

Measuring Range 100 $\mu\text{S}/\text{cm}$ - 2 S/cm or 0.5 $\Omega\cdot\text{cm}$ - 10 $\text{k}\Omega\cdot\text{cm}$



PVDF - Version


PEEK - Version

Advantages / Benefits

► *Easy* to commission with **TEACH-IN** function



► *Easy* to install with **SIMULATION** function

► *Easy* system integration by  provides low **Total Cost of Ownership**

► **Un**sensitive against polluted fluids

► **PEEK/PPA** version for **CIP** applications

Design

The conductivity transmitter type 8226 compactly combines a conductivity sensor and a transmitter with display in splash-proof plastic IP 65 housing. The sensor component consists of a pair of magnetic coils in a PVDF or PEEK housing.

In order to measure conductivity, an AC voltage source is connected to the primary magnetic coil. The magnetic field induced generates a current in the secondary magnetic coil. The intensity of the induced current is a direct function of the conductivity of the solution.

The integrated temperature sensor for automatic compensation is a standard feature in the sensor housing.

The transducer component converts the measured signal and displays the actual value.

The transducer type 8226 functions in a 3-wire circuit and requires a power supply of 12...30 V/DC.

A 4...20 mA standard signal is available as output signal, proportional to the conductivity or the temperature of the fluid. The setpoint values of the relays are freely adjustable.

A wide range of stainless steel, brass and plastic fittings is available. (see corresponding ordering data)

Application

Conductivity measurements

Waste engineering

Contaminated liquids

Liquids with particles

Liquids with coating and sealing build up

Clean in place (CIP)

bürkert
Fluid Control Systems

The Easy conductivity - control system

<p>ON/OFF process control</p>	<p>8226 Transmitter</p>	<p>Applications:</p>
<p>Description: ON/OFF valve</p>		<ul style="list-style-type: none"> • Neutralization • Dosing • Waste water processing • Cleaning in process (CIP)
<p>Continuous process control</p>	<p>8226 Transmitter</p>	<p>Applications:</p>
<p>Description: Continuous control valve</p>		<ul style="list-style-type: none"> • Water monitoring • Continuous chemical dosing • Waste water treatment

Design

The conductivity measuring system is available as a compact version type 8226. The cell constant is an average value over the hole measuring range. It can be re-adjusted depending on application. The temperature sensor for automatic compensation is a standard feature in the conductivity sensor housing. The 8226 inductive conductivity transmitter output signal is a standard 4...20 mA signal. Optional with two freely adjustable relay outputs.

Principle of operation

The conductivity is defined as the ability of a solution to conduct electrical current. The load carriers are ions (e.g. dissolved salts or acids). In order to measure conductivity, an AC voltage source is connected to the primary magnetic coil. The magnetic field induced generates a current in the secondary magnetic coil. The intensity of this induced current is a direct function of the conductivity of the solution. The transmitter without relays or with 2 additional relays functions in a 3-wire circuit. Limit values are freely adjustable.

Installation

A The inductive conductivity transmitter type 8226 is mounted in vertical position (max. $\pm 90^\circ$) into a horizontal pipe.

