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www.janitza.com

Modules 800-CON (set of 2)

Transfer module for measurement-device and module topologies

Installation manual

Deutsche Version: siehe Vorderseite



User manual:

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Janitza®

Relevant laws,
applied standards and directives
Please see the declaration of conformity on our website (www.janitza.com) for the laws, standards and directives applied for the device by Janitza electronics GmbH.

INFORMATION

Our usage information uses the grammatical masculine form in a gender-neutral sense! This form always refers equally to women, men and diverse. In order to make the texts more readable, distinctions are not made. We ask for your understanding for these simplifications.

1 General information

Disclaimer
Compliance with the usage information for the devices, modules and components is a prerequisite for safe operation and attaining the stated performance characteristics and product features. Janitza electronics GmbH assumes no liability for bodily injury, material damage or financial losses which result from disregard of the usage information. Make sure that your usage information is readily available and legible.

Further usage information, such as the installation manual or the user manual for the basic device, can be found on our website, www.janitza.com under Support > Downloads.

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Subject to technical changes.
- Make sure that your device, module or component matches the installation manual.
- First make sure you have read and understood the usage information accompanying the product.
- Keep the usage information associated with the product available for the entire service life and pass it on to any possible subsequent users.
- Please find out about device revisions and the associated modifications of the usage information associated with your product at www.janitza.com.

Disposal
Please abide by national regulations! Dispose of individual parts, as applicable, depending on their composition and existing country-specific regulations, e.g. as:
- Electronic waste
- Batteries and rechargeable batteries
- Plastics
- Metals

or engage a certified disposal company to handle scrapping.

2 Safety

Safety information
The installation manual does not represent a complete set of all safety measures required for the operation of the device (module/component). Special operating conditions can require additional measures. The installation manual contains information which must be observed to ensure your personal safety and avoid material damage.

Symbols used on the device (module/component):

	The additional symbol on the device itself indicates an electrical danger that can result in serious injuries or death.
	This general warning symbol draws attention to a possible risk of injury. Be certain to observe all of the information listed under this symbol in order to avoid possible injury or even death.

Safety information in the installation manual is marked by a warning triangle and, in dependence on the degree of hazard, is displayed as follows:

⚠ DANGER
Warns of an imminent danger which results in serious or fatal injury (death).

⚠ WARNING
Warns of a potentially hazardous situation which could result in serious injury or death.

⚠ CAUTION
Warns of a possibly hazardous situation which can result in minor or moderate injury.

ATTENTION
Warns of an immediately hazardous situation which, if not avoided, can result in material or environmental damage.

INFORMATION
Indicates procedures in which there is **no** hazard of personal injury or material damage.

Safety measures
When operating electric devices, it is unavoidable for certain parts of these devices and their components to conduct hazardous voltage. Consequently, severe bodily injury or material damage can occur if they are not handled properly.

- Before making connections to the device and its components, ground the device by means of the ground wire connection, if present.
- Hazardous voltages can be present in all circuitry parts that are connected to the power supply.
- There can still be hazardous voltages present in the device or the components even after disconnection from the supply voltage (capacitor storage).
- Do not exceed the limit values specified in the user manual and on the rating plate! This must also be observed during testing and commissioning!
- Observe the safety information and warning notices in the usage information associated with the devices and their components!

⚠ WARNING

Hazard due to disregard of warning notices and safety information!
Disregard of warning notices and safety information on the device itself and in the usage information for the device and its components can lead to injuries or even death!
Observe the safety information and warning notices on the device itself and in the usage information associated with the devices and their components, such as:
· Installation manual
· Installation supplement
· User manual
· Supplement Safety Information

Qualified personnel
To avoid bodily injury and material damage, only qualified personnel with electrotechnical training are permitted to work on the device, module or component who have knowledge of:

- The national accident prevention regulations.
- Safety technology standards,
- Installation, commissioning and operation of the device and the components.

⚠ WARNING

Risk of injury due to electric voltage or electric current!
When handling electric currents or voltages, serious bodily injury or death can result from:
· Touching bare or stripped leads that are energized.
· Device or module inputs that pose a hazard when touched.
Before starting work on your system:
· **Disconnect the supply of power!**
· **Secure it against being switched on!**
· **Check to be sure it is de-energized!**
· **Ground and short circuit!**
· **Cover or block off adjacent live parts!**

Intended use
The modules /components

- are only intended for use in industrial areas.
- are intended as an expansion or transfer module for measurement-device and module topologies with suitable basic devices (see user manual of the respective module) in control cabinets and small installation distributors.
- may only be mounted with the basic device disconnected from the power supply (see step “Mounting”). Observe the usage information belonging to the basic device!

