
Nominal current (A)		25
Conductor connection power feed-in		Plug connection ***podis***CON
Connection type output		Plug connection RST20i5
Degree of protection		IP65
Wall mounting		yes
Mounting orientation		horizontal and vertical
W x H x D (mm)		104 x 130 x 168
Approvals		-
Technical data switch		
Operating voltage (V)		400
Rated current AC-23A (A)		25
Rated power AC-23A/B (kW)		11
Rated power AC-3 (kW)		7.5
Number of poles		3
Auxiliary contact switch position (M12)		yes

The maintenance switch on the power bus



Solution 6:

Maintenance switch as a group switch on the power bus

gesis®SWITCH P CM 3P1S 20A maintenance switch on the power bus

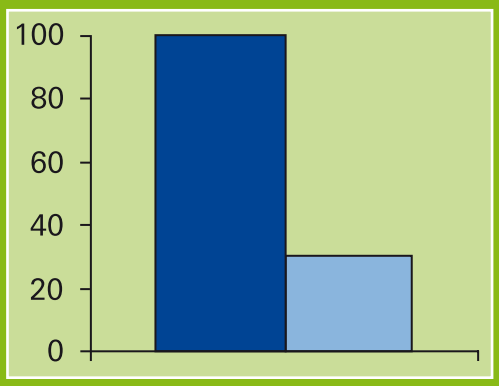
gesis SWITCH P CM 3P1S 20A; RST distributor box with maintenance switch; 400 V AC, 3-pole with additional auxiliary contact; switch position indicator on M12 plug; rated continuous current Iu = 20 A; switching capacity according to AC23A/B = 11 kW / 400 V; according to AC3 = 7.5 kW / 400 V

Description	Type	Order No
gesis®SWITCH	**P CM 3P1S 20A**	83.236.0009.5

Technical data	
Nominal voltage (V)	400
Nominal current (A)	20
Conductor connection power feed-in	Plug connection RST20i5
Connection type output switched	Plug connection RST20i5
Connection type output power bus unswitched	Plug connection RST20i5
Degree of protection	IP65
Wall mounting	yes
Mounting orientation	horizontal and vertical
W x H x D (mm)	104 x 130 x 168
Approvals	-
Technical data switch	
Operating voltage (V)	400
Rated current AC-23A (A)	25
Rated power AC-23A/B (kW)	11
Rated power AC-3 (kW)	7.5
Number of poles	3
Auxiliary contact switch position (M12)	yes

Reduce costs with *podis*®

Enormous savings potential with *podis*®



Potential savings of 50-80%

Installation area	**– 50%**
Assembly time	**– 30 bis 70%**
Installation time	**– 50 bis 80%**
Cable distances	**– 40 bis 70%**
Commissioning	**– 50%**
Maintenance	**– 50%**

Saves space

Compact motor starter for direct or reversing start of asynchronous motors up to 1.5 kW (2.01 hp). Cable routing to the rear optimized for installation in wiring ducts or wire mesh cable tray. The modules can be positioned one directly after another, thus saving space in the installation.

Easy assembly

The motor starter is plugged directly onto the power bus in the wiring duct – no additional mounting plate for the motor starter is required.

Fast installation

All drives and sensors are connected via a power or communication bus, installed at any point without stripping of wires or removal of insulation; plug and play connection of pre-assembled wire harnesses to the drive and sensor – finished.

Reduced cable requirements

The decentralized installation means that the total length of cables installed, and the corresponding fire protection requirements, can be reduced by up to 70%.

Easy commissioning

Plug in the motor starter – download parameters – start. Easy connectorized replacement of the modules.

Simplified maintenance

On-site diagnostics via LEDs reduces troubleshooting time. The motor starter can be replaced quickly and error-free through the pluggable design of the modules. For setup or test mode, the motor starter can be replaced by a reversing switch.

Components on the power bus

podis®CON power bus solutions

PVC 7G2,5 (VDE)
00.705.0503.3

EVA 7G4 (VDE)
00.709.0504.1

XLPE 7AWG12 (UL)
00.729.0504.1

Power bus

Three coded 7-pole power bus cables are available:
PVC for standard applications
EVA for more demanding requirements
XLPE cable with UL1277 approval

This enables 400 V and the 24 V DC auxiliary power or the AS-i bus signals to be optimally distributed in one cable in the field. Connection is made without trimming or stripping via penetration contacts.

podis®CON
connection module
75.018.0051.2

podis®CON connector
75.015.0151.0

podis®CON
pluggable feeder
75.015.5153.1

The basic components

Fixed and pluggable power bus pick-offs are available as basic components.

