

# pH Measuring Cables and Accessories for Installation

## CPK 1/2/3/6/7/9/12, VBA, VBE

### Accessories for pH/redox measurement



CPK 9 / 12



CPK 6

#### Areas of application

pH electrodes have an extremely high impedance. Their typical resistance lies between 100 M $\Omega$  and 800 M $\Omega$ . The entire measuring system must be suitable for this resistance range. This is the reason why special measuring cables, connectors and junction boxes are used for both pH and redox measurement.

#### Benefits at a glance

- High measuring accuracy insulation resistance > 100 Tera $\Omega$ /metre
- Maximum reliability in industrial applications: entire cable is shielded to provide EMC interference protection
- Industrial quality and know-how: the mechanical stability of the measuring cables and the integrated semiconductor layer prevent measuring circuit contact and motion sensitivity
- Versatility: black cables for non-Ex applications, blue cables for Ex applications
- Waterproof connection (IP 68 / NEMA 6X) with TOP 68 connector
- Simple handling in the field with pre-assembled measuring cables
- Quality of junction boxes is on a par with measuring cables: high-impedance special terminals are standard

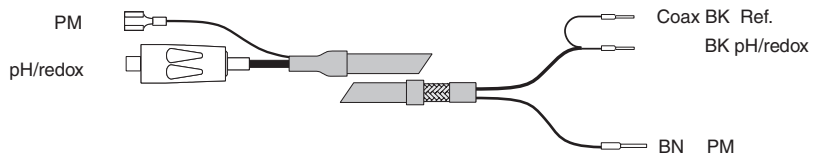
# Endress+Hauser

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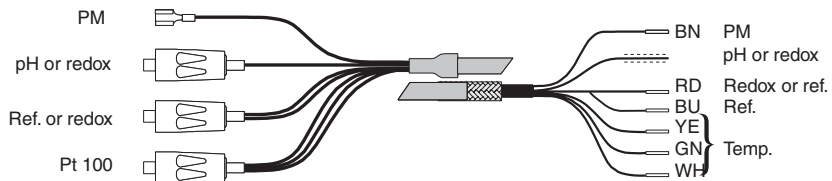


# Terminated pH/redox measuring cables

CPK 1  
(for plug-in heads  
GSA / SSA)



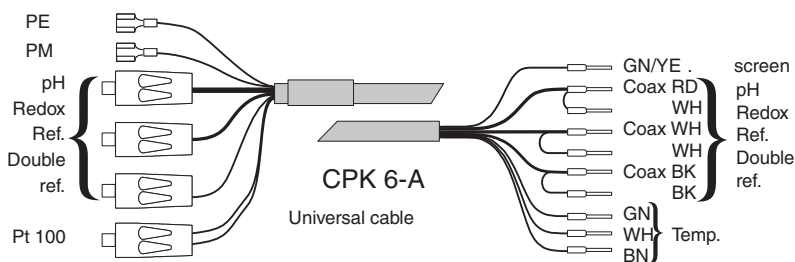
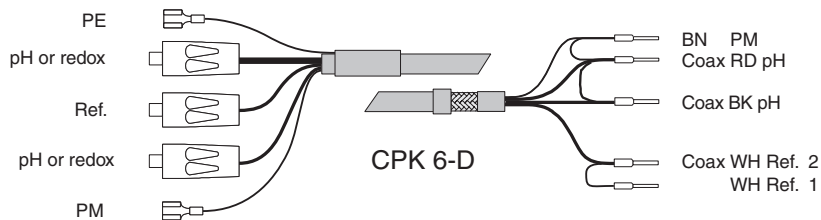
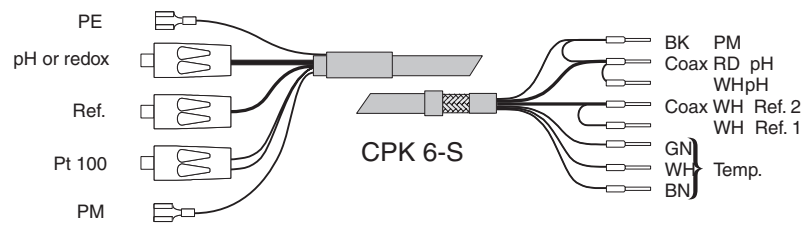
CPK 2  
(for plug-in heads  
GSA / SSA)



