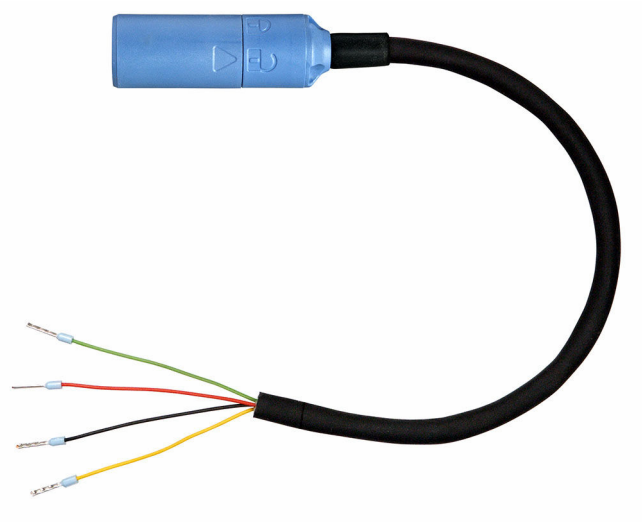
BA00118C/07/EN/05.20-00
71551161
2020-07-31

Operating Instructions
CYK10/11

Memosens data cable



Endress+Hauser
People for Process Automation

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1 Document information

1.1 Warnings

Structure of information	Meaning
DANGER **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation **will** result in a fatal or serious injury.
WARNING **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation **can** result in a fatal or serious injury.
CAUTION **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or more serious injuries.
NOTICE **Cause/situation** If necessary, Consequences of non-compliance (if applicable) ▶ Action/note	This symbol alerts you to situations which may result in damage to property.

1.2 Symbols

- Additional information, tips
- Permitted or recommended
- Not permitted or not recommended
- Reference to device documentation
- Reference to page
- Reference to graphic
- Result of a step

1.2.1 Symbols on the device

- Reference to device documentation
- Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to the manufacturer for disposal under the applicable conditions.

1.3 Documentation

The following manuals which complement these Operating Instructions can be found on the product pages on the Internet:
- Technical Information for the relevant sensor
- Operating Instructions for the transmitter used

In addition to these Operating Instructions, an XA with "Safety instructions for electrical apparatus in the hazardous area" is also included with a cable for use in the hazardous area.

▶ Please follow instructions on use in the hazardous area carefully.

2 Basic safety instructions

2.1 Requirements for the personnel

- Installation, commissioning, operation and maintenance of the measuring system may be carried out only by specially trained technical personnel.
- The technical personnel must be authorized by the plant operator to carry out the specified activities.
- The electrical connection may be performed only by an electrical technician.
- The technical personnel must have read and understood these Operating Instructions and must follow the instructions contained therein.
- Faults at the measuring point may only be rectified by authorized and specially trained personnel.

Repairs not described in the Operating Instructions provided must be carried out only directly at the manufacturer's site or by the service organization.

2.2 Intended use

The Memosens data cable CYK10 is used for measuring with digital sensors with Memosens technology. The Memosens extension cable CYK11 is used to connect fixed cable sensors with the Memosens protocol and to extend CYK10-based installations.

The CYK11 junction box and the CYK11 cable may not be used to extend CYK10-based measuring points in the hazardous area. The use of continuous, non-extended CYK10 Memosens data cables is recommended for measuring points in the hazardous area.

Use of the device for any purpose other than that described, poses a threat to the safety of people and of the entire measuring system and is therefore not permitted.

The manufacturer is not liable for damage caused by improper or non-designated use.

2.3 Workplace safety

As the user, you are responsible for complying with the following safety conditions:
- Installation guidelines
- Local standards and regulations
- Regulations for explosion protection

2.4 Operational safety

Before commissioning the entire measuring point:

1. Verify that all connections are correct.
2. Ensure that electrical cables and hose connections are undamaged.
3. Do not operate damaged products, and protect them against unintentional operation.
4. Label damaged products as defective.

