Conductivity Transmitter
- Type CONDUTEC -

Hengesbach
Prozessmesstechnik

FEATURES

- PRODUCT MONITORING AND QUALITY CONTROL

- FOR STEERING AND CONTROL OF CIP PROCESSES, MEASURING SURFACTANTS CONCENTRATION, MONITORING OF CONDENSATE CYCLES

- 2 SWITCHABLE MEASURING RANGES, 0...500mS/cm

- WIDE RANGE OF HYGIENIC PROCESS CONNECTIONS

- AVAILABLE AS COMPACT UNIT OR SPLIT VERSION

- OUTPUT FOR CONDUCTIVITY AND TEMPERATURE, 4...20mA EACH

- SMOOTH SENSOR, NO RISK OF CLOGGING

- RESISTANT AGAINST CONTAMINATION

DESCRIPTION

The conductivity transmitter CONDUTEC is suited for the measurement of conductivity, measurement of purity or concentration in liquids in processes in the beverage industry. With the wide range of hygienic process connections the CONDUTEC is predestined for the use in applications with high hygienic requirements, i. e. in the food and beverage industry.

High accuracy and resistance against contamination of the electrodes is achieved by using 4 electrode conductivity cells.
Another advantage is the wide range of applications with only one measuring cell.
An influence of the measuring cells through polarisation effects or electrical resistance of the cable can not be measured.

Programming is done by the membrane keyboard on the front combined with a 2-line LCD display. The alarm outputs can be programmed as min. or max. function, the switching states are shown in the LCD display. A second measuring range for conductivity can be activated with an external control signal.

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Conductivity Transmitter
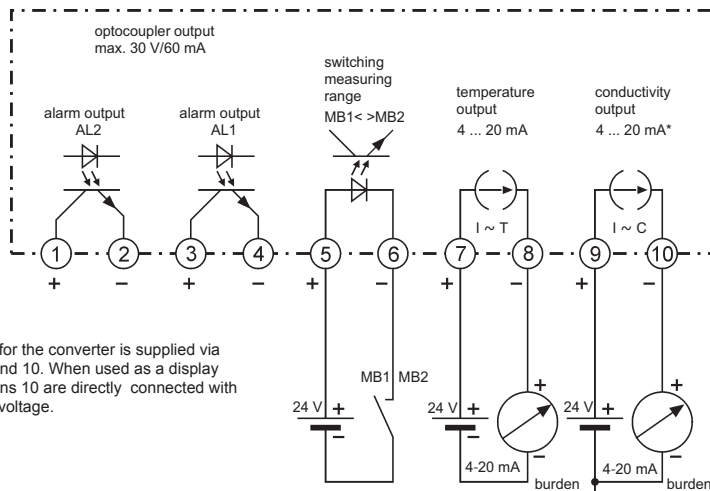# - Type CONDUTEC -

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TECHNICAL DATA

General information	
Device type/measuring principle	CONDUTEC / conductivity measurement

Input	
Measuring range	0...500mS/cm
Measuring rate	approx. 3/seconds
Temperature sensor	Pt1000 acc. to DIN IEC 751
Temperature measuring range	-40...+160°C

Conductivity output	
Output signal	2-wire: 4...20mA
Cell constant	programmable in the range of 0,08...4,0
Standard error	± 0,5% from measure value ± 2 digit
Temperature coefficient	< 100ppm/°C
Temperature compensation	linear programmable in range 0,0...8,0%/°C

Temperature output	
Output signal	2-Leiter: 4...20mA
Burden	$R_A = (U_B - 14V) / 0{,}02A$

Alarm output	
Transistor	2x transistor output, 14...30V DC, max. 60mA
Voltage drop	< 2V

Measuring range switching	
R_i	> 10kΩ
MB1 active	U=0...3V DC
MB2 active	U=12...30V DC

Conditions of use	
Installation position	unsuitable for transom mounting; otherwise arbitrarily
Medium temperature	-10...+120°C (short duration 140°C for max. 30 min)
Environmental temperature	0...+50°C
Protection class EN60529	IP 65
Electromagnetic compatibility	acc. to EN 50022, DIN IEC 61000-4-3/4/5

Construction	
Electrical connection	- Standard: M20x1.5 cable screw connection - Optional: M12x1 round plug-in connector, nickel-plated brass (stainless steel available on request)
Process connection	- Clamp DIN 32676, DN25/DN32/DN40 - Tapered Union with grooved union nut DIN 11851, DN25 - Tapered Union with grooved union nut DIN 11851, DN40 - Conical coupling with grooved union nut DIN 11851, DN50 - Conical coupling with grooved union nut DIN 11851, DN65 - modular system PZM - VARIVENT® Ø=50mm (F) - VARIVENT® Ø=68mm (N)
Materials	- Housing: Polyamide, PA6-GF/GK 15/15 - Front cover display: Polyester - Process connection/sensor: PEEK, PVDF, CrNi Wkst. 1.4404, graphite, gasket EPM 80 - with FDA certification
Type	- Compact: sensor and transmitter assembled as one unit - Splitted: sensor and transmitter separate; connected by 5m, 10m or 20m cable
Display	- LCD-dot display, 3.8mm height, 2 lines with 16 characters - Display range conductivity: 500...9999 Digit - Unit conductivity adjustable: µS/cm, mS/cm, kΩ/cm, MΩ/cm - Unit temperature adjustable: °C, °F