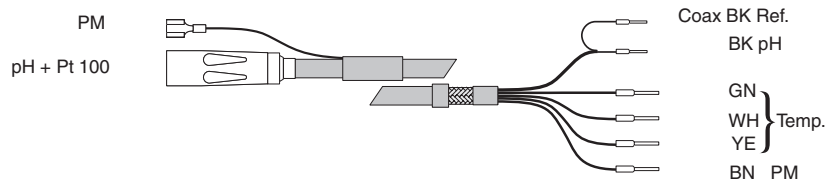
CPK 3  
(laboratory application  
plug-in head GSA)



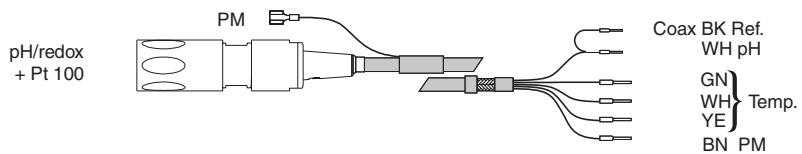
CPK 6  
(for plug-in heads  
GSA / SSA, especially  
for Sensopac CPA 320)



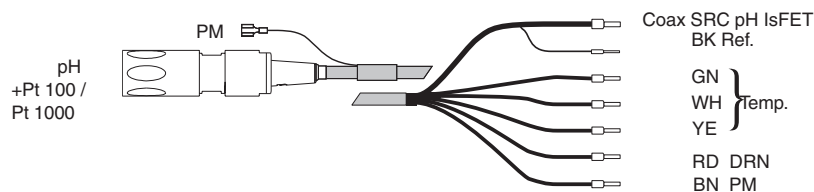
CPK 7  
for pH electrodes with  
a built-in temperature  
sensor (for plug-in heads  
TSA / TSS)



CPK 9  
for pH/redox  
electrodes with and  
without a built-in  
temperature sensor  
(for TOP 68 plug-in  
heads ESA / ESS)

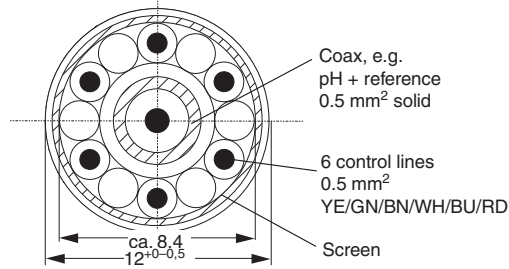


CPK 12  
for glass and IsFET-pH-  
electrodes with built-in  
temperature sensor  
(for TOP 68 plug-in  
heads ESA / ESB)



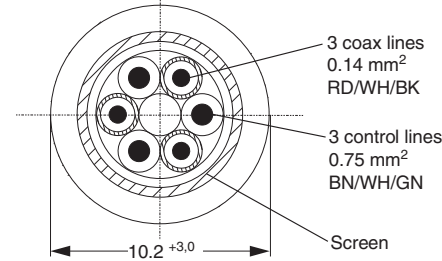
# Extension cables

PMK



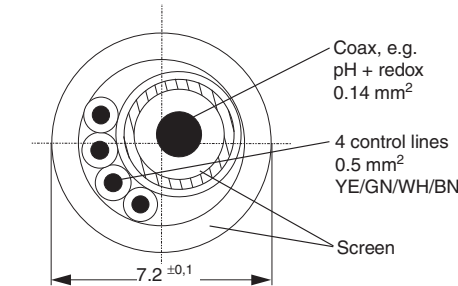
PMK, grey  
Extension cable for CPK 2

DMK



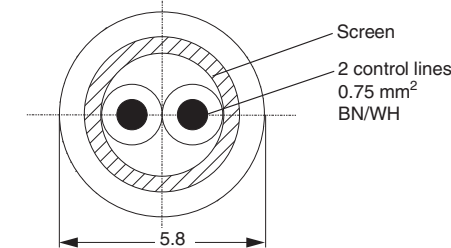
DMK, black  
DMK-Ex, blue  
Extension cable for CPK 6