During operation:

- If faults cannot be rectified:
  products must be taken out of service and protected against unintentional operation.

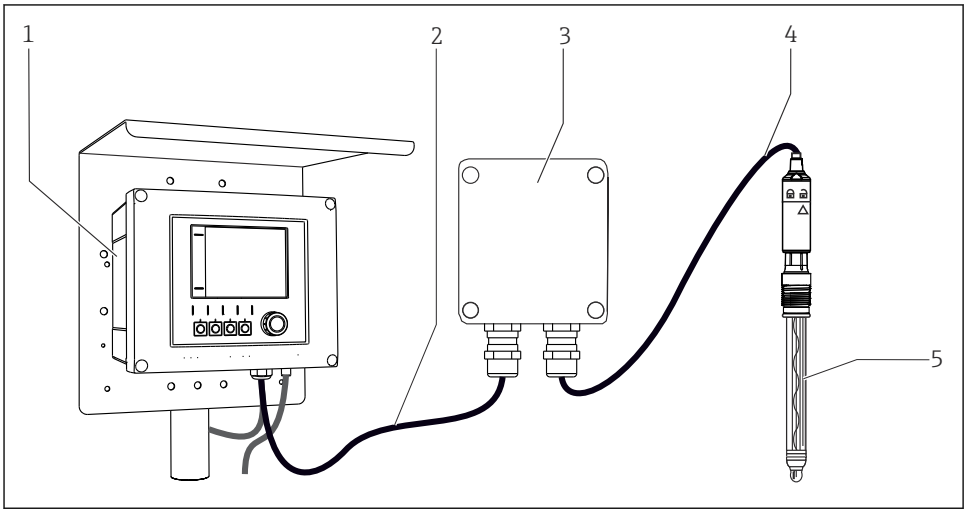
2.5 Product safety

2.5.1 State-of-the-art technology

The product is designed to meet state-of-the-art safety requirements, has been tested, and left the factory in a condition in which it is safe to operate. The relevant regulations and international standards have been observed.

3 Product description

3.1 Product design



1 Example of a measuring system

1 Transmitter
2 Memosens extension cable CYK11 (optional)
3 Junction box (optional)
4 Memosens data cable CYK10 or fixed cable
5 Sensor

4 Incoming acceptance and product identification

4.1 Incoming acceptance

1. Verify that the packaging is undamaged.
   ↳ Notify the supplier of any damage to the packaging.
   Keep the damaged packaging until the issue has been resolved.
2. Verify that the contents are undamaged.
   ↳ Notify the supplier of any damage to the delivery contents.
   Keep the damaged goods until the issue has been resolved.
3. Check that the delivery is complete and nothing is missing.
   ↳ Compare the shipping documents with your order.
4. Pack the product for storage and transportation in such a way that it is protected against impact and moisture.
   ↳ The original packaging offers the best protection.
   Make sure to comply with the permitted ambient conditions.

If you have any questions, please contact your supplier or your local Sales Center.

4.2 Product identification

4.2.1 Nameplate

The nameplate provides you with the following information on your device:
- Manufacturer identification
- Order code
- Extended order code
- Serial number
- Safety information and warnings
- Ex labeling on hazardous area versions

► Compare the information on the nameplate with the order.

4.2.2 Product identification

Product page

www.endress.com/cyk10

www.endress.com/cyk11

Order code

The order code and serial number of your product can be found in the following locations:
- On the nameplate
- In the delivery papers

Obtaining information on the product

1. Go to www.endress.com.

2. Page search (magnifying glass symbol): Enter valid serial number.
3. Search (magnifying glass).
   ↳ The product structure is displayed in a popup window.
4. Click the product overview.
   ↳ A new window opens. Here you fill information pertaining to your device, including the product documentation.

