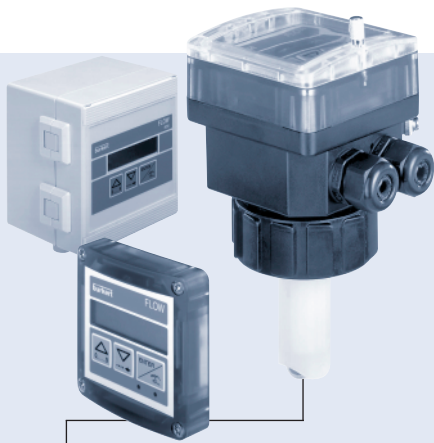
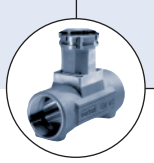


Digital flow transmitter for continuous flow measurement



Type 8025 can be combined with...



Type S020

Fitting



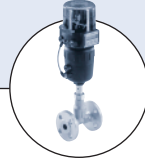
Type 8070

Positive displacement
flow sensor



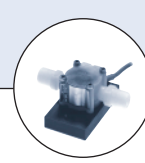
Type 8030

INLINE
flow sensor



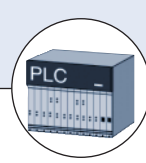
Type 2712 (8630)

Continuous
TopControl



Type 8031

Flow sensor



PLC

- Compact, remote version for DN 06 to 400, PN10
- Shows both flow rate and volume (with two totalizers)
- Automatic-calibration: TEACH-IN
- Simulation: all output signals provided without the need for real flow

The flow transmitter is specially designed for use in neutral and slightly aggressive, solid-free liquids.

The device is available in different models:

- Compact transmitter with paddle-wheel sensor: standard signal output, PROFIBUS DP or battery powered indicator version.
- Remote universal transmitter for panel or wall mounting to connection to a flow sensor from the market; sensors with open collector output, relay reed output, TTL, CMOS or coil can be operated by this transmitter.
- Remote transmitter, for panel or wall mounting: standard signal output or battery powered indicator version, for connection to the Bürkert 8020/8030 sensor.

Technical data (common to the various versions)

General data

Display	15x60mm, 8-digit LCD, alphanumeric, 15 segments, 9mm high
----------------	---

Environment

Ambient temperature Operation and storage	0 to +60°C
Relative humidity	≤ 80%, non condensated

Standard and approvals

Protection class	IP65
Standard	CE

System versions

The compact version



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

The output signals are provided via a 4-pole cable plug or a cable gland.

Burkert designed fitting ensures simple installation of the Burkert sensor into pipes from DN 6 to DN 400.

The panel-mounted version



consists of electronic module 8025 integrated in a front-cover. The associated separate flow sensor is a 8020, a 8030 with sinus or pulse signal (coil or hall transducer), or another flow sensor available from Burkert or the market.

The output signals are provided on a terminal strip.

The wall-mounted version



consists of electronic module 8025 in an IP65 enclosure. The associated flow sensor is a 8020, a 8030 with sinus or pulse signal (coil or hall transducer), or another flow sensor available from Burkert or the market.

The output signals are provided on a terminal strip via a cable gland.

Operation and display

The device can be calibrated by means of the K-factor, or via the TEACH-IN function. Customized adjustments, such as measuring range, engineering units, pulse output and filter are carried out on site.

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

Flow transmitter (compact or remote)

▶ Indication in operating mode/ Display

- flow
- output current
- 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
- reset main totalizer

▶ Test

- alteration of basic adjustment (offset, span)
- frequency test of sensor
- flow simulation (dry-run test operation)

Flow transmitter PROFIBUS DP (only compact)

▶ Indication in operating mode/ Display

- flow
- main totalizer
- daily totalizer with reset function

▶ Parameter definition

- language
- engineering units
- K-factor / TEACH-IN function
- relay (option)
- filter
- reset main totalizer
- address of the device within a network

▶ Test

- frequency test of sensor
- flow simulation (dry-run test operation)

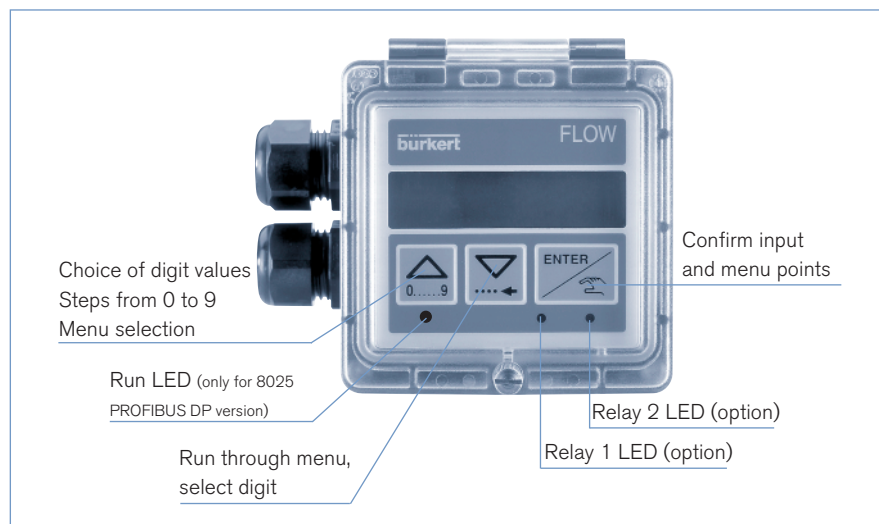
Battery indicator / totalizer (compact or remote)

