The 8025 flowmeter is specially designed for use in neutral, slightly aggressive, solid-free liquids.

Type 8025 flowmeter is offered in different models:

- **The compact flowmeter**
  with paddle wheel sensor is available in two versions: standard output signal or battery powered indicator/totalizer version without output (page 2...7).
- **The remote transmitter**
  is available in two versions:
  - **Universal transmitter** for panel or wall-mounted versions, which can be connected to any sensors already on the market; sensors with open collector output, Reed relay output, TTL, CMOS or coil can be operated by this transmitter (page 8...12).
  - **Transmitter**, for panel or wall-mounted versions: standard input signal for connection to the Bürkert 8020/8030/SE30+S077 flowmeter “Low Power” version (page 13...16).

### Insertion flowmeter with paddle wheel and flow transmitter

- Up to PN10, size of measurement pipes: DN06 to DN400
- Display for indication of flow rate and volume with two flow totalizers
- Automatic calibration using Teach-In
- All outputs can be checked without the need of actual flow

<table>
<thead>
<tr>
<th>General technical data (common to the various versions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
</tr>
<tr>
<td><strong>Connection cable</strong></td>
</tr>
<tr>
<td><strong>Environment</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Standards, directives and certifications</strong></td>
</tr>
<tr>
<td><strong>Certification</strong></td>
</tr>
</tbody>
</table>
8025
Insertion compact

The compact flowmeter

The compact flowmeter is available in two versions:

– standard signal (4...20 mA, frequency)
– indicator/totalizer with battery

The flowmeter combines a paddle wheel flow sensor and an electronic module with a display in an IP65 enclosure.

Bürkert designed fitting S020 ensures simple installation of the Bürkert flowmeter into pipes from DN20...DN400.

Pressure/temperature chart

The compact flowmeter is available in two versions:

– standard signal (4...20 mA, frequency)
– indicator/totalizer with battery

Materials

Housing, cover, lid, nut
Front panel foil / Screws
Cable plug or glands
Wetted parts
Sensor holder, paddle wheel
Seal
Axis and bearings

PC
Polystyrene / Stainless steel
PA
PVDF
FKM standard (EPDM included, but not mounted)
Ceramics (Al₂O₃)

Electrical connections

Battery indicator/totalizer version
Cable plug or cable glands M20 x 1.5

Connection cable

External diameter (cable)
Cross-section (local earthing wire)

5...8 mm (with cable plug), 6...12 mm or 3...5 mm when using a multiway seal (with cable glands)
0.75 mm²

Complete device data (fitting + flowmeter)

Pipe diameter
DN20...DN400

Measuring range
0.3...10 m/s

Fluid temperature with fitting in
PVC/ PP
PVDF, brass or stainless steel

0...+50 °C (32...122 °F) / 0...+80 °C (32...176 °F)
-15...+80 °C (5...+176 °F)

Fluid pressure max.
PN10 (145 PSI) – see pressure/temperature chart

Viscosity / Particles rate
300 cSt max. / 1 % max. (size: 0.5 mm max.)

Measurement deviation

Teach-In
Standard K-factor

±1 % of the measured value (at Teach-In flow rate value)
±2.5 % of the measured value

Linearity

±0.5 % of F.S. ₪

Repeatability

±0.4 % of the measured value

Electrical data

Power supply (V+)

Standard signal version
12...36 V DC ±10 %, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level or 115/230 V AC 50/60 Hz (see technical specifications 115/230 V AC)

Battery indicator/totalizer version
4 x 1.5 V DC non-rechargeable alkaline AA batteries, lifetime 4 years at 20 °C (68 °F)

Characteristics of the power source (not provided) of UL-Recognized devices
Limited power source (according to § 9.4 of the UL 61010-1 standard) or, Class 2 type power source (according to the 1310/1585 and 60950-1 standards)

Reversed polarity of DC protected

Current consumption with sensor
Version 12...36 V DC
Without pulse output consumption
≤ 70 mA (with relays)
≤ 25 mA (without relays)

Output

Standard signal version
Pulse (potential free transistor)
Polarized, NPN or PNP (wiring dependant); function: pulse output, adjustable pulse value, 2.5...400 Hz; 5...36 V DC; 100 mA, line drop at 100 mA: 2.5 V DC; duty cycle: 0.5