4.2.3 Manufacturer's address

Endress+Hauser Conducta GmbH+Co. KG
Dieselstraße 24
D-70839 Gerlingen

4.3 Scope of delivery

Memosens cable
- 1 Memosens data cable, version as ordered
- 1 Operating Instructions BA00118C

CYK11 junction box
- Complete junction box, 6-position terminal, cable gland and/or M12 socket
- Securing plate
- Hose clip 40 to 60 mm (1.6 to 2.4 in)

4.4 Certificates and approvals

Current certificates and approvals for the product are available via the Product Configurator at www.endress.com.

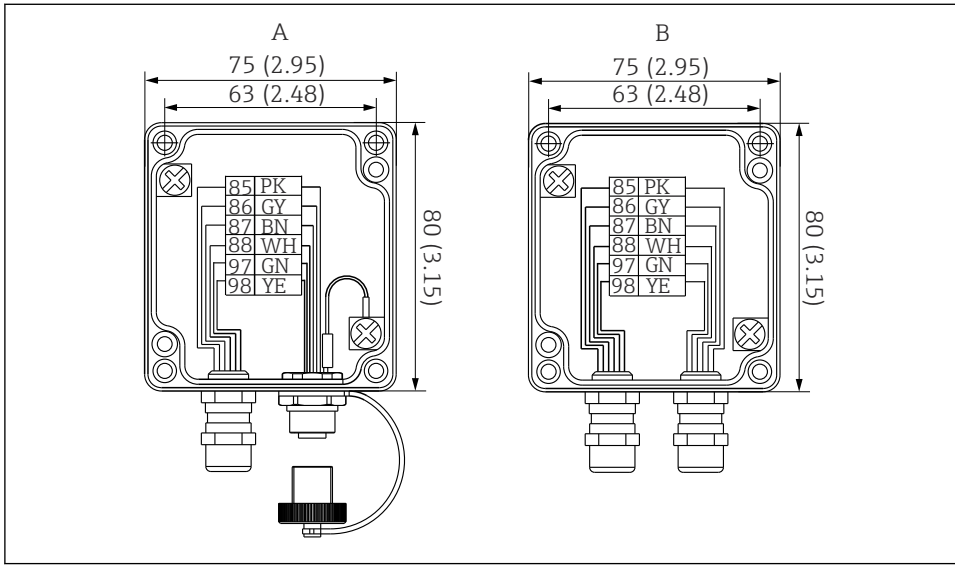
1. Select the product using the filters and search field.
2. Open the product page.

The **Configuration** button opens the Product Configurator.