▶ Indication in operating mode/ Display

- flow
- main totalizer
- daily totalizer with reset function

▶ Parameter definition

- language
- engineering units
- K-factor / TEACH-IN function
- filter
- reset main totalizer



Compact transmitter Type 8025

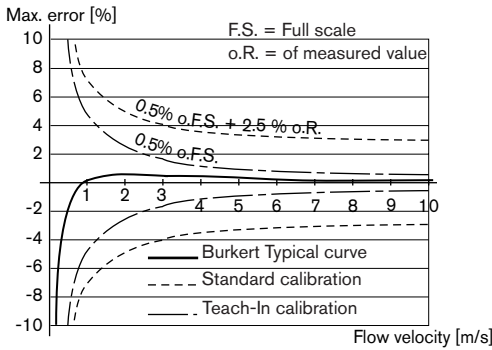
The compact transmitter

is available in three versions:

- standard signal (4-20 mA, frequency)
- PROFIBUS-DP
- battery indicator/totaliser



Accuracy diagram



Design

When liquid flows through the pipe, the 4 magnets, inserted in the paddle-wheel set in rotation, produce a measuring signal in the transducer (coil or Hall sensor). 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 fitting), specific to each pipe (size and material) enables the conversion of this frequency into flowrate.

The electronic component converts the measured signal into several outputs (according to the transmitter version) and displays the actual value.

General data	
Compatibility	with all fittings S020 (see corresp. datasheet)
Materials	Housing, cover, lid, nut: PC Front panel foil: Polyester Screws: Stainless Steel Cable plug / gland: PA Wetted parts materials: Fitting: Brass, Stainless Steel 1.4404/316L, PVC, PP or PVDF Sensor holder, paddle-wheel: PVDF Axis and bearing: Ceramics Seal: FPM (EPDM option)
Electrical connections	Cable plug EN 175301-803 or gland

Complete device data (fitting + electronic module)	
Pipe diameter	DN 6 to 400
Measuring range	Sinus version (coil transducer): 0.5 m/s to 10 m/s Pulse version (Hall transducer): 0.3 m/s to 10 m/s
Medium temperature max.	with Fitting in: Sinus version (coil transducer): PVC: 50°C - PP: 80°C - PVDF, Stainless steel, brass: 100°C Pulse version (Hall transducer): PVC: 50°C - PP, PVDF, St.St., brass: 80°C
Fluid pressure max.	PN10 (see pressure/temperature chart)
Viscosity	300 cSt. max., solid particles rate max. 1%
Accuracy	(see diagramm) Teach-In: $\leq \pm 0.5\%$ of F.S.* (at 10 m/s) ¹⁾ Standard K-Factor: $\leq \pm (0.5\%$ of F.S.* + 2.5% of Reading) ¹⁾
Linearity	$\leq \pm 0.5\%$ of F.S.* (at 10 m/s)
Repeatability	$\leq 0.4\%$ of Reading*

Electrical data	
Power supply	Standard signal: 12-30 VDC; 115/230 VAC PROFIBUS DP: 12-30 VDC Battery indicator/totalizer: 9 VDC batteries, autonomy min. 3-4 years at 20°C (lithium batteries)
Current consumption with sensor	Transmitter with relays: < 70 mA Transmitter without relay: < 20 mA
Output	Standard signal: Signal current: 4-20 mA (3-wire with relays; 2-wire without relays) max. load: 900 Ω at 30 V; 500 Ω at 24 V; 100 Ω at 15 V; 800 Ω with supply 230 VAC; Transistor open collector, NPN/PNP, 0...30 V; 100 mA, protected Pulse: Relay (option): 2 relays, freely programmable, 3A, 230 V PROFIBUS DP: Relay: 2 relays, freely programmable, 3A, 230 V Battery indicator / totalizer: None

* Under reference conditions i.e. measuring fluid=water, ambient and water temperature=20°C, applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

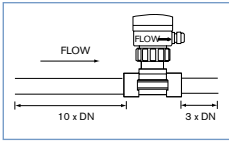
1) F.S.=Full scale (10 m/s)

Specific technical data	
PROFIBUS DP Communication	
According to DIN 19245-3	
Files	BUER6522.GSD
Min. slave delay	2 ms
BAUD Rate available	9.6; 19.2; 93.75; 184.5; 500 or 1500 Kbauds
Process data	Flow, totalizers, relay status

Installation

The 8025 flow rate transmitter can easily be installed into any Burkert insertion fitting system (S020) by just fixing the main nut.

