

Paddle-wheel flow sensor/switch with optical principle for ON/OFF control



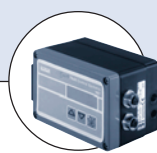
- Indication, monitoring, transmitting and ON/OFF control in one device
- Programmable outputs (Transistor or relay)
- Optical measurement principle:
 - Insensitive to magnetic fields
 - Flow sense detection
 - insensitive to ferromagnetic particles in the fluid

Type 8039 can be combined with...



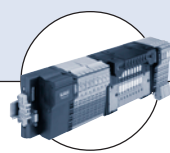
Type 2702 (8630)

Control valve with TopControl



Type 1067

Continuous SideControl



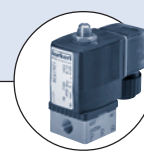
Type 8644-P AirLINE

Valve Island with electronic I/O



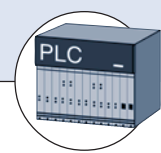
Type 2655 (8631)

Ball valve with control head



Type 6014

Solenoid valve



PLC

This intelligent sensor/switch with an extra-large display is specially designed to switch a valve and to establish a monitoring system or an On/Off control loop. The version with a frequency output makes it possible to transmit the paddle-wheel rotation

speed (2 pulses/paddle wheel rotation) directly to a PLC. Switching points can be programmed with the 3-key keypad under the display and the connection to the process in the piping is done with standard fittings.

Fitting data

| | |
|-------------------------------|---|
| Pipe diameter | 1/2 in up to 2 in (DN 6 up to DN50) |
| Measuring range | 1.0 f/s up to 32.8 f/s (0.3 up to 10 m/s) |
| Fitting | Brass & PVDF - Burkert INLINE type S039 |
| Sensor element | Paddle-wheel without magnet |
| Materials wetted parts | PVDF, ceramic, FKM |

Medium data

| | |
|----------------------------|-------------------------------|
| Medium temperature | max. 212°F (100°C) |
| Fluid pressure max. | 140 PSI (PN10) at 68°F (20°C) |

Electronic module data

| | |
|---------------------------------|------------------------------------|
| Switching accuracy | |
| Teach-In | ± 1% f.s.* |
| Standard K-factor | ± 1% f.s.*, ± 3% of measured value |
| Programming mode | |
| Threshold, window or hysteresis | |
| Repeatability | 0.4% |
| Voltage supply | 12-30 VDC |
| Reversed polarity of DC | Protected |

Outputs 8039

| | |
|---|--|
| Transistor for threshold (programmable) | NPN and/or PNP, open collector, 5-30 VDC, 700 mA max. protected against short circuits |
| Relay (programmable) | 3A/250 VAC or 3A/30VDC |
| Frequency | Transistor NPN, open collector, 5-30 VDC, 700 mA max. |

Current consumption

| | |
|-------------------|---------------------|
| Materials | |
| Housing | PC +20% glass fiber |
| Front panel folio | Polyester |

Electrical connections

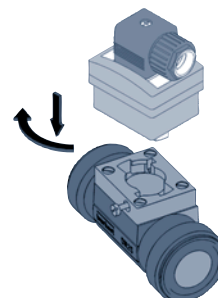
| | |
|------------|------------------------------------|
| Cable plug | Cable grommet plug 2508, DIN43650A |
| Multipin | 5 pin M12 |

General data

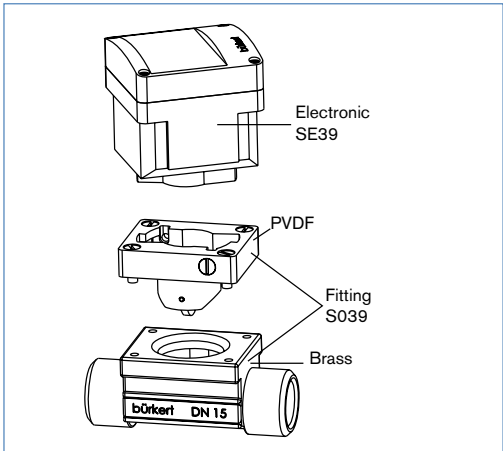
| | |
|-----------------------------|---------------------------------|
| Ambient temperature | 32°F up to 140°F (0°C to 60°C) |
| Voltage supply cable | |
| Cross-section | 0.14 up to 0.5 mm ² |
| Recommended length | Max. 328 ft (100m), shielded |
| Protection class | IP65 with connectors plugged-in |
| Standards | |
| EMC | EN 50081-1, 50082-2 |
| Security | EN 61010-1 |
| Vibration | EN 60068-2-6 |
| Shock | EN 60068-2-27 |

