wieland

podis®MOT FA C/CM/CP 3I/1I4O

podis®MOT FA C 2I1O/1I3O

podis®MOT FA I C -/1I4O

Decentral Field Distributor at AS Interface

Operating Instructions

Doc. No. BA000341
Revision A

Dear customer,

Congratulations on your new components of the podis decentral automation system. You are the owner of an AS interface technology product. It allows for the control of drives in industrial systems.

Please familiarize yourself with this documentation. It contains all the information and help required for proper operation of your podis system. If you still have questions or require any help, our experts are gladly at your disposal using the contact options listed below.

Technical Service hotline (technical questions about accessories, operating principle, product features and application options of the podis energy bus system):
Ph.: +49 (0)9 51 / 93 24-9 98
AT.TS@wieland-electric.com

Hotline **Sales** (availability, delivery time, and prices):
Ph.: +49 (0)9 51 / 93 24-9 90
Fax: +49 (0)9 51 / 93 24-9 64
AT.info@wieland-electric.com

1.1 Version management

Document BA000341		
Version	**Date**	**Author**
Revision A	26.02.2007	Dr.-Ing. T. Kluck

1.2 Additional documents

Documents from Wieland Electric

Wieland Electric provides the following documents for the podis® system:

- podis® system manual• podis®CON
- Operating manual for the AS-i hand-held terminal

Documents from suppliers

The following documents are provided by suppliers:

- Operating manual of the AS-i master
- Operating instructions of the drives

Trademarks used

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1.4 About these operating instructions

Content of these operating instructions

These operating instructions support you during the installation, commissioning and maintenance of the field distributors podis MOT FA C/CM/CP 3I/1I4O, FA C 2I1O/1I3O and FA I C -/1I4O.

It contains instructions for programming, configuring, and parameterizing the field distributors.

Intended users of these operating instructions

These operating instructions contain the information required for the as-intended use of the product described herein

podis systems may be installed only by qualified personnel while adhering to the respective regulations of the VDE (Association of German Electricians). For this reason, these operating instructions are intended for technically qualified personnel (e.g. skilled persons, electrical engineers) who is either

- familiar with the safety concepts of automation technology as project planning and programming personnel, or
- trained in handling equipment of automation technology as operating personnel and familiar with the contents of these instructions pertaining to the operation, or
- trained as installation, commissioning, and maintenance personnel which enables them to perform operations on equipment of automation technology and who is authorized to commission, ground, and identify electrical circuits and devices or systems according to the standards of safety engineering.

Special requirements are:

- Basic knowledge of AS interface technology
- Basic knowledge of decentral drive systems

Safety instructions

These operating instructions use different safety instructions depending upon the hazard potential:

DANGER
"Danger" identifies a direct dangerous situation or a direct dangerous condition which, if not avoided, causes serious injuries or death. The use of this sign is restricted to extreme situations.

WARNING
"Warning" identifies a potentially dangerous situation or a potentially dangerous condition which, if not avoided, may cause serious injuries or death.

CAUTION
"Caution" identifies a potentially dangerous situation or a potentially dangerous condition which, if not avoided, may cause minor or non-serious injuries or death. "Caution" is also used to warn about unsafe handling or obvious misuse. "Caution" is also used for situations in which property damage or personal injuries may occur.

NOTICE
"Notice" identifies information that is directly or indirectly related to the safety of personnel or property. It is not used for dangers or dangerous situations.

"Danger" or "warning" generally refers to a risk to life or limb. In this case, property damages are considered only if there is also a risk to bodily injury corresponding to the danger level.

1.5 Intended use

The field distributors podis MOT FA C/CM/CP and FA I C are AS-i modules on the podis energy bus for the control and energy supply of decentral drives with binary interface.

The energy bus systems feature a state-of-the-art design and follow approved safety regulations. Nevertheless, their use may create dangers to life and limb of users or third parties or impairments of machinery, systems or other tangible assets.

The energy bus systems may be used only in a technically flawless condition and for proper, safety-conscious and risk-conscious use while observing the operating instructions. The flawless and safe operation of the controller assumes proper transport, proper storage and assembly as well as careful operation and maintenance. In particular, malfunctions that could impair the safety must be removed immediately.

The intended use of the energy bus systems requires following the instructions for the mechanical and electrical assembly, commissioning and operation described in these operating instructions.Never install or commission damaged products. Damages should be filed immediately with the transport company.Before applying supply voltage to the field distributor, the top part (electronics cover) must be installed and fastened onto the bottom part.Before removing the top part (electronics cover), the energy bus segment must be de-energized. Dangerous voltages can be present up to one minute after disconnecting the supply (voltage in the DC links for decentral frequency inverters or power supplies).During operation, do not disconnect or connect any plug connections to the attached consumers.For the project planning, installation and commissioning of the energy bus systems as part of the supply of machines and their controllers, the machine manufacturer and user must observe the safety regulations of machine directive 89/392/EWG. For the specific application case, the national accident prevention regulations apply. Observe the applicable safety and accident prevention regulations for the respective application cases, such as the machine protection directive. All safety devices of the controlled machine must be implemented in such a way that they operate independent of the controller. EMERGENCY OFF devices according to IEC 60204 (corresponding to DIN VDE 113) must remain effective in all operating modes of the system. In an EMERGENCY OFF case, the supply voltages of all switching elements controlled by the controller must be switched off.The field distributor is intended exclusively for automation tasks in industrial systems and machines. Any other or additional use beyond that is considered to be unintended use. The manufacturer is not liable for any damages resulting from it.

For the intended use of the automation systems, the instructions described in these operating instructions for the mechanical and electrical assembly, commissioning and operation must be observed.

Selection of personnel and qualification

All project planning, programming, installation, commissioning, operation and maintenance work in conjunction with the podis electronics products may be performed only by trained personnel (e.g. skilled persons, electrical engineers). The project planning and programming personnel must be familiar with the safety concepts of automation technology.

The operating personnel must be trained in handling the controller and be familiar with the operating instructions. The installation, commissioning and maintenance personnel must have training that allows them to perform operations on automation systems.

Obvious misuse

Warnings about obvious misuse and unsafe handling are featured at the corresponding locations.

NOTICE
The manufacturer is not liable for damages resulting from improper use.

1.6 Project planning, programming, installation, commissioning, and operation

With respect to their application, the field distributors of the podis series are generally a part of larger systems or plants in which machines are controlled. For the project planning, installation and commissioning of the podis systems as part of the control of machines, the machine manufacturer and user must must, therefore, observe the safety regulations of machine directive 89/392/EWG. For the specific application case, the national accident prevention regulations apply, such as VBG 4.0.

All safety devices of the controlled machine must be implemented in such a way that they operate independent of the controller. EMERGENCY OFF devices must remain effective in all operating modes of the controller. In an EMERGENCY OFF case, the supply voltages of all switching elements controlled by the controller must be switched off. A safety relay can be used for this purpose.

Precautions must be taken that an interrupted control program can be properly started again after voltage dips and power failures. No dangerous operating states may occur, not even briefly. If necessary, EMERGENCY OFF must be forced. To prevent a an open circuit on the signal side from causing undefined states in the controller, the corresponding safety measures must be taken for the I/O coupling with respect to hardware and software. Devices of the control technology and their controls must be installed in such a way that they are sufficiently protected against inadvertent activation.

The automation devices must be de-energized before they are assembled or disassembled or the design is changed.

1.7 Maintenance and servicing

If the active device requires measuring or testing work, the regulations and execution instructions of accident prevention regulation VBG 4.0 must be observed. A suitable electric tool must be used.

WARNING

- Repairs involving control components may be performed only by authorized repair locations. Unauthorized opening and tampering or improper repairs can cause physical injuries or property damages.
- Before opening the device, always disconnect the connection to the supply system.
- Control modules may be changed only in the de-energized state. Disassembly and assembly must be carried out according to the mechanical equipment mounting directives.

1.8 Prevention of property damages and bodily injuries

The voltage values must not be less than or greater than the voltage values listed in the technical data since it may lead to malfunctions or damage to the devices.

If errors occur in the automation equipment that may cause heavy property damages or even bodily injuries, additional external safety measures must be taken or devices must be created that will ensure or force a defined operating state in case of an error (e.g. by means of independent limit switches, mechanical interlocks, etc.).

1.9 Dangers from electrical energy

WARNING

Opening the housing provides access to certain parts that may be carry dangerous voltages.

The user must ensure that unauthorized and improper interventions are prevented.

The personnel must be thoroughly familiar with all danger sources and measures for commissioning and maintenance according to the information in the operating instructions.

2 Device Description podis® MOT FA C 3I/1I4O / FA CM 3I/1I4O / FA CP 3I/1I4O

2.1 Variant overview

podis MOT FA C 3I/1I4O
83.210.xxyy.2
revosBASIC connector interface for connecting the field devicesPreassembled standard PVC cable 11G1,5 to the consumer (drive)

podis MOT FA CM 3I/1I4O
83.210.xxy1.4
same as podis MOT FA C 3I/1I4O, but with repair switch

podis MOT FA CP 3I/1I4O
83.210.0005.2
revosMOT connector interface directly atpodis® field distributor

2.2 General

The field distributors podis MOT FA C 3I/1I4O, podis MOT FA CM 3I/1I4O, and podis MOT FA CP 3I/1I4O are AS-i actuator modules with four control outputs for the control and energy supply of decentral drives with binary interface.

An entry is available for feedback from the decentral field device.

Using prefabricated M12 connecting lines allows for connecting 2-wire and 3-wire sensors to the three free inputs. The sensors are supplied in the podis field distributor from the AS interface.

The field distributor is directly connected to the AS-i hand-held terminal (83.209.2204.0) and addressed using the AS-i programming cable (83.209.2205.0).

To display the current switching state and the status of the inputs, each channel features an LED in the housing cover of the field distributor.

The connection to the AS-i transmission line is carried out via M12 connecting plug. If a separate AS-i flat cable is used, the AS-i tap line and the AS-i adapter are required.

The contact to the energy bus is established via penetrating screws.

The repair switch at the podis MOT FA CM 3I/1I4O disconnects the power supply (L1, L2 and L3) from the drive. A feedback of the switch setting to the AS-i does not take place.

The repair switch can be secured against unauthorized switch-on using up to three locks.

2.3 Mechanical design / housing

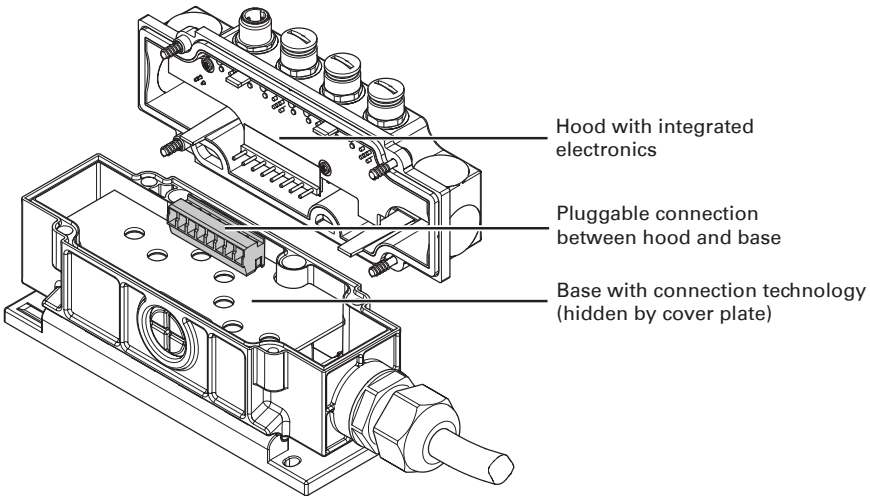
Based on its mechanical design, the housing of the podis MOT FA C/CM/CP 3I/1I4O is divided into an upper and a lower part.