The minimum straight upstream (10xDN) and downstream (3xDN) 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.



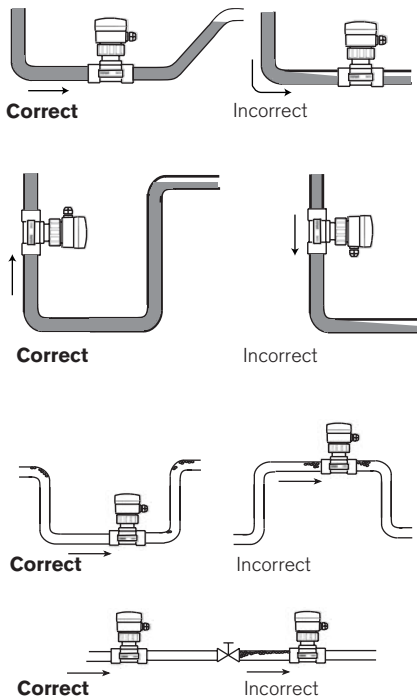
The flow rate indicator can be installed in either horizontal or vertical pipes.

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

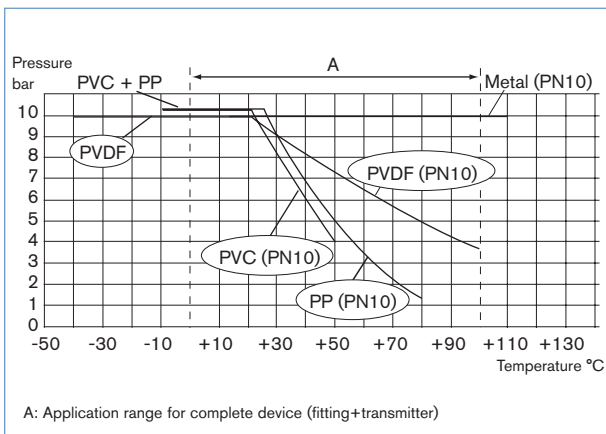
The suitable pipe size is selected using diagram Flow/Velocity/DN.

The flow sensor is not designed for gas flow measurement.