5 Mounting

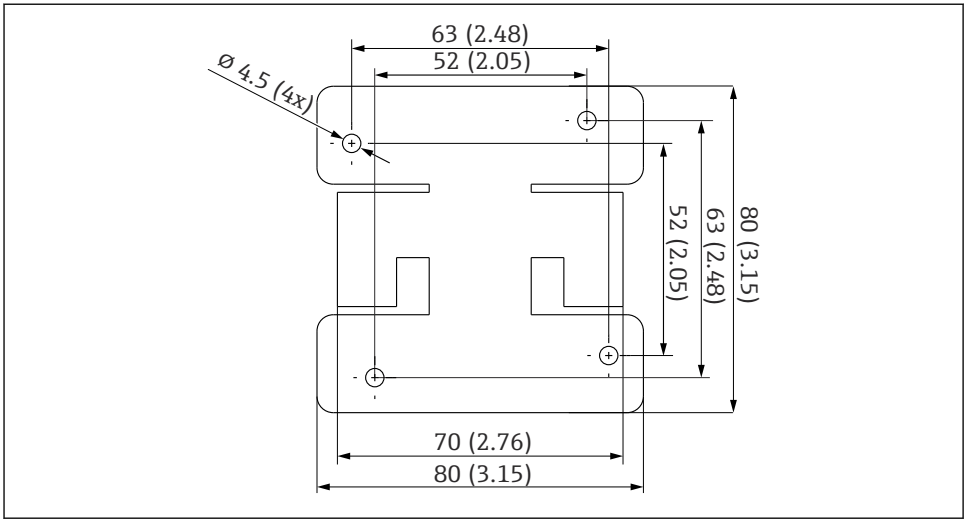
5.1 Mounting requirements

5.1.1 Dimensions



2 Versions of CYK11 junction box. Engineering unit: mm (in)

A Junction box, M12 socket/cable
B Junction box, cable/cable



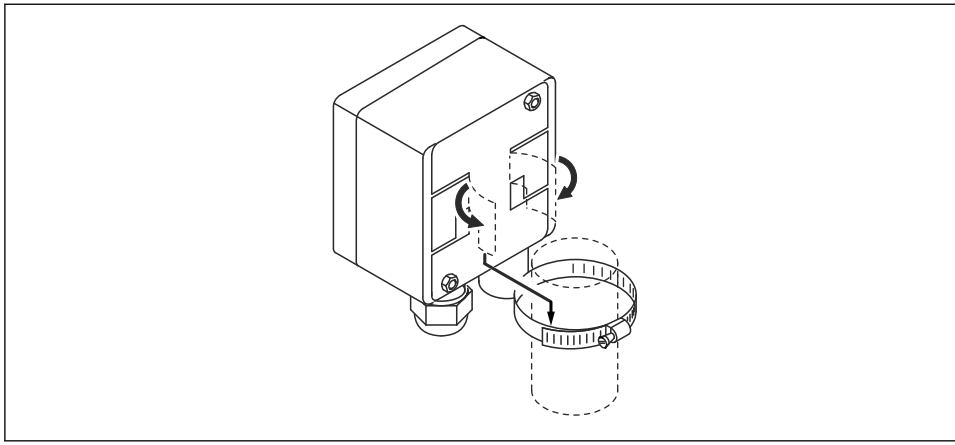
3 Securing plate. Engineering unit: mm (in)

5.2 Mounting the junction box

5.2.1 Mounting the CYK11 junction box on a wall

1. Remove the front cover of the junction box.
2. Mount the junction box in such a way that the cable is fed in from below.
3. Screw the housing of the junction box directly onto the wall or the securing plate. The securing plate can be used as a drilling template.

5.2.2 Mounting the CYK11 junction box on a pipe



A0031081

4 *Pipe mounting with securing plate*

1. Mount the junction box in such a way that the cable is fed in from below.
2. Screw the housing to the securing plate. This makes it possible to secure the box to horizontal or vertical pipes.
3. Secure the hose clip on the pipe.
4. Fix the loops under the clip.

6 Electrical connection

⚠ WARNING

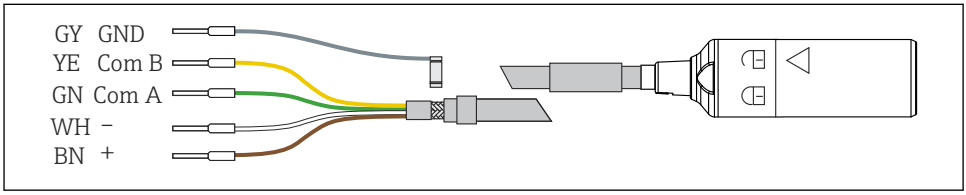
Device is live!

Incorrect connection may result in injury or death!

- The electrical connection may be performed only by an electrical technician.
- The electrical technician must have read and understood these Operating Instructions and must follow the instructions contained therein.
- **Prior** to commencing connection work, ensure that no voltage is present on any cable.

6.1 Connecting the CYK10

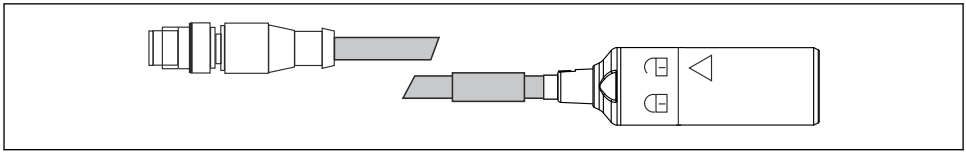
6.1.1 CYK10 with ferrules



5 Electrical connection, ferrules

Instead of grounding via GY, it is also possible to ground the device via the cable clamps in the transmitter.