Relay
2 relays, hysteresis, adjustable thresholds, normally open, 230 V AC/3 A or 40 V DC/3 A (resistive load)

Current
4...20 mA (3-wire with relays; 2-wire without relay), sourcing or sinking (wiring dependant), max. loop impedance: 900 Ω at 30 V DC, 600 Ω at 24 V DC, 50 Ω at 12 V DC, 800 Ω with a 115/230 V AC voltage supply

Response time (10%...90%)
6 s (default)

Battery indicator/totalizer version
None

4...20 mA output uncertainty
±1 % of range

* with battery version = 100 °C (212 °F)
* = “measurement bias” as defined in the standard JCGM 200:2012
* Under reference conditions i.e. measuring fluid = water, ambient and water temperature = 20 °C (68 °F), while maintaining the minimum inlet and outlet distances and the appropriate internal diameter of the pipes.
* F.S. = Full scale (10 m/s)

With Bürkert Insertion fitting S020 (see corresponding datasheet)
### Technical specifications 115/230 V AC

**Voltage supply available inside the device**

- 27 V DC regulated, max. current: 125 mA
- Integrated protection: fuse 125 mA temporised power: 3 VA

**Environment**

- **Ambient temperature** (operation and storage):
  - -10...+60 °C (≤14...+140 °F) (12...36 V DC version)
  - -10...+50 °C (≤14...+122 °F) (115/230 V AC version)
  - -10...+55 °C (≤14...+131 °F) (batteries version)

**Standards, directives and certifications**

- **Protection class**
  - IP65 with device wired, cover and lid screwed tight and cable plug or glands mounted and tightened or with blind plug if not used

**Relay output**

- 30 V AC and 42 V peak max./3 A or 60 V DC max./1 A

**Ambient temperature**

- 0...+40 °C (32...+104 °F)

**Relative humidity**

- Max. 80 %, without condensation

**Intended for an inner pollution**

- Pollution degree 2 according to EN 61010-1

**Installation category**

- Category I according to UL 61010-1 – indoor use

---

* For the 2014/68/EU pressure directive, the device can only be used under the following conditions (depends on max. pressure, pipe diameter and fluid).

<table>
<thead>
<tr>
<th>Type of Fluid</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid group 1, article 4, §1.c.i</td>
<td>DN ≤ 25</td>
</tr>
<tr>
<td>Fluid group 2, article 4, §1.c.i</td>
<td>DN ≤ 32 or PN*DN ≤ 1000</td>
</tr>
<tr>
<td>Fluid group 1, article 4, §1.c.ii</td>
<td>DN ≤ 25 or PN*DN ≤ 2000</td>
</tr>
<tr>
<td>Fluid group 2, article 4, §1.c.ii</td>
<td>DN ≤ 200 or PN ≤ 10 or PN*DN ≤ 5000</td>
</tr>
</tbody>
</table>

---

**Operation and display**

The device is calibrated by means of the K-factor (conversion coefficient) which is either entered or determined via the Teach-In function. User adjustments, such as measuring range, engineering units, pulse output and filtering level (damping) are carried out via the device operator interface.

The operation is specified according to two or three levels, depending on the flowmeter version:

**Indication in operating mode/display**

- Flowmeter
  - • flow rate
  - • output current
  - • main totalizer
  - • daily totalizer with reset function

- Battery indicator/tot alizer
  - • flow rate
  - • main totalizer
  - • daily totalizer with reset function

**Parameter definition**

- • language
- • engineering units
- • K-factor/Teach-In function
- • measuring range 4...20 mA
- • pulse output
- • relay (option)
- • filter (damping)
- • reset main totalizer
- • alteration of basic adjustment (offset, span)
- • frequency test of sensor
- • flow simulation
- • frequency test of sensor
- • warning and fault messages generating

**Description of the navigation keys and the LEDs status**

- Scrolling up the parameters
  - Increase the selected digit

- Scrolling down the parameters
  - Selecting the digit on the left
  - Reading the messages in the information menu
  - Auto scroll the indications
  - Battery level display

- Device LED status:
  - see following table

- Large digital display with 8 characters
  - (4 digital characters and 4 alphanumeric characters) indicating:
    - the measured flow
    - the value of the current output
    - the value of the main totalizer
    - the value of the daily totalizer

- LED status of relay 2
  - Not for battery versions

- LED status of relay 1
  - Only for battery versions

**Device status LED**

- Blinking orange
  - A warning message is generated in the information menu.