The upper housing part contains the electronics for the control of the drive and for the I/Os.

The upper part is fastened onto the lower part using four screws.

The base contains the connection technology for the podis energy bus.

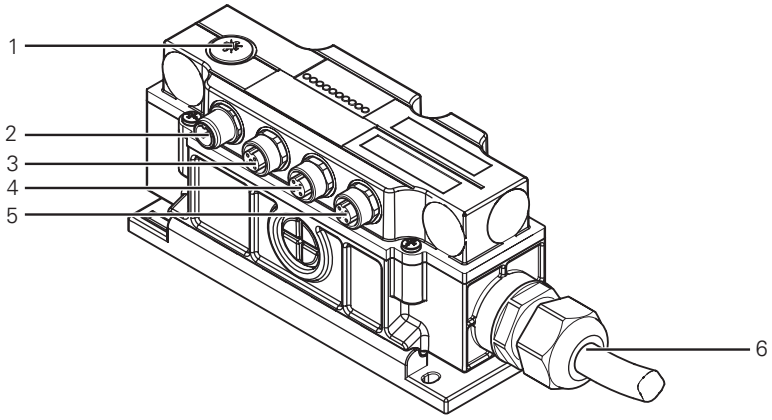
The electrical connection between hood and base is implemented via a cable harness from the base connected to a PCB pluggable connector in the hood.



podis®MOT FA C 3I/1I4O (opened), FA CM 3I/1I4O and FA CP 3I/1I4O similar

2.4 Connections, control and display elements

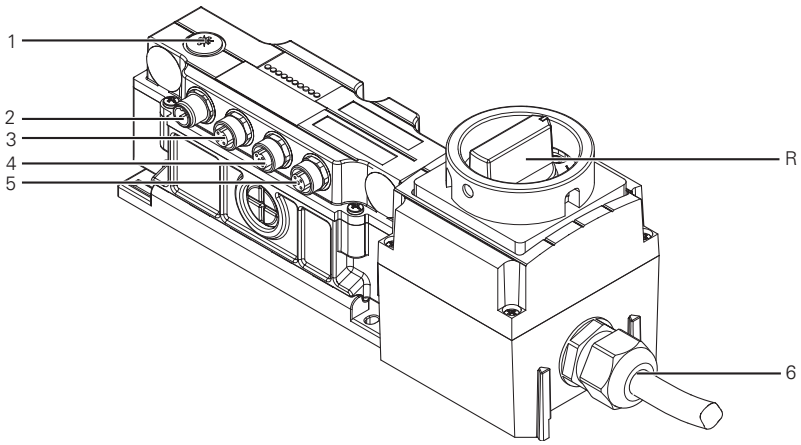
Connections at the podis®MOT FA C 3I/1I4O



Connections at the podis®MOT C 3I/1I4O

1	ADDR	Connection of the AS-i hand-held terminal
2	AS-i (X2)	Connection of the AS-i tap line
3	IN0 (X3)	Digital M12 input to connect a sensor
4	IN1 (X4)	Digital M12 input to connect a sensor
5	IN2 (X5)	Digital M12 input to connect a sensor
6	X1	Interface to the drive

Connections at the podis®MOT FA CM 3I/1I4O

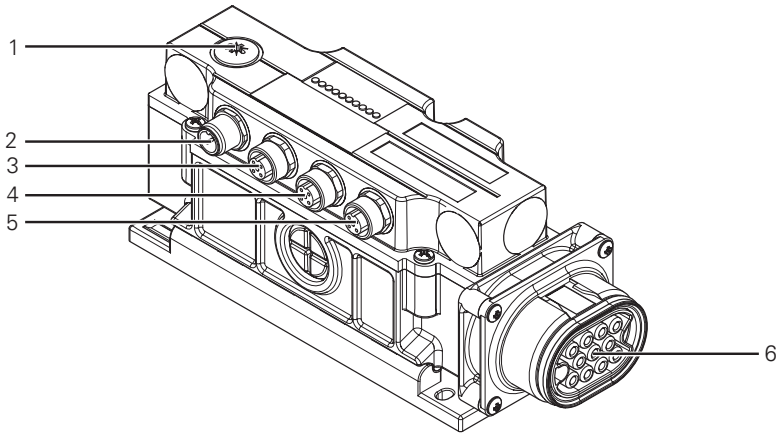


Connections at the podis®MOT FA CM 3I/1I4O

1	ADDR	Connection of the AS-i hand-held terminal
2	AS-i (X2)	Connection of the AS-i tap line
3	IN0 (X3)	Digital M12 input to connect a sensor
4	IN1 (X4)	Digital M12 input to connect a sensor
5	IN2 (X5)	Digital M12 input to connect a sensor
6	X1	Interface to the drive
R		Repair switch

The podis®MOT 83.210.xxy1.4 also features a repair switch (R).

Connections at the podis®MOT FA CP 3I/1I4O

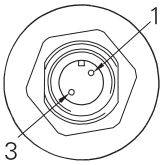


Connections at the podis®MOT FA CP 3I/1I4O

1	ADDR	Connection of the AS-i hand-held terminal
2	AS-i (X2)	Connection of the AS-i tap line
3	IN0 (X3)	Digital M12 input to connect a sensor
4	IN1 (X4)	Digital M12 input to connect a sensor
5	IN2 (X5)	Digital M12 input to connect a sensor
6	X1	Interface to the drive

Connection assignment of AS-i socket

AS-i connection (M12) X2 (view from outside onto plug contacts)

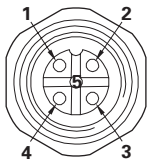


Pin	Brief description	Note
1	AS-i +	AS interface +
3	AS-i -	AS interface -

The podis MOT can be addressed using a hand-held terminal. For this purpose, the AS-i hand-held programming device (part no. 83.209.2205.0) is connected to the addressing jack of the podis MOT. Additional information about addressing can be found in section 7.1. "Setting the AS-i slave address at the podis MOT".

Connection assignment of digital inputs

Digital inputs X3, X4, X5 (view from outside onto socket contacts)

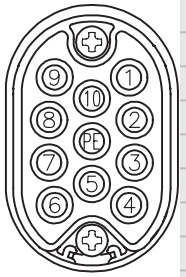


Pin	Brief description	Note
1	24 V	24 V sensor supply (*)
2	IN	Digital inputs
3	0 V	0 V of sensor supply (*)
4	IN	Pin 4 connected with pin 2
5	Ground	Equipotential bonding

(*) The digital inputs at X3, X4 and X5 are supplied from AS-i (internal).

Connection assignment of connector at FA CP 3I/1I4O

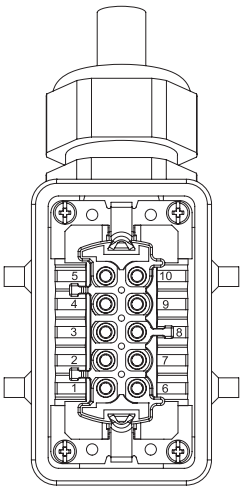
revos MOT connector



Pin	Designation	Meaning
1	L1	Motor lead voltage U
2	L2	Motor lead voltage V
3	L3	Motor lead voltage W
4	0 V	0 V of external voltage(*)
5	+24 V	24 VDC of external voltage(*)
6	OUT 0	Supply for motor electronics
7	OUT 1	Motor control lead CW rotation
8	OUT 2	Motor control lead CCW rotation
9	OUT 3	Speed switching f1 / f2
10	IN 3	Ready message from motor
PE	PE	PE connection

(*) The supply is provided by an external 24-V power supply.

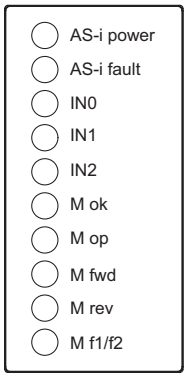
Connection assignment of connector at FA C/CM 3I/1I4O



No.	Designation	Meaning
1	L1	Motor lead voltage U
2	L2	Motor lead voltage V
3	L3	Motor lead voltage W
4	0V	0V of external voltage(*)
5	+24V	24VDC of external voltage(*)
6	OUT 0	Supply for motor electronics
7	OUT 1	Motor control lead CW rotation
8	OUT 2	Motor control lead CCW rotation
9	OUT 3	Speed switching f1/f2
10	IN 3	Ready message from motor
PE	PE	PE connection

(*) The supply is provided by an external 24-V power supply.

Status LEDs

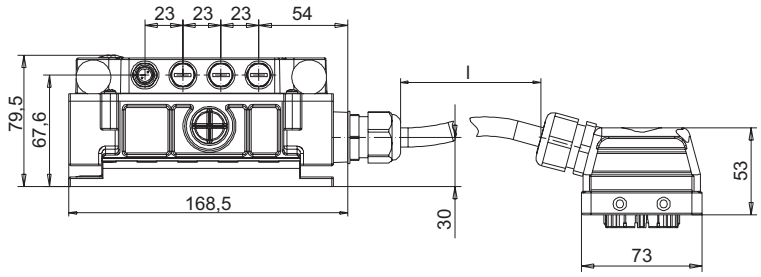


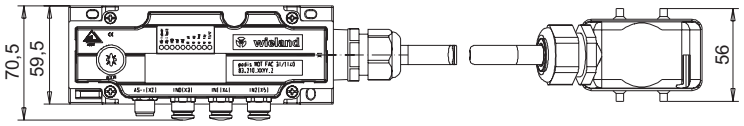
No.	Color	Designation	Meaning	I/O bit
1	green	AS-i power	AS-i power ok	
2	red	AS-i fault	Fault of AS-i	
3	yellow	IN 0	Input M12	E0
4	yellow	IN 1	Input M12	E1
5	yellow	IN 2	Input M12	E2
6	yellow	M ok	Motor is operational	E3
7	yellow	M op	Motor electronics on	A0
8	yellow	M fwd	CW rotation of motor	A1
9	yellow	M rev	CCW rotation of motor	A2
10	yellow	M f1/f2	Speed 1, speed 2	A3

The status LEDs on the housing cover provide information about the status of the field distributor. See also section 7.1, "Fault removal".

