bürkert
FLUID CONTROL SYSTEMS

Flow transmitter / Pulse divider

- 2-wire operation (4...20 mA) / 3-wire operation (NPN/PNP)
- Pluggable to flow sensors Type 8020, Type 8030 (SE30+S030), Type SE30+S077
- Removable operating unit

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

Type 8020
Insertion flowmeter with paddle wheel for continuous flow measurement

Type 8030
Inline flowmeter for continuous measurements

Type description

The electronic module Type 8022 operates either
- as a flow transmitter (only with pulse sensors "Low Power" variant Type 8020, Type 8030 (SE30+S030), Type SE30+S077) or
- as a pulse divider (with all sensor variants Type 8020, Type 8030 (SE30+S030), Type SE30+S077).

The module operates the output of the sensors, displays the flow rate and outputs it in mA or as a pulse at the signal output.

When used
- as a flow transmitter, the frequency signal of the sensor is converted into a 4...20 mA signal (2-wire operation),
- as a pulse divider, the input frequency is converted into an adjustable output frequency.

Use of the operating unit enables switching between the two operating modes.

DTS 1000156568 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

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Table of contents

DTS 1000156568 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

1. General technical data

Product properties	
Material	
Front panel film	Polyester for variant with display
Cover	PSU (Polysulfone) for variant without display PA (Polyamide) for variant with display
Cover seal	EPDM
Housing	PA (Polyamide)
Screw	Steel class 4.8, galvanized with chrome-III thick film passivation
Seal	NBR
Cable gland	PA (Polyamide)
Display	LCD dimensions 17×12 mm, 4 Digits, 8 segments
Keypad	3 operating keys
Compatibility	• Flow transmitter (2-wire operation): only if connected with sensor Type 8020, Type 8030 (SE30 + S030), Type SE30 + S077 "Low Power" variant • Pulse divider (3-wire operation): with all variants of sensor Type 8020, Type 8030 (SE30 + S030), Type SE30 + S077
Dimensions	Further information can be found in chapter "3. Dimensions" on page 5
Performance data	
4...20 mA output uncertainty	± 240 µA
NPN/PNP output uncertainty	± 1 % of measured value
Electrical data	
Operating voltage	12...30 V DC ± 10 %, filtered and regulated Connection to main supply: permanent, through external SELV (Safety Extra Low Voltage) and LPS (Limited Power Source) power supply
Power source (not supplied)	Limited power source according to UL/EN 62368-1 standards or limited energy circuit according to UL/EN 61010-1 §9.4
Power consumption	• Flow transmitter (2-wire operation): 0.6 W • Pulse divider (3-wire operation): 3.2 W with – 0.2 W from the device – 1.5 W max. from the flow sensor [1.)] – 1.5 W max. from the PNP/NPN output [1.)]
Input	Frequency: 1...600 Hz
Output	• Flow transmitter (2-wire operation): – 4...20 mA – Max. loop impedance: 1000 Ω at 30 V DC; 700 Ω at 24 V DC; 100 Ω at 12 V DC • Pulse divider (3-wire operation): – NPN/PNP – "Open collector", max. 50 mA – 1...600 Hz
Connections & communication	
Electrical connection	Terminal strip or male M12 connector, 4-pin
Approvals and conformities	
Directives	
CE directive	Further information on the CE Directive can be found in chapter "2.3. Standards" on page 4.
North America (USA/Canada)	UL Recognized for the USA and Canada
Environment and installation	
Ambient temperature	Operation and storage: - 10...+ 60 °C
Relative air humidity	≤ 80 %, without condensation
Height above sea level	Max. 2000 m
Operating condition	Continuous
Equipment mobility	Fixed
Application range	Indoor and outdoor Protect the device against electromagnetic interference, ultraviolet rays and, when installed outdoors, against the effects of climatic conditions.
Degree of protection according to IEC/EN 60529	IP65 when device plugged, housing closed, cover screwed tight and cable gland wired or blanked off, or female connector plugged and tightened

Installation category	Category I according to UL/EN 61010-1
Pollution degree	Degree 2 according to UL/EN 61010-1

1.) Depending on the customer configuration

2. Approvals and conformities

2.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available variants of the device can be supplied with the below mentioned approvals or conformities.

2.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

2.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU Type Examination Certificate and/or the EU Declaration of Conformity.