Installation positions



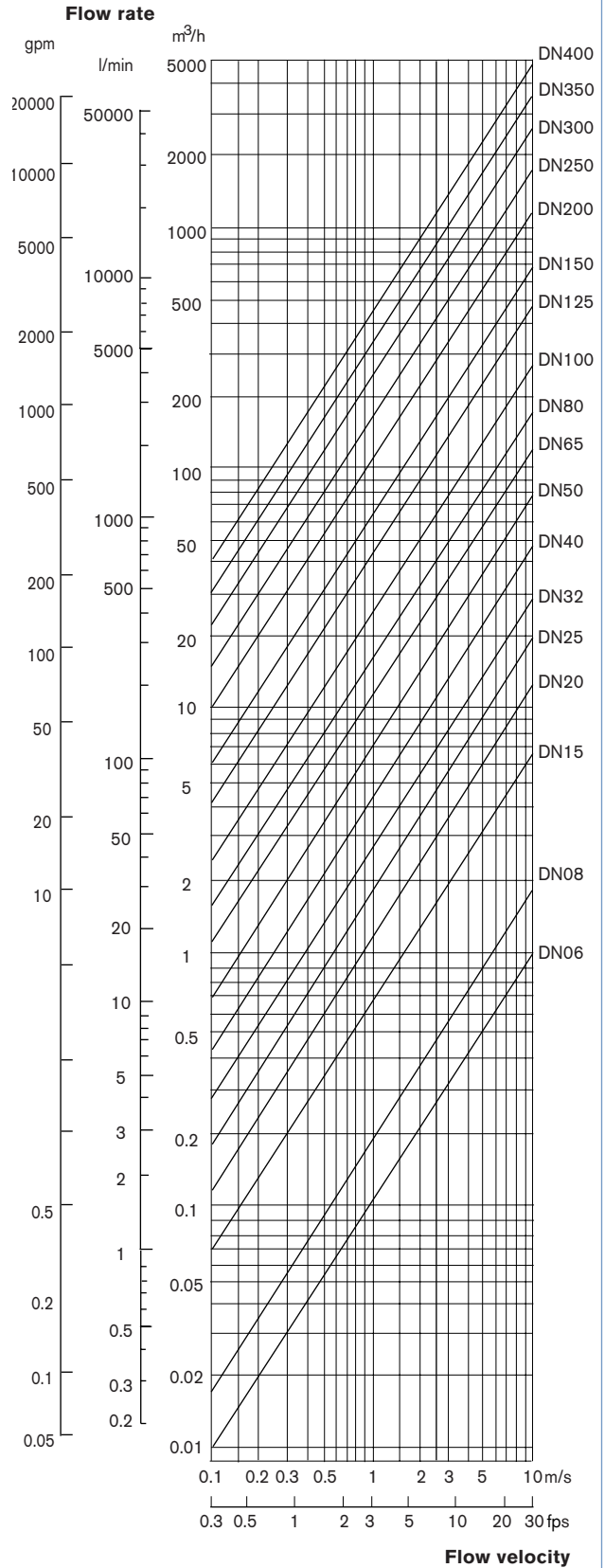
Pressure / temperature chart



Selection of fitting / pipe size

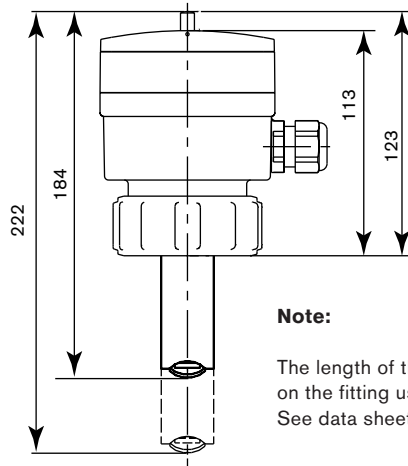
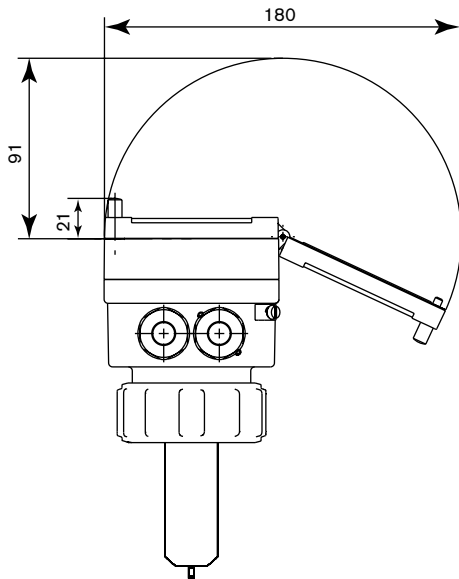
Example:

- Specification of nominal flow: 10m³/h
- Ideal flow velocity: 2...3 m/s
- For these specifications, the diagram indicates a pipe size of DN40



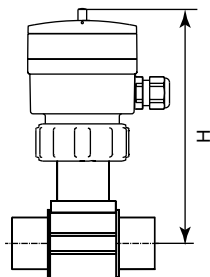
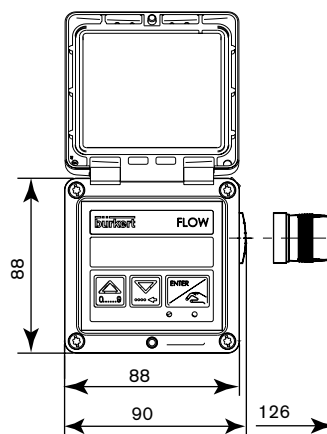
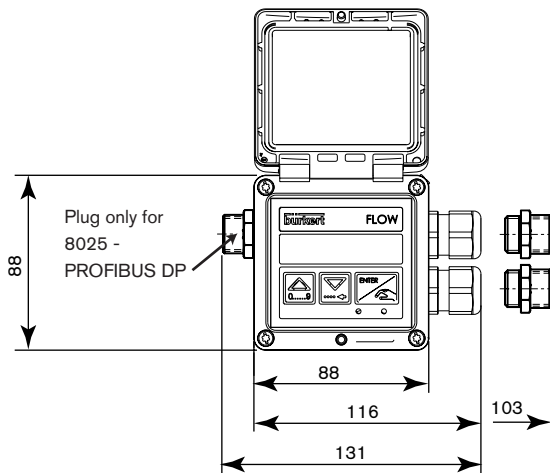
Dimensions [mm]

Compact version



Note:

The length of the sensor finger is depends on the fitting used. See data sheet Type S020.



DN [mm]	H [mm]			
	T-Fitting	Saddle	Plastic spigot	St. St. spigot
6	181			
8	181			
15	186			
20	183			
25	183			
32	187			
40	191			187
50	197	221		192
65	197	220	202	196
80		224	207	203
100		229	214	213
110		225		
125		232		224
150		242	260	235
180		266		
200		278	281	256
250			299	
300			304	
350			324	
400			338	

Remote universal transmitter Type 8025 (for connection to Burkert sensor or other sensor types...)

The remote universal transmitter

is available in two versions:

- Panel-mounted



- Wall-mounted



This flow transmitter can be associated with:

- a separate flow sensor 8020, 8030 with sinus or pulse signal (coil or hall transducer)

or

- another flow sensor available from Burkert or the market.

General data

Compatibility

Burkert flow sensor with frequency output (8020, 8030, 8030HT, 8040, 8041, 8031, 8070, 8071) and other sensors with compatible electrical data.