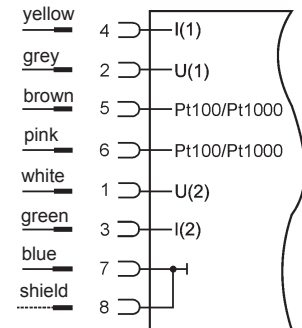| Auxiliary energy	
Supply voltage	14...30V DC, 2-wire system

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ELECTRICAL CONNECTION

optocoupler output
max. 30 V/60 mA

alarm output
AL2

alarm output
AL1

switching
measuring
range
MB1< >MB2

temperature
output
4 ... 20 mA

conductivity
output
4 ... 20 mA*

I ~ T

I ~ C

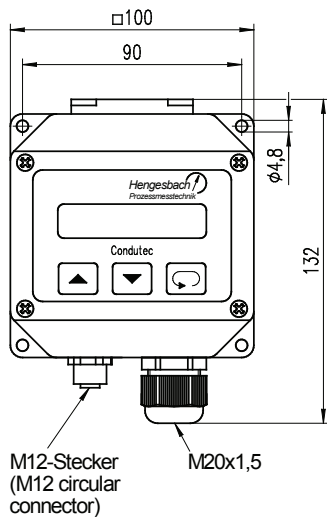| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| + | − | + | − | + | − | + | − | + | − |

* The power for the converter is supplied via
terminals 9 and 10. When used as a display
terminals 9 ans 10 are directly connected with
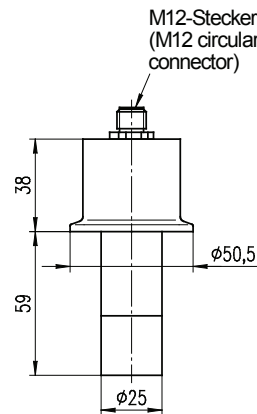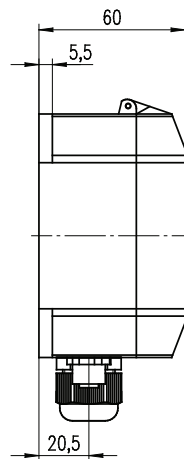the auxiliary voltage.

MB1 MB2

24 V +

24 V +
4-20 mA
burden

24 V +
4-20 mA
burden

8-pole round plug connector
for the measuring cell

yellow	4	I(1)
grey	2	U(1)
brown	5	Pt100/Pt1000
pink	6	Pt100/Pt1000
white	1	U(2)
green	3	I(2)
blue	7	
shield	8	

TECHNICAL DRAWINGS (dimensions in mm)

□100
90
60
5,5
Ø4,8
132
20,5

M12-Stecker
(M12 circular
connector)

M20x1,5

Converter-Gehäuse
converter housing

M12-Stecker
(M12 circular
connector)
38
59
Ø50,5
Ø25

Clamp DIN 32676
DN25-DN40 (C4)

M12-Stecker
(M12 circular
connector)
38
59
Ø25
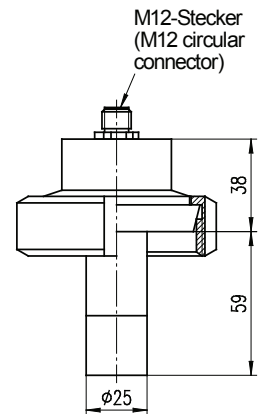
Kegelstutzen DIN 11851
conical nozzle DIN 11851
DN25 (M2), DN40 (M4),
DN50 (M5), DN65 (M6)

□100 x 60
87
SW 41
(Einschweißmuffe)
(welded socket)
11
Ø25
O-Ring: EPM (FDA)

Modularsystem PZM (PZM)

□100 x 60
64
17
11
Ø24,5
Ø50
Ø66
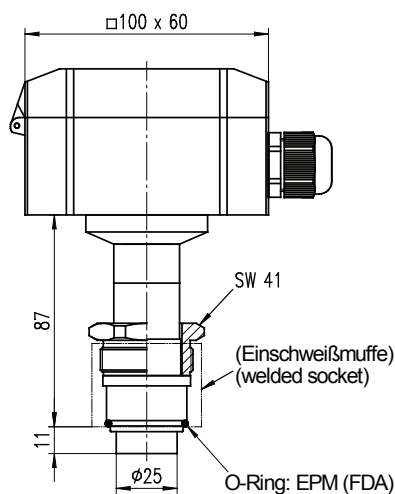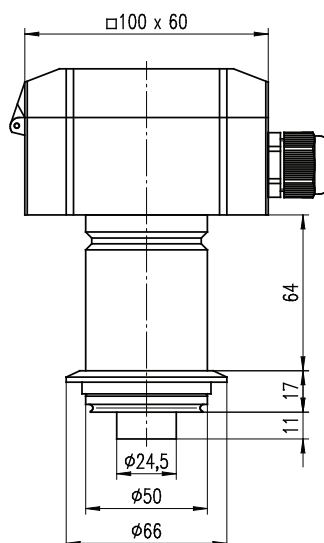
VARIVENT-Flansch Ø50 (V5)
VARIVENT-flange Ø50 (V5)