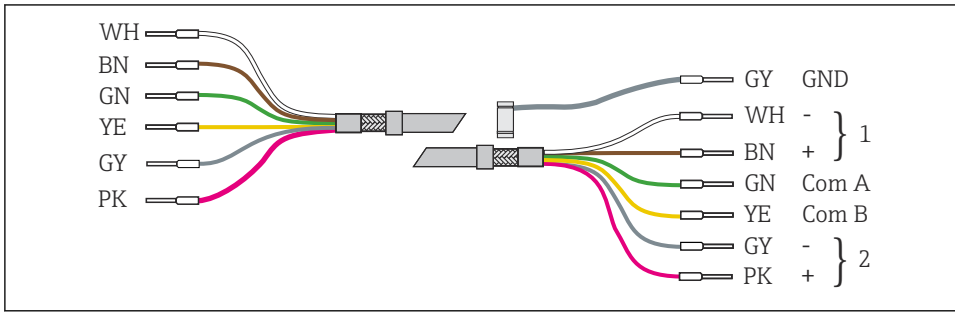
6.1.2 CYK10 with M12 plug



6 CYK10 with M12 plug, electrical connection

6.2 Connecting CYK11

6.2.1 CYK11 with ferrules



7 *Electrical connection, ferrules*

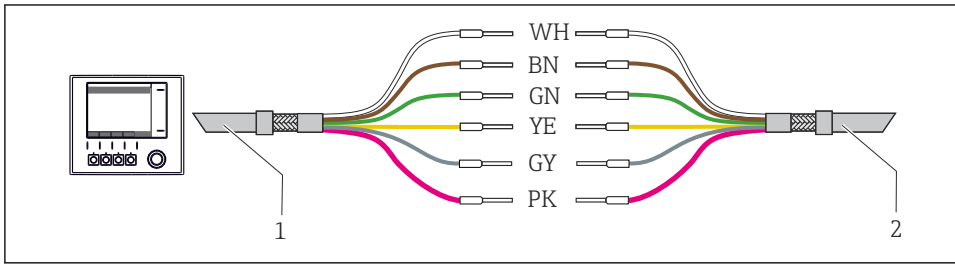
1 Memosens sensor
2 Fixed cable sensor

6.2.2 CYK11 and fixed cable sensor

The cable colors correspond to those of the sensors so direct through-cabling is possible.

Some fixed cable sensors work with the Memosens operating voltage and are connected like a Memosens sensor (e.g. CLS50D).

1. Before commissioning, check which power supply the sensor works with.
2. Connect the sensor in accordance with the power supply.



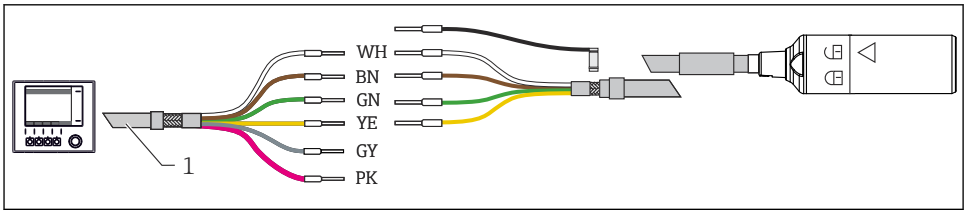
8 *Electrical connection, CYK11 and fixed cable sensor*

1 CYK11
2 Fixed cable sensor

6.2.3 CYK11 as extension for CYK10

The "GY" and "PK" wires are not required here.