The basic device and the modules are not intended for installation

- in vehicles! The use of the basic device with modules and components in non-stationary equipment is considered an exceptional environmental condition and is only permitted by separate agreement.
- in environments with harmful oils, acids, gases, vapors, dusts, radiation, etc.
- in potentially explosive environments.

Incoming goods inspection
The prerequisites for trouble-free and safe operation of the devices, modules and components include proper transport, storage, setup and assembly, as well as proper operation and maintenance.
Exercise due caution when unpacking and packing the device, do not use force and only use suitable tools.
Check:

- Visually inspect the devices, modules and components for flawless mechanical condition.
- Check the scope of delivery (see user manual) for completeness before you begin installing your devices, modules and components.

If it can be assumed that safe operation is no longer possible, take your device, module or component out of operation immediately! Secure against unintentional startup!

It can be assumed that safe operation is impossible if the basic device, module or component, for example:

- Has visible damage.
- No longer functions despite an intact power supply.
- Was subjected to extended periods of unfavorable conditions (e.g. storage outside of the permissible climate thresholds without adjustment to the room climate, condensation, etc.) or transport stress (e.g. falling from an elevated position, even without visible external damage, etc.).

3

Device short description

The module set, consisting of 2 transfer modules, transmits the JanBus communication of a basic device to remote measuring points via a data cable (for type, see technical data) **(please note the specification of suitable basic devices in the user manual)**. This allows you to implement measuring device and module topologies with a flexible arrangement of your DIN rails (for DIN rail types, see Technical data) in the control cabinet or small distribution board.



Fig.: Transfer modules 800-CON (output and input)

The scope of delivery of the transfer modules includes the appropriate bus connector (JanBus interface).

INFORMATION

System limits:
· For the maximum bus length (JanBus - proprietary) for setting up measurement-device and module topologies, refer to the “Technical data”.
· **The transfer modules in the set can each be used as an output or input.**
· Before installing your measuring device and module topology, please check the number of suitable modules and their slot assignment on the basic device (see user manual for the respective module).
· Do not exceed the maximum number of module slots of the basic device. The 800-CON (set of 2) transfer module does not occupy a slot!
· Recommended data cables can be found in the technical data and the user manual.
· The scope of delivery of the 800-CON module (set of 2) can be found in the user manual for the module.

4 Mounting

⚠ CAUTION

Disregard of the installation instructions may cause property damage or personal injury!
Disregard of the installation instructions may cause damage to your basic device with module or destroy it and/or may also result in personal injury.
- In addition to the installation instructions for your module, also observe the installation instructions for your basic device, in particular the safety information and warning notices.
- Before installing modules
  - **Disconnect the supply of power to the system!**
  - **Secure it against being switched on!**
  - **Check to be sure it is de-energized!**
  - **Ground and short circuit!**
  - **Cover or block off adjacent live parts!**
- Provide adequate air circulation in your installation environment and cooling, as needed, when the ambient temperatures are high.
- Return defective modules to Janitza electronics GmbH in accordance with the shipping instructions for air or road freight (complete with accessories).
- All usage information is also available as a download at www.janitza.com.

INFORMATION
- The following module installation sequence must be observed!
- Always install components of your JanBus system from the output bus connector to the input bus connector. This prevents the incorrect assembly of spatially separated JanBus systems! You can find more information in the user manual for the module.
- Provide sufficient space in your installation environment and for the bending radius of the data cable.Use end brackets and shield terminals with tension relief to set up your measuring device and module topology on a suitable DIN rail (for DIN rail types, see „Technical data“).

Before installation:

Check the maximum number of module slots of your basic device (see user manual of the basic device). In order to use all available slots of a basic device, various JanBus measuring device and module topologies can be realized with the 800-CON transfer module (set of 2).

The "Mounting" step described below is an example of a JanBus topology!

The scope of delivery of the 800-CON transfer modules (set of 2) includes an input and an output bus connector, so that each transfer module can be used with the corresponding bus connector at the output or input of a series of measurement devices and modules.