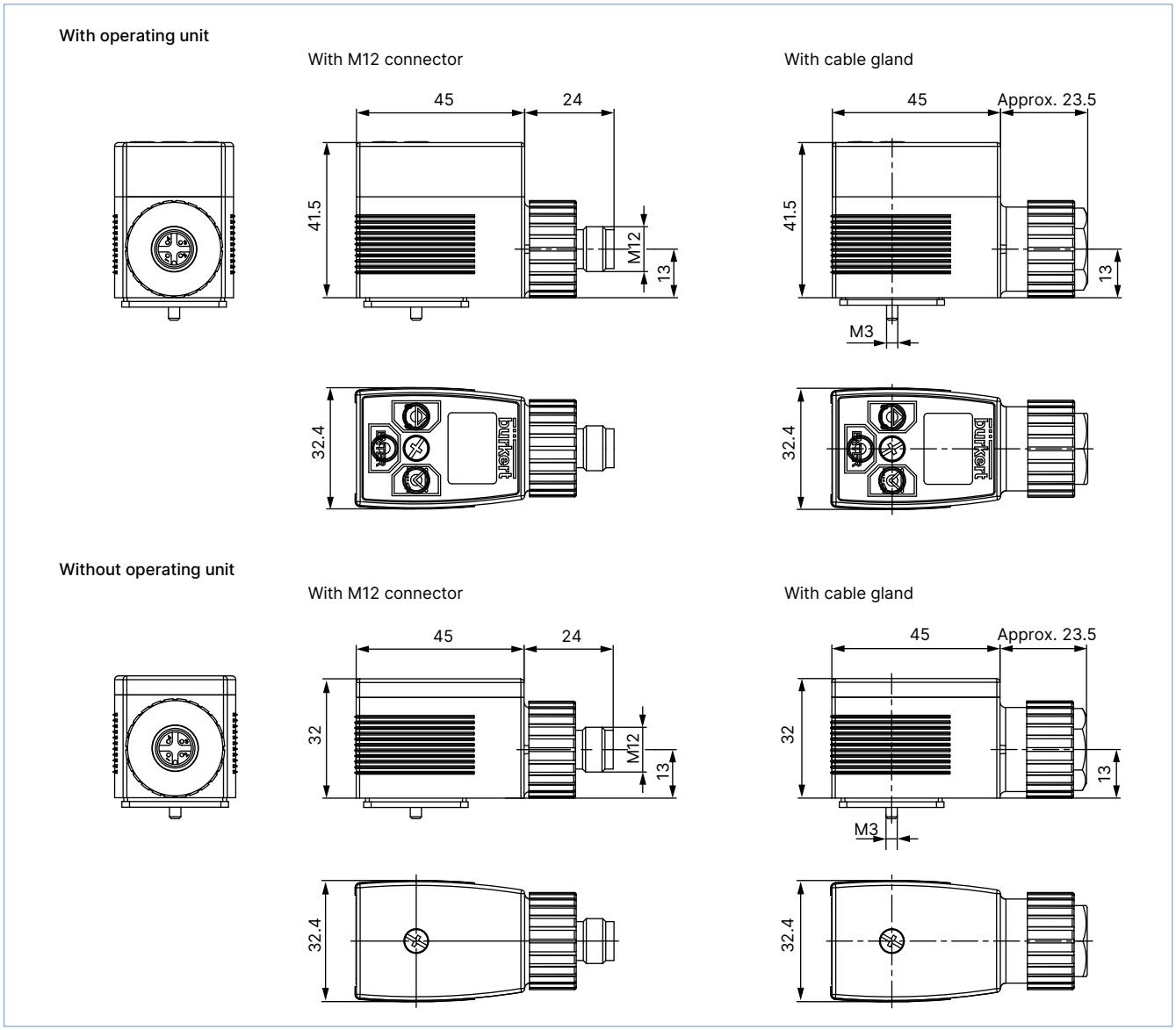
2.4. North America (USA/Canada)

Approval	Description
c UL us	**Optional: UL Recognized for the USA and Canada** The products are UL Recognized for the USA and Canada according to: • UL 61010-1 (ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE – Part 1: General Requirements) • CAN/CSA-C22.2 No. 61010-1

DTS 1000156568 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

3. Dimensions

Note:
Dimensions in mm, unless otherwise stated



4. Product operation

4.1. Functional overview

- Transmitter operation:
  - conversion of the input frequency into a 4...20 mA signal (2-wire operation)
  - scalable 4...20 mA signal
- Pulse divider operation: transforms the input to an adjustable output frequency (3-wire operation)
- Displays the flow in a selectable unit
- Removable operating unit (is only required to configure or to display)

DTS 1000156568 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024

5. Ordering information

5.1. Bürkert eShop

Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

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5.2. Bürkert product filter

Bürkert product filter – Get quickly to the right product

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5.3. Ordering chart

Note:
The device has both a 4...20 mA current output and a transistor output. It can either be operated as a flow transmitter (4...20 mA current output) or as a pulse divider. **If the device is to be operated as a flow transmitter, it must be connected to a "low power" variant sensor.**

Variant	UL approval	Article no.
Flow transmitter / pulse divider without operating unit, PG connection	No	215644
Flow transmitter / pulse divider with operating unit, PG connection	No	215645
Flow transmitter / pulse divider without operating unit, PG connection	Yes	563223
Flow transmitter / pulse divider with operating unit, PG connection	Yes	563224
Flow transmitter / pulse divider without operating unit, male M12 connector	No	215646
Flow transmitter / pulse divider with operating unit, male M12 connector	No	215647

5.4. Ordering chart accessories

Description	Article no.
Operating unit for Type 8022	562876
Transparent cover with screw and seal (for operation without operating unit)	670549
M12 female connector, 4-pin, angled (90°)	784301
M12 female connector with cable, 4-pin, straight, cable length: 5 m	918038

DTS 1000156568 EN Version: G Status: RL (released | freigegeben | validé) printed: 18.12.2024