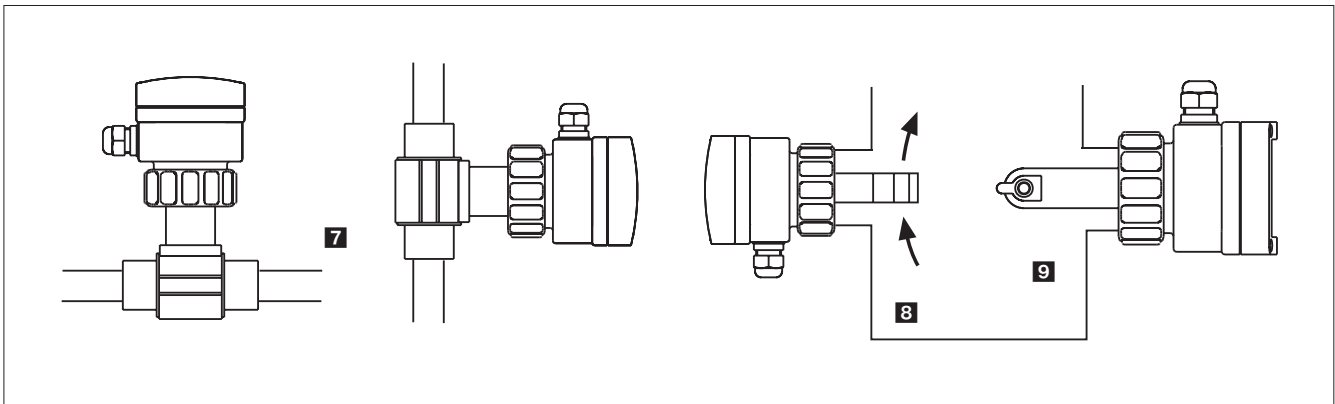
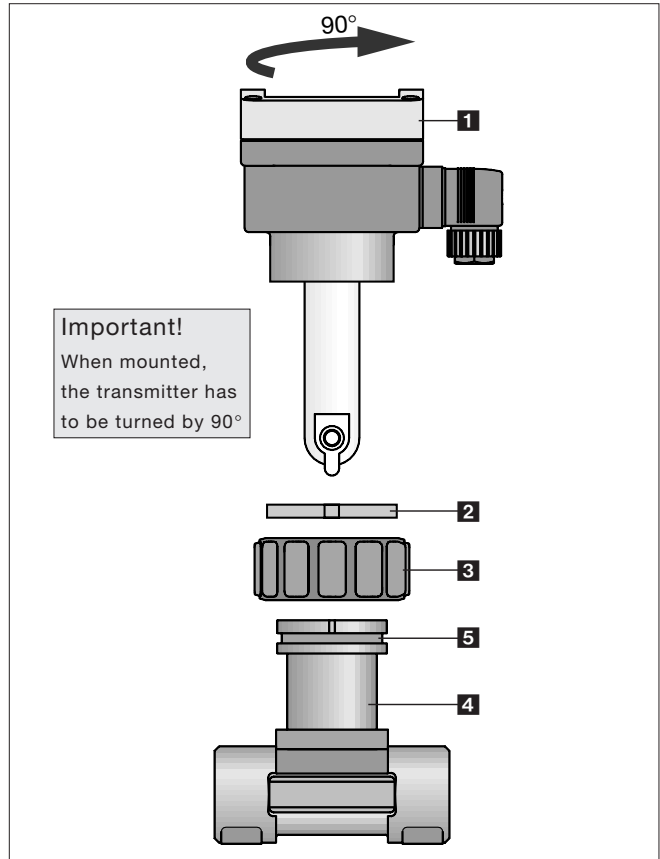
B The inductive conductivity transmitter 8226 can be easily installed into pipes using our specially designed fitting system:

1. The fitting **4** must be installed into the pipe acc. to the installation specifications.
2. Insert plastic nut **3** into fitting and let plastic ring **2** snap into guide bush **5**.
3. Carefully insert transmitter **1** into fitting. If installed properly, the transmitter cannot be rotated.
4. Tighten transmitter housing to fitting with plastic nut **3**.

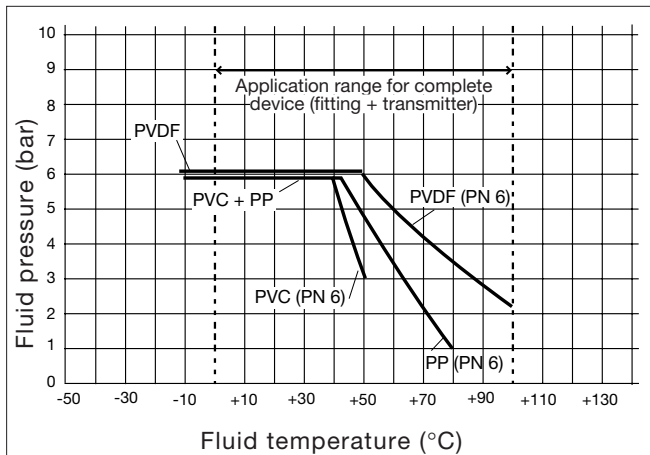
C The device must be protected against constant heat radiation and other environmental influences, such as magnetic fields or direct exposure to sunlight.