A comprehensive range accessories such as bus terminations and tools for optimum handling complete the system.

Pluggable functional components

Both plugs or functional components such as maintenance sockets for light and power current and maintenance switches for repair work can be freely plugged onto the pluggable basic feeder.

podis®CON
Schuko power receptacle
83.315.0001.1

podis®CON
Heavy duty power receptacle
83.315.0002.1

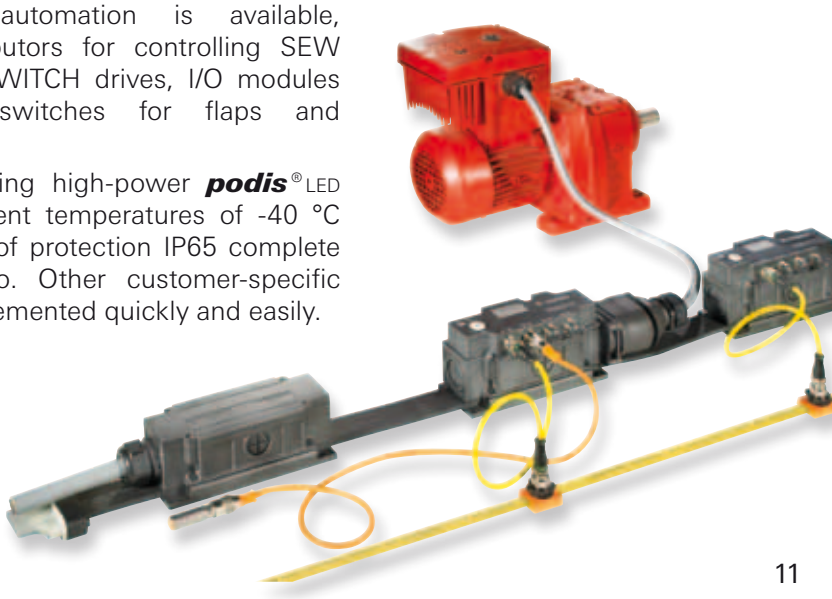
podis®LED 24V DC 5W
LED lamps
83.240.0010.0

Active function modules

In addition to the motor starters, a comprehensive range of active components for decentralized automation is available, such as field distributors for controlling SEW MOVIMOT / MOVI-SWITCH drives, I/O modules and single-phase switches for flaps and valves.

The new energy-saving high-power ***podis***®LED LED lamps for ambient temperatures of -40 °C to +70 °C in degree of protection IP65 complete the product portfolio. Other customer-specific solutions can be implemented quickly and easily.