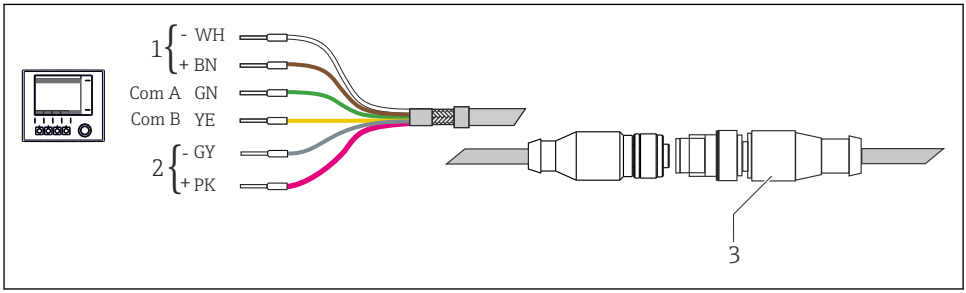
1. Route the wires to potentially isolated terminals.
2. Do not leave the wires exposed in the cable box.
3. Connect the shields of both cables. In the case of the cable-cable junction box, this is performed automatically via the shield contact in the cable glands.



9 *Electrical connection, CYK11 as extension for CYK10*

1 CYK11

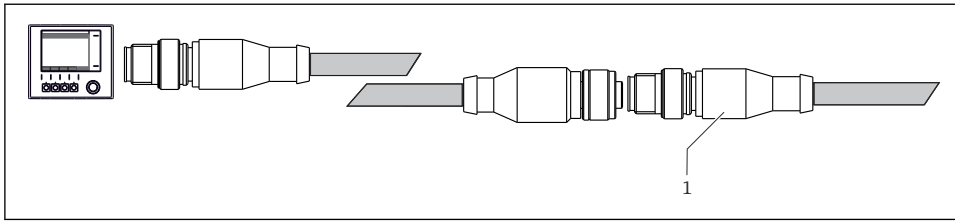
6.2.4 CYK11 with ferrule and M12 socket



10 *Electrical connection, CYK11 with ferrule and M12 plug*

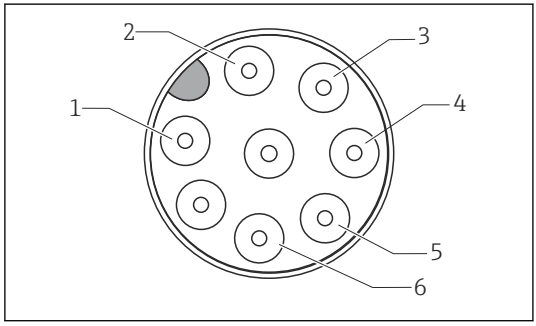
1 Memosens sensor
2 Fixed cable sensor
3 Memosens sensor via CYK10 with M12 plug / fixed cable sensor