D The device can be mounted in following positions:

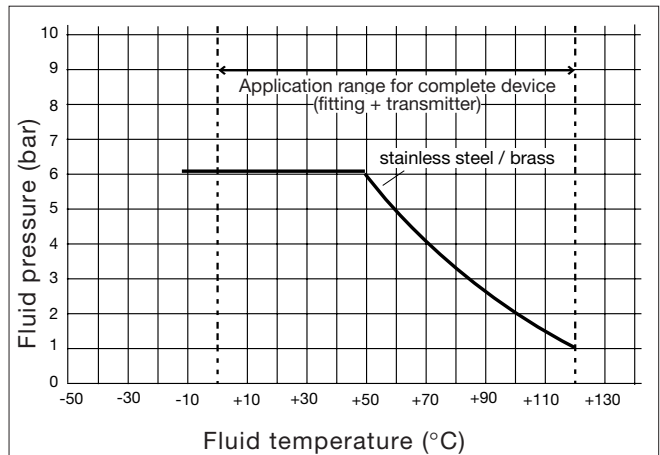
- 7** Horizontal or vertical
- 8** Mounting in tank without mixer
- 9** Mounting in tank with mixer



Pressure-Temperature-Diagram (plastic fittings):



Pressure-Temperature-Diagram (metal fittings):

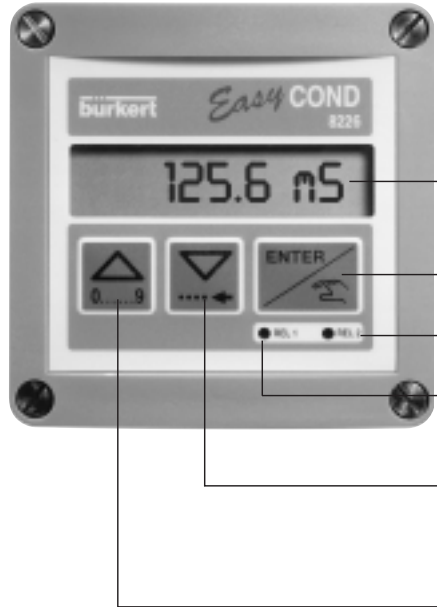


Operation / Commissioning

Customized adjustments, such as measuring ranges, engineering units and alarm setpoints can be carried out menu-supported on site via a multi-lingual display. Please consider the respective operating instructions prior to commissioning the devices.

The operation of the conductivity transmitter is classified in the following 3 different menus:

- Main menu**
 - Conductivity
 - Temperature
 - Output current
 - HOLD function
- Calibration menu**
 - Language
 - Engineering units
 - Cell constant
 - Temperature compensation
 - Measuring range 4... 20 mA
 - Relay function
 - Filter selection
- Test menu**
 - Offset
 - Span
 - Conductivity non compensated
 - Simulation of conductivity



- Display type 8226**
 - 8 digits alphanumeric
- Description of buttons**
 - Acceptance of chosen parameter or adjusted value
 - LED relay 2 (contact closed)
 - LED relay 1 (contact closed)
 - Direction downwards in menu or sideways for digit selection
 - Display selection and increasing key (numeric values) impulses or automatic