□100 x 60
64
17
11
Ø24,5
Ø68
Ø84
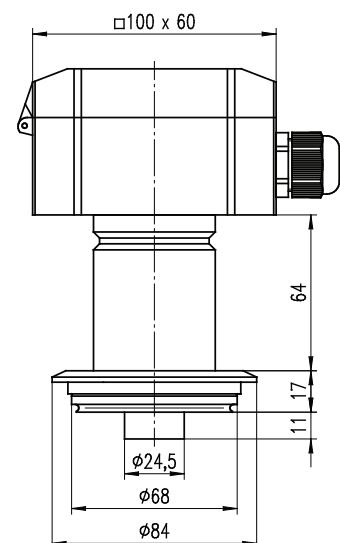
VARIVENT-Flansch Ø68 (V8)
VARIVENT-flange Ø68 (V8)

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ORDER INFORMATION for CONDUTEC

Device type CONDUTEC

K	Compact unit
G	Splitted unit

Prozess connection

C4	Clamp acc. to DIN32676, DN25 / DN32 / DN40
M2	Conical coupling with groove union nut acc. to DIN 11851, DN25
M4	Conical coupling with groove union nut acc. to DIN 11851, DN40
M5	Conical coupling with groove union nut acc. to DIN 11851, DN50
M6	Conical coupling with groove union nut acc. to DIN 11851, DN65
PZM	Modular system PZM
V5	VARIVENT® Ø=50mm (F)
V8	VARIVENT® Ø=68mm (N)

Length reference cable

00	without reference cable
05	5m, 8-pole, shidded PVC cable with round plug connector M12x1
10	10m, 8-pole, shidded PVC cable with round plug connector M12x1
20	20m, 8-pole, shidded PVC cable with round plug connector M12x1

Electrical connection sensor (only with splitted version)

S	standard - nickel-plated brass
E	stainless steel

Electrical connection

00	cable screw connection M20x1,5
H4	round plug-in connector M12x1, 4-polig

CONDUTEC	K		00		

CONDUTEC	G				

ORDER INFORMATIONEN for accessories CONDUTEC

Accessories / process connection adapter (please order separately)	Artikelnummer
Conductivity transducer standard (S) – connection	CDT_MWU2024317
Conductivity transducer stainless steel (E) – connection	CDT_MWU2034317
Measuring cell Clamp DN40 standard (S)	CDT_MZ_C4433C0,405
Measuring cell Clamp DN40 stainless steel (E)	CDT_MZ_C4433C0,419
Conical coupling with grooved union nut DIN11851 DN25 standard (S)	CDT_MZ_MN4733DN25C0,405
Conical coupling with grooved union nut DIN11851 DN25 stainless steel (E)	CDT_MZ_MN4733DN25C0,419
Conical coupling with grooved union nut DIN11851 DN40 standard (S)	CDT_MZ_MN4733DN40C0,405
Conical coupling with grooved union nut DIN11851 DN40 stainless steel (E)	CDT_MZ_MN4733DN40C0,419
Conical coupling with grooved union nut DIN11851 DN50 standard (S)	CDT_MZ_MN4733DN50C0,405
Conical coupling with grooved union nut DIN11851 DN50 stainless steel (E)	CDT_MZ_MN4733DN50C0,419
Conical coupling with grooved union nut DIN11851 DN65 standard (S)	CDT_MZ_MN4733DN65C0,405
Conical coupling with grooved union nut DIN11851 DN65 stainless steel (E)	CDT_MZ_M4733DN65C0,419
PZM standard (S)	CDT_MZ_PZMC0,405
PZM stainless steel (E)	CDT_MZ_PZMC0,419
VARIVENT® flange DN50 standard (S)	CDT_MZ_VA4533DN50C0,405
VARIVENT® flange DN50 stainless steel (E)	CDT_MZ_VA4533DN50C0,419
VARIVENT® flange DN68 standard (S)	CDT_MZ_VA4533DN68C0,405
VARIVENT® flange DN68 stainless steel (E)	CDT_MZ_VA4533DN68C0,419

Please observe the permissible nominal pressure of the process connection selected.
All specifications and certifications specified are only guaranteed when Hengesbach original components are used.
Our devices are subject to constant development; subject to technical modification.

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