

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 Ω and 800 M Ω . 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 Ω /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

The Power of Know How



Terminated pH/redox measuring cables

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

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

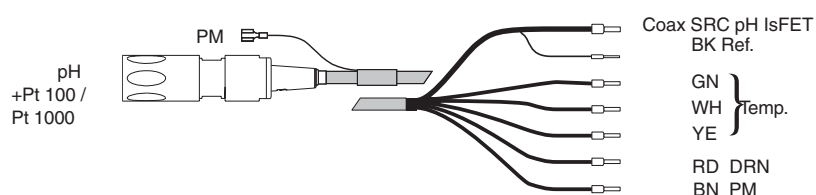
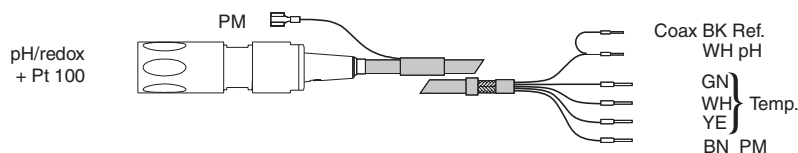
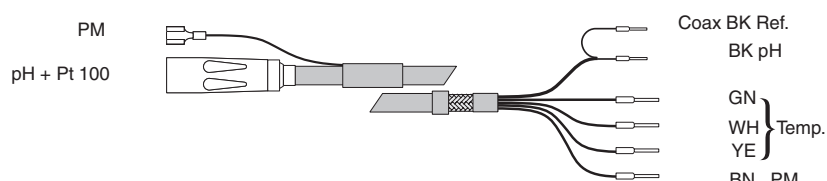
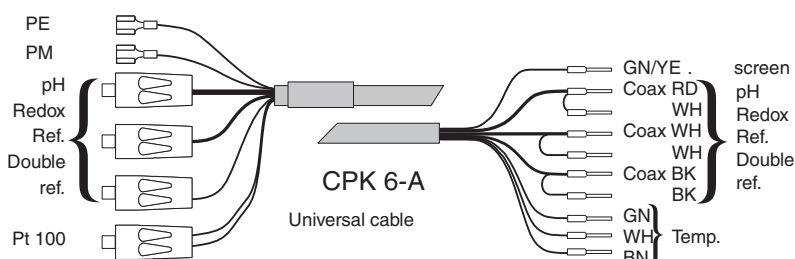
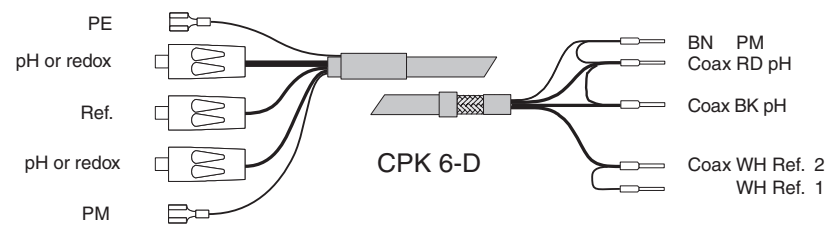
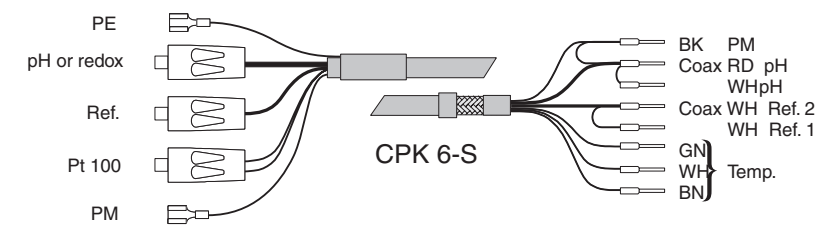
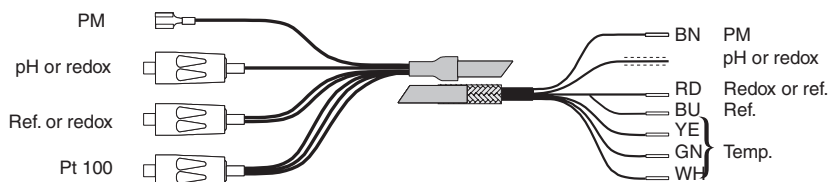
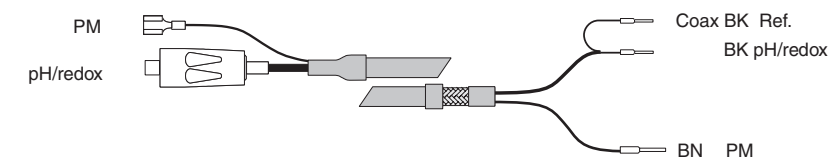
CPK 3
(laboratory application
plug-in head GSA)