Materials

Housing, cover: PC (panel-mounted version); ABS (wall-mounted version)
 Front panel foil: Polyester
 Screws: Stainless Steel
 Cable plug / gland: PA

Electrical connections

Terminals (panel-mounted version) or terminals via gland (wall-mounted version)

Electrical data

Power supply

Panel-mounted version: 12-30 VDC
 Wall-mounted version: 12-30 VDC; 115/230 VAC

Current consumption without sensor

Transmitter with relays: 100 mA
 Transmitter without relay: 60 mA

Sensor input

Frequency range: 0.5 Hz or 2.5 Hz up to 1400 Hz
 Open collector NPN (with 470 Ω or 2.2 k Ω resistance) or PNP, Coil, TTL, CMOS (with 100 k Ω resistance)

Sensor output

Voltage supply: 13...30 VDC; +12 V or +27V (with a 115/230V powered transmitter)
 Current consumption: max. current available from transmitter:
 25 mA (version 115/230 VAC)
 100 mA (version 13-30 VDC)

Output Transmitter

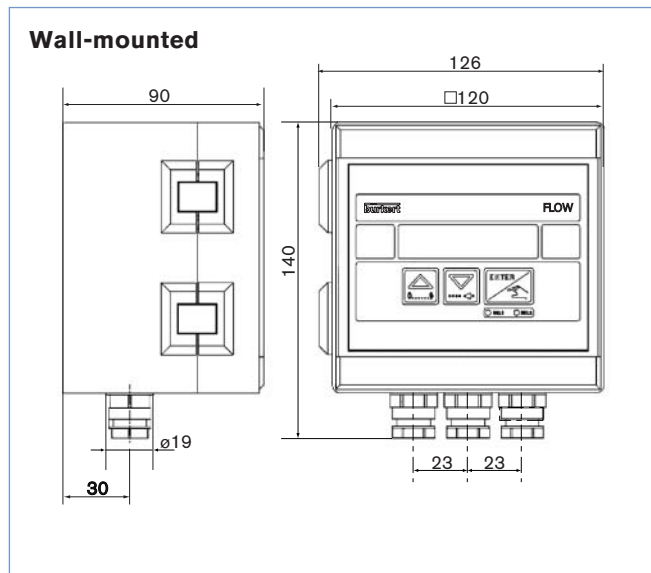
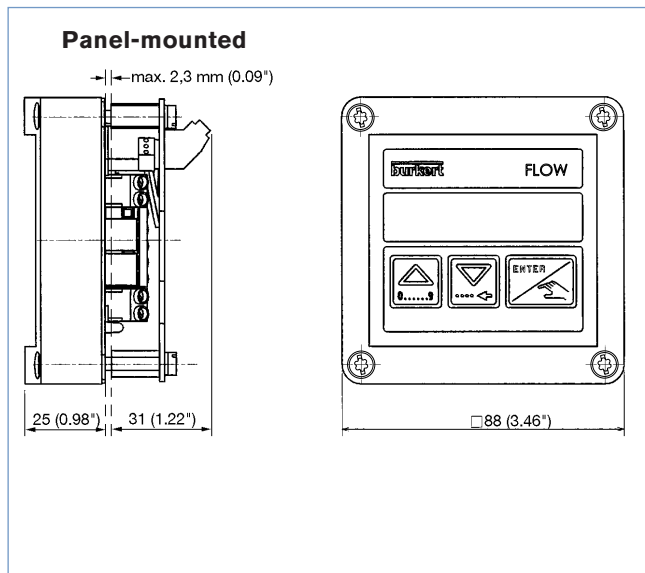
Signal current: 4-20 mA (3-wire with relays; 2-wire without relay)
 max. load: 1300 Ω at 30 V; 1000 Ω at 24 V; 550 Ω at 15 V; 400 Ω at 13 V; 1200 Ω at 115/230 VAC
 Pulse: Transistor open collector, NPN/PNP, 0...30 V; 100 mA, protected
 Relay (option): 2 relays, programmable, 3A, 230 V

Standards and approvals

Protection class

IP65 (panel-mounted and wall-mounted version)
 IP20 (panel-mounted version, inside the cabinet)

Dimensions [mm]



Remote transmitter Type 8025 (for connection to compact Burkert sensors)

The remote transmitter

is available in two versions:

- Panel-mounted



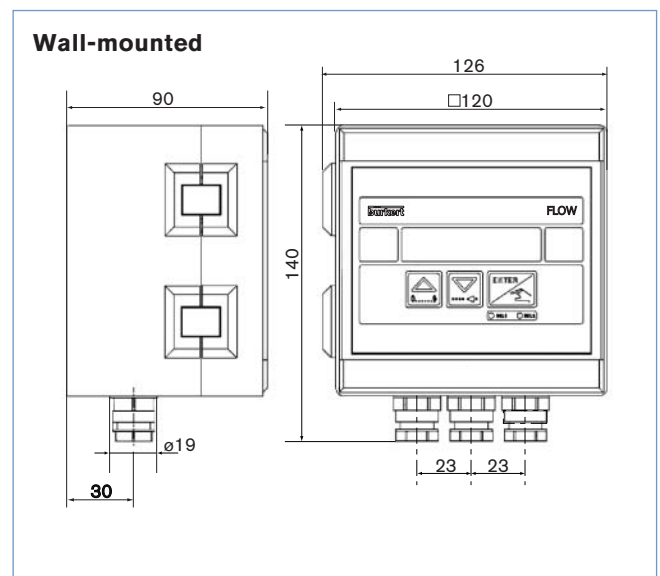
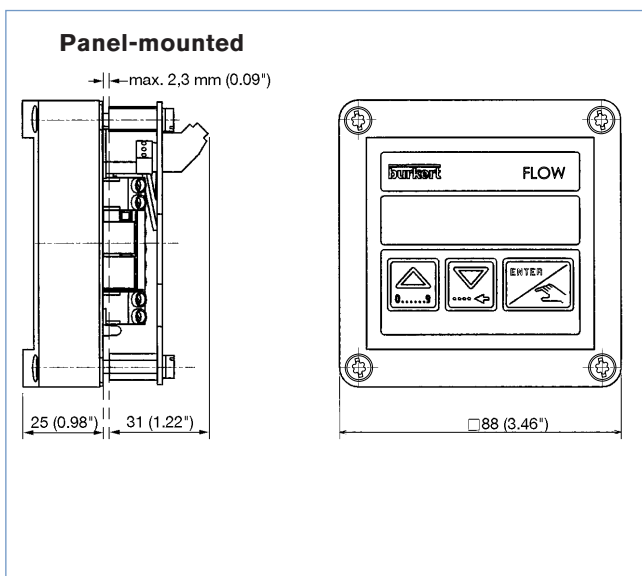
- Wall-mounted



A separate compact flow sensor 8020, 8030 or 8070 with sinus or pulse signal (coil or hall transducer) from Burkert can be associated with this flow transmitter.

General data	
Compatibility	Burkert flow sensor with frequency output 8020, 8030 or 8070 (sinus or pulse low power version).
Materials	Housing, cover: PC (panel-mounted version); ABS (wall-mounted version) Front panel foil: Polyester Screws: Stainless Steel Cable plug / gland: PA
Electrical connections	Terminals (panel-mounted version) or terminals via gland (wall-mounted version)
Electrical data	
Power supply	Transmitter: 12-30 VDC; 115/230 VAC Battery indicator/totalizer: 9 VDC batteries, autonomy min. 3/4 years at 20°C (lithium batteries)
Current consumption without sensor	with relays: ≤ 70 mA without relay: ≤ 20 mA
Sensor input	Frequency range: 2.5 Hz up to 300 Hz Transmitter: Sinus or Pulse low power (open collector NPN) Battery indicator/totalizer: Sinus only
Sensor output	Voltage supply: 12-36 VDC (Transmitter); None (Indicator / Totalizer) Current consumption: max. current available from transmitter: 1 mA
Output	Transmitter Signal current: 4-20 mA (3-wire with relays; 2-wire without relay) max. load: 900 Ω at 30 V; 500 Ω at 24 V; 100 Ω at 15 V; 800 Ω with supply 230 VAC; Pulse: Transistor open collector, NPN/PNP, 0...30 V; 100 mA, protected Relay (option): 2 relays, programmable, 3A, 230 V Battery indicator/totalizer : None
Standards and approvals	
Protection class	IP65 (panel-mounted and wall-mounted version) IP20 (panel-mounted version, inside the cabinet)
Agreements	CE, CSA, UL listed

Dimensions [mm]



Ordering chart for compact transmitter Type 8025

Compact flow transmitter or indicator / totalizer with integrated paddle-wheel sensor

A compact flow transmitter or indicator / totalizer Type 8025 consists of:




- an insertion flow transmitter or indicator / totalizer 8025 or 8025-PROFIBUS DP
- an insertion fitting S020 (DN6 - DN 400) (Refer to corresponding datasheet - has to be ordered separately)

Version	Specifications	Voltage supply	Output	Relays	Sensor version*	Electrical connect.	Item no.		
Compact	Standard signal output transmitter 2 totalizers	12-30 VDC	4-20 mA (2 wires) + pulse	None	Pulse, short	EN 175301-803	418 762		
						2 cable glands	418802		
					Pulse, long	EN 175301-803	418 763		
						2 cable glands	418 803		
					Sinus, short	EN 175301-803	418 764		
						2 cable glands	418 804		
					Sinus, long	EN 175301-803	418 765		
						2 cable glands	418 805		
		4-20 mA (2 wires) + pulse	2	Pulse, short	2 cable glands	418 778			
					Pulse, long	2 cable glands	418 779		
					Sinus, short	2 cable glands	418 780		
					Sinus, long	2 cable glands	418 781		
		115-230 VAC	4-20 mA (2 wires) + pulse	None	Pulse, short	2 cable glands	418 423		
						Pulse, long	2 cable glands	418 424	
					Sinus, short	2 cable glands	418 425		
						Sinus, long	2 cable glands	418 426	
	4-20 mA (3 wires) + pulse				2	Pulse, short	2 cable glands	418 431	
							Pulse, long	2 cable glands	418 432
							Sinus, short	2 cable glands	418 433
							Sinus, long	2 cable glands	418 434
Indicator, 2 totalizers	9 VDC Batteries	None	Sinus, short	None	418 403				
				Sinus, long	None	418 405			
Transmitter, PROFIBUS DP	12-30 VDC	---	2	Pulse, short	3 cable glands	431 696			
					Pulse, long	3 cable glands	431 697		

* Sensor version with pulse signal has a hall transducer and sensor version with sinus signal has a coil transducer.

