

For the Basic Needs of Valve Control

BasicTop® Digital 10 - 30 VDC PNP/NPN

Application

BasicTop is intended for remote signalling of the open and closed position of an air-operated valve. Direct activation with the built-in solenoid valve which is connected to a common air supply line and operated by individual electrical signals to the valves. The BasicTop can be fitted on ARC, SRC, LKLA-T for LKB and other butterfly and ball valves.

Working principle

BasicTop is fitted on the top of the valve actuator and is connected with one cable and one tube for air supply. When the solenoid valve is activated, the compressed air will activate the actuator. The red activator stem (extension) in the centre of the Top Unit will activate a sensor and transmit the actual position back to the control center.

Inductive proximity sensors 10-30 VDC PNP or NPN are available.

The sensors/solenoids are standardized and therefore the electrical data are identical.

All sensors are EMC approved according to:

- EN 50081-1, Generic emission standard, commercial and light industry
- EN 50082-2, Generic immunity standard, industrial environment
- pr EN 60947-5-2, Product family standard: Proximity sensors

All test requirements are met.

The pull-up or pull-down resistance in the input stage of the PLC must ensure a proper reading of the signal from the sensors.

Standard design

BasicTop is delivered in a carton including assembly instructions. The BasicTop consists of the following main components:

- The base to fasten on top of the actuator including sensor arrangement with solenoids.
- A cover
- The activator stem (extension)
- The cable gland
- A plastic bag with air fittings (air fitting for valve and top unit has to be ordered separately from Ordering Leaflet)
- Air tube



Fig. 1. BasicTop®

Materials

All black plastic parts: Polyamide PA 6, reinforced

Red plastic parts: Polyacetal POM

Steel parts: Stainless steel AISI 304 and 316

Seals: Nitrile (NBR), FPM

Sensors: Moulded in thermo-setting plastic

Inductive proximity sensors

The type of sensor is a non-contact electronic sensor. It consists of an oscillator creating high frequency electromagnetic fields which radiate from the sensing face of the sensor.

Every approaching conductive metal (damping target) causes a reduction of the electromagnetic field.

The result is a current change of the output of the sensor.

Technical Data*** Air input and output**

Max. pressure:	1000 kPa (10 bar)
Max. particles of dirt:	0.01 mm
Max. oil content:	1.0 ppm
Dewpoint of compressed air:	≥ 10°C below ambient temperature
Max. water content:	0.0075 kg/kg air
Air connection:	R 1/8" (BSP) OD 6 mm tube

*** Environment****Temperature**

Working:	IEC 68-2-1/2	-5°C to +55°C
Storage:	IEC 68-2-1/2	-40°C to +85°C
Temperature change:	IEC 68-2-1/4	-25°C to +70°C
Vibrations: (working)	IEC 68-2-6	10-55 Hz, 0.7mm 50-500 Hz, 10g, 3 x 30 minutes
Protection class:		IP67

Droptest:

IEC 68-2-32

Humidity

Cyclic humidity: (Storage/working)	IEC 68-2-30	+25°C / +55°C 12 cycles
Constant humidity: (working)	IEC 68-2-3	+40°C, 504 hg 93% R.H.

*** Solenoid valves**

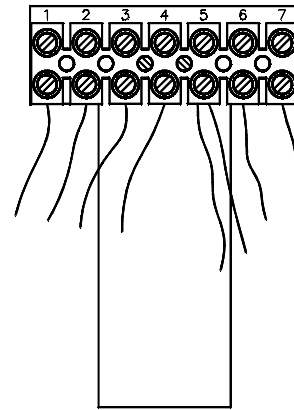
Type:	Bürkert type 301-C-1.2-1.6-3/2
Available voltage:	24 V DC
Power consumption:	DC: 4W
Protection:	Not connected to earth
Optional function:	Manually operated

Inductive proximity sensors

Signal output:	Digital PNP or NPN
Supply voltage:	10-30 VDC
Operational current:	0-100 mA
Switching frequency:	1000 Hz
No-load supply current:	15 mA
Off-state current:	0.5 mA
Voltage drop:	3 V
Reverse polarity protection	

Signals

	NPN	PNP
Activated sensor	0	1
Non-activated sensor	1	0

Electrical connections

1. +10-30 VDC (common) sensors
2. Output signal
3. Output signal
4. - (0) VDC (common) sensors
5. - (0) VDC (common) solenoids
6. + 24 VDC solenoid 1
7. + 24 VDC solenoid 2

Cable gland max. PG7 (ø6,5 - 8) mm.

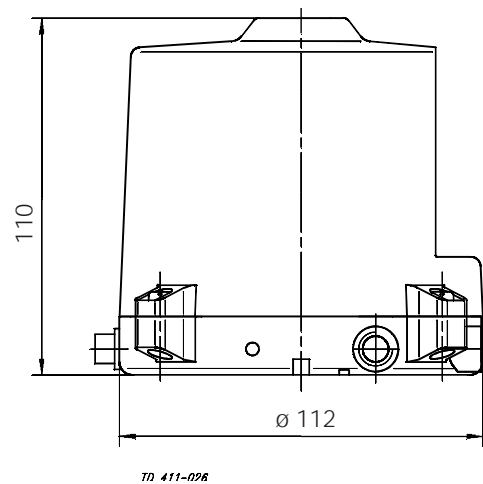
Dimensions

Fig. 2. Dimensions

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**Ordering**

Please state the following when ordering:

- Solenoid valve(s): quantity (1 or 2)
- PNP or NPN signals

Note! For further details, see also instruction manual 70843.