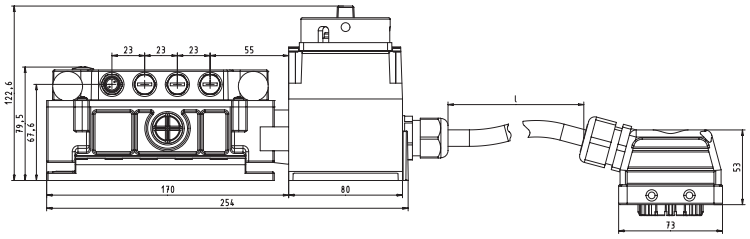
2.5 Technical information

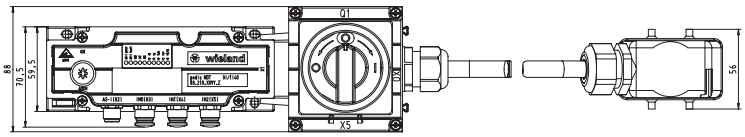
Installation dimensions 83.210.xx01.2

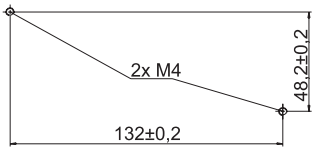




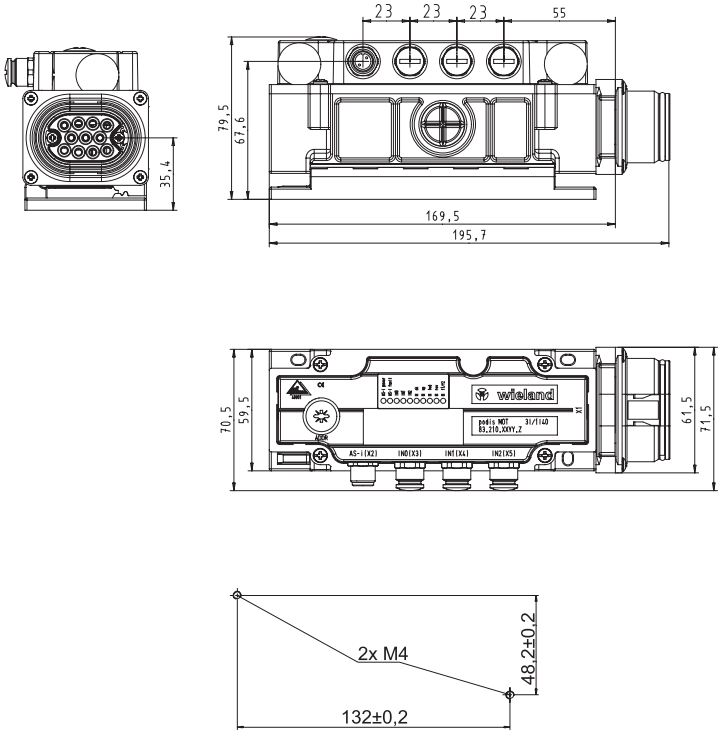
Installation dimensions 83.210.xxy1.4



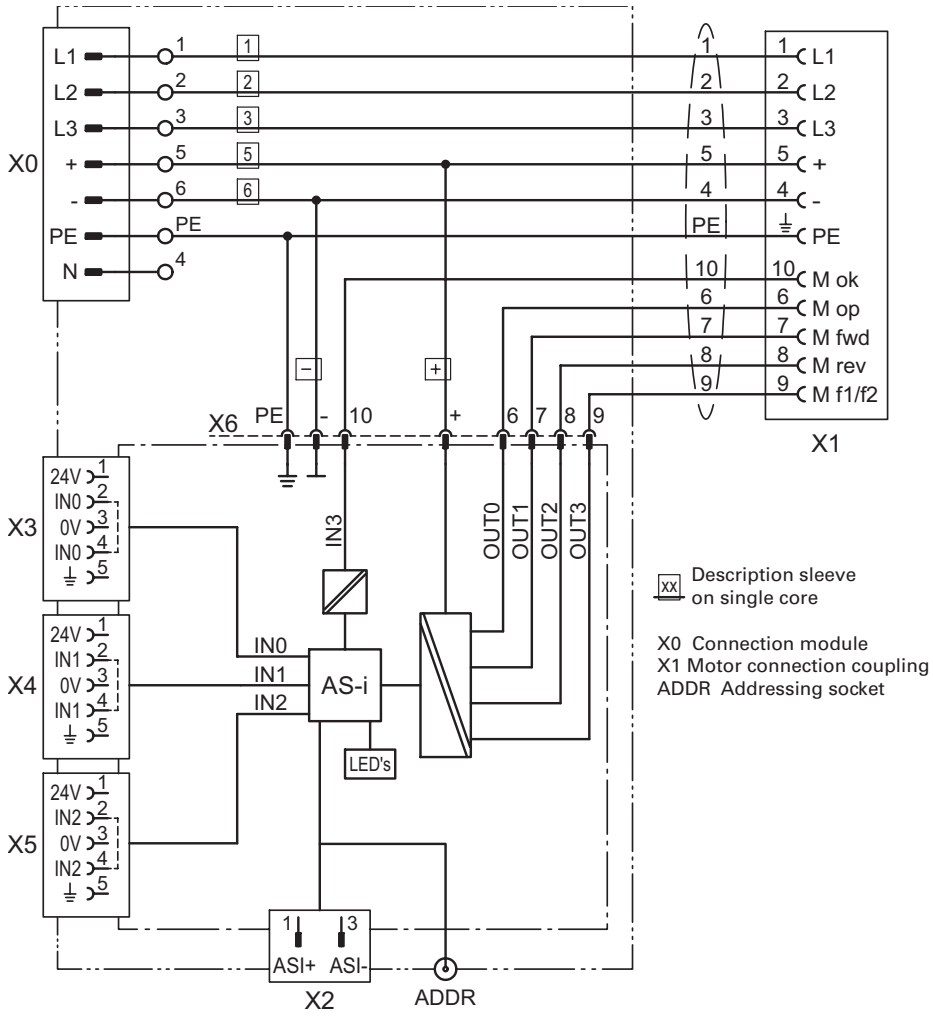




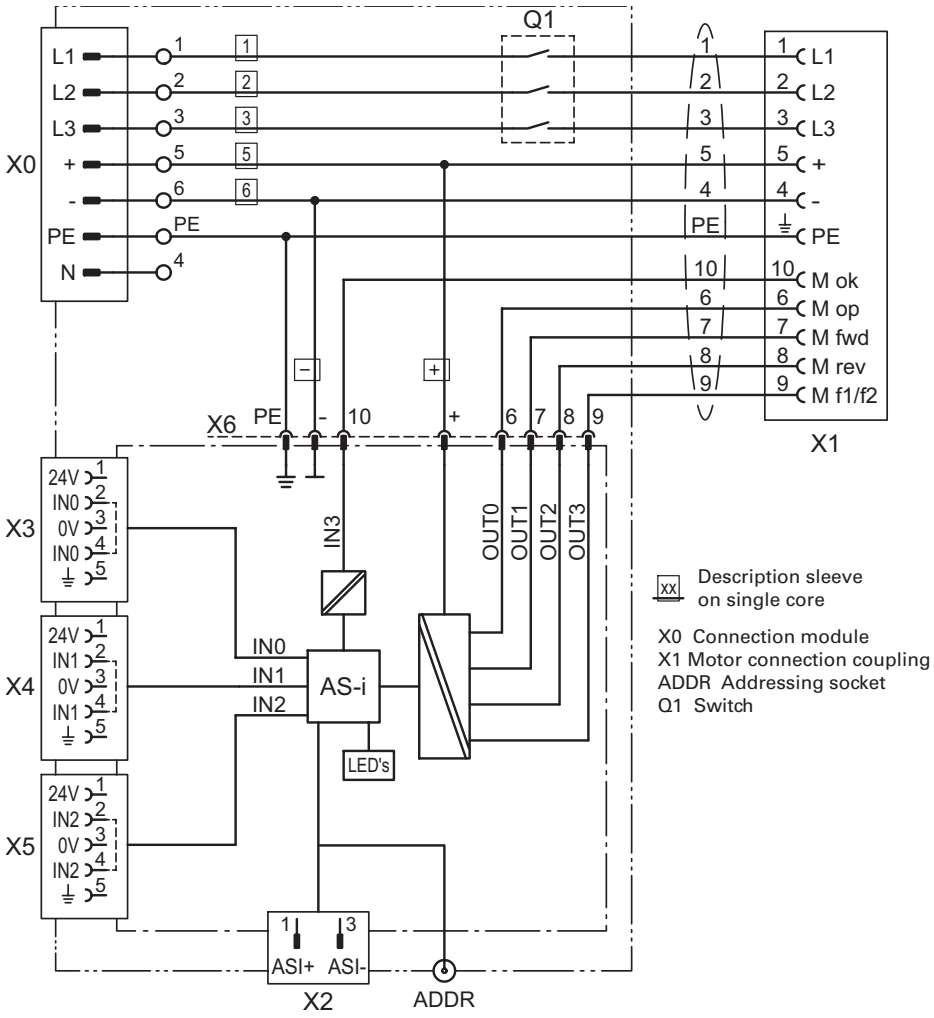
Installation dimensions 83.210.0005.2



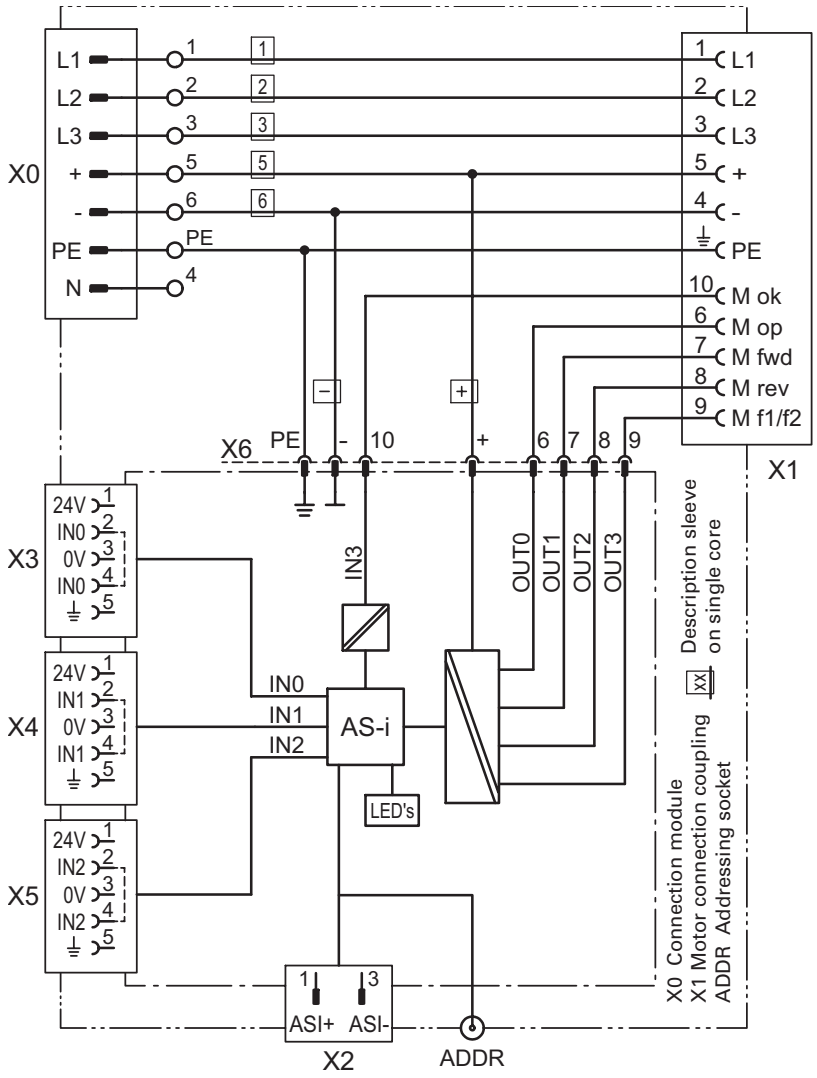
Block diagram 83.210.xx01.2



Block diagram 83.210.xx01.4



Block diagram 83.210.0005.2



3 podis® MOT FA C 2I1O/1I3O Device Description

3.1 General

The field distributor podis MOT FA C 2I1O/1I3O is an AS-i sensor / actuator module on the podis energy bus for the control and energy supply of decentral drives with binary control.

podis® MOT FA C 2I1O/1I3O

The connection between field distributor and drive is implemented using a prefabricated connecting line.

Using prefabricated M12 connecting lines allows for connecting 2-wire and 3-wire sensors to the two free inputs. The sensors are supplied in the podis field distributor from the AS interface. The output via M12 is an electronic output with a maximum load of 24 VDC and 0.5 A. This A0 output is available at M12 as well as PIN 6 of the connector interface.

The field distributor is directly connected to the AS-i hand-held terminal (83.209.2204.0) and addressed using the AS-i programming cable (83.209.2205.0).

To display the current switching state and the status of the inputs, each channel features an LED in the housing cover of the field distributor.

The connection to the AS-i transmission line is carried out via M12 connecting plug. If a separate AS-i flat cable is used, the AS-i tap line and the AS-i adapter are required.

The contact to the energy bus is established via penetrating screws.