Note: FPM gasket in standard; 1 Kit including a black EPDM gasket for the sensor, an obturator for an M20x1.5 cable gland, a 2x6 mm multiway seal and a mounting instruction sheet is supplied with each transmitter.

Ordering chart for accessories for compact transmitter Type 8025 PROFIBUS DP (has to be ordered separately)

Descriptions	Item no.
Male connector M12, can be shielded, with threaded joint, 5 pin B coding 	918 198
Female connector M12, can be shielded, with threaded joint, 5 pin B coding 	918 447
PROFIBUS DP Bus Tee, fully shielded, M12 x 1 	918 531

Ordering chart for remote universal transmitter Type 8025

Remote universal transmitter Type 8025 (panel- or wall-mounted) for connection to Burkert or other sensors.

A complete remote universal flow transmitter Type 8025 consists of:

- a remote universal transmitter Type 8025 (wall-mounted or panel-mounted)
- a Burkert flow sensor* or any (has to be ordered separately)

Version	Specifications	Voltage supply	Output	Relays	Sensor version*	Electrical connect.	Item no.
Panel-mounted	Transmitter 2 totalizers	12-30 VDC	4-20 mA (3 wires)	None	see note	Terminal strip	419 538
			+ pulse	2	see note	Terminal strip	419 537
Wall-mounted	Transmitter 2 totalizers	12-30 VDC	4-20 mA (3 wires)	None	see note	3 cable glands	419 541
			+ pulse	2	see note	3 cable glands	419 540
	230 VAC	115-230 VAC	4-20 mA (3 wires)	None	see note	3 cable glands	419 544
		230 VAC	4-20 mA (3 wires)	2	see note	3 cable glands	419 543
			+ pulse				

* See the chart about compatible and recommended interconnection possibilities with Burkert sensors.

Ordering chart for remote transmitter Type 8025

Remote transmitter, indicator / totalizer Type 8025 (for panel or wall mounting) for connection to Burkert sensor only

A complete remote transmitter, indicator / totalizer Type 8025 consists of:

- a remote transmitter Type 8025 (wall-mounted or panel-mounted)
- an insertion flow sensor Type 8020 or INLINE flow sensor SE30 (pulse or sinus version) (Refer to corresponding datasheet -has to be ordered separately)
- an insertion fitting S020 (DN6 -DN 400) or INLINE fitting S030 (DN6 - DN65) (Refer to corresponding datasheet -has to be ordered separately)

Version	Specifications	Voltage supply	Output	Relays	Sensor version*	Electrical connect.	Item no.	
Panel-mounted	Transmitter 2 totalizers	12-30 VDC	4-20 mA (2 wires)	None	8020/8030	Terminal strip	418 992	
	Transmitter 2 totalizers, agreements CSA, UL listed	12-30 VDC	4-20 mA (2 wires)	None	8020/8030	Terminal strip	552 725	
			+ pulse	2	8020/8030	Terminal strip	552 726	
Wall-mounted	Transmitter 2 totalizers	12-30 VDC	4-20 mA (2 wires)	None	8020/8030	3 cable glands	418 397	
		115-230 VAC	4-20 mA (2 wires)	None	8020/8030	3 cable glands	418 400	
	Indicator, 2 totalizers	9 VDC Batteries	4-20 mA (2 wires)	None	None	8020/8030	1 cable gland	418 402
			+ pulse					

* See the chart about compatible and recommended interconnection possibilities with Burkert sensors.

Ordering chart for accessories for transmitter Type 8025 (has to be ordered separately)