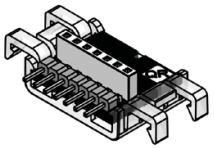


*Fig.: **Output bus connector** for the 800-CON transfer module (1 HP, see Technical data) at the output of a series of measurement devices and modules.*

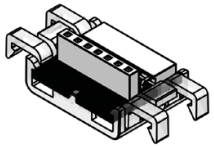


*Fig.: **Input bus connector** for the 800-CON transfer module (1 HP) at the input of a series of measurement devices and modules.*

ATTENTION

Improper handling may cause damage to the module and result in material damage!
The contacts of the bus connectors (JanBus interface) can bend or break off and destroy the bus connector.
- **Never touch or manipulate the contacts of the bus connector!**
- **Never force the bus connector into the module!**
- **When handling, transporting and storing the module, protect the contacts of the bus connector!**

INFORMATION
- Always install the 800-CON transfer module with output bus connector at the end of your measuring device and module topology and the 800-CON transfer module with input bus connector at the beginning of your remote measuring point!
- In addition to the usage information for the basic device and the 800-CON transfer module (set of 2), please also note any other usage information for the modules and components integrated in your JanBus topology.

5 Mounting the module with output bus connector

While observing the mounting instructions for your basic device or the connected module (e.g. check the bus connector mounting!), mount the 1st 800-CON transfer module with output bus connector when the system is disconnected from the power supply as follows:

1. Press in the open bottom bolts on the rear of the module.
2. If not already done, plug the output bus connector (JanBus interface) included in the scope of delivery into the sockets on the back of the module.

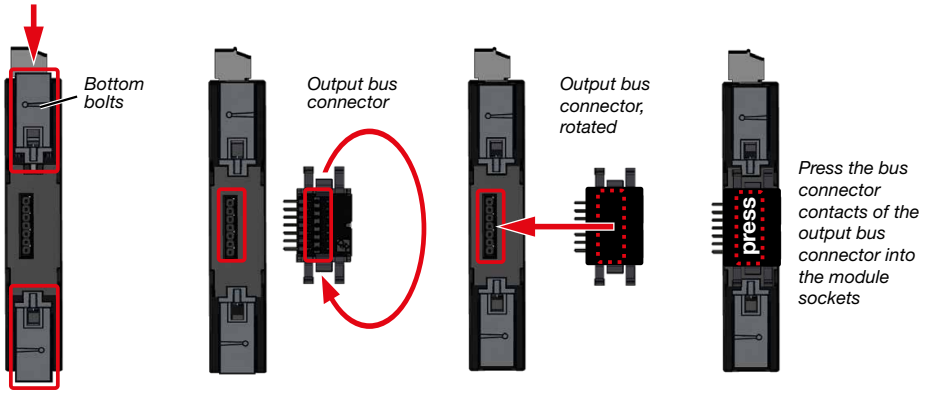
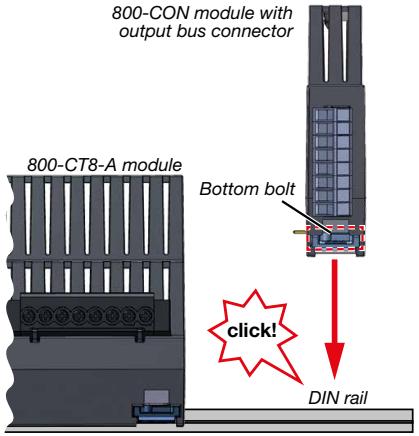


Fig.: Module 800-CON - rear view (with output bus connector)

3. Press your module with the output bus connector onto the DIN rail (for suitable DIN rail types, see Technical data), until the bottom bolts audible engage.

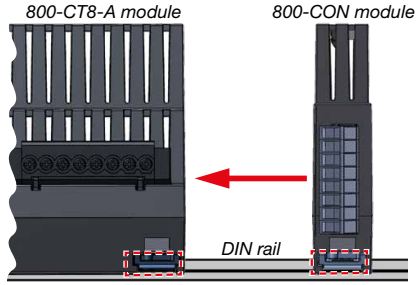


Example: Mounting of the 800-CON transfer module with output bus connector

ATTENTION

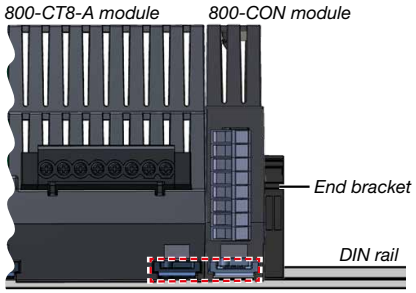
Material damage due to voltage being applied to the basic device during installation!
Coupling while energized can destroy your basic device or the module!
- **Observe the warnings and safety information at the beginning of this chapter and check that your basic device is de-energized before connecting modules!**

4. Push the contacts of your module with output bus connector into the sockets of the connected module (or basic device) so that the bus connectors (devices) are coupled.