6.2.5 CYK11 with M12 plug and M12 socket



11 Electrical connection, CYK11 with M12 plug and M12 socket

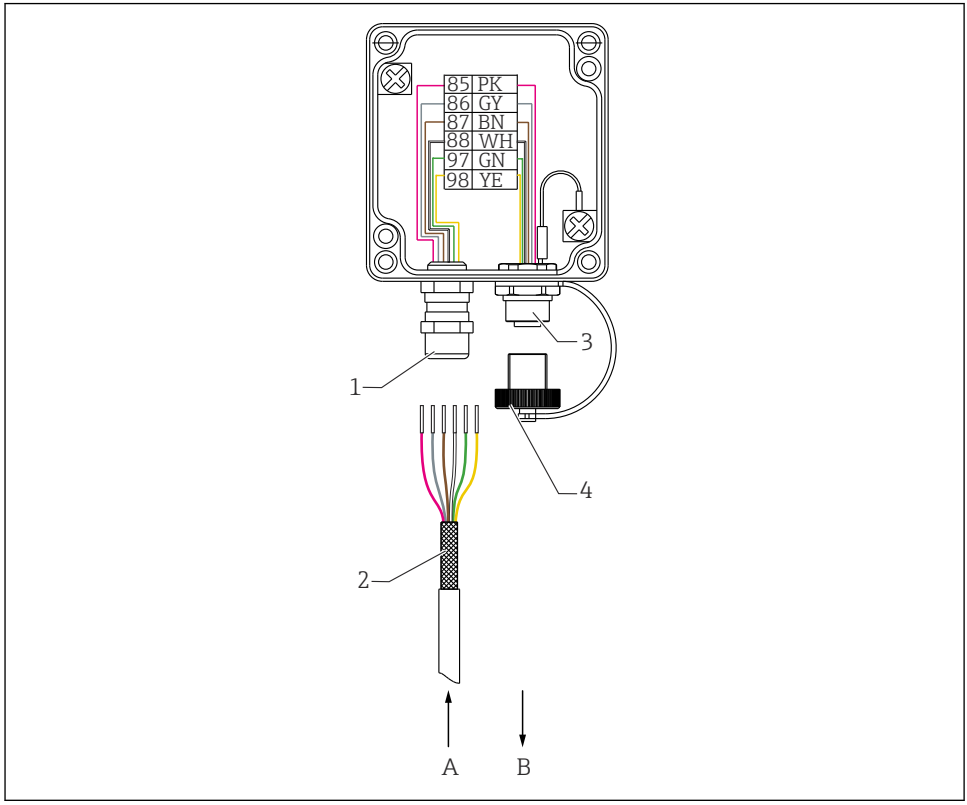
1 Fixed cable sensor / Memosens sensor via CYK10 with M12



1 $V_{Fixed\ cable\ sensor}$ (+24 V) (PK)
2 $GND_{Fixed\ cable\ sensor}$ (GY)
3 $V_{Memosens\ sensor}$ (BN)
4 $GND_{Memosens\ sensor}$ (WH)
5 RS 485 A (GN)
6 RS 485 B (YE)