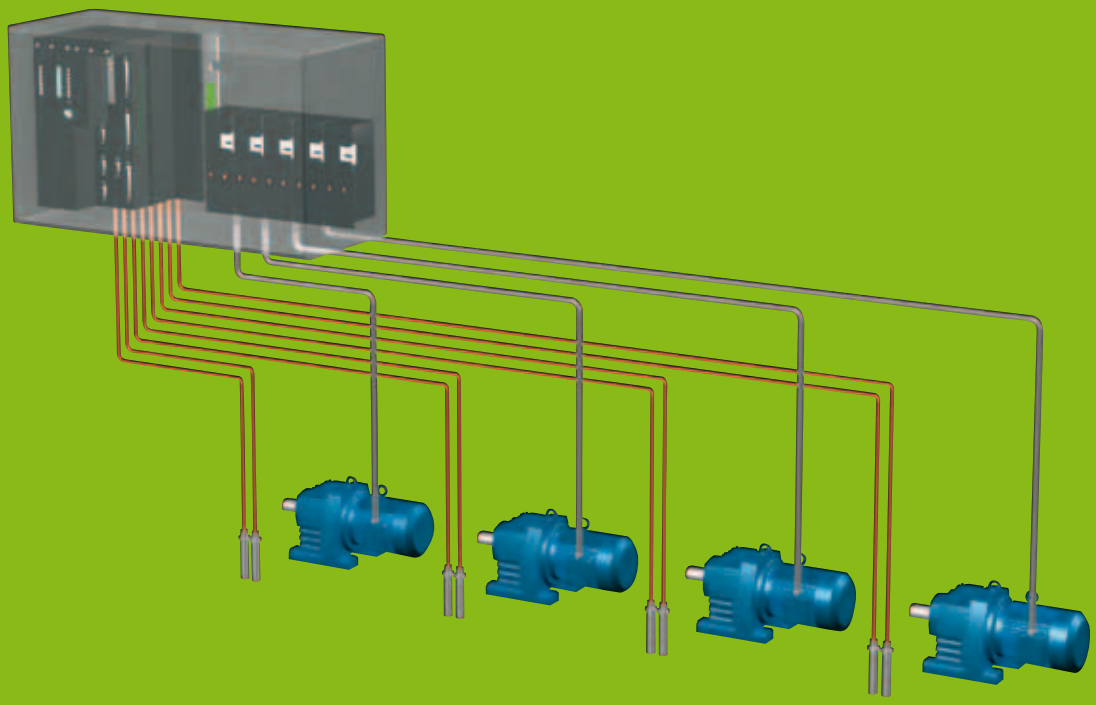
podis®MOT
field distributor



Central installation

– previously...

Long cables, time-consuming installation, difficult upgrading and expansion are all characteristic of central installation.



Central

Central installation has been state of the art for many decades. It has served its purpose well in industrial automation. Its features include control cabinet fields with co ntrollers, power distribution, motor circuit breakers and motor starters or frequency inverters. Cables connect the control cabinets and the individual drives as well as the sensors in the system or the machine.

In extensive systems this creates full cable trays and requires time-consuming installation. When system parts have to be changed or expanded this creates the need for more control cabinet volume. Cables must be installed retroactively throughout the entire system.

Features of central installation:

– Time-consuming planning and configuration

– Large control cabinets

– Long cabling distances

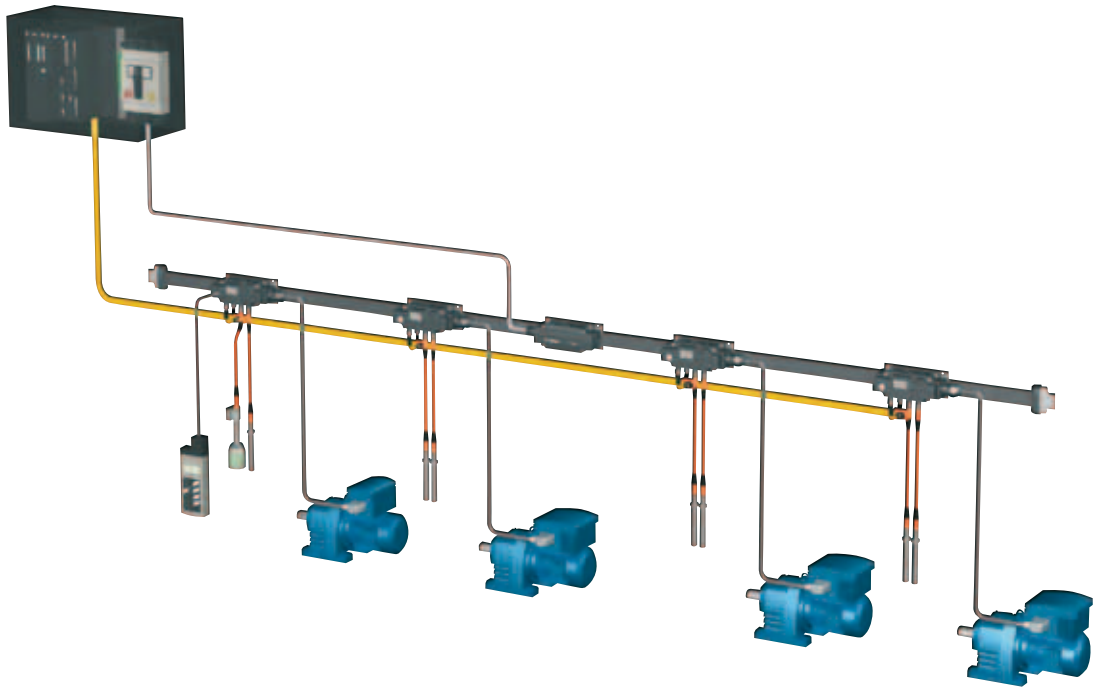
– Complicated cable trays

– Difficult commissioning

– Costly expansions

... the smart solution!

Planning and configuration require less work. More space in the control cabinet. Simple installation and expansion.