- Blinking red
  - A fault message is generated
**8025**

**Insertion compact**

---

**Principle of operation**

When liquid flows through the pipe, the paddle wheel with 4 inserted magnets is set in rotation, producing a measuring signal in the sensor (coil for battery indicator/totalizer version or Hall for other versions). The frequency modulated induced voltage is proportional to the flow velocity of the fluid.

A conversion coefficient (K-factor, available in the instruction manual of the 8020 fitting), specific to each pipe (size and material) enables the conversion of this frequency into flow rate.

The electronic component converts the measured signal into several outputs (according to the flowmeter version) and displays the actual value. Totalizers are used to obtain the volume of fluid passed through the pipe.

---

**Installation**

The 8025 flowmeter can easily be installed into any Bürkert Insertion fitting system (8020), by just fixing the main nut.

**Minimum straight upstream and downstream distances must be observed.** According to the pipe’s design, necessary distances can be bigger or use a flow conditioner to obtain the best accuracy.

For more information, please refer to EN ISO 5167-1.

EN ISO 5167-1 prescribes the straight inlet and outlet distances that must be complied with when installing fittings in pipe lines in order to achieve calm flow conditions. The most important layouts that could lead to turbulence in the flow are shown below, together with the associated prescribed minimum inlet and outlet distances.

These ensure calm, problem-free measurement conditions at the measurement point.

---

The device can be installed into either horizontal or vertical pipes.

Important criteria for this are; ensure that the measurement pipe is fully filled and that the measurement pipe is air bubble free.

---

Pressure and temperature ratings must be respected according to the selected fitting material.

The suitable pipe size is selected using the diagram Flow/Velocity/DN.

The flowmeter is not designed for gas and steam flow measurement.
Example:

- Specification of nominal flow: 10 m³/h
- Ideal flow velocity: 2...3 m/s

For these specifications, the diagram indicates a pipe size of DN40 (or DN50 for (*)) mentioned fittings.

* for following fittings with:
  - external threads acc. to SMS 1145
  - weld ends acc. to SMS 3008, BS4825-1/ASME BPE/DIN 11866 series C or DIN 11850 series 2/DIN 11866 series A/DIN EN 10357 series A
  - Clamp acc. to SMS 3017, BS 4825-3/ASME BPE or DIN 32676 series A
8025
Insertion compact

Dimensions [mm] of flowmeter

Flowmeter

Note:
The length of the flow probe depends on the fitting used.
See datasheet Type S020.

Flowmeter with S020 fitting

<table>
<thead>
<tr>
<th>DN</th>
<th>H with S020 fitting T-Fitting</th>
<th>Saddle</th>
<th>Plastic spigot</th>
<th>Metal spigot</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>185</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>185</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>188</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>192</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>198</td>
<td>223</td>
<td>193</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td>198</td>
<td>221</td>
<td>206</td>
<td>199</td>
</tr>
<tr>
<td>80</td>
<td>226</td>
<td>212</td>
<td>204</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>231</td>
<td>219</td>
<td>214</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>227</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>125</td>
<td>234</td>
<td>254</td>
<td>225</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>244</td>
<td>261</td>
<td>236</td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>268</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>280</td>
<td>282</td>
<td>257</td>
<td></td>
</tr>
<tr>
<td>250</td>
<td>300</td>
<td>317</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>312</td>
<td>336</td>
<td></td>
<td></td>
</tr>
<tr>
<td>350</td>
<td>325</td>
<td>348</td>
<td></td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>340</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Ordering information and chart for compact flowmeter

A complete 8025 flowmeter with integrated paddle wheel sensor consists of a compact 8025 flowmeter and a Bürkert S020 Insertion fitting.

The following information is necessary for the selection of a complete device:
- **Article no.** of the desired compact 8025 flowmeter (see ordering chart below)
- **Article no.** of the selected S020 Insertion fitting (see separate datasheet)

→ You have to order the two components separately.

When you click on the orange box “More info.”, you will come to our website for the resp. product where you can download the datasheet.

#### Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Voltage supply</th>
<th>Output</th>
<th>Relays</th>
<th>Sensor version</th>
<th>Electrical connection</th>
<th>Article no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard output signal flowmeter, 2 totalizers</td>
<td>12…36 V DC</td>
<td>4…20 mA (2 wires) + pulse</td>
<td>None</td>
<td>Hall, short</td>
<td>Cable plug</td>
<td>418762</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 cable glands</td>
<td>418802</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hall, long</td>
<td>418763</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 cable glands</td>
<td>418803</td>
</tr>
<tr>
<td></td>
<td>115/230 V AC</td>
<td>4…20 mA (2 wires) + pulse</td>
<td>2</td>
<td>Hall, short</td>
<td>Cable plug</td>
<td>418778</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 cable glands</td>
<td>418779</td>
</tr>
<tr>
<td>Indicator, 2 totalizers</td>
<td>4 x 1.5 V DC AA Batteries</td>
<td>—</td>
<td>None</td>
<td>Coil, short</td>
<td>None</td>
<td>418403</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coil, long</td>
<td>418405</td>
</tr>
</tbody>
</table>

Note: FKM seal in standard; 1 set including a black EPDM seal for the sensor, an obturator for an M20 x 1.5 cable gland, a 2 x 6 mm multiway seal and a mounting instruction sheet is supplied with each flowmeter.

#### Further versions on request

#### Approvals

- FDA, UL-Recognized for US and Canada (UL 61010-1 + CAN/CSA-C22.2 No. 61010-1)

#### Ordering chart - accessories (has to be ordered separately)

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Article no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set with 2 cable glands M20 x 1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw plugs M20 x 1.5 + 2 multiway seals 2 x 6 mm</td>
<td>449755</td>
</tr>
<tr>
<td>Set with 2 reductions M20 x 1.5 /NPT 1/2” + 2 neoprene flat seals for cable gland or plug + 2 screw plugs M20 x 1.5</td>
<td>551782</td>
</tr>
<tr>
<td>Set with 1 stopper for unused cable gland M20 x 1.5 + 1 multiway seal 2 x 6 mm for cable gland + 1 black EPDM seal for the sensor + 1 mounting instruction sheet</td>
<td>551775</td>
</tr>
<tr>
<td>Ring</td>
<td>619205</td>
</tr>
<tr>
<td>Union nut</td>
<td>619204</td>
</tr>
<tr>
<td>Set with 1 green FKM and 1 black EPDM seal</td>
<td>552111</td>
</tr>
<tr>
<td>Cable plug with cable gland (Type 2508)</td>
<td>438811</td>
</tr>
<tr>
<td>Cable plug with NPT 1/2” reduction without cable gland (Type 2509)</td>
<td>162673</td>
</tr>
</tbody>
</table>

### Available S020 fitting DN

- **T-fitting**
- **Weld-in socket**
- **Fusion spigot**
- **Screw-on S020**
- **Saddle S020**
The remote Universal transmitter

The remote 8025 Universal transmitter can be associated with Bürkert flowmeter 8020, 8030, 8030HT, 8041, 8031, SE30+S077, 8071, 8077 or other sensors which emit a frequency signal (with pulse output signal).

When connected to a flowmeter, the device makes it possible to switch a solenoid valve, activate an alarm or generate a flow rate proportional frequency, thanks to a digital output and, for some versions, by means of two relay outputs, fully configurable, and to establish a control loop thanks to a 4…20 mA current output.

The remote 8025 Universal is a flow transmitter with display, available in wall-mounted and panel versions:

The panel version
is made up of an electronics integrated in an open housing with display. The electrical connection is carried out on the terminal blocks of the electronic board.

The wall-mounted version
is made up of an electronics integrated in a housing with cover and display. The electrical connection is carried out on the terminal blocks of the electronic board via 3 cable glands.

The device is equipped with a 4…20 mA current output (analogue output, called AO1), a digital output (configured as a pulse output by default, called DO1) and two totalizers. Some versions are also fitted with two relay outputs (called DO2 and DO3).

The device operates on a 3 wire system and needs a 12…36 V DC or a 115/230 V AC power supply.