*f.s. = full scale

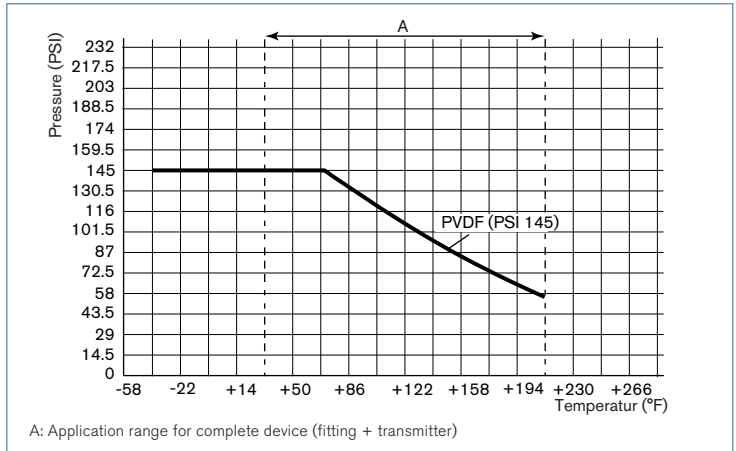
The Burkert Quarter-Turn technology



Design



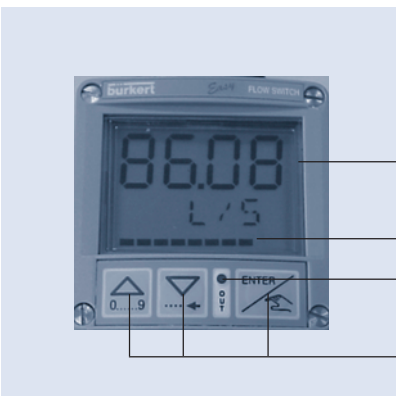
Pressure/temperature chart



DTS 1000082581 EN Version: - Status: RL (released | freigegeben | validé) printed: 13.08.2008

Main features

Display



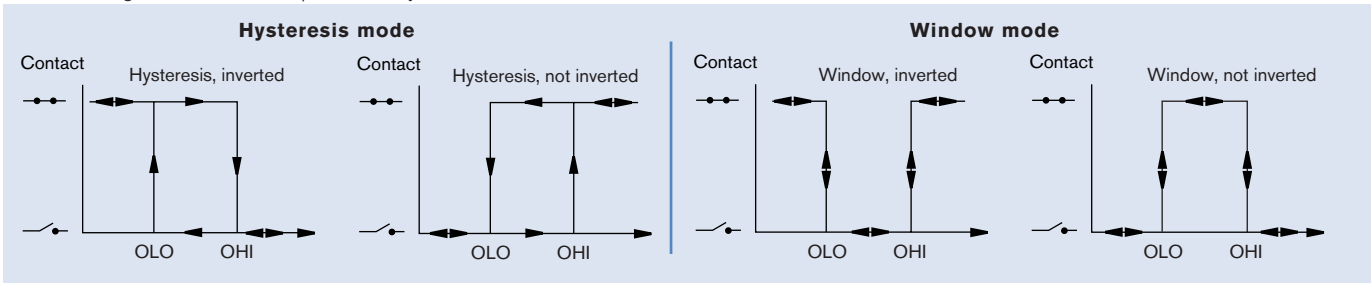
- Large digital display with 8 characters (4 digital characters and 4 alphanumeric characters)
- Bargraph
- Status of the switching output (red LED)
- 3 keys to go through the menus and program the device

Software main features

- International measuring units
- 10-segment bargraph
- Teach-In for a better accuracy
- Simulation mode to test the programming of the switching points, in dry conditions

8039 with standard On/Off output

- 2 switching modes for the output, either hysteresis or window, inverted or not



- Programmable delay before switching
- Possible outputs depending on the version: relay, transistor NPN, transistor PNP, frequency