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)

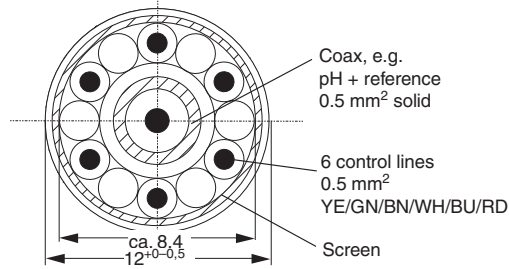
CPK 9
for pH/redox
electrodes with and
without a built-in
temperature sensor
(for TOP 68 plug-in
heads ESA / ESS)

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



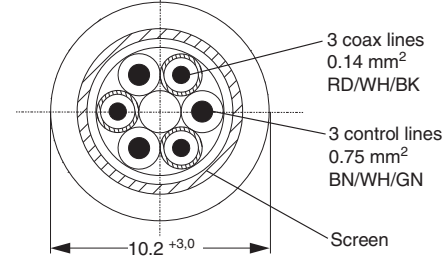
Extension cables

PMK



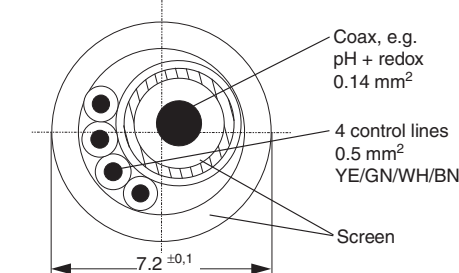
PMK, grey
Extension cable for CPK 2

DMK



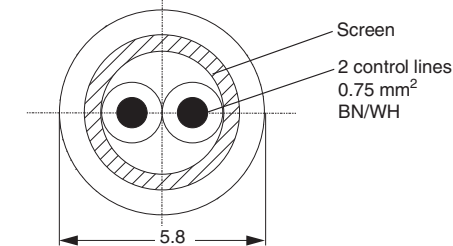
DMK, black
DMK-Ex, blue
Extension cable for CPK 6

CYK 71



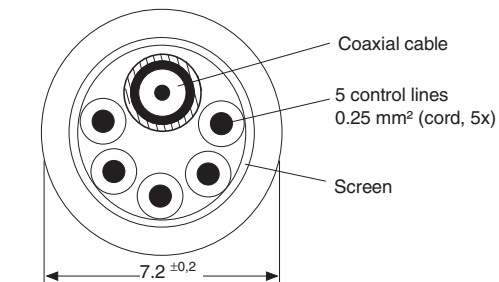
CYK 71, black
CYK-Ex 71, blue
Extension cable for CPK 1 / 7 / CPK 9

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.

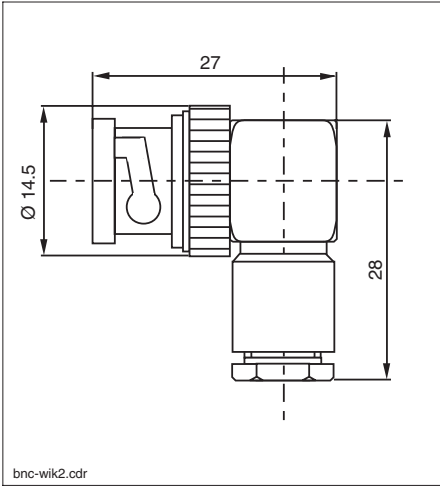
- | | |
|---|----------------------|
| ☐ PMK
Special measuring cable with outer screen and special coaxial line | 50005277 |
| ☐ DMK
Connecting measuring cable consists of coaxial lines
DMK blue for Ex applications | 50003864
50003866 |
| ☐ CYK 71
Measuring cable consists of coaxial line and 4 auxiliary 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
blue, for Ex-applications | 51506598
51506616 |