Advantages of distributed installation:

– Simple configuration
– Short installation times
– Fast commissioning
– Flexible retrofitting
– Easy expansion
– Much less system downtime
– On-site diagnosis
– Maintenance-friendly, plug connection technology
– Optimal maintenance and repair

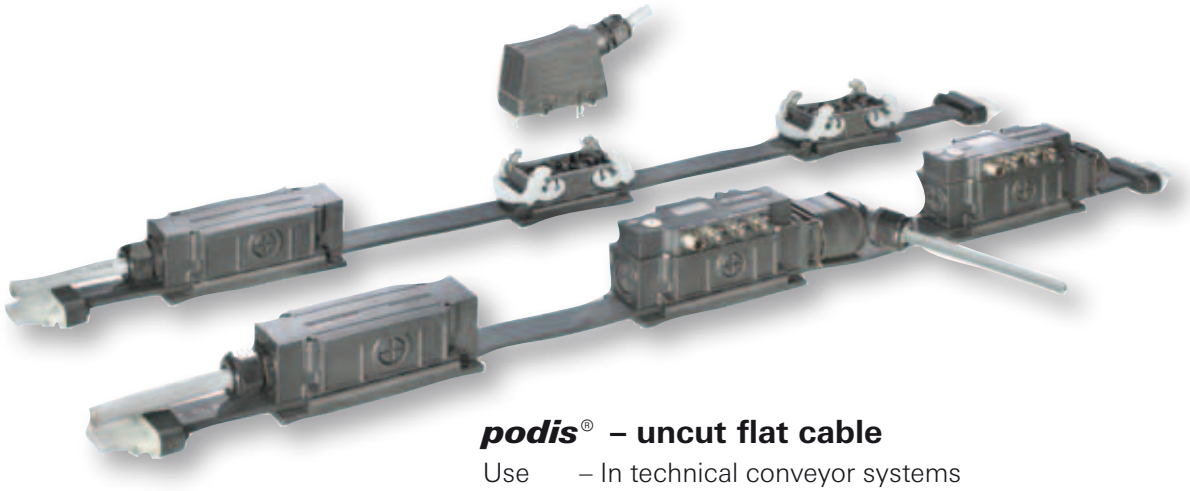
Distributed

With the appropriate ***podis***/***gesis*** installation systems Wieland power bus concepts are suitable for setting up distributed solutions for drive control on technical conveyor systems. Possible applications range from pure power distribution via fieldbus interface to motor starters for switching three-phase asynchronous motors. The connection to a fieldbus is integrated in the field distributor or motor starter and it is possible to connect sensors in addition to the drives.

The compact design and high protection rating (IP65) allow optimal integration even under cramped system conditions. That reduces planning and configuration time and saves space in the control cabinet.

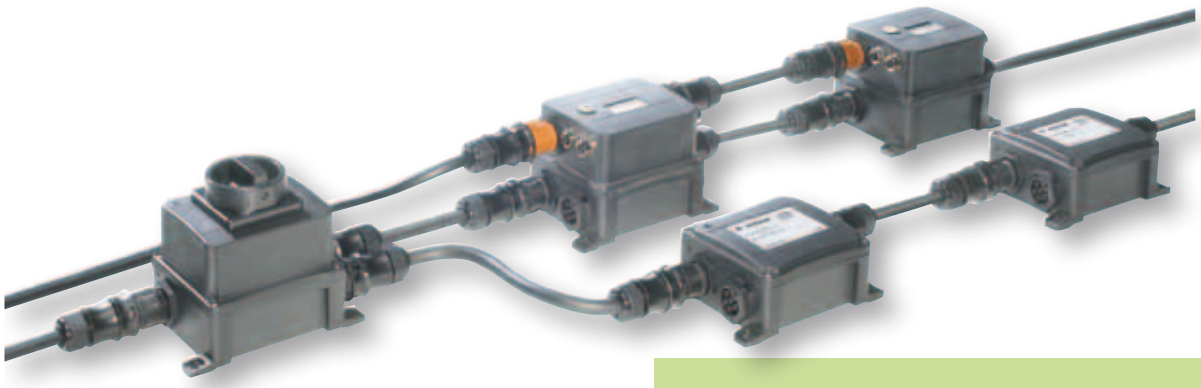
The right solution for every application...

Two systems with individual advantages



podis® – uncut flat cable

Use
- In technical conveyor systems
- For linear system setup
- For widespread structures
- For recurring function-units



gesis® – plug-in round cable

Use
- In technical conveyor systems
- For modular system setup
- For star or network structures
- For difficult cable routing

More information is available in the „Always in motion" brochure. Order Nr. 0158.0

For general information, news and our e-catalog, please refer to: www.wieland-electric.com