Ordering chart for Display/Electronics

Display and Electronic Type SE39- for fitting Type S039

| Voltage supply | Output | Connector | Item no. (standard) |
|----------------|---------------------|---|---------------------|
| 12-30 VDC | NPN | Cable grommet plug DIN43650 | 440 378 Z |
| | PNP | Cable grommet plug DIN43650 | 440 379 S |
| | NPN and PNP | M12 plug 5 pins | 440 377 Q |
| | Relay | M12 plug 5 pins and cable plug DIN43650 | 440 382 E |
| | Relay and frequency | M12 plug 5 pins and cable plug DIN43650 | 447 806 T |

Note:

A complete device Type 8039 consists of a fitting Type S039 and an electronic module Type SE39. Please order the two required units separately. If a cable connector (connection M12) is needed please order that too.

Ordering chart for Fitting S039 (to be ordered separately, other versions on request)

INLINE Fitting (Brass housing & PVDF paddle-wheel holder)

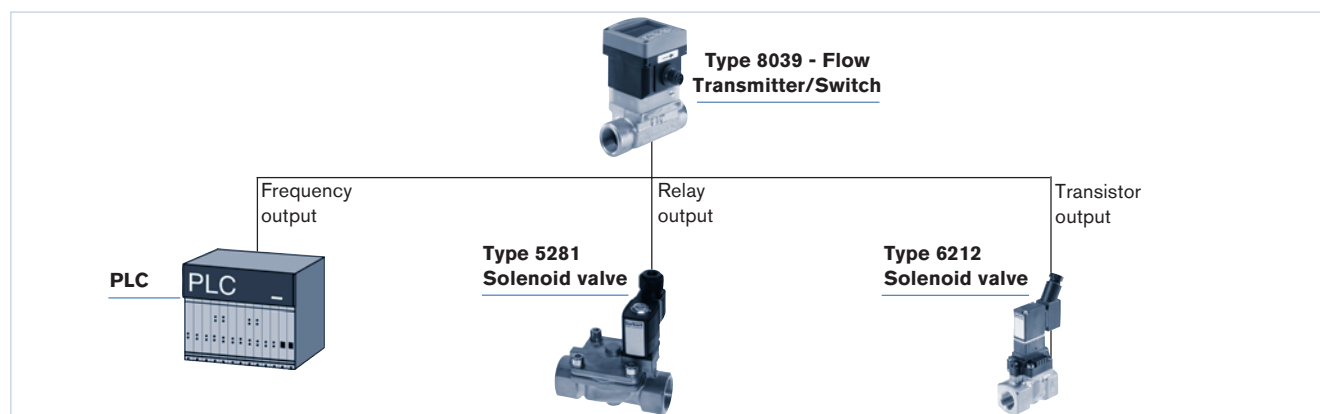
| Specification | Item no. / Orifice | | | | | | |
|---------------------|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | DN 8* | DN 15 | DN 20 | DN 25 | DN 32 | DN 40 | DN 50 |
| | 1/2" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" |
| G-port connection | 444 670 J | 440 645 M | 440 646 N | 440 467 P | 440 648 Y | 440 649 Z | 440 650 W |
| NPT-port connection | 444 671 F | 444 672 G | 444 673 H | 444 674 A | 444 675 B | 444 676 C | 444 677 D |

* Only version with external thread

Ordering chart for Accessories (to be ordered separately)

