

Digital flow ELEMENT transmitter for continuous flow measurement

8036

- DN06-65 mm fluidic process connection
- Programmable outputs: one or two transistor output(s) and single or dual 4-20 mA current output(s)
- Removable backlit display of flow and/or two totalized volumes
- Automatic-calibration: TEACH-IN, simulation of outputs signals provided without the need for real flow



The Bürkert transmitter, Type 8036, is a compact device, specially designed for measuring the flow rate in solid-free liquids, in a variety of applications (water, waste water monitoring, chemical processing...).

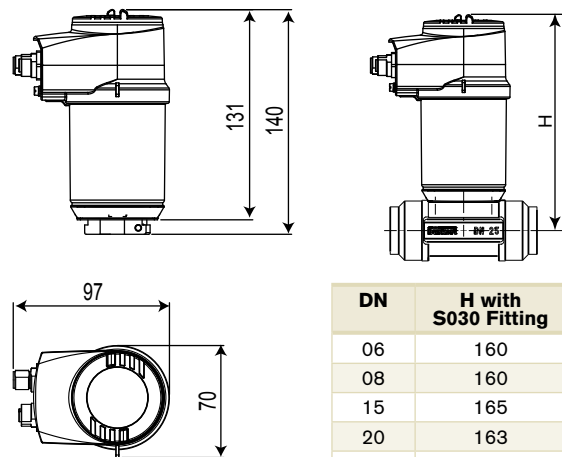
The transmitter is made up of a compact INLINE fitting equipped of a sensor with paddle-wheel and an enclosure with cover, containing the electronic module. A removable display completes this transmitter. This ensemble (SE36) is quickly and easily connected to the fitting (S030) by a Quarter-Turn.

The flow transmitter can operate without the display, but it will be required for programming the transmitter (i.e. set parameters, restore default parameters, programme information to be displayed, programme access codes, adjust 4-20 mA output(s) ...) and also for visualizing continuously the measured and processed data. (see datasheet for more information)

Technical Data

General data	
Compatibility	Any pipe from DN06-65 mm which is fitted out with Bürkert INLINE Fitting S030 (see corresponding data sheet)
Materials	See exploded view, on next page
Housing	Stainless steel 1.4561, PPS
Cover	PC
Gaskets	EPDM
Screws	Stainless steel
Fixed connector mounting plate	Stainless steel 1.4404 (316L)
Fixed connector	Brass nickel plated
Display	PC
Navigation key	PBT
Quarter-Turn system	PC
Display (accessories)	Grey dot matrix 128 x 64 with backlighting
Electrical connections	
2 or 3 outputs transmitter	1 x 5-pin M12 male fixed connector,
4 outputs transmitters	1 x 5-pin M12 male and 1 x 5-pin M12 female fixed connectors
Connection cable	Shielded cable
Environment	
Ambient temperature	-10 °C up to +60 °C (operating and storage)
Relative humidity	≤ 85%, without condensation
Complete device data (Pipe + transmitter)	
Pipe diameter	DN06 to 65
Measuring range	0.3 up to 10 m/s

Envelope Dimensions [mm] (see datasheet for details)



DN	H with S030 Fitting
06	160
08	160
15	165
20	163
25	163
32	166
40	170
50	177
65	177

Medium temperature with fitting in

PVC	0 °C to 50 °C (32 to 122 °F)
PP	0 °C to 80 °C (32 to 176 °F)
PVDF, brass or stainless steel	-15 °C to 100 °C (5 to 212 °F)

Medium pressure max.

PN10 (145 PSI) (with plastic fitting) - PN16 (232 PSI) (with metal fitting) - (PN40 on request, see S030 data sheet) - see pressure / temperature chart

Viscosity / Particles rate

300 cSt max. / 1% max.

Measurement error

Teach-In	±1% of Reading (at Teach-In flow rate value) ¹⁾
Standard K-factor	±2.5% of Reading ¹⁾

Linearity

±0.5% of F.S.*¹⁾

Repeatability



±0.4% of Reading¹⁾

¹⁾ Under reference conditions i.e. measuring fluid=water, ambient and water temperature=20°C (68°F), applying the minimum inlet and outlet pipe straights, matched inside pipe dimensions.