If the device is mounted in a humid environment or outside, then the maximum voltage allowed is 35 V DC instead of 36 V DC.
### Electrical data (continued)

<table>
<thead>
<tr>
<th>Output</th>
<th>Description</th>
<th>Technical details</th>
</tr>
</thead>
</table>
| Transistor (digital output – DO1) | Polarized, potential free, NPN or PNP (wiring dependant), function: pulse output, adjustable pulse value, 0.6…2000 Hz, 5…36 V DC, 100 mA, line drop at 100 mA: 2.7 V DC, duty cycle: | > 0.45 if 0.6 < frequency < 300 Hz  
> 0.4 if 300 < frequency < 1500 Hz  
< 0.4 if 1500 < frequency < 2200 Hz  
Galvanic insulation and protected against overvoltage, polarity reversals and short circuit |
| Relay (digital output – DO2 and DO3) | 2 relays, hysteresis, adjustable thresholds, normally open; 230 V AC/3 A or 40 V DC/3 A (resistive load) max. cutting power of 750 VA (resistive load), life span of min. 100000 cycles | |
| Current (analogue output – AO1) | 4…20 mA, sourcing or sinking (wiring dependant), 22 mA to indicate a fault (can be activated); max. loop impedance: 1300 Ω at 36 V DC, 1000 Ω at 30 V DC, 750 Ω at 24 V DC, 300 Ω at 15 V DC, 200 Ω at 12 V DC, 900 Ω with a 115/230 V AC voltage supply | |

#### Technical specifications 115/230 V AC

| Voltage supply | Wall-mounted version: 27 V DC regulated, max. current: 250 mA integrated protection: fuse 250 mA temporised power: 6 VA |

#### Environment

| Ambient temperature | -10…+60 °C (+14…+140 °F) (operation and storage) |

#### Standards, directives and certifications

| Protection class | Wall-mounted version: IP65 with device wired, cover screwed tight and cable glands tightened. |
| Panel-mounted version | Front side: IP65 installation completed and closed cabinet  
Rear side: IP20, inside the closed cabinet |

#### Specific technical data of UL-Recognized products for US and Canada

| Relay output | 30 V AC and 42 V peak max./3 A or 60 V DC max./1 A |
| Ambient temperature | 0…+40 °C (32…+104 °F) |
| Relative humidity | max. 80 %, without condensation |
| Intended for an inner pollution | Pollution degree 2 according to EN 61010-1 |
| Installation category | Category I according to UL 61010-1 – indoor use |
8025 remote UNIVERSAL

Operation and display

The device is calibrated by means of the K-factor (conversion coefficient) which is either entered or determined via the Teach-In function. User adjustments, such as measuring range, engineering units, pulse output and filtering level (damping) are carried out via the device operators interface.

The operation is specified according to two or three levels, depending on the transmitter version:

<table>
<thead>
<tr>
<th>Indication in operating mode/display</th>
<th>Parameter definition</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flowmeter</td>
<td>• flow rate</td>
<td>• alteration of basic adjustment (offset, span)</td>
</tr>
<tr>
<td></td>
<td>• output current</td>
<td>• frequency test of sensor</td>
</tr>
<tr>
<td></td>
<td>• main totalizer</td>
<td>• flow simulation</td>
</tr>
<tr>
<td></td>
<td>• daily totalizer with reset function</td>
<td>• warning and fault messages generating</td>
</tr>
<tr>
<td></td>
<td><strong>Parameter definition</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• language</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• engineering units</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• K-factor/Teach-In function</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• measuring range 4…20 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• pulse output</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• relay (option)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• filter (damping)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• reset main totalizer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• reset both totalizers (main and daily)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Low flow “Cut Off”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Brightness of the display (backlight)</td>
<td></td>
</tr>
</tbody>
</table>

Description of the navigation keys and the status LEDs

- **Scrolling up the parameters**
  - Increase the selected digit
- **Device status LED**: see following table
- **Scrolling down the parameters**
  - Selecting the digit on the left
  - Reading the messages in the information menu

Large digital display with 8 characters (4 digital characters and 4 alphanumeric characters) indicating:
- the measured flow
- the value of the current output
- the value of the main totalizer
- the value of the daily totalizer