3.2 Mechanical design / housing

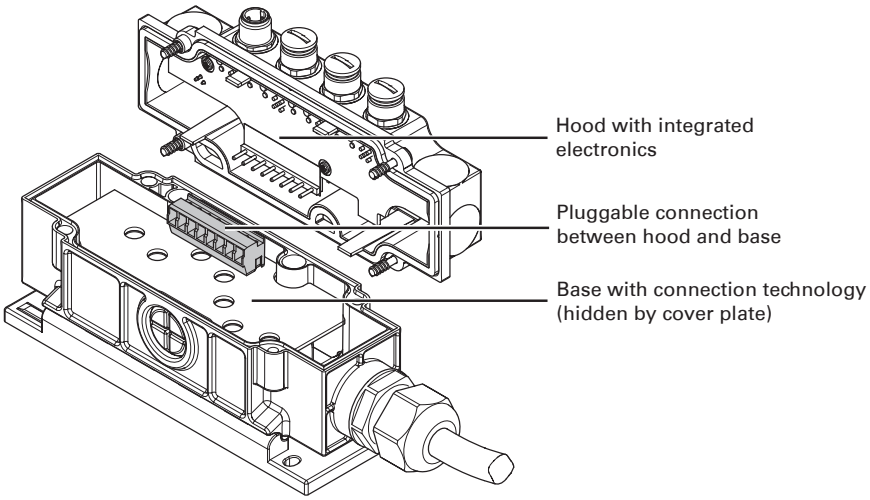
Based on its mechanical design, the housing of the podis MOT FA C 2I/1O/1I3O is divided into an upper and a lower part.

The upper housing part contains the electronics for the control of the drive and for the I/Os.

The upper part is fastened onto the lower part using four screws.

The base contains the connection technology for the podis energy bus.

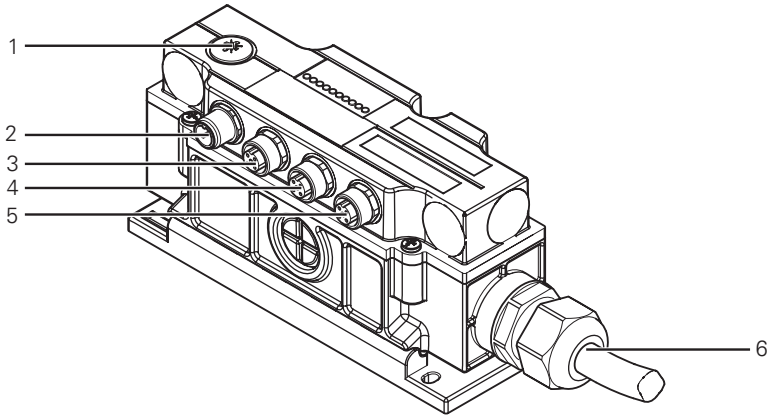
The electrical connection between hood and base is implemented via a cable harness from the base connected to a PCB pluggable connector in the hood.



podis®MOT FA C 2I1O/1I3O (geöffnet)

3.3 Connections, control and display elements

Connections at the podis®MOT FA C 2I1O/1I3O

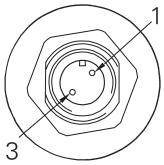


Connections at the podis®MOT

1	ADDR	Connection of the AS-i hand-held terminal
2	AS-i (X2)	Connection of the AS-i tap line
3	OUT0 (X3)	Digital M12 output to connect an actuator
4	IN1 (X4)	Digital M12 input to connect a sensor
5	IN2 (X5)	Digital M12 input to connect a sensor
6	X1	Interface to the drive

Connection assignment of AS-i socket

AS-i connection (M12) X2 (view from outside onto plug contacts)

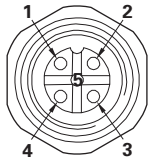


Pin	Brief description	Note
1	AS-i +	AS interface +
3	AS-i -	AS interface -

The podis MOT can be addressed using a hand-held terminal. For this purpose, the AS-i hand-held programming device (part no. 83.209.2205.0) is connected to the addressing jack of the podis MOT. Additional information about addressing can be found in section 7.1. "Setting the AS-i slave address at the podisMOT".

Connection assignment of digitalinputs

Digital inputs X4, X5 (view from outside onto socket contacts)

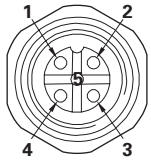


Pin	Brief description	Note
1	24V	24V sensor supply(*)
2	IN	Switched input
3	0V	0V of sensor supply(*)
4	IN	Switched input
5	Ground	Equipotential bonding

(*) The digital inputs at X4 and X5 are supplied from AS-i (internal).

Connection assignment of digitaloutputs

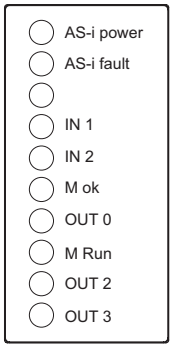
Digital outputs X3 (view from outside onto socket contacts)



Pin	Brief description	Note
1	NC	NC
2	NC	NC
3	0V	0V of supply(*)
4	OUT	Switched output
5	Ground	Equipotential bonding

(*) The digital outputs at X3 are supplied from the podis flat cable.

Status LEDs

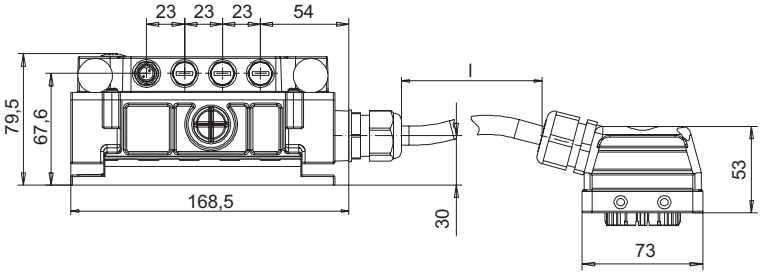


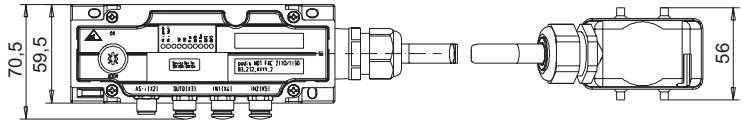
No.	Color	Designation	Meaning	I/O bit
1	green	AS-i power	AS-i power ok	
2	red	AS-i fault	Fault of AS-i	
4	yellow	IN 1	Input M12	E1
5	yellow	IN 2	Input M12	E2
6	yellow	M ok	Motor is operational	E3
7	yellow	OUT 0	Output M12	A0
8	yellow	M Run	CW rotation of motor	A1
9	yellow	OUT 2		A2
10	yellow	OUT 3		A3

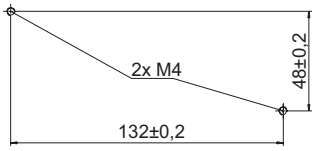
The status LEDs on the housing cover provide information about the status of the field distributor. See also section 7.1, "Fault removal".

3.4 Technical information

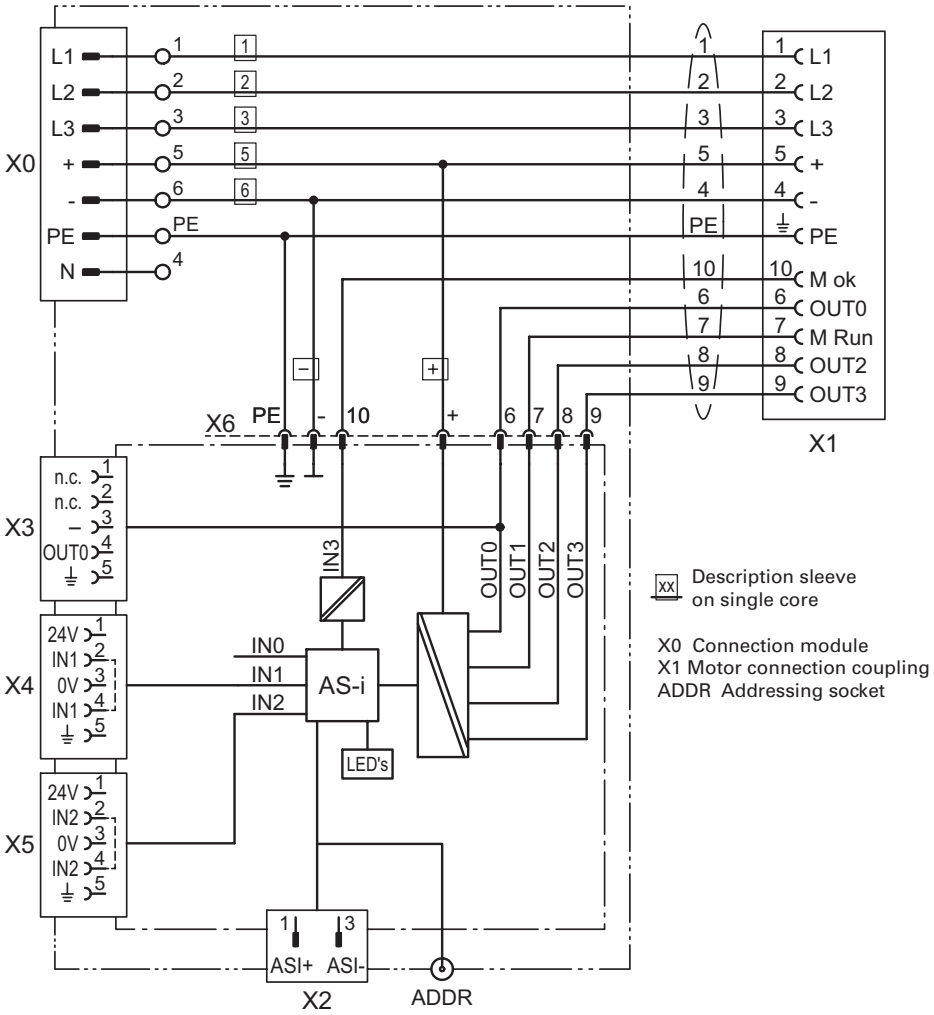
Installation dimensions 83.212.xx01.2







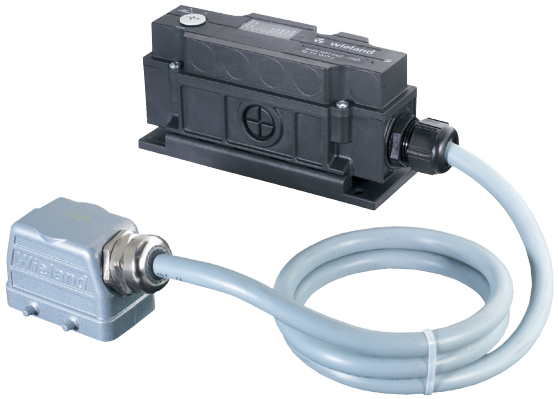
Block diagram 83.212.xx01.2



4 podis® MOT FA I C -/1I4O Device Description

4.1 General

The field distributor podis MOT FA I C -/1I4O is an AS-i actuator module on the podis energy bus for the control and energy supply of decentral drives with binary control.



podis® MOT FA I C -/1I4O

The connection between field distributor and drive is implemented using a prefabricated connecting line.

The field distributor is directly connected to the AS-i hand-held terminal (83.209.2204.0) and addressed using the AS-i programming cable (83.209.2205.0).

To display the current switching state and the status of the input, an LED is located in the housing cover of the field distributor.

In addition to the 400 VAC energy supply, the AS-i signal is also transmitted on the energy bus and via tapped penetrating contacts.