Internal output bus connector

5. Check the fit of your measurement-device and module series and mount end brackets.



6 Mounting the module with input bus connector

For remote rows of modules, install the 2nd 800-CON transfer module from the set with input bus connector when the system is de-energized:

1. Press in the open bottom bolts on the rear of the module.
2. If not already done, plug the input bus connector (JanBus interface) included in the scope of delivery into the sockets on the back of the module.

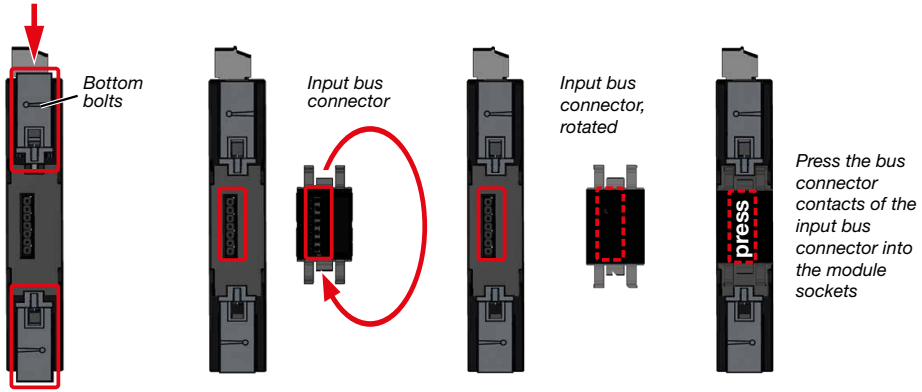
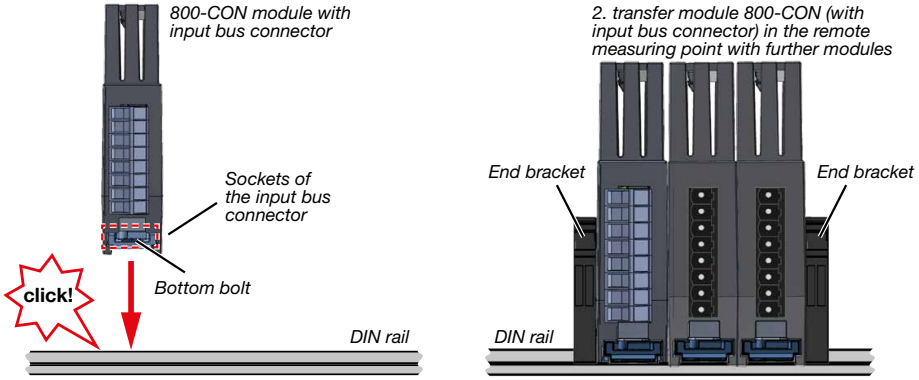


Fig.: Module 800-CON - rear view (with input bus connector)

3. Press the 2nd transfer module with input bus connector onto the DIN rail until the bottom bolts audibly engage.
4. Mount further modules (e.g. current measuring modules, digital input modules) and push their contacts into the sockets of the input bus connector so that the devices are coupled to the transfer module 800-CON.
5. Check the fit of your device and module series and mount end brackets.
6. Finally, wire your series of measurement devices and modules, observing the usage information for all integrated devices and modules.
7. Apply voltage to the basic device (system). The basic device detects the modules automatically.



Example: Mounting of the 800-CON transfer module with input bus connector of the remote measuring point

7 Connection of a series of devices and modules with transfer modules (set of 2)

For fault-free operation of your devices and therefore your system, connect your transfer modules via shield terminals. The shield connection serves as protection against overvoltages and electromagnetic disturbances.

Also provide a tension relief during the assembly, which protects against unintentional tearing out of the data cable. Use a 1:1 line connection for the data cable and observe the following warning notices!