Your advantages:

podis® – uncut flat cable

- No cutting, no stripping
- Quick and easy connection
- Reliable contacts
- Few individual components
- Easy-to-add circuits wherever needed

gesis® – plug-in round cables

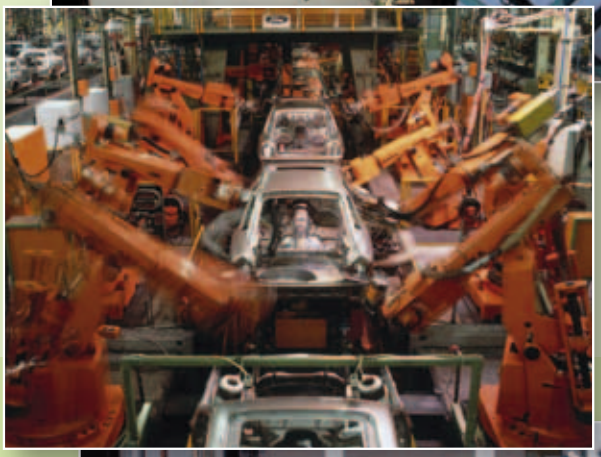
- Plug in, ready, go
- Ideal for modular systems
- Easy setup of network structures
- Few individual components
- Expandable as desired

APPLICATIONS

Application areas for distributed automation

Airport logistics

· Baggage and Cargo
· conveyor technology

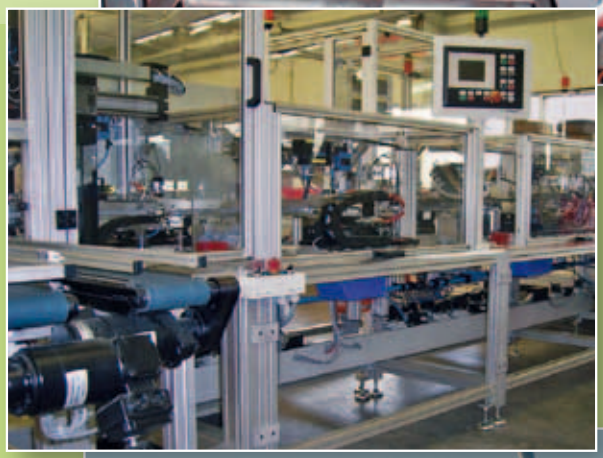


Automotive

· Skid conveyor technology
· Power & Free systems
· Floor conveyor technology
· Pulling chain conveyors
· Pallet conveyor technology

Intra logistics

· Roller conveyors
· Belt conveyors
· Chain conveyors
· Pallet transportation
· Package conveyors



Mechanical engineering

· Assembly lines
· Production lines
· Connecting conveyor technology

Wind energie systems

· Tower lighting
· Power receptacles for maintenance
· Central / distributed UPS

wieland

Headquarters:
Wieland Electric GmbH
Brennerstraße 10 – 14
D-96052 Bamberg

Sales and Marketing Center:
Wieland Electric GmbH
Benzstraße 9
D-96052 Bamberg

Phone +49 (951) 9324-0
Fax +49 (951) 9324-198
www.wieland-electric.com
www.gesis.com
www.podis.de
info@wieland-electric.com

Technical Support for Remote Automation Technology:
Phone +49 (951) 9324-998
Fax +49 (951) 9326-991
AT.TS@wieland-electric.com

Industrial technology

Solutions for the control cabinet
- DIN rail terminal blocks
  - Screw, spring clamp or IDC connection technology
  - Wire cross sections up to 240 mm²
  - Numerous special functions
  - Software solutions interfacing to CAE systems
- Safety
  - Safety sensors
  - Safety relays
  - Modular safety systems with fieldbus link
- PLC and fieldbus components
  - Standard applications in IP20
  - Increased environmental conditions with railroad and ship approvals
- Interface
  - Coupling relays, semiconductor switches
  - Measuring and monitoring relays
  - Timer and switching relays
  - Analog modules
  - Passive interfaces
  - Power supply units
  - Overvoltage protection

Solutions for field applications
- Remote automation technology
  - Power distribution
  - Fieldbus interfaces and motor starters
- Connectors for industrial applications
  - Square and round connectors
  - Aluminum or plastic housings
  - Degree of protection up to IP68
  - Current-carrying capacity up to 100 A
  - Connectors for hazardous areas
  - Modular, application specific technology

PC board terminals and connectors
- Screw or spring clamp connection technology
- Spacings: 3.5 mm to 10.16 mm
- Reflow or wave soldering process

Building and installation technology

- Building installation systems
  - Main power supply connectors IP20/IP65 ... IP68
  - Bus connectors
  - Combined connectors
  - Low-voltage connectors
  - Power distribution system with flat cables
  - Distribution systems
  - Bus systems in KNX, LON and radio technology
  - DIN rail terminal blocks for electrical installations
  - Overvoltage protection

contacts are green.

0158.2 C 11/10

Product Range