- **Selecting the displayed parameters**
  - Validating the settings

- **Status LED of relay DO3**
- **Status LED of relay DO2**

<table>
<thead>
<tr>
<th>Device status LED</th>
<th>Status of the device</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>The device operates correctly.</td>
</tr>
<tr>
<td>Orange</td>
<td>A warning messages is generated in the information menu.</td>
</tr>
<tr>
<td>Red</td>
<td>A fault message is generated and a 22 mA current is sent on the current output if activated.</td>
</tr>
<tr>
<td>Blinking, whatever the colour</td>
<td>A check for the correct behaviour of the outputs is running. The standard measurement function is inactive</td>
</tr>
</tbody>
</table>
Dimensions [mm] of remote Universal transmitter

Panel-mounted version

Wall-mounted version
Ordering information and chart for remote Universal transmitter

A complete remote 8025 Universal transmitter (panel- or wall-mounted), for connection to Bürkert or other sensors, consists of a remote 8025 Universal transmitter and a Bürkert flowmeter* or other compatible flow sensor on the market.

The following information is necessary for the selection of a complete device:
- **Article no.** of the desired remote 8025 Universal transmitter (see ordering chart below)
- **Article no.** of the selected Bürkert flowmeter* (see separate datasheet – has to be ordered separately)

→ You have to order the two components separately.

All these versions have as minimum:
- a 4...20 mA current output (AO1)
- a digital output (DO1)
- two totalizers

### Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Voltage supply</th>
<th>Output</th>
<th>Relays</th>
<th>Sensor version</th>
<th>Electrical connection</th>
<th>Article no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal transmitter, panel mounted</td>
<td>12...36 V DC</td>
<td>4...20 mA (3 wires) + pulse</td>
<td>None</td>
<td>see note</td>
<td>Terminal strip</td>
<td>419538</td>
</tr>
<tr>
<td>Universal transmitter, panel mounted</td>
<td>12...36 V DC</td>
<td>4...20 mA (3 wires) + pulse</td>
<td>2</td>
<td>see note</td>
<td>Terminal strip</td>
<td>419537</td>
</tr>
<tr>
<td>Universal transmitter, UL-Recognized for US and Canada</td>
<td>12...36 V DC</td>
<td>4...20 mA (3 wires) + pulse</td>
<td>None</td>
<td>see note</td>
<td>Terminal strip</td>
<td>564416</td>
</tr>
<tr>
<td>Universal transmitter, wall-mounted</td>
<td>12...36 V DC</td>
<td>4...20 mA (3 wires) + pulse</td>
<td>None</td>
<td>see note</td>
<td>3 cable glands</td>
<td>419541</td>
</tr>
<tr>
<td></td>
<td>115/230 V AC</td>
<td>4...20 mA (3 wires) + pulse</td>
<td>2</td>
<td>see note</td>
<td>3 cable glands</td>
<td>419540</td>
</tr>
</tbody>
</table>

*Note: See the chart about compatible and recommended interconnection possibilities with Bürkert flowmeters on page 17.

### Ordering chart - accessories (has to be ordered separately)

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Article no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spare part, panel version</td>
<td></td>
</tr>
<tr>
<td>Mounting set (screws, washer, nuts, cable clips)</td>
<td>554807</td>
</tr>
<tr>
<td>Seal</td>
<td>419350</td>
</tr>
<tr>
<td>Set with 8 FLOW front panel foils</td>
<td>553191</td>
</tr>
<tr>
<td>Spare part, wall version</td>
<td></td>
</tr>
<tr>
<td>Power supply board 115/230 V AC + mounting instruction sheet</td>
<td>555722</td>
</tr>
</tbody>
</table>
The remote transmitter

The remote 8025 transmitter can only be associated with Bürkert flowmeter 8020, 8030, SE30+S077, ... with sinus or pulse output signal in a “Low Power” version.

When connected to a flowmeter, the device makes it possible to switch a solenoid valve, activate an alarm or generate a flow rate proportional frequency, thanks to a digital output and, for some versions, by means of two relay outputs, fully configurable, and to establish a control loop thanks to a 4…20 mA current output.

The remote 8025 is a flow transmitter with display, available in wall-mounted and panel versions:

The panel version
is made up of an electronics integrated in an open housing with display. The electrical connection is carried out on the terminal blocks of the electronic board.