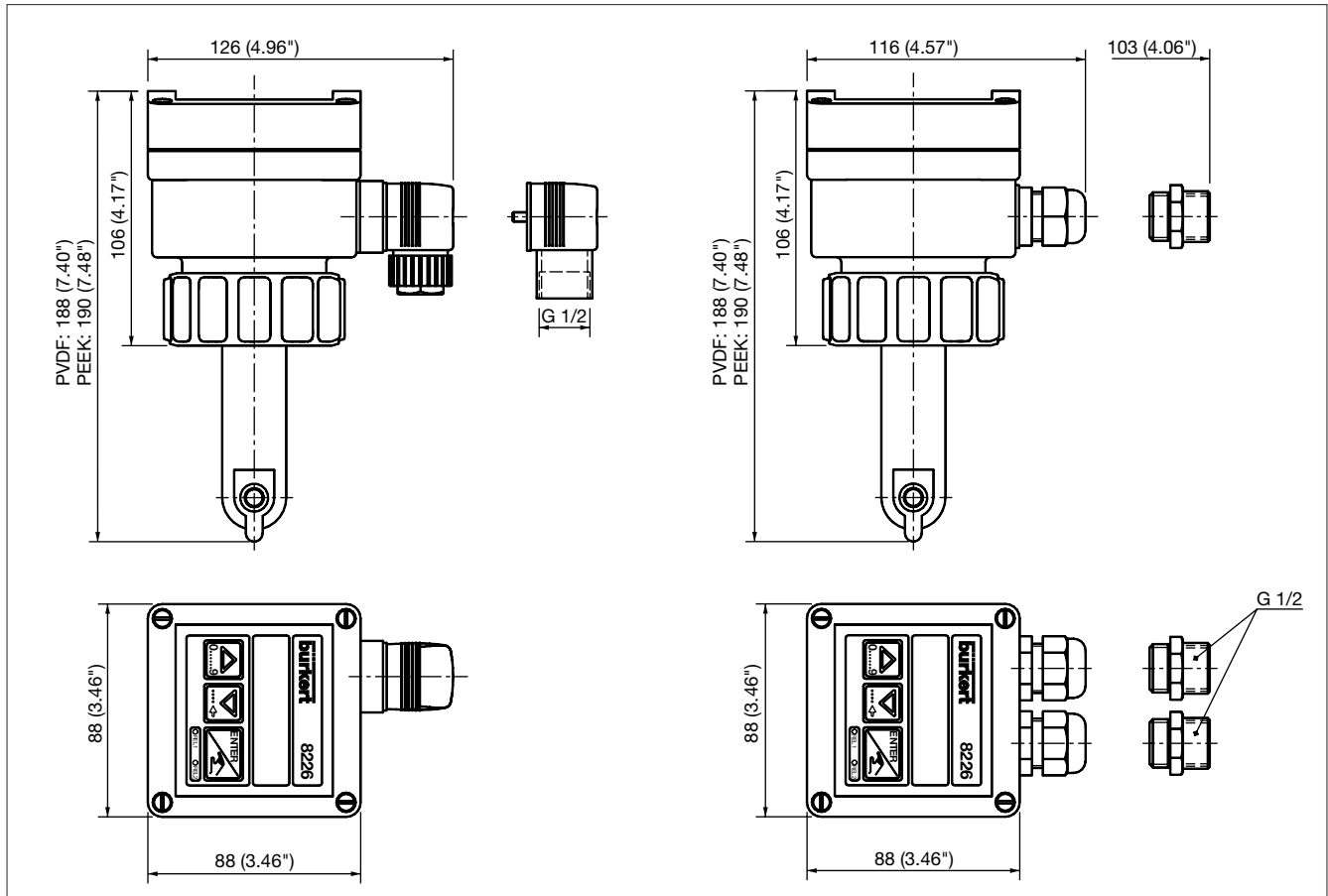


Technical data

Measuring range		Electronic housing	PC (for PVDF housing) reinforced with 20% glass fiber
Conductivity	100 μ S/cm ... 2 S/cm		PPA (for PEEK housing) reinforced with 33% glass fiber
Resistivity	0.5 Ω ·cm ... 10 k Ω ·cm	Sensor housing	PVDF or PEEK
Measuring error	\pm 2% of measured value	O-rings	FPM or EPDM
Temperature compensation	Automatic with standardized integrated temperature sensor with reference temperature 25°C (77°F)	Voltage supply	12–30 V/DC
Fluid temperature	0 up to 120°C (32 up to 248°F) (depending on fitting, see Pressure-Temperature-Diagram)	Consumption	Max. 70 mA (without relais) Max. 150 mA (with relais) Max. 60 mA (without relais) Max. 100 mA (with relais)
Ambient temperature	0 up to 60°C (32 up to 140°F)	Display	15 x 60 mm LCD 8 digits, alphanumeric 15 segments, 9 mm high
Storage temperature	0 up to 60°C (32 up to 140°F)	Analog output signal	4...20 mA programable, proportional to the conductivity or temperature
Fluid pressure	(depending on temperature, see Pressure-Temperature-Diagram)	Load	< 1000 Ω at 30 V < 800 Ω at 24 V < 450 Ω at 15 V < 330 Ω at 12 V
Pressure class	PN 6	Relay output (optional)	2 relays, 3 A / 230 V; freely adjustable
Enclosure	IP 65 (NEMA 4) Relative humidity max. 80%		

Dimensions [mm (inch)]

Conductivity transmitter type 8226 compact



Ordering chart for inductive conductivity transmitter 8226

PVDF Versions

Conductivity transmitter compact 4...20mA output; without relays (WORLDWIDE version)

Type description	Gasket	Cable connection	Voltage	Item-No.
Compact transmitter 8226 with 4...20mA	FPM	Cable plug PG9	12-30 VDC	431 673 U
Compact transmitter 8226 with 4...20mA	FPM	Cable gland PG13.5	12-30 VDC	431 674 V
Compact transmitter 8226 with 4...20mA	EPDM	Cable plug PG9	12-30 VDC	431 675 W
Compact transmitter 8226 with 4...20mA	EPDM	Cable gland PG13.5	12-30 VDC	431 676 X
Compact transmitter 8226 with 4...20mA	FPM	2x Cable gland PG13.5	115-230VAC	431 677 Y
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland PG13.5	115-230VAC	431 678 H