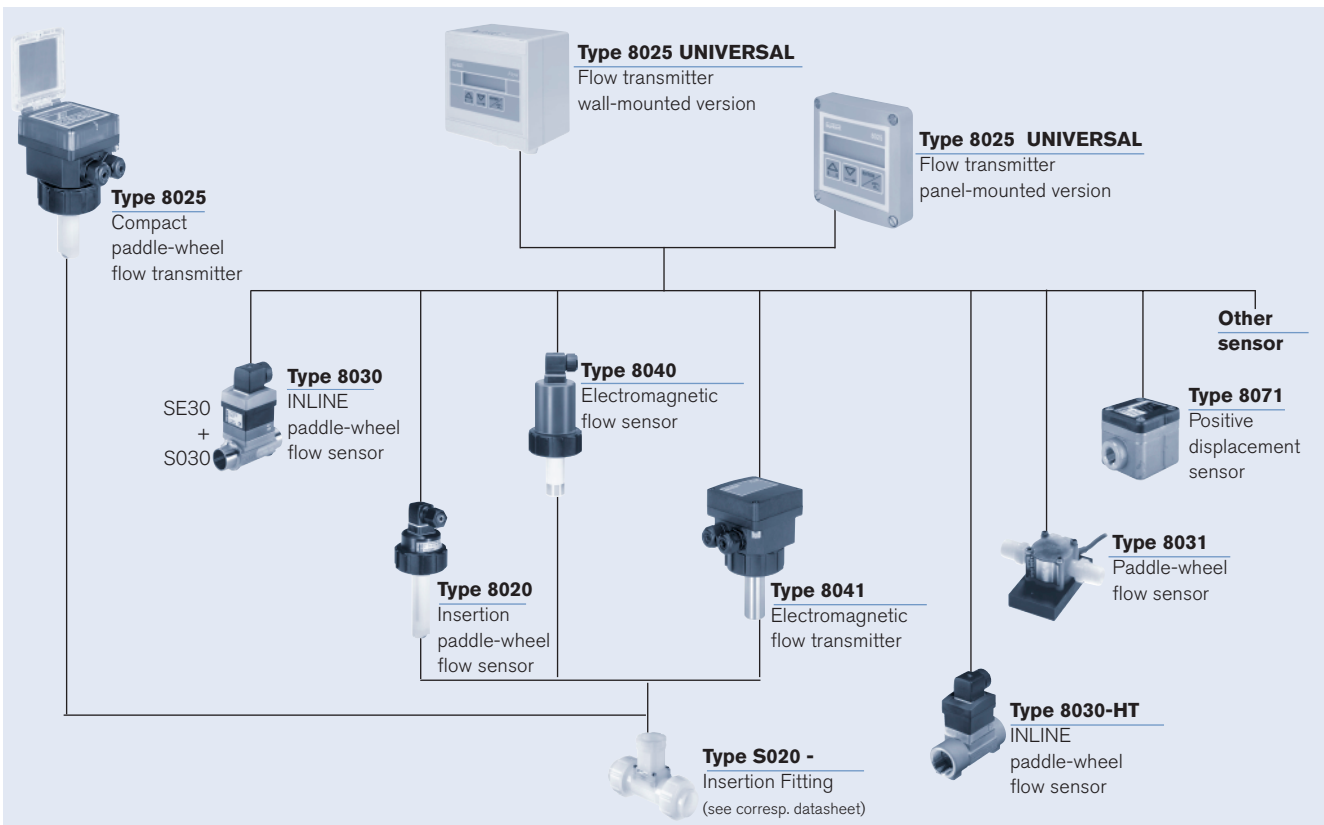
Specifications	Item no.
Set with 2 cable glands M20x1.5 + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20x1.5 + 2 multiway seals 2x6 mm	449 755
Set with 2 reductions M20x1.5/NPT1/2" + 2 neoprene flat seals for cable gland or plug + 2 screw-plugs M20x1.5	551 782
Set with 1 stopper for unused cable gland M20x1.5 + 1 multiway seal 2x6 mm for cable gland or plug + 1 black EPDM gasket for the sensor + 1 mounting instruction sheet	551 775
Ring	619 205
PC- Nut	619 204
Set with 1 green FPM + 1 black EPDM gaskets	552 111
Cable plug Type 2509 - UR and UL approval	162 673

Interconnection with other Burkert products

Sensor Type	Remote universal transmitter		Transmitter version		Battery indicator / totalizer - Wall
	Panel	Wall	Remote Panel	transmitter Wall	
8020 - Frequency output with pulse signal (open collector, NPN, PNP) - Hall transducer version (short or long)	X	X	-	-	-
8020 - Frequency output with pulse signal (open collector, NPN) - Hall transducer "low power" version (short or long)	X	X	X	X	-
8020 - Frequency output with sinus signal - Coil transducer version (short or long)	X	X	X	X	X
8030/8070 - Frequency output with pulse signal (open collector, NPN, PNP) - Hall transducer version	X	X	-	-	-
8030/8070 - Frequency output with pulse signal (open collector, NPN) - Hall transducer "low power" version	X	X	X	X	-
8030 - Frequency output with sinus signal - Coil transducer version	X	X	X	X	X
8030 High temperature - Frequency output with pulse signal (open collector, NPN, PNP)	X	X	-	-	-
8030 High temperature - Frequency output with sinus signal	X	X	-	-	X
8031- Frequency output with pulse signal (NPN)	X	X	-	-	-
8040 - Frequency output with pulse signal (NPN)	X	X ¹⁾	-	-	-
8041 - Frequency output with pulse signal (NPN)	X	X ¹⁾	-	-	-
8071 - Frequency output with pulse signal (NPN)	X	X	-	-	-

X = compatible or recommended interconnection possibilities.

¹⁾ except the 419543



To find your nearest Burkert facility, click on the orange box → www.burkert.com

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

We reserve the right to make technical changes without notice.

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