4.2 Mechanical design / housing

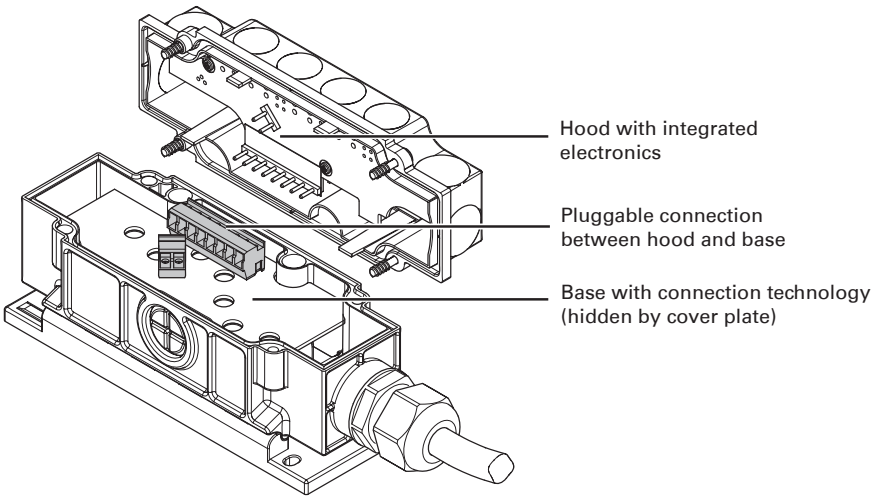
Based on its mechanical design, the housing of the podis MOT FA I C -/1I4O is divided into an upper and a lower part.

The upper part contains the electronics for controlling the drive.

The upper part is fastened onto the lower part using four screws.

The base contains the connection technology for the podis energy bus.

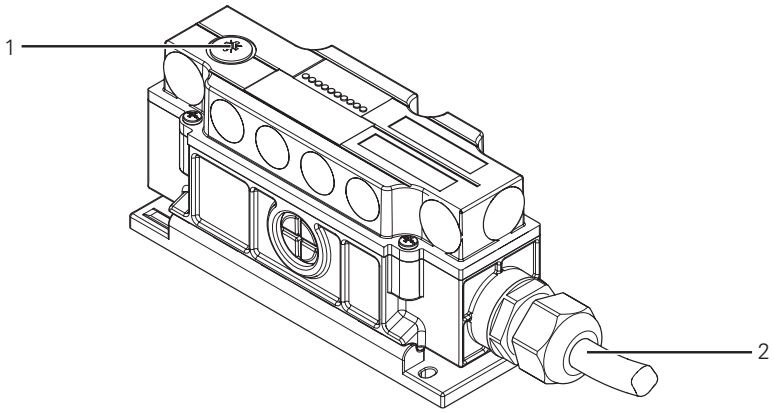
The electrical connection between hood and base is implemented via a cable harness from the base connected to a PCB pluggable connector in the hood.



podis®MOT FA I C -/1I4O (geöffnet)

Connections at the podis®MOT FA I C -/1I4O

4.3 Connections, control and display elements

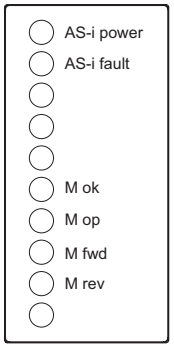


Connections at the podis®MOT

1	ADDR	Connection of the AS-i hand-held terminal
2	X1	Interface to the drive

The podis MOT can be addressed using a hand-held terminal. For this purpose, the AS-i hand-held programming device (part no. 83.209.2205.0) is connected to the addressing jack of the podis MOT. Additional information about addressing can be found in section 7.1. "Setting the AS-i slave address at the podisMOT".

Status LEDs

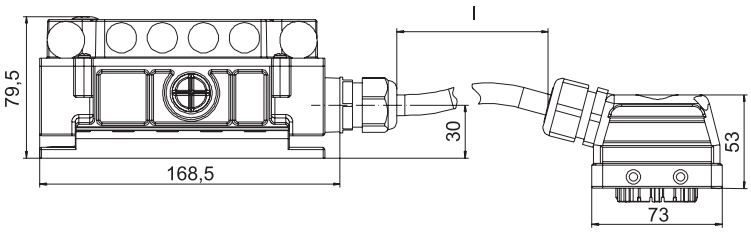


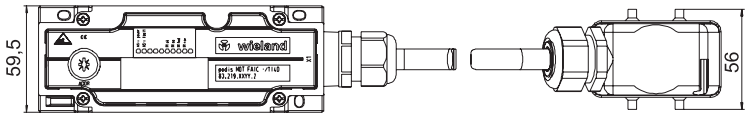
No.	Color	Designation	Meaning	I/O bit
1	green	AS-i power	AS-i power ok	
2	red	AS-i fault	Fault of AS-i	
6	yellow	M ok	Motor is operational	E3
7	yellow	M op	Motor electronics on	A0
8	yellow	M fwd	CW rotation of motor	A1
9	yellow	M rev	CCW rotation of motor	A2

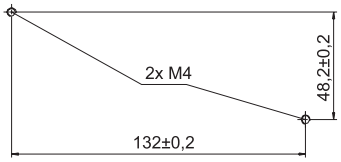
The status LEDs on the housing cover provide information about the status of the field distributor. See also section 7.1, "Fault removal".

Installation dimensions 83.219.xx01.2

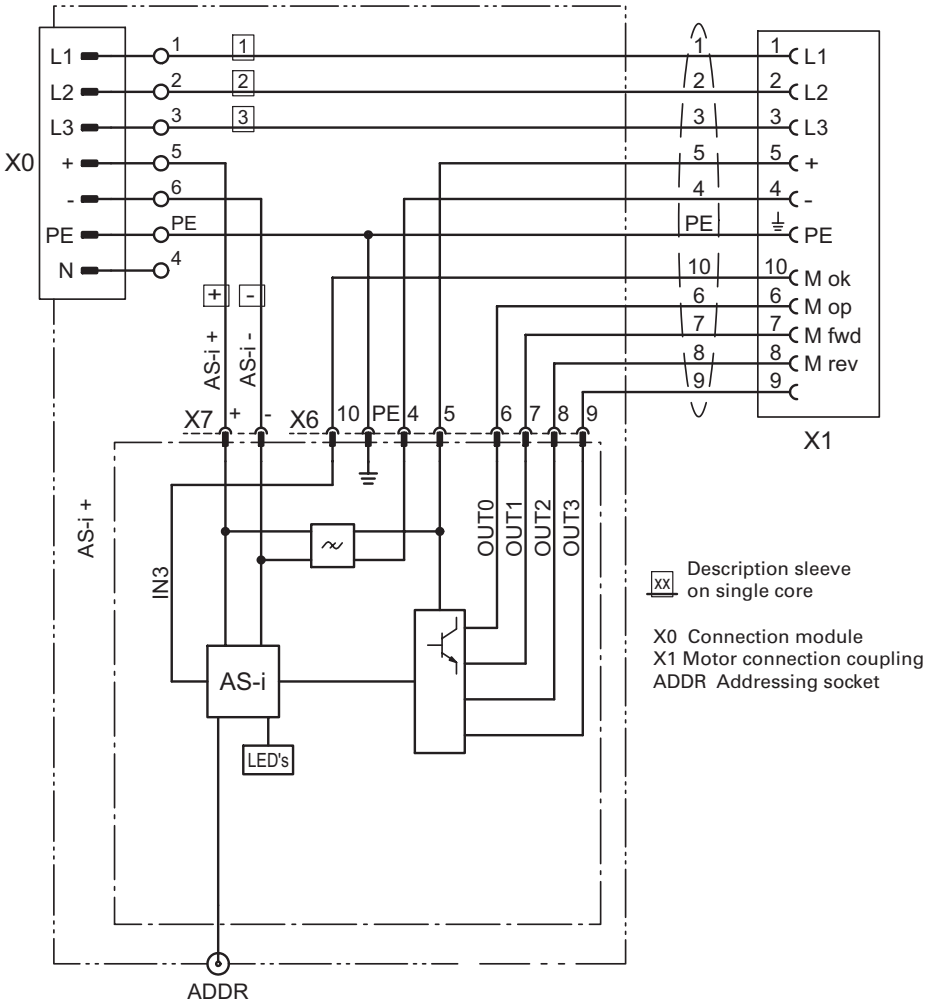
4.4 Technical information







Block diagram 83.219.xx01.2



5 Mechanical Installation (Assembly)

5.1 Prerequisites

The substructure must be:

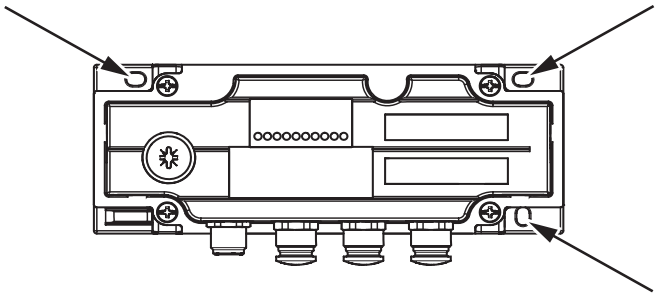
- even,
- vibration-free, and
- torsionally stiff

NOTICE
The connecting line is not trailing capable.

5.2 Installation on substructure

NOTICE
Use only the pre-established boreholes for the installation on the substructure. Additional boreholes at different positions are not allowed!

Fastening the device on the substructure requires three M4 screws (not supplied).



Bore holes for mounting screws

Procedure

To install the unit on the substructure, proceed as follows:

1. Copy the borehole diagram (see the corresponding figure for the installation dimensions) onto the substructure.
   - The installation of the podis MOT on the substructure is carried out according to local conditions in accordance with the borehole diagram.
2. Fasten the podis MOT on the substructure using at least two M4 screws.
   - Observe the alignment according to the planned routing of the podis flat cable.
   - The podis MOT is installed on the substructure.
   - The mechanical installation is complete, the electrical installation may be started next.

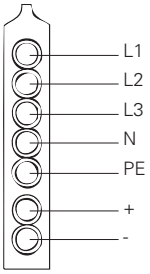
6 Electrical Installation

WARNING

The podis CON manual 00.000.0059.0 must be taken into account for the routing and connection of the flat cable.

- All electrical installations and connections may be performed only by trained electricians.
- The applicable safety and accident prevention regulations must be observed.
- The connectors may never be connected or disconnected under load.
- Before opening and removing the electronics cover, the entire flat cable must be de-energized.
- When routing extra-low voltage circuits together with low-voltage circuits using one line, the line must be protected against mechanical damage in areas of risk, e.g. cable channel, steel pipe or similar protection.

6.1 Connection to the podis® energy bus



Core	PVC (gray, 7 x 2.5 mm²)	EVA (black, 7 x 4 mm²)
L1	brown	1 (black)
L2	black	2 (black)
L3	gray	3 (black)
N	blue	4 (black)
PE	green/yellow	PE (green/yellow)
+ / AS-i +	red	5 (black)
- / AS-i -	white	6 (black)

The illustrated assignment of cores in the podis flat cable must be followed for the field distributor to ensure proper operation.

The auxiliary voltage for the supply of the outputs and inputs must be taken from a safely isolated power supply (PELV acc. to IEC 60364-4-41)!

NOTICE

The podis flat cable is coded, thereby preventing an incorrect insertion.

The electrical connection on the energy bus flat cable is carried out by screwing in the penetrating screws.

It is recommended to use a cordless driver with adjustable torque.