CYK 71



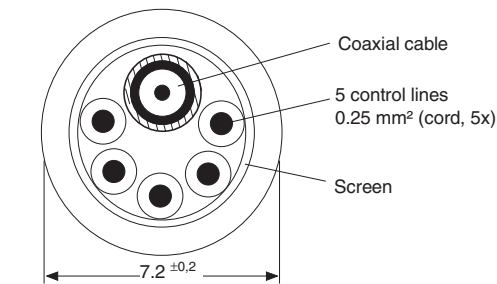
CYK 71, black  
CYK-Ex 71, blue  
Extension cable for CPK 1 / 7 / CPK 9

MK



MK, control line  
e.g. 0/4 ... 20 mA current output

CYK 12



CYK 12, black  
CYK 12-Ex, blue  
Extension cable for CPK 12  
for IsFET-pH-sensors

## Order numbers for cables sold by the metre

## Order-No.

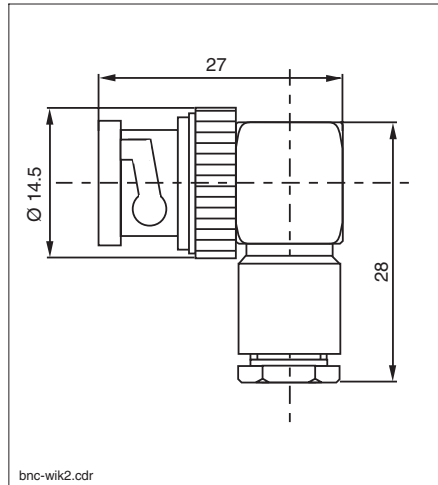
- PMK**  
 Special measuring cable with outer screen and special coaxial line 50005277
- DMK**  
 Connecting measuring cable consists of coaxial lines  
 DMK blue for Ex applications 50003864  
50003866
- CYK 71**  
 Measuring cable consists of coaxial line and 4 auxiliary cores  
 Measuring cable for Ex applications 50085333  
50085673
- MK**  
 2-core signal line with additional shield 50000662
- CYK 12**  
 Measuring cable consisting of 1 coaxial line and 5 control lines,  
 black 51506598  
 blue, for Ex-applications 51506616

# Connectors and junction boxes

*Left:*  
KS 3/5  
Electrode connector for coax cable 3 and 5 mm e.g. PMK, DMK

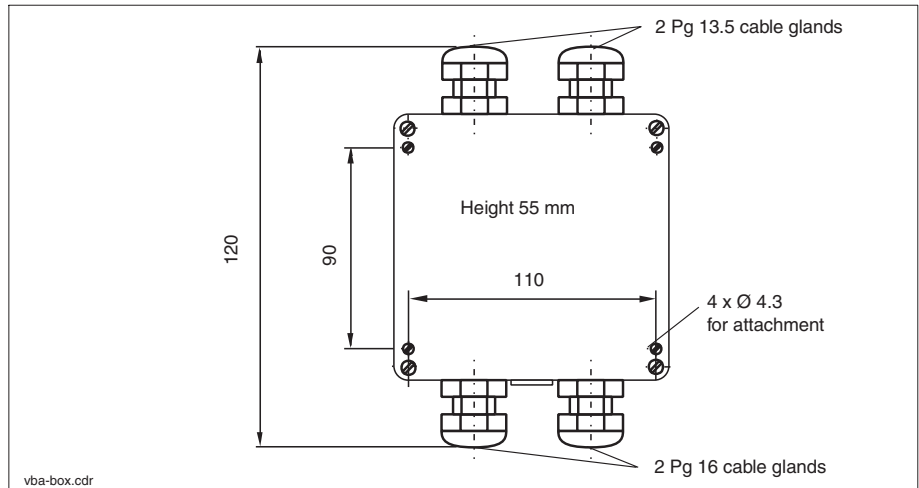
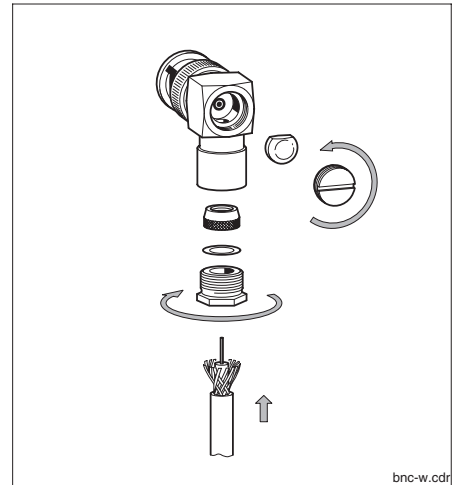
*Middle:*  
KS 0,75  
Electrode connector for 2/3 auxiliary cores, e.g. for DMK