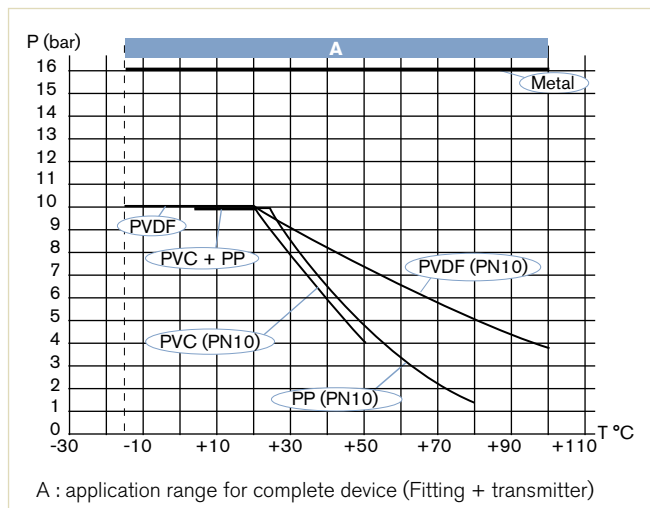
* F.S.=Full scale (10 m/s)

Technical Data (continued)

Electrical data	
Power supply	
2 or 3 outputs transmitter (2-wire)	14-36 V DC, filtered and regulated
4 outputs transmitter (3-wire)	12-36 V DC, filtered and regulated
Characteristics of the power source (not provided) of UL recognized devices	Limited power source (according to § 9.3 of the UL61010-1 standard) or Class 2 type power source (according to the 1310/1585 and 60950-1 standards)
Current consumption	
with sensor	≤ 1 A (with transistors load)
2 or 3 outputs transmitter (2-wire)	≤ 25 mA (at 14 V DC without transistors load, with current loop)
4 outputs transmitter (3-wire)	≤ 5 mA (at 12 V DC without transistors load, without current loop)
Power consumption	40 W max.
Reversed polarity of DC	Protected
Voltage peak	Protected
Short circuit	Protected for transistor outputs
Output	
Transistor	
1 Transistor output (Transmitter 2-wire)	NPN, open collector, 1 - 36 V DC, max. 700 mA
2 Transistor outputs (Transmitter 2 or 3-wire)	Configurable as sourcing or sinking (respectively both as PNP or NPN), open collector, max. 700 mA, 500 mA max. per transistor if the 2 transistor outputs are wired NPN-output: 1 - 36 V DC PNP-output: Power supply
Current	4-20 mA programmable as sourcing or sinking (in the same mode as transistors), max. loop impedance: 1100 W at 36 V DC; 610 W at 24 V DC; 180 W at 14 V DC
1 Current output (Transmitter 2-wire)	
2 Current outputs (Transmitter 3-wire)	max. loop impedance: 1100 W at 36 V DC; 610 W at 24 V DC; 100 W at 12 V DC
4... 20 mA measurement error	±1%

Standards, directives and approvals	
Protection class	IP65, IP67, NEMA 4X and NEMA 6P with M12 cable plug mounted and tightened and cover fully screwed down
Standard and directives 	EN 61000-6-2 (2005), EN 61000-6-3 (2001)
EMC	Complying with article 3 of §3 from 97/23/CE. directive*
Pressure	EN 60068-2-6 / EN 60068-2-27
Vibration / Shock	
Approvals	
UL-Recognized for US and Canada 	UL61010-1 + CAN/CSA-C22 No.61010-1
* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).	





Pressure/temperature chart



Ordering Chart

Description	Voltage supply	Output	Electrical connection	Item no.	
				without display	with display
For compact transmitter, Type SE36					
2 outputs	14 - 36 V DC	1 x Transistor NPN + 1 x 4-20 mA (2-wire)	5-pin M12 male fixed connector male fixed connector	560 880	561 880
3 outputs	14 - 36 V DC	2 x Transistor NPN/PNP + 1 x 4-20 mA (2-wire)	5-pin M12 male fixed connector male fixed connector	560 881	561 881
4 outputs	12 - 36 V DC	2 x Transistor NPN/PNP + 2 x 4-20 mA (3-wire)	1 x 5-pin M12 male + 1 x 5-pin M12 female fixed connector	560 882	561 882

Accessories

Specification	Item no.
Removable display/programmer module (with instruction sheet)	559 168
Black blank cover with EPDM seal	560 948
Transparent cover with EPDM seal	561 843
 5 pin M12 female straight cable plug with plastic threaded locking ring, to be wired	917 116
 5 pin M12 male straight cable plug with plastic threaded locking ring, to be wired	560 946
 5 pin M12 female straight cable plug moulded on cable (2 m, shielded)	438 680
 5 pin M12 male straight cable plug moulded on cable (2 m, shielded)	559 177

Note about ordering table

To select an entire device the following order items are required:

- Product no. of the desired compact flow transmitter, Type SE36
- Product no. of the selected INLINE fitting, Type S030, must be ordered separately

Important

Please be careful when ordering devices without a display, that you purchase at least one display module.

Process control made simple.

Trust, but verify. Water treatment demands powerful and precise products which work reliably and intuitively. With their modular design, the multichannel transmitter solutions from Bürkert are able to handle different sensor sizes in parallel – perfectly attuned to the respective application. Their spectrum ranges from simple measurement value recording up to sophisticated control tasks – for high quality process control and your peace of mind.

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