CAUTION

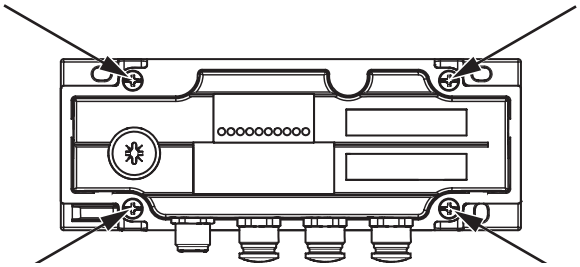
The following notices must be observed when handling penetrating screws:

- All penetrating screws must be screwed in to the stop.
- Use a pneumatic or electrical screwdriver.
- Use Phillips no.1 screwdriver blades with a shaft length of at least 45 mm.
- Maximum torque 1 Nm.
- Screwed in penetrating screws must not be unscrewed again. When removing a podis field distributor from the flat cable, use the podis sealing sleeve (Z1.005.6553.1) to seal the contact positions.
- Only original screws from Wieland Electric may be used.
- Operation with torn off screws is not allowed.
- Cable ties must not be removed, and the cover of the penetrating screws (connecting plate) must be inserted after complete installation.

Procedure

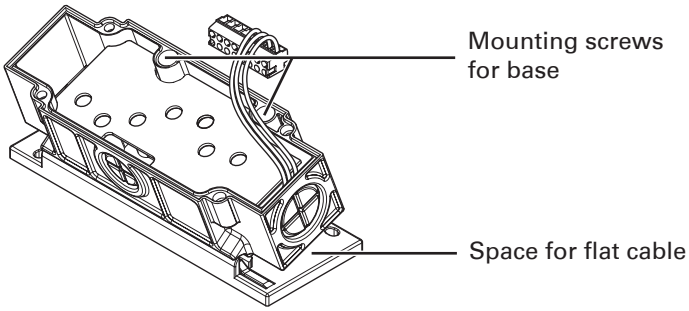
Proceed as follows to connect the field distributor to the energy bus:

1. Remove the four fastening screws of the hood and slightly lift the hood.



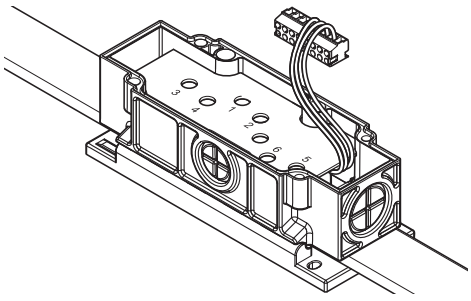
Mounting screws for hood

2. If necessary: Loosen the electrical plug connection X6 (and X7 for 83.219.xx01.2) between hood and base (see section 2.2, "Mechanical design / housing") and separate the hood from the base.
3. Remove the two fastening screws, open up the base and place the flat cable inside in the right direction (according to the coding).



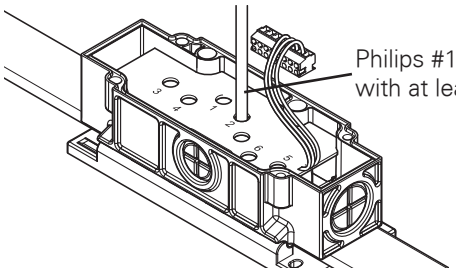
Base tilted and open

4. Close the base and secure it with the two fastening screws.



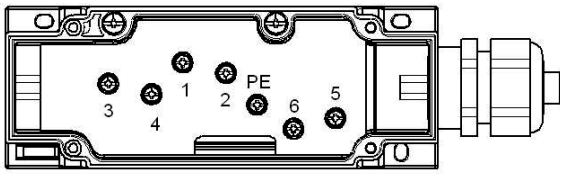
Flat cable inserted and base closed

5. Screw in the penetrating screws.
   - Screw all penetrating screws into the flat cable.
   - Torque: 1 Nm



Screwing in penetrating screws

Assignment of contact points

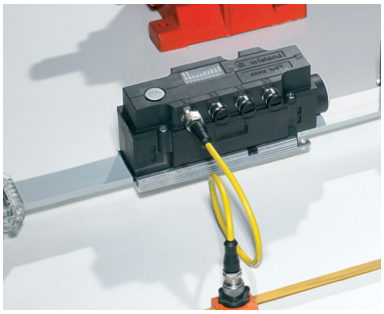


Conductor assignment		
	210/212	219
1	L1	L1
2	L2	L2
3	L3	L3
4	N	N
5	+	AS-i +
6	-	AS-i -
PE	PE	PE

6. If disconnected: Reinsert the electrical plug connections between hood and base.
7. Fasten the hood with the four fastening screws.
   - Ensure that the unit is tight and that no connecting cables have been pinched.
   - The podis field distributor is connected to the energy bus.

6.2 Connection to the AS interface

Connect the AS-i interface of the podis field distributors 83.210.xxyy.z and 83.212.xx01.2 to the AS-i network using the yellow AS-i cable.
It is recommended to establish the connection via the AS-i connecting clip and AS-i tap line. Both parts are available as accessories from Wieland Electric GmbH (see appendix for ordering information).



AS-i connection

NOTICE

For the podis field distributor 83.219.xx01.2, the connection to AS-i is carried out from the flat cable via penetrating screws.

6.3 Connection of sensors and actuators

Depending on the design, digital inputs/outputs can be placed on the AS interface (see the block diagrams in the respective device descriptions) via M12 sockets at the podis field distributor.

Table of connection variants

Order no.	AS interface (external via M12)	AS interface (internal in the podis line)	Connected to consumer (drive)	Connected to field distributor	Digital inputs M12	Digital inputs from drive	Digital outputs M12	Digital outputs to consumer
83.210.0005.2	Ç	–	–	Ç	3	1	–	4
83.210.xx01.2 /.4	Ç	–	Ç	–	3	1	–	4
83.212.xx01.2	Ç	–	Ç	–	2	1	1	3
83.219.xx01.2	–	Ç	Ç	–	–	1	–	4

WARNING

Unused connections must be fitted with M12 caps to ensure enclosure IP65.

6.4 Drive connection

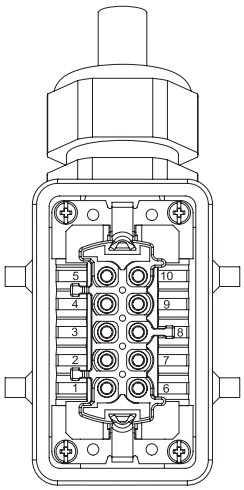
The drive is generally connected via a connecting line, which is connected either permanently or pluggable at the podis MOT. The connection at the drive can be implemented in different ways.

The cores of the connecting line are assigned according to the following table.

Core assignment of connecting line

Core no.	Assignment
1	L1
2	L2
3	L3
4	0 VDC
5	+24 VDC
6	Digital AS-i output A0
7	Digital AS-i output A1
8	Digital AS-i output A2
9	Digital AS-i output A3
10	Digital AS-i input E3 (supplied by 24 VDC
PE	PE

Connector assignment of revos BASIC

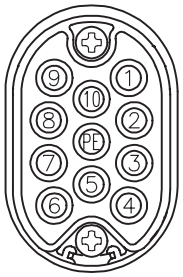


No.	Designation	Meaning
1	L1	Motor lead voltage U
2	L2	Motor lead voltage V
3	L3	Motor lead voltage W
4	0 V	0 V of external voltage(*)
5	+24 V	24 VDC of external voltage(*)
6	OUT 0	Supply for motor electronics
7	OUT 1	Motor control lead CW rotation
8	OUT 2	Motor control lead CCW rotation
9	OUT 3	Speed switching f1/f2
10	IN 3	Ready message from motor
PE	PE	PE connection

(*) The supply is provided by an external 24-V power supply.

If the variant with industrial connector and revos BASIC is selected, please observe the ordering information from the drive manufacturer.

Connector assignment of revosMOT



Pin	Designation	Meaning
1	L1	Motor lead voltage U
2	L2	Motor lead voltage V
3	L3	Motor lead voltage W
4	0 V	0 V of external voltage(*)
5	+24 V	24 VDC of external voltage(*)
6	OUT 0	Supply for motor electronics
7	OUT 1	Motor control lead CW rotation
8	OUT 2	Motor control lead CCW rotation
9	OUT 3	Speed switching f1/f2
10	IN 3	Ready message from motor
PE	PE	PE connection

(*) The supply is provided by an external 24-V power supply.

7 Commissioning

NOTICE
The podis field distributor allows you control all decentral drives that feature digital control terminals.Detailed notes about the commissioning of the respective drive can be found in the podis system manual.

7.1 Setting the AS-i slave address at the podis®MOT

After its mechanical and electrical installation, the slave address must be set at the podis MOT.

The assignment of the desired AS-i slave address is carried out either via the AS-i master or via an AS-i hand-held terminal (see the operating instructions of the AS-i master or the AS-i hand-held terminal).

The podis MOT devices are delivered from the factory with address "0" (standard according to AS interface specification).

Procedure

Proceed as follows to set the slave address:

1. Remove the cap from the addressing socket.
2. Insert the addressing cable (jack plug) of the addressing device into the addressing socket of the field distributor.
3. Preset the address. See the operating instructions of the addressing device.
4. Remove the addressing cable and close the addressing socket again with the cap.

NOTICE
Some addressing devices can generate error messages when addressing the bus coupler via the addressing socket ("Prog"). If this is the case, please use the M12 AS interface socket labelled X2.

7.2 Manual operation / on-site operation

The AS-i hand-held terminal can be used to read in the inputs of an AS-i slave or setting the outputs. This allows for a simple precommissioning without the podis MOT being connected to a control system.

If the addressing device is used to select the operating mode "Read and write data". the drive can be controlled by setting the output bits.

WARNING
When plugging the cable from the AS-i hand-held terminal into the addressing socket of the podis MOT, any AS-i connection that may exist is decoupled at the M12 socket. Interlocks at the controller are no longer effective. By setting the output data bit via the AS-i hand-held terminal, the drive can start to move.

For this reason, this operating mode should be used for test purposes only.

8 Operation

8.1 Functional check

Check whether the device and the control function properly. The operating state is indicated by the status LEDs as follows:

Operating state 83.210.xxyy.z

Color	Designation	Status	Meaning
green	AS-i power	constantly on off	AS-i voltage supply is correct AS-i supply is missing
red	AS-i fault	constantly on flashing off	Communication error at AS interface, slave does not participate in normal data traffic (e.g. slave address "0") Periphery error, e.g. short circuit of AS-i voltage AS-i communication is correct
yellow	IN 0	constantly on off	Signal voltage IN0 high level Signal voltage IN0 low level
yellow	IN 1	constantly on off	Signal voltage IN1 high level Signal voltage IN1 low level
yellow	IN 2	constantly on off	Signal voltage IN21 high level Signal voltage IN2 low level
yellow	M ok	constantly on off	Drive operational Drive not operational, no supply connected
yellow	M op	constantly on off	Motor electronics on
yellow	M fwd	constantly on off	Motor turns CW Motor does not turn CW
yellow	M rev	constantly on off	Motor turns CCW Motor does not turn CCW
yellow	f1/f2	constantly on off	Speed f2 Speed f1

Operating state 83.212.xx01.2

Color	Designation	Status	Meaning
green	AS-i power	constantly on	AS-i voltage supply is correct
		off	AS-i supply is missing
red	AS-i fault	constantly on	Communication error at AS interface, slave does not participate in normal data traffic (e.g. slave address "0")
		flashing	Periphery error, e.g. short circuit of AS-i voltage
		off	AS-i communication is correct
yellow	IN 0	constantly on	Signal voltage IN0 high level
		off	Signal voltage IN0 low level
yellow	IN 1	constantly on	Signal voltage IN1 high level
		off	Signal voltage IN1 low level
yellow	IN 2	constantly on	Signal voltage IN21 high level
		off	Signal voltage IN2 low level
yellow	M ok	constantly on	Drive operational
		off	Drive not operational, no supply connected
yellow	OUT 0	constantly on	Signal voltage OUT0 high level
		off	Signal voltage OUT0 low level
yellow	M Run	constantly on	Signal voltage OUT1 high level
		off	Signal voltage OUT1 low level
yellow	OUT 2	constantly on	Signal voltage OUT2 high level
		off	Signal voltage OUT2 low level
yellow	OUT 3	constantly on	Signal voltage OUT3 high level
		off	Signal voltage OUT3 low level

Operating state 83.219.xx01.2

Color	Designation	Status	Meaning
green	AS-i power	constantly on	AS-i voltage supply is correct
		off	AS-i supply is missing
red	AS-i fault	constantly on	Communication error at AS interface, slave does not participate in normal data traffic (e.g. slave address "0")
		flashing	Periphery error, e.g. short circuit of AS-i voltage
		off	AS-i communication is correct
yellow	M ok	constantly on	Drive operational
		off	Drive not operational, no supply connected
yellow	M op	constantly on	Motor electronics on
		off	
yellow	M fwd	constantly on	Motor turns CW
		off	Motor does not turn CW
yellow	M rev	constantly on	Motor turns CCW
		off	Motor does not turn CCW

9 Malfunctions

9.1 Causes and remedies

Malfunctions may be corrected only by qualified and authorized electricians.