Connectors and junction boxes

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

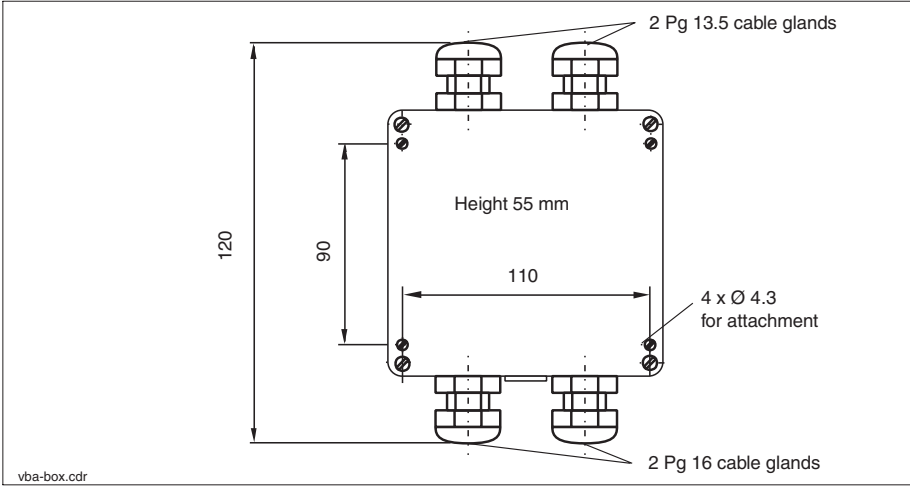
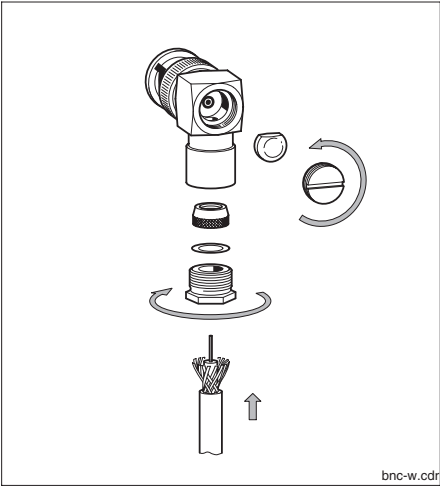
Middle:
KS 0,75
Electrode connector
for 2/3 auxiliary cores,
e.g. for DMK

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

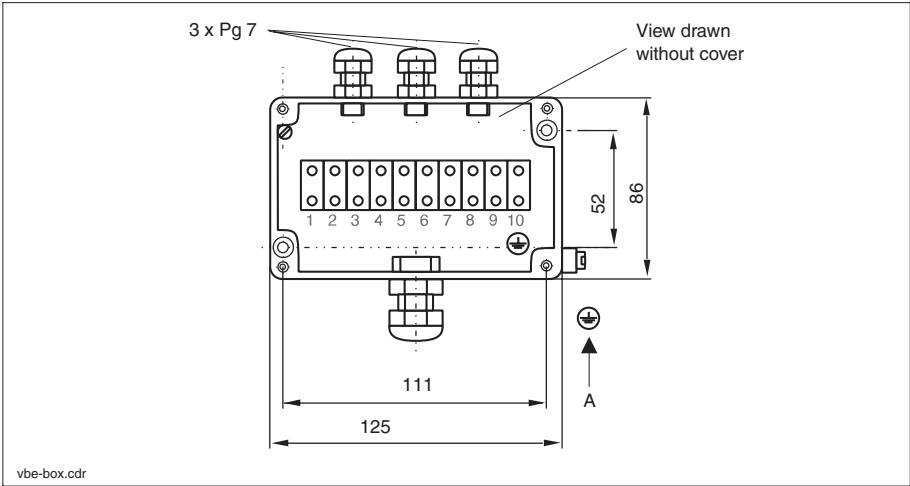


Left:
BN elbow plug

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 ¹⁴ Ω/m
Inner conductor / control lines	copper, tin-coated
Insulation	PE/PVC

Subject to modifications.

Accessories

Order no.

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

51502138

Supplementary documentation

Technical Information

Order No.