Conductivity transmitter compact 4...20mA output; with 2 relays (WORLDWIDE version)

Type description	Gasket	Cable connection	Voltage	Item-No.
Compact transmitter 8226 with 4...20mA	FPM	2x Cable gland PG13.5	12-30 VDC	431 679 A
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland PG13.5	12-30 VDC	431 680 Y
Compact transmitter 8226 with 4...20mA	FPM	2x Cable gland PG13.5	115-230VAC	431 681 M
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland PG13.5	115-230VAC	431 682 N

Conductivity transmitter compact 4...20mA output; without relays (North American version)

Type description	Gasket	Cable connection	Voltage	Item-No.
Compact transmitter 8226 with 4...20mA	FPM	Cable plug G 1/2	12-30 VDC	431 683 P
Compact transmitter 8226 with 4...20mA	EPDM	Cable plug G 1/2	12-30 VDC	431 684Q
Compact transmitter 8226 with 4...20mA	FPM	2x Cable gland G 1/2	115-230 VAC	431 685 R
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland G 1/2	115-230 VAC	431 686 J

Conductivity transmitter compact 4...20mA output; with 2 relays (North American version)

Type description	Gasket	Cable connection	Voltage	Item-No.
Compact transmitter 8226 with 4...20mA	FPM	2x Cable gland G 1/2	12-30 VDC	431 687 K
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland G 1/2	12-30 VDC	431 688 U
Compact transmitter 8226 with 4...20mA	FPM	2x Cable gland G 1/2	115-230 VAC	431 689 V
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland G 1/2	115-230 VAC	431 690 S

PEEK Versions

Conductivity transmitter compact 4...20mA output; without relays (WORLDWIDE version)

Type description	Gasket	Cable connection	Voltage	Item-No.
Compact transmitter 8226 with 4...20mA	EPDM	Cable plug PG9	12-30 VDC	440 321 G
Compact transmitter 8226 with 4...20mA	EPDM	Cable gland PG13.5	12-30 VDC	440 322 H
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland PG13.5	115-230VAC	440 323 A

Conductivity transmitter compact 4...20mA output; with 2 relays (WORLDWIDE version)

Type description	Gasket	Cable connection	Voltage	Item-No.
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland PG13.5	12-30 VDC	440 324 B
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland PG13.5	115-230VAC	440 325 C

Conductivity transmitter compact 4...20mA output; without relays (North American version)

Type description	Gasket	Cable connection	Voltage	Item-No.
Compact transmitter 8226 with 4...20mA	EPDM	Cable plug G 1/2	12-30 VDC	440 420 G
Compact transmitter 8226 with 4...20mA	EPDM	Cable gland G 1/2	12-30 VDC	440 421 V
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland G 1/2	115-230VAC	440 422 W

Conductivity transmitter compact 4...20mA output; with 2 relays (North American version)

Type description	Gasket	Cable connection	Voltage	Item-No.
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland G 1/2	12-30 VDC	440 423 X
Compact transmitter 8226 with 4...20mA	EPDM	2x Cable gland G 1/2	115-230 VAC	440 424 Y

Accessories**Conductivity buffer solutions traceable to NIST**

Description	Item-No.
Conductivity buffer solution 5 μ S/cm ; 300 ml	440 015 Z
Conductivity buffer solution 15 μ S/cm ; 300 ml	440 016 S
Conductivity buffer solution 100 μ S/cm ; 300 ml	440 017 T
Conductivity buffer solution 706 μ S/cm ; 300 ml	440 018 C
Conductivity buffer solution 1413 μ S/cm ; 300 ml	440 019 D
Conductivity buffer solution 100 mS/cm ; 300 ml	440 020 A

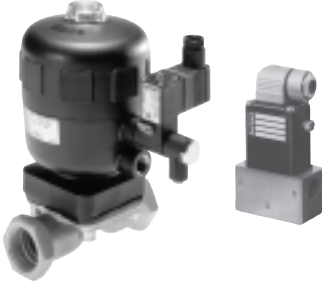
Technical data



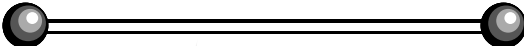
Easy ON/OFF Control




1 YEAR COGNATE OWNERSHIP -50%



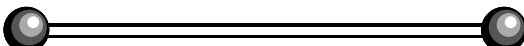
Easy ON/OFF Control



1 YEAR COGNATE OWNERSHIP -50%



Easy Continuous Control



1 YEAR COGNATE OWNERSHIP -60%