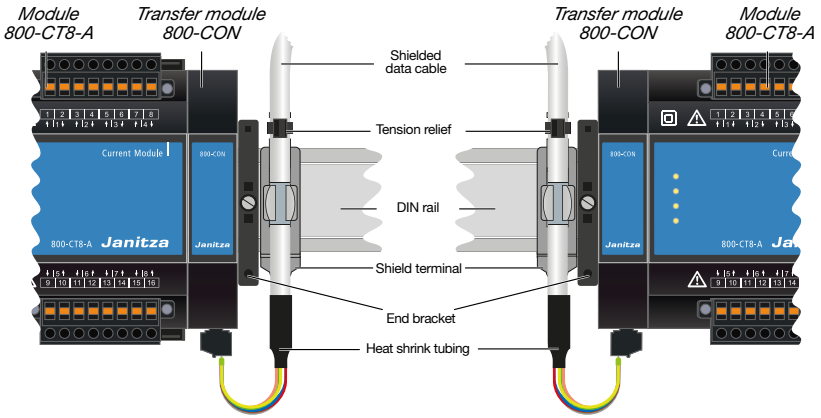


Fig. Example of "Device and module series": Wiring of the transfer module (output)

Fig. Example "Remote module series": Wiring of the transfer module (input)

ATTENTION

Incorrect assembly of the data cable can destroy your basic device with modules or your system!
A defective or incorrectly assembled data cable between the transfer modules can lead to destruction of your basic device and your modules and thus to property damage.

- **Use a data cable with a 1:1 line connection for the connection between the transfer modules!**
- **Always connect your transfer modules via shield terminals with tension relief!**
- **Protect your system against overvoltages and electromagnetic disturbances by connecting the data cable shield to the shield terminal!**

ATTENTION

Improper handling or rough handling can destroy your devices and modules!
Contacts, bottom bolts and retaining clips can be damaged or broken off during assembly/ disassembly.

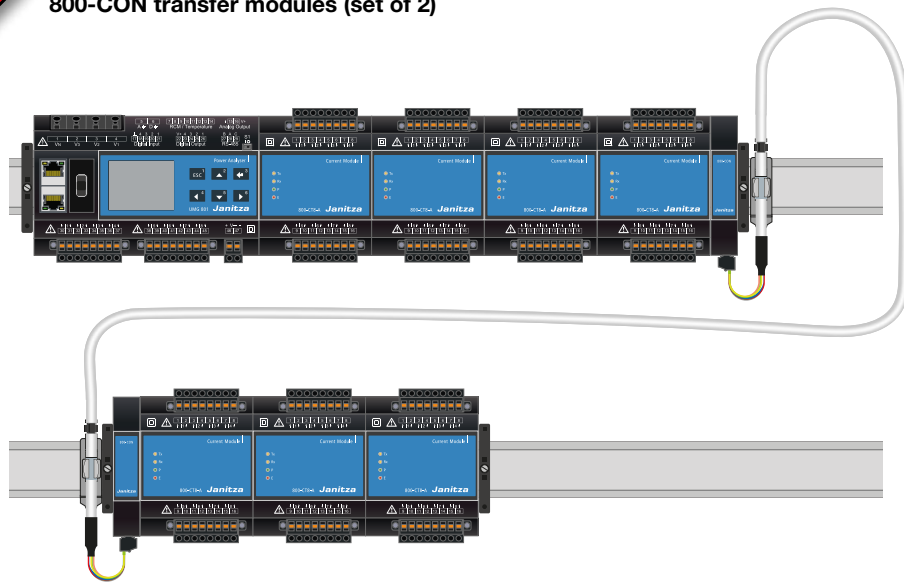
- **Never touch or manipulate the contacts!**
- **Protect contacts during handling, transportation and storage!**
- **Never use force to assemble/disassemble devices/modules!**
- **If necessary, observe further usage information on the devices, modules and components of your measuring device and module topology.**

ATTENTION

Modules are not recognized by the basic device during the startup process!
If there is no communication to the modules, the module functions are not supported (e.g. current measurements).