*Right:*  
TOP 68  
Electrode connector for electrodes with ESA/ESS/ESB plug-in head

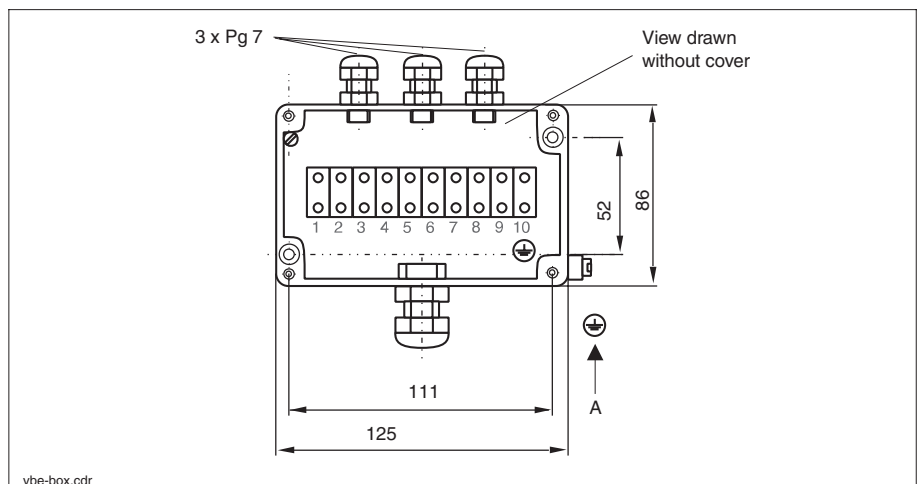


*Left:*  
BN elbow plug

*Right:*  
Assembly of BNC elbow plug



Junction box VBA  
IP 65, 10 high-impedance terminals



Junction box VBE  
for connection of Ex zone 0 electrodes to DMK or PMK

## Technical data

### General data

Manufacturer	Endress+Hauser
Product designation	CPK 1/2/3/6/7/9, VBA, VBE

### Measuring cable

Continuous temperature range (standard / high temperature)	-25 ... +80 °C / 0 ... 130 °C
Cable sheath (standard / high temperature)	PVC / TPE
Cable colour Non-Ex	grey or black
Cable colour Ex	blue
Capacitance (coax)	< 100 pF/m
Insulation resistance (coax)	> 10 <sup>14</sup> Ω/m
Inner conductor / control lines	copper, tin-coated
Insulation	PE/PVC

Subject to modifications.

## Accessories

- Adaption cable CPK7-TOP 68**  
For pH/redox electrodes with TSA/TSS plug-in head for connection to TOP 68 cable.

**Order no.**

51502138

## Supplementary documentation

### Technical Information

- pH/redox electrodes  
Orbisint CPS 11/12/13  
TI 028C/07/en
- pH/redox electrodes  
Ceraliquid CPS 41/42/43  
TI 079C/07/en
- pH/redox electrode  
Orbisint CPS 71/72  
TI 245C/07/en
- IsFET-pH-Sensor  
TopHit CPS 401  
TI 283C/07/en

**Order No.**

50054649

50059346

51505837

51506685





**Measuring cable CPK 12 (for glass or IsFET electrodes TopHit CPS 401 with ESA / ESB plug-in head, IP 68 / NEMA 6X)**

**Cable length**

- HA Length 5 m, TPE sheath, max. 130 °C
- HB Length 10 m, TPE sheath, max. 130 °C
- HC Length 15 m, TPE sheath, max. 130 °C
- HD Length 20 m, TPE sheath, max. 130 °C
- HF Length 5-50 m, TPE sheath, max. 130 °C
- HG Length 16-160 ft, TPE sheath, max. 130 °C

**Version**

- A Standard applications: black sheath
- Z Ex-i application: blue sheath

**Assembly**

- 1 Cable end sleeves to transmitter

**PM connection**

- A PM cable line externally with flat connector

CPK 12- [ ] [ ] [ ] [ ] [ ]

complete order code

**Endress+Hauser GmbH+Co.**  
**- Instruments International -**

P.O. Box 2222  
D-79574 Weil am Rhein  
Tel. (07621) 975 - 02  
Fax (07621) 975345

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