



Leave Surveillance to the Top

Alfa Laval ThinkTop® Digital 8-30 VDC PNP/NPN

Concept

The ThinkTop® is designed to ensure optimum valve control in conjunction with Alfa Laval butterfly, single-seat and Mixproof valves and it is compatible with all major PLC systems (Programmable Logic Controller with PNP/NPN interface). It is for use in food, dairy and brewery installations and in biopharmaceutical applications.

Working principle

The ThinkTop® is a control head including indication units and solenoid valves to control all kinds of processing valves. It is used to control and supervise pneumatic valves and it is mounted on the top of the valve. It receives signals from a PLC to control the valve and it sends feedback signals to the PLC to indicate when the valve is in a certain position. To adapt the sensor board to the specific valve and to the application, the user sets up the ThinkTop either by the local keys or by using the key pad (which is ordered separately). When using the key pad it is not necessary to dismantle the top unit.



TECHNICAL DATA

Communication

Interface Digital
Supply voltage 8-30 VDC

Sensor board

Power supply 24 VDC, 1 W
Feedback signal #1 Closed valve
Feedback signal #2 Open valve
Feedback signal #3 Seat-lift 1 or 1 Ext. signal
Feedback signal #4 Seat-lift 2 or 1 Ext. signal
Feedback signal #5 Status
Valve tolerance band 1-5
Default tolerance band ± 0.197 in
Sensor accuracy ± 0.0039 in
Stroke length 0.0039 - 3.149 in

Solenoid valve

Supply voltage 24 VDC ± 10%, 1 W
Air supply 43.5 - 130.5 PSI
Type of solenoids 3/2-ways or 5/2-ways
Numbers of solenoids 0-3
Manual hold override Yes
Throttle function air inlet/outlet 0100 %
Push-in fittings 1/4"

PHYSICAL DATA

Materials

Plastic parts Blue Nylon PA 12 Reinforced
Steel parts Stainless steel 304 and 316
Seals Nitrile (NBR) rubber

Environment

Working temperature -4 °F to +185 °F
Protection class IP66 and IP67

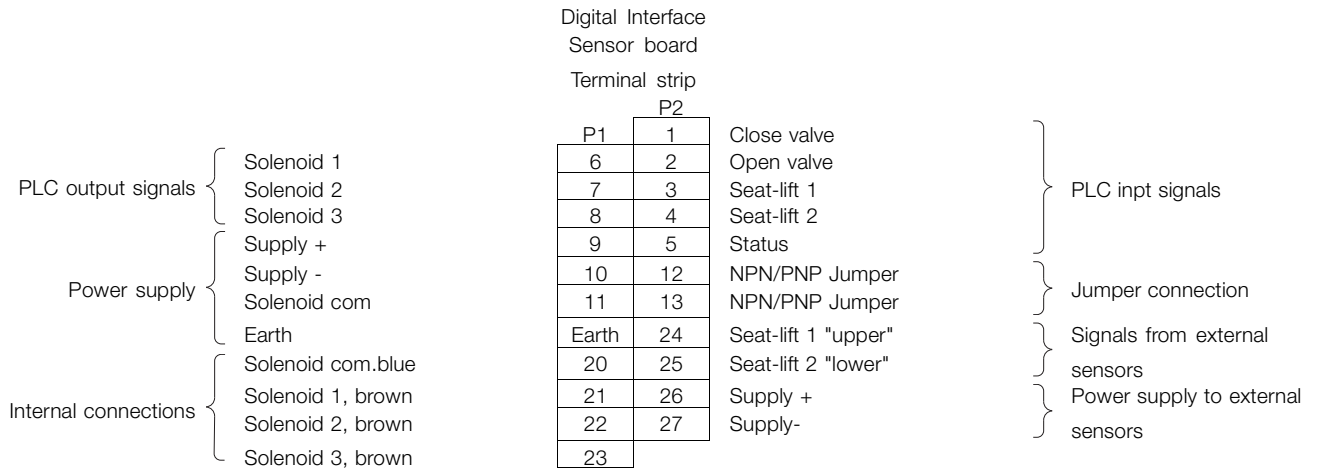
Cable connection

Main cable gland PG11 (ø0.16 - ø0.39 in)
Cable gland for external sensor PG7 (ø0.12 - ø0.26 in.)
Max wire diameter 0.03 in2 (AWG 20)