The wall-mounted version
is made up of an electronics integrated in a housing with cover and display. The electrical connection is carried out on the terminal blocks of the electronic board via 3 cable glands.

The device is equipped with a 4…20 mA current output (analogue output), a digital output (pulse output) and two totalizers. Some versions are also fitted with two relay outputs. The device operates on a 2- or 3-wire system and needs a 12…36 V DC or a 115/230 V AC power supply.

General data

| Compatibility | Bürkert flowmeter with frequency output (8020, 8030, SE30+S077) with pulse “Low Power” version. |

Materials

| Housing, cover | PC (panel-mounted version); ABS (wall-mounted version) |
| Front panel foil | Polyester |
| Screws | Stainless steel |
| Cable glands | PA (wall-mounted version) |
| Cable clips | PA (panel-mounted version) |

Electrical connections

| Terminals (panel-mounted version) or terminals via gland M16 x 1.5 (wall-mounted version) |

Connection cable

| 4…8 mm external cable diameter (for the cable glands of the wall-mounted version) |

Electrical data

| Power supply (V+) | 12…36 V DC ±10 %, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level |
|                  | 12…36 V DC ±10 %, filtered and regulated, SELV (safety extra low voltage) circuit with a non dangerous energy level or 15/230 V AC 50/60 Hz (see technical specifications 115/230 V AC) |

Characteristics of the power source (not provided) of UL-Recognized devices

Limited power source (according to § 9.4 of the UL 61010-1 standard) or, Class 2 type power source (according to the 1310/1585 and 60950-1 standards)

Reversed polarity of DC protected

Current consumption with sensor

| Version 12…36 V DC | ≤ 70 mA (with relays) |
|                    | ≤ 25 mA (without relays) |

Transmitter input (from sensor)

Frequency range

Pulse signal (Hall) 2.5…400 Hz, “Low Power”, NPN open collector

Transmitter output (to sensor)

Voltage supply 10…34 V DC (= (V+) - 2 V DC), 1 mA max.

Output

Pulse (Transistor) Polarized, potential free, NPN or PNP (wiring dependant), function: pulse output, adjustable pulse value, 2.5…400 Hz, 5…36 V DC; 100 mA, line drop at 100 mA: 2.5 V DC, duty cycle: 0.5

Galvanic insulation and protected against overvoltage, polarity reversals and short circuit

Relay 2 relays, hysteresis, adjustable thresholds, normally open; 230 V AC/3 A or 40 V DC/3 A (resistive load)

Current 4…20 mA (3-wire with relays; 2-wire without relay), sourcing or sinking (wiring dependant), max. loop impedance: 900 Ω at 30 V DC, 600 Ω at 24 V DC, 50 Ω at 12 V DC, 800 Ω with a 115/230 V AC voltage supply

Response time (10 %…90 %) 6 s (default)

4…20 mA output uncertainty ±1 % of range

Technical specifications 115/230 V AC

Voltage supply available inside the device Wall-mounted version: 27 V DC regulated, max. current: 250 mA integrated protection: fuse 250 mA temporised power: 6 VA

Environment

Ambient temperature -10…+60 °C (+14…+140 °F) (operation and storage)

If the device is mounted in a humid environment or outside, then the maximum voltage allowed is 35 V DC instead of 36 V DC.
Standards, directives and certifications

<table>
<thead>
<tr>
<th>Protection class</th>
<th>Wall-mounted version</th>
<th>Panel-mounted version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection class (according to EN 60529)</td>
<td>IP65 with device wired, cover screwed tight and cable glands tightened.</td>
<td>Front side: IP65 installation completed and closed cabinet Rear side: IP20, inside the closed cabinet</td>
</tr>
</tbody>
</table>

Specific technical data of UL-Recognized products for US and Canada

<table>
<thead>
<tr>
<th>Relay output</th>
<th>30 V AC and 42 V peak max./3 A or 60 V DC max./1 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature</td>
<td>0….+40 °C (32….+104 °F)</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>max. 80 %, without condensation</td>
</tr>
<tr>
<td>Intended for an inner pollution</td>
<td>Pollution degree 2 according to EN 61010-1</td>
</tr>
<tr>
<td>Installation category</td>
<td>Category I according to UL 61010-1 – indoor use</td>
</tr>
</tbody>
</table>

Operation and display

The device is calibrated by means of the K-factor (conversion coefficient) which is either entered or determined via the Teach-In function. User adjustments, such as measuring range, engineering units, pulse output and filtering level (damping) are carried out via the device operators interface.