If the information in the table below is not sufficient to remove the malfunction, contact the technical support of Wieland.

Status LED / malfunction	Cause	Remedy
'AS-i fault' flashes constantly	AS interface communication error, slave does not participate in normal data traffic, e.g. slave address 0	Check AS-i address, initialize master
'AS-i fault' flashes	Overload or short circuit at the initiators	Check wiring or current consumption

9.2 Replacing the hood

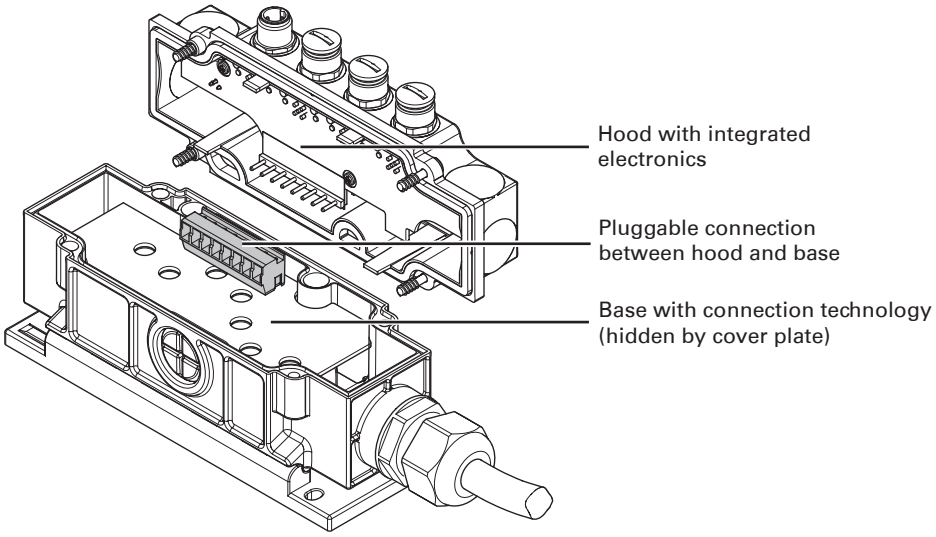
The electronics module is built into the hood (electronics cover). If the electronics module is defective, the hood must be replaced.

WARNING

- All electrical installations and connections may be performed only by trained electricians.
- The applicable safety and accident prevention regulations must be observed.
- Before opening and removing the electronics cover, the entire flat cable must be de-energized.

Proceed as follows to replace the hood:

1. Remove the four fastening screws of the hood.
2. Unplug connector X6 (and X7 for 83.219.xx01.2).
3. Replace the hood with a new one.
4. Plug connector X6 (and X7 for 83.219.xx01.2) into the connection in the hood.
5. Attach the hood with the four fastening screws.
   - Ensure that the unit is tight and that no connecting cables have been pinched.
   - The hood has been replaced.
6. Finally, check the AS-i addressing.



podis®MOT (opened)

10 Appendix

10.1 Technical data

Technical data 83.210.xxyy.z

AC input	
• Input voltage V_{supply}	230/400 VAC
• Supply frequency input	50 Hz ± 10% (45 Hz ... 55 Hz)
AC output	
• Output voltage	V_{supply} (input voltage)
• Output current per phase	max. 16 A (observe line fusing!)
• Output frequency	50 Hz ± 10% (45 Hz ... 55 Hz)
Drive electronics supply	
• Input voltage	24 VDC ± 20% (19.2 V ... 28.8 V)
• Power consumption	approx. 0.2 W (per drive)
AS interface	
• AS-i specification	V2.11, single slave, identification 7FFE, 4E/4A
• Number of addressable slaves	31
• Line length	max. 30 cm tap line per module + 100m AS interface line
• Connection type	M 12 round connector at X2
• AS-i voltage	min. 26.5 V
• Current consumption from AS-i	max. 200 mA overload-safe
• Addressing option	DC socket 1.3 mm
Digital inputs	
• Digital inputs (supply via AS-i)	3 (IN 0, IN 1, IN 2) via M 12
• Digital inputs (via 24V_EXT)	1 (IN 3)
• Input current	typ. 5 mA
• Signal level V_{high} / V_{low}	+15 V ...+31.5 V / -3 V ...+5 V
• Signal delay	typ. 1 ms
Digital outputs	
• Digital outputs to motor (via 24V_EXT)	4
• Output voltage	approx. V - 0.5 V
• Output current per output	max. 500 mA short-circuit-proof/overload-safe
• Total current of outputs	max. 0.6 A continuous current (starting at hardware v. 2.0)
• Signal delay	typ. 1 ms
• Coincidence	100 %
General data	
• Environmental conditions (overall system)	Industrial atmosphere
• Pollution degree	III
• Overvoltage category	3
• Fire behavior of contact carriers	min. UL94V2
• Temperature - operating environment	0...50 °C
• Temperature - storage/transport	-25 °C...60 °C / -25 °C...+70 °C
• Vibration	IEC 60721 Class 3M6
• Air humidity	100 %, non-condensing
• Enclosure	IP 65 acc. to EN 60529
• Protection class	Class 1 acc. to 60536
• Mounting position	any (preferably horizontal wall mounting)
• Dimensions	see under 2.4 "Installation dimensions“

Technical data 83.212.xx01.2

AC input	
• Input voltage V_{supply}	230/400 VAC
• Supply frequency input	50 Hz ± 10% (45 Hz ... 55 Hz)
AC output	
• Output voltage	V_{supply} (input voltage)
• Output current per phase	max. 16 A (observe line fusing!)
• Output frequency	50 Hz ± 10 % (45 Hz ... 55 Hz)
Drive electronics supply	
• Input voltage	24 VDC ± 20 % (19.2 V ... 28.8 V)
• Power consumption	approx. 0.2 W (without inputs and outputs)
AS interface	
• AS-i specification	V2.11, single slave, identification 7FFE, 4E/4A
• Number of addressable slaves	31
• Line length	max. 30 cm tap line per module + 100m AS interface line
• Connection type	M 12 round connector at X2
• AS-i voltage	min. 26.5 V
• Current consumption from AS-i	max. 200 mA overload-safe
• Addressing option	DC socket 1.3 mm
Digital inputs	
• Digital inputs (supply via AS-i)	2 (IN 1, IN 2) via M12
• Digital inputs (via 24V_EXT)	1 (IN 3)
• Input current	typ. 5 mA
• Signal level V_{high} / V_{low}	+15 V ...+31.5 V / -3 V ...+5 V
• Signal delay	typ. 1 ms
Digital outputs	
• Digital outputs to motor (via 24V_EXT)	4, of which OUT 0 also via M 12 (X3)
• Output voltage	approx. V - 0.5 V
• Output current per output	max. 500 mA short-circuit-proof/overload-safe(observe total current)
• Total current of outputs	max. 0.6 A continuous current (starting at hardware v. 2.0)
• Signal delay	typ. 1 ms
• Coincidence	100 %
General data	
• Environmental conditions (overall system)	Industrial atmosphere
• Pollution degree	III
• Overvoltage category	3
• Fire behavior of contact carriers	min. UL94V2
• Temperature - operating environment	0...50 °C
• Temperature - storage/transport	-25 °C...60 °C / -25 °C...+70 °C
• Vibration	IEC 60721 Class 3M6
• Air humidity	100 %, non-condensing
• Enclosure	IP 65 acc. to EN 60529
• Protection class	Class 1 acc. to 60536
• Mounting position	any (preferably horizontal wall mounting)
• Dimensions W x H x L	approx. 70.5 x 79.5 x 168.5 mm(without line, without screwed joint)

Technical data 83.219.xx01.2

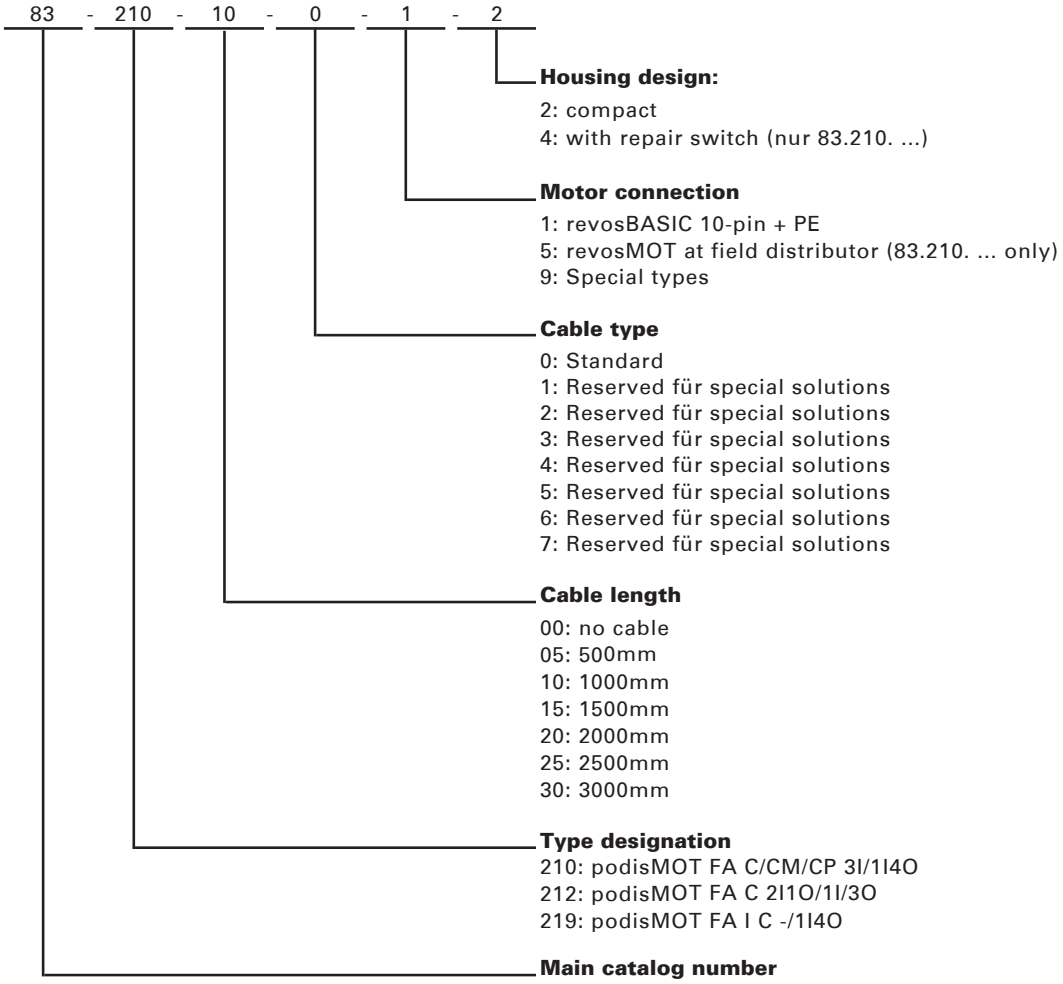
AC input	
• Input voltage V_{supply}	230/400 VAC
• Supply frequency input	50 Hz ± 10 % (45 Hz ... 55 Hz)
AC output	
• Output voltage	V_{supply} (input voltage)
• Output current per phase	max. 16 A (observe line fusing!)
• Output frequency	50 Hz ± 10 % (45 Hz ... 55 Hz)
AS interface	
• AS-i specification	V2.11, single slave, 1E/4AIdentifier ID: F, ID1: F, ID2: E, I/O: AID1 changeable via addressing device
• Number of addressable slaves	31
• Connection type	Tapped from podis® flat cable
• Induced current consumption	approx. 15 mA
• AS-i voltage	min. 26.5 V
• Current consumption from AS-i	max. 200 mA overload-safe
• Addressing option	DC socket 1.3 mm
Digital inputs	
• Digital inputs (via AS-i)	1 (M ok)
• Input current	typ. 5 mA
• Signal level V_{high} / V_{low}	+15 V ...+31.5 V / -3 V ...+5 V
• Signal delay	typ. 1 ms
Digital outputs	
• Outputs to the motor (supply via AS-i)	4
• Output voltage	approx. V - 0.5V
• Total current of outputs	max. 180 mA short-circuit-proof/overload-safe
• Signal delay	typ. 1 ms
• Coincidence	100 %
General data	
• Environmental conditions (overall system)	Industrial atmosphere
• Pollution degree	III
• Overvoltage category	3
• Fire behavior of contact carriers	min. UL94V2
• Temperature - operating environment	0...50 °C
• Temperature - storage/transport	-25 °C...60 °C / -25 °C...+70 °C
• Vibration	IEC 60721 Class 3M6
• Air humidity	100 %, non-condensing
• Enclosure	IP 65 acc. to EN 60529
• Protection class	Class 1 acc. to 60536
• Mounting position	any (preferably horizontal wall mounting)
• Dimensions W x H x L	ca. 60 x 79.5 x 6.30 in