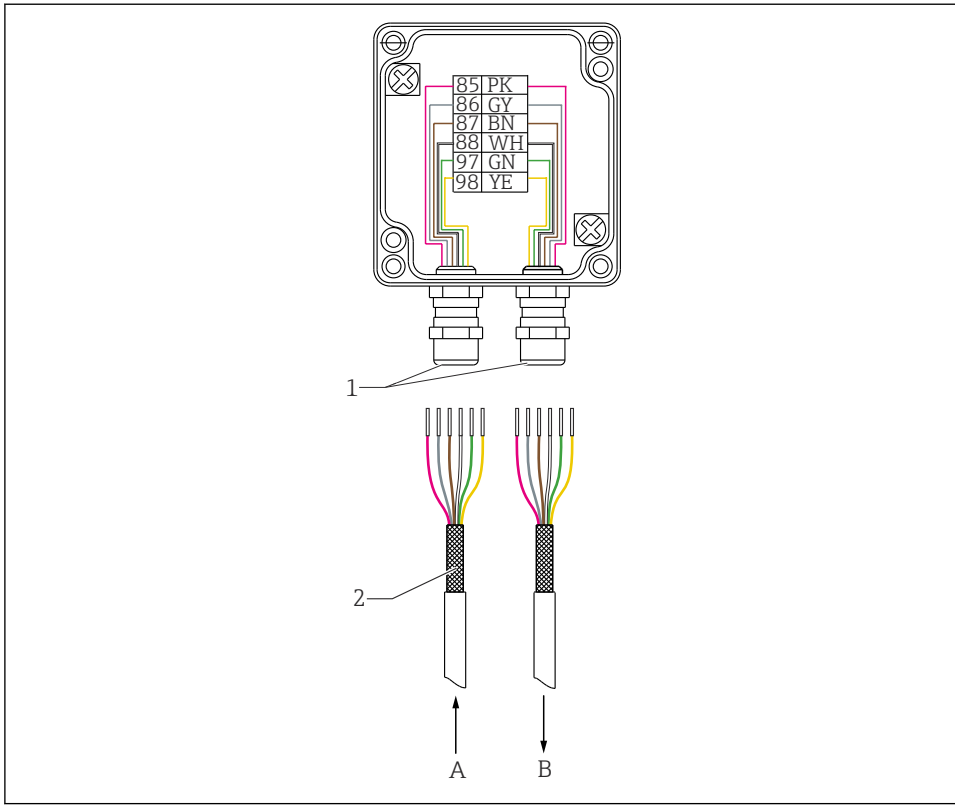
12 M12 plug assignment

6.3 Connecting the CYK11 junction box



13 *Electrical connection of CYK11 junction box, M12 socket/cable*

1 Cable gland - shield fixed in gland
2 Shielding
3 M12 built-in socket
4 Cover for M12 installation socket
A Transmitter
B Sensor



14 *Electrical connection of CYK11 junction box, cable/cable*

1 Cable gland - shield fixed in gland
2 Shielding
A Transmitter
B Sensor

Mounting the cable glands

1. Guide the connecting cable into the cable gland until the sheath is in contact with the inner contacting springs.
2. Tighten the cable gland (maximum 3 Nm (2.2 lbf ft)).
3. Connect the cable cores.

7 Repair

7.1 Return

The product must be returned if repairs or a factory calibration are required, or if the wrong product was ordered or delivered. As an ISO-certified company and also due to legal regulations, Endress+Hauser is obliged to follow certain procedures when handling any returned products that have been in contact with medium.

To ensure the swift, safe and professional return of the device:

- Refer to the website www.endress.com/support/return-material for information on the procedure and conditions for returning devices.

7.2 Disposal

The device contains electronic components. The product must be disposed of as electronic waste.

- Observe the local regulations.



If required by the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), the product is marked with the depicted symbol in order to minimize the disposal of WEEE as unsorted municipal waste. Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to Endress+Hauser for disposal under the applicable conditions.

8 Accessories

The following are the most important accessories available at the time this documentation was issued.

▶ For accessories not listed here, please contact your Service or Sales Center.

Junction box, M12 socket/cable
- Material: aluminum, painted
- Cable extension: Memosens sensors, Liquiline
- Order number: 71145498

Junction box, cable/cable
- Material: aluminum, painted
- Cable extension: Memosens sensors, Liquiline
- Order number: 71145499

9 Technical data

9.1 Cable specification

	CYK10	CYK11
Conductor/Construction	4 cores	6 cores
Outer diameter (mm)	6.3	6.3
Shielding	Yes	Yes
Bending radius solid	5xD	5xD
Bending radius flexible	10xD	10xD

9.1.1 Resistance

	CYK10	CYK11
UV-resistant	Yes	Yes
Free from ozone-depleting substances	Yes	Yes
Halogen-free	No	Yes
RoHS-compliant	Yes	Yes
Flame-resistant	Yes	Yes
Oil-resistant	-	Yes

9.2 Environment

9.2.1 Ambient temperature range

	CYK10	CYK11
Temperature minimum	−25 °C (−13 °F)	−30 °C (−22 °F)
Temperature maximum	135 °C (277 °F)	90 °C (194 °F)90 °C (194 °F)

9.2.2 Degree of protection

CYK10	CYK11
IP 68	IP 68
▪ Memosens: 1 bar (15 psi), 25 °C (77 °F), 1 mol/l KCl, 45 days ▪ M12: 0.1 bar (2 psi), 50 °C (122 °F), 3 mol/l KCl, 30 days	M12: 0.1 bar (2 psi), 50 °C (122 °F), 3 mol/l KCl, 30 days) applies only to M12 plug-in connections in mated condition

9.3 Mechanical construction

9.3.1 Dimensions

→ Section "Installation"

9.3.2 Materials

Data cable

	CYK10	CYK11
Sheath	TPE	TPE

Junction box

Junction boxes: aluminum

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