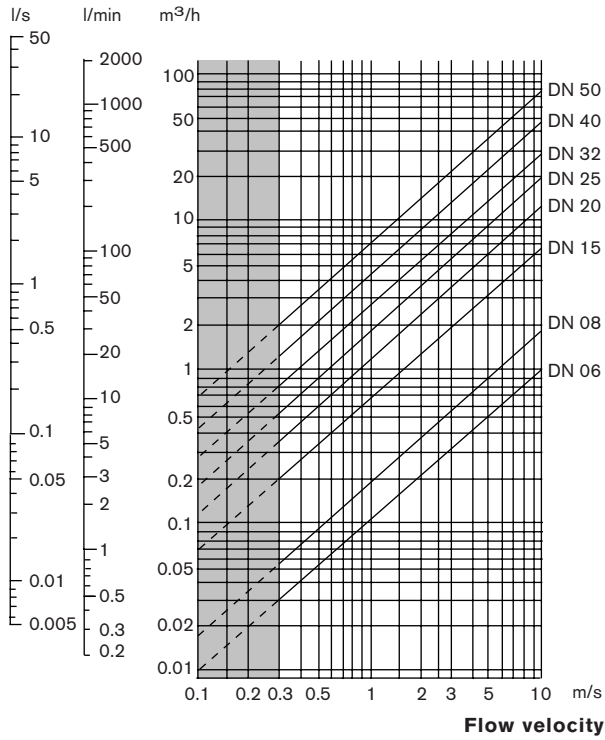
| Accessories | Item no. (standard) |
|---|---------------------|
| 5 pin M12 female cable connector with plastic threaded locking ring | 917 116 D |
| 5 pin M12 female connector moulded on cable (2m., shielded) | 438 680 F |
| Female cable plug type 2508 - DIN 43650 with cable gland | 438 811 N |
| Female cable plug type 2509 - DIN 43650 with 1/2" NPT conduit | 162 673 E |

Interconnection possibilities with the Type 8039

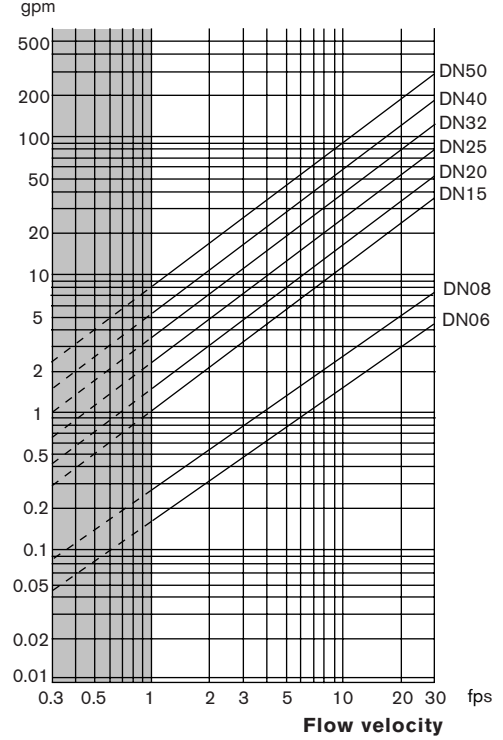


Selection of fitting/pipe size

Flow rate

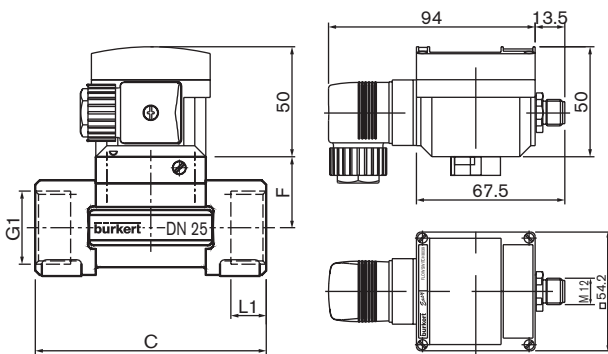


Flow rate

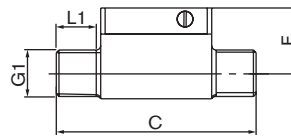


Dimensions

Internal threaded port



External threaded port (DN8)



Variable dimensions

| DN | C | F | G1 | | | L1 |
|----|-----|------|---------|-----------|----------|------|
| | | | [mm] | [inch] | [mm] | |
| 8 | 90 | 29.7 | G1/2 | NPT 1/2 | M16 x1.5 | 14.0 |
| 15 | 84 | 34.5 | G 1/2 | NPT 1/2 | - | 16.0 |
| 20 | 94 | 32.0 | G 3/4 | NPT 3/4 | - | 17.0 |
| 25 | 104 | 32.2 | G 1 | NPT 1 | - | 23.5 |
| 32 | 119 | 35.8 | G 1 1/4 | NPT 1 1/4 | - | 23.5 |
| 40 | 129 | 39.6 | G 1 1/2 | NPT 1 1/2 | - | 23.5 |
| 50 | 149 | 45.7 | G 2 | NPT 2 | - | 27.5 |

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

We reserve the right to make technical changes without notice.

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