10.2 Ordering information

Field distributor	
• podis MOT FA C 3I/1I4O	83.210.xxyy.z
• podis MOT FA C 2I1O/1I3O	83.212.xx01.2
• podis MOT FA I C -/1I4O	83.219.xx01.2

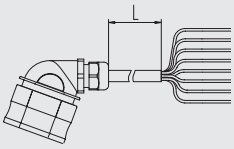
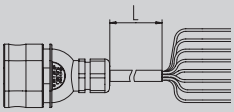
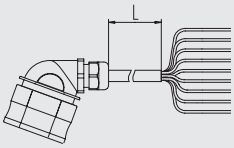
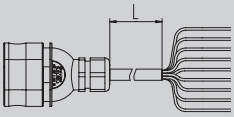
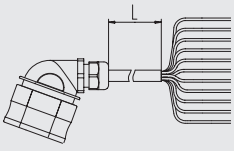
Order numberkey

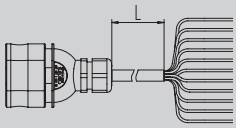
Refer to the order number key for the order numbers of the field distributor versions.



Ordering information

podis®MOT FA C 3I/1I4O		
	podis® field distributors for decentral consumers (drives) on the podis® flat cable energy bus in IP65, with integrated AS-i – slave 4I/4O AS interface ("yellow cable"), connection external via M12 Three digital inputs for sensors on M12 sockets Output 400VAC, auxiliary voltage 24VDC, four control outputs and one control input via round PVC Classic line -110 11G1,5, length 1.0 m to consumer (drive) Industrial connector revos BASIC as interface to consumer (drive)	83.210.1001.2
	same as 83.210.1001.2, but line length 1.5 m	83.210.1501.2
	same as 83.210.1001.2, but line length 2.0 m	83.210.2001.2
	same as 83.210.1001.2, but line length 2.5 m	83.210.2501.2
	same as 83.210.1001.2, but line length 3.0 m	83.210.3001.2
podis®MOT FA CM 3I/1I4O		
	same as 83.210.1001.2, but with repair switch and line length 1 m	83.210.1001.4
	same as 83.210.1001.4, but line length 1.5 m	83.210.1501.4
	same as 83.210.1001.4, but line length 2.0 m	83.210.2001.4
	same as 83.210.1001.4, but line length 2.5 m	83.210.2501.4
	same as 83.210.1001.4, but line length 3.0 m	83.210.3001.4
podis®MOT FA CP 3I/1I4O		
	podis® field distributors for decentral consumers (drives) on the podis® flat cable energy bus in IP65, with integrated AS-i – slave 4I/4O AS interface ("yellow cable"), connection external via M12 Three digital inputs for sensors on M12 sockets Output 400VAC, auxiliary voltage 24VDC, four control outputs and one control input via revos MOT connector as interface to consumer (drive)	83.210.0005.2

Accessories for podis®MOT FA CP 3I/1I4O		
	Preassembled connecting line, e.g. for SEW MOVI-SWITCH -1S; connector: revos MOT angled, line: 8 pin, type: PVC Classic 110, 8G1,5 gray, cable cross section: 1.5 mm², length: 1,0 m	83.311.1002.1
	same as 83.311.1002.1, but line length: 1,5 m	83.311.1502.1
	same as 83.311.1002.1, but line length: 2,0 m	83.311.2002.1
	same as 83.311.1002.1, but line length: 3,0 m	83.311.3002.1
	same as 83.311.1002.1, but line length: 4,0 m	83.311.4002.1
	same as 83.311.1002.1, but line length: 5,0 m	83.311.5002.1
	same as 83.311.1002.1, but line length: 6,0 m	83.311.6002.1
	Preassembled connecting line, e.g. for SEW MOVI-SWITCH -1S; connector: revos MOT straight, line: 8 pin, type: PVC Classic 110, 8G1,5 gray, cable cross section: 1,5 mm², length: 1,0 m	83.311.1006.1
	same as 83.311.1006.1, but line length: 1,5 m	83.311.1506.1
	same as 83.311.1006.1, but line length: 2,0 m	83.311.2006.1
	same as 83.311.1006.1, but line length: 3,0 m	83.311.3006.1
	same as 83.311.1006.1, but line length: 4,0 m	83.311.4006.1
	same as 83.311.1006.1, but line length: 5,0 m	83.311.5006.1
	same as 83.311.1006.1, but line length: 6,0 m	83.311.6006.1
	Preassembled connecting line, e.g. for SEW MOVI-SWITCH -2E; connector: revos MOT angled, line: 9 pin, type: PVC Classic 110, 9G1,5 gray, cable cross section: 1,5 mm², length: 1,0 m	83.312.1002.1
	same as 83.312.1002.1, but line length: 1,5 m	83.312.1502.1
	same as 83.312.1002.1, but line length: 2,0 m	83.312.2002.1
	same as 83.312.1002.1, but line length: 3,0 m	83.312.3002.1
	same as 83.312.1002.1, but line length: 4,0 m	83.312.4002.1
	same as 83.312.1002.1, but line length: 5,0 m	83.312.5002.1
	same as 83.312.1002.1, but line length: 6,0 m	83.312.6002.1
	Preassembled connecting line, e.g. for SEW MOVI-SWITCH -2E; connector: revos MOT straight, line: 9 pin, type: PVC Classic 110, 9G1,5 gray, cable cross section: 1,5 mm², length: 1,0 m	83.312.1006.1
	same as 83.312.1006.1, but line length: 1,5 m	83.312.1506.1
	same as 83.312.1006.1, but line length: 2,0 m	83.312.2006.1
	same as 83.312.1006.1, but line length: 3,0 m	83.312.3006.1
	same as 83.312.1006.1, but line length: 4,0 m	83.312.4006.1
	same as 83.312.1006.1, but line length: 5,0 m	83.312.5006.1
	same as 83.312.1006.1, but line length: 6,0 m	83.312.6006.1
	Preassembled connecting line, e.g. for SEW MOVIMOT; connector: revos MOT angled, line: 11 pin, type: PVC Classic 110, 11G1,5 gray, cable cross section: 1,5 mm², length: 1,0 m	83.313.1002.1
	same as 83.313.1002.1, but line length: 1,5 m	83.313.1502.1
	same as 83.313.1002.1, but line length: 2,0 m	83.313.2002.1
	same as 83.313.1002.1, but line length: 3,0 m	83.313.3002.1
	same as 83.313.1002.1, but line length: 4,0 m	83.313.4002.1
	same as 83.313.1002.1, but line length: 5,0 m	83.313.5002.1
	same as 83.313.1002.1, but line length: 6,0 m	83.313.6002.1

	Preassembled connecting line, e.g. for SEW MOVIMOT; connector: revos MOT straight, line: 11 pin, type: PVC Classic 110, 11G1,5 gray, cable cross section: 1,5 mm², length: 1,0 m	83.313.1006.1
	same as 83.313.1006.1, but line length: 1,5 m	83.313.1506.1
	same as 83.313.1006.1, but line length: 2,0 m	83.313.2006.1
	same as 83.313.1006.1, but line length: 3,0 m	83.313.3006.1
	same as 83.313.1006.1, but line length: 4,0 m	83.313.4006.1
	same as 83.313.1006.1, but line length: 5,0 m	83.313.5006.1

Spare parts		
	Replacement electronics hood MOT A C 3I/1I4O	83.209.2106.2

podis®MOT FA C 2I1O/1I3O		
	podis® field distributors for decentral consumers (drives) on the podis® flat cable energy bus in IP65, with integrated AS-i – slave 4I/4O AS interface ("yellow cable"), connection external via M12 Two digital inputs / one digital output for sensors/ actuators on M12 sockets Output 400VAC, auxiliary voltage 24VDC, three control outputs and one control input via round PVC Classic line -110 11G1,5, length 1.5 m to consumer (drive) Industrial connector revos BASIC as interface to consumer (drive)	83.212.1001.2
	same as 83.212.1001.2, but line length 1.5 m	83.212.1501.2
	same as 83.212.1001.2, but line length 2.0 m	83.212.2001.2
	same as 83.212.1001.2, but line length 2.5 m	83.212.2501.2
	same as 83.212.1001.2, but line length 3.0 m	83.212.3001.2

Spare parts		
	Replacement electronics hood MOT A C 3I/1I4O	83.209.2120.2

podis®MOT FAIC -/1I4O		
	podis® field distributors for decentral consumers (drives) on the podis® flat cable energy bus in IP65, with integrated AS-i – slave 1I/4O AS interface ("yellow cable") integrated in podis® flat cable Output 400 VAC, auxiliary voltage 24 VDC (decoupled from AS-i), four control outputs and one control input via round PVC Classic line -110 11G1,5, length 1.0 m to consumer (drive) Industrial connector revos BASIC as interface to consumer (drive)	83.219.1001.2
	same as 83.219.1001.2, but line length 1.5 m	83.219.1501.2
	same as 83.219.1001.2, but line length 2.0 m	83.219.2001.2
	same as 83.219.1001.2, but line length 2.5 m	83.219.2501.2
	same as 83.219.1001.2, but line length 3.0 m	83.219.3001.2

Spare parts		
	Electronics replacement cover (AS-i electronics) MOT A C -/1I4O	83.209.2105.2

AS-i accessories		
	AS-i adapter M12	83.209.2201.0
	Preassembled AS-i connecting line 0.3 m, 2xM12 (socket, plug)	83.209.2203.0
	AS-i hand-held AS-i PPG 1	83.209.2204.0
	Programming cable AS-i 1.5 m, suitable for AS-i hand-held AS-i PPG	83.209.2205.0

wieland

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