The operation is specified according to two or three levels, depending on the transmitter version:

<table>
<thead>
<tr>
<th>Flow transmitter</th>
<th>Indication in operating mode/display</th>
<th>Parameter definition</th>
<th>Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow transmitter</td>
<td>• flow rate</td>
<td>• language</td>
<td>• alteration of basic adjustment (offset, span)</td>
</tr>
<tr>
<td></td>
<td>• output current</td>
<td>• engineering units</td>
<td>• frequency test of sensor</td>
</tr>
<tr>
<td></td>
<td>• main totalizer</td>
<td>• K-factor/Teach-In function</td>
<td>• flow simulation</td>
</tr>
<tr>
<td></td>
<td>• daily totalizer with reset function</td>
<td>• measuring range 4…20 mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• pulse output</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• relay (option)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• filter (damping)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• reset main totalizer</td>
<td></td>
</tr>
</tbody>
</table>

Description of the navigation keys and the status LEDs

- Scrolling up the parameters: Increase the figure selected
- Scrolling down the parameters: Selecting the figure on the left
- Large digital display with 8 characters (4 digital characters and 4 alphanumeric characters) indicating:
  - the measured flow
  - the value of the current output
  - the value of the main totalizer
  - the value of the daily totalizer
- Selecting the displayed parameters: Validating the settings
- Status LED of relay 1
- Status LED of relay 2
Dimensions [mm] of remote transmitter

**Panel-mounted version**

**Wall-mounted version**
Ordering information and chart for remote transmitter

A complete remote 8025 transmitter (panel- or wall-mounted), for connection to Bürkert “Low Power” sensors only, consists of a remote 8025 transmitter, a Bürkert 8020 flowmeter associated to an Insertion S020 fitting or a SE30 flow transmitter associated to an Inline sensor-fitting type S030 (SE30+S030 = type 8030) or type S077.

The following information is necessary for the selection of a complete device:

- Article no. of the desired remote 8025 transmitter (see ordering chart below)
- Article no. of the selected Bürkert 8020 flowmeter* or Inline SE30 transmitter* (pulse “Low Power” version) – (see corresponding datasheet – has to be ordered separately)
- Article no. of the selected Bürkert S020 fitting (DN20…DN400) or Inline S030 sensor-fitting (DN06…DN65) or Inline S077 sensor-fitting (DN15…DN100) – (see corresponding datasheet – has to be ordered separately)

→ You have to order the three components separately.

### Ordering chart - accessories (has to be ordered separately)

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</tr>
</tbody>
</table>

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1) 8030 = SE30 + S030

*Note: See the chart about compatible and recommended interconnection possibilities with Bürkert flowmeters on page 17.
Interconnection possibilities with other Bürkert flowmeters

<table>
<thead>
<tr>
<th>Flowmeter type</th>
<th>Remote 8025 version</th>
<th>Universal transmitter</th>
<th>Transmitter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Panel</td>
<td>Wall</td>
</tr>
<tr>
<td>8020 hall version (short or long) – frequency output with pulse signal (NPN, PNP, open collector)</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>8020 hall “Low Power” version (short or long) – frequency output with pulse signal (NPN, open collector)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>8030/SE30+S077 hall version – frequency output with pulse signal (NPN, PNP, open collector)</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>8030/SE30+S077 hall “Low Power” version – frequency output with pulse signal (NPN, open collector)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>8030 high temperature – frequency output with pulse signal (NPN, PNP, open collector)</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>SE30 Ex</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>8031 – frequency output with pulse signal (NPN)</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>8041 – frequency output with pulse signal (NPN)</td>
<td>X</td>
<td>X(1)</td>
<td>-</td>
</tr>
<tr>
<td>8071 – frequency output with pulse signal (NPN)</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>8077 – frequency output with pulse signal (NPN)</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
</tbody>
</table>

X = Compatible or recommended interconnection possibilities

1) except device with article no. 419543

To find your nearest Bürkert facility, click on the orange box

www.burkert.com

In case of special application conditions, please consult for advice.

Subject to alteration.

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