- ❑ 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

50054649

50059346

51505837

51506685

Product structure

Measuring cable CPK 1

Cable length

05 Length 5 metres, PVC sheath, max. 80 °C

10 Length 10 metres, PVC sheath, max. 80 °C

15 Length 15 metres, PVC sheath, max. 80 °C

20 Length 20 metres, PVC sheath, max. 80 °C

25 Length 25 metres, PVC sheath, max. 80 °C

30 Length 30 metres, PVC sheath, max. 80 °C

40 Length 40 metres, PVC sheath, max. 80 °C

99 Special length

Electrode connector

0 KS3/5 for NSA/GSA/SSA plug-in heads

1 CSB5 for NCA/GCA plug-in heads (sterilisable)

Version

A Standard application, colour black

Z Ex application, colour blue

CPK 1-

complete order code

Measuring cable CPK 2 (for Electrodes with GSA plug-in head)

Cable length

05 Length 5 metres, PVC sheath, max. 80 °C

10 Length 10 metres, PVC sheath, max. 80 °C

15 Length 15 metres, PVC sheath, max. 80 °C

20 Length 20 metres, PVC sheath, max. 80 °C

30 Length 30 metres, PVC sheath, max. 80 °C

40 Length 40 metres, PVC sheath, max. 80 °C

99 Special length

CPK 2-

complete order code

Measuring cable CPK 3

Cable length

01 Length 1.5 metres, PVC sheath, max. 80 °C

03 Length 3 metres, PVC sheath, max. 80 °C

05 Length 5 metres, PVC sheath, max. 80 °C

10 Length 10 metres, PVC sheath, max. 80 °C

15 Length 15 metres, PVC sheath, max. 80 °C

20 Length 20 metres, PVC sheath, max. 80 °C

99 Special length

Connection

K Connection without instrument connector

D Connection via DIN coaxial connector

B Connection via BNV connector

Electrode connector

0 KS3/5 for NSA/GSA/SSA plug-in heads

CPK 3-

complete order code

Measuring cable CPK 6 (for Electrodes with GSA plug-in head)

Cable length

05 Length 5 metres, PVC sheath, max. 80 °C
 10 Length 10 metres, PVC sheath, max. 80 °C
 15 Length 15 metres, PVC sheath, max. 80 °C
 99 Special length

Electrode connector

S for double reference and 1 pH/redox electrode, Pt 100
 D for double reference and 2 pH/redox electrodes
 A 4-electrode connectors for special electrode configurations

Version

A Standard application, colour black
 Z Ex application, colour blue

CPK 6- complete order code

Measuring cable CPK 7 (pH electrodes with TSA plug-in head)

Cable length

05 Length 5 metres, PVC sheath, max. 80 °C
 10 Length 10 metres, PVC sheath, max. 80 °C
 15 Length 15 metres, PVC sheath, max. 80 °C
 20 Length 20 metres, PVC sheath, max. 80 °C
 25 Length 25 metres, PVC sheath, max. 80 °C
 88 m length (1 ... 10 m, selectable), PVC sheath, max. 80 °C
 89 ft length (3 ... 300 ft, selectable), PVC sheath, max. 80 °C

Version

A Standard application, colour black
 Z Ex application, colour blue

CPK 7- complete order code

Measuring cable CPK 9 (pH electrodes with ESA / ESS plug-in head, high-temperature applications, IP 68 / NEMA 6X)

Cable length

NA Length 5 m, PVC sheath, max. 80 °C
 NB Length 10 m, PVC sheath, max. 80 °C
 NC Length 15 m, PVC sheath, max. 80 °C
 ND Length 20 m, PVC sheath, max. 80 °C
 NE Length 25 m, PVC sheath, max. 80 °C
 NF m length (5 ... 100 m, selectable), PVC sheath, max. 80 °C
 NG ft length (15 ... 300 ft, selectable), PVC sheath, max. 80 °C
 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
 HE Length 25 m, TPE sheath, max. 130 °C
 HF m length (5 ... 100 m, selectable), TPE sheath, max. 130 °C
 HG ft length (15 ... 300 ft, selectable), TPE sheath, max. 130 °C

Version

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

Assembly

1 Cable end sleeves to transmitter
 9 Special version

PM connection

A PM cable line externally with flat connector
 B PM cable line internally (e.g. for CPF 91)
 C no PM cable line (no symmetrical measurement)

CPK 9- complete order code

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-

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 complete order code

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