- **Disconnect your system from the power supply and check the condition of the bus connector and the connections of your modules to the basic device (JanBus interface). If necessary, slide the contacts of the module bus connector into the sockets of the basic device bus connector or the connected modules so that the bus connectors (devices) are linked.**
- **For spatially separated series of modules, check the connection of the transfer modules with the connection via the shield terminals.**
- **If necessary, restart the basic device.**
- **If the specified measures are unsuccessful, please contact our support team - www.janitza.com**

8 Example of a measuring device and module topology with the 800-CON transfer modules (set of 2)



Example of a measuring device and module topology.

9 Dismounting

Dismounting the **transfer module 800-CON**:

1. Disconnect the system from the power supply! Secure it against being switched back on! Verify disconnection from power! Ground and short circuit! Cover or block off neighboring parts that are under voltage!
2. Disconnect the wiring and the terminal.
3. Remove or shift the shield terminal and end brackets of your series of devices and modules.
4. Decouple the bus connector (JanBus interface) of the transfer module from the basic device and/or the connected module by pulling it out.
5. Unlatch the bottom latches of the transfer module. **Recommendation:** Use a screwdriver for this (carefully!).
6. Remove the DIN rail from the transfer module without touching or damaging the bus connector contacts.

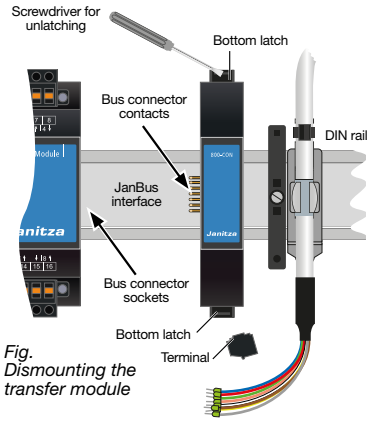


Fig. Dismounting the transfer module

ATTENTION

Handling your module too roughly may cause damage to the module and result in property damage!
The bus connector contacts and the bottom latches can be damaged or broken off during dismantling of your module.

- **Never wrench the module from the DIN rail using force.**
- **Decouple the bus connector (JanBus interface) beforehand and carefully unlatch the bottom latch of the module using a screwdriver!**

ATTENTION

Property damage due to dismantling or decoupling the module during operation!
Dismantling or decoupling the module while it is communicating with the basic device can lead to damage to your devices!

- **Disconnect your system from the power supply before dismantling or decoupling the module! Secure it against being turned back on! Verify disconnection from power! Ground and short circuit! Cover or block off neighboring parts that are under voltage!**

10 Technical data

General information	
Net weight (with plug terminals)	Approx. 55 g (0.12 lb) - 1 device
Device dimensions	approx. w = 18 mm (0.71 in), h = 90 mm (3.54 in), d = 76 mm (2.99 in)
Width of the device in horizontal pitches (HP)	1 HP (1 HP = 18 mm)
Installation position	discretionary
Mounting/assembly - suitable DIN rails - 35 mm (1.38 in)	· TS 35/7.5 according to EN 60715 · TS 35/10 · TS 35/15 x 1.5
Protection class	IP20
Operating temperature	-10 °C (14 °F) .. +55 °C (131 °F)
Impact resistance	IK07 according to IEC 62262

Transport and storage The following information applies to devices which are transported and stored in the original packaging	
Free fall	1 m (39.37 in)
Temperature	K55 -25 °C (-13 °F) up to +70 °C (158 °F)
Relative humidity	5 to 95% at 25 °C (77 °F) without condensation

Ambient conditions during operation, see basic device

Interface	
JanBus (proprietary)	· Via bus connector to series of devices and modules. · Via shield terminals between the transfer modules with twisted pair, shielded data cable (line connection 1:1), e.g.: Lapp Unitronic LiYcY (TP) 4x2x0.5 · The maximum bus length of the JanBus is 100 m.

Terminal connection capacity Connectable conductors. Only one conductor can be connected per terminal.	
Single core, multi-core, fine-stranded	0.2 - 1.5 mm², AWG 24-16
Cable end sleeve (not insulated)	0.2 - 1.5 mm², AWG 26-16
Cable end sleeve (insulated)	0.2 - 1 mm², AWG 26-18
Tightening torque	0.2 - 0.25 Nm (1.77 - 2.21 lbf in)
Stripping length	7 mm (0.2756 in)

INFORMATION

Detailed information and technical data on the module can be found in the user manual at www.janitza.com (download area).
Technical data on the basic device and information on how to proceed in the event of a fault can be found in the usage information of your basic device.

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