Typical Power Consumption ThinkTop

| Test conditions = One ThinkTop connected with 1 feedback active (on) and | | |
|--|-----------------------|--------|
| No solenoid valve on | Supply voltage 24 VDC | 30 mA |
| 1 solenoid valve active | Supply voltage 24 VDC | 75 mA |
| 2 solenoid valves active | Supply voltage 24 VDC | 120 mA |
| 3 solenoid valves active | Supply voltage 24 VDC | 165 mA |

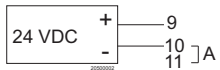
Electrical connection



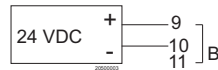
Example of connecting power supplies

When using one power supply for sensor system and solenoid valves:

Example of connecting power supplies

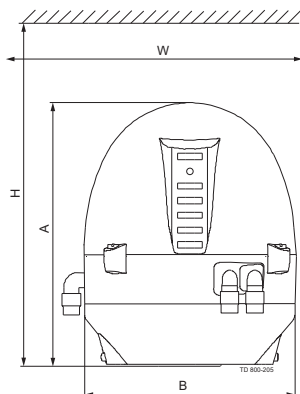


A. Jumper if positive activation of solenoids



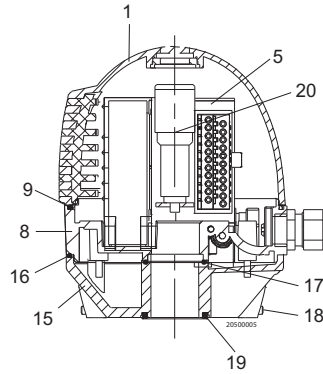
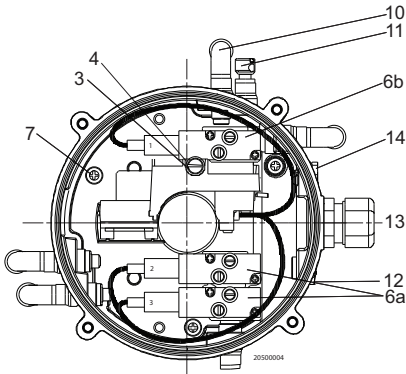
B. Jumper if negative activation of solenoids

Dimensions



| Note! This is the basic design. Recommended clearance around the ThinkTop | | | | |
|--|------|-------|------|-------|
| Valve Type | W | H | A | B |
| Unique SSV NC | 8.86 | 9.84 | 6.76 | ø5.39 |
| SMP-SC/-BC/-TO | 8.86 | 9.84 | 6.76 | ø5.39 |
| Unique Mixproof | 8.86 | 9.84 | 6.76 | ø5.39 |
| MH | 8.86 | 9.84 | 6.76 | ø5.39 |
| SBV | 8.86 | 9.84 | 6.76 | ø5.39 |
| Unique SSV NO | 8.86 | 12.59 | 6.76 | ø5.39 |
| LKLA-T | 8.86 | 11.81 | 6.76 | ø5.39 |

Basic design



1. Shell
2. N/A
3. Screw
4. Washer
5. Sensor board
6. Solenoid valve*
7. PT screw
8. Base
9. Special X-ring, grey
10. Air fittings
11. Blow-off valve
12. Thread plug, PG7
13. Cable gland, PG11
14. Gore Vent. membrane
15. Adapter
16. Special X-ring, black
17. O-ring
18. Allen screw
19. Special X-ring
20. Indication pin

* 6a: Solenoid valve (3/2)

* 6b: Solenoid valve (3/2 or 5/2).

Options

- 16.4 ft. PVC control cable 0.47 x 0.02 in2, (AWG 20); 9611993627
- Gore Vent. w/adaptor (Fig. 1 Basic Design pos. 14) for ThinkTop before November 2006; 9613431501

Accessories

- IR keypad
- External PNP sensors
- Main Cland PG11
- Cable gland PG7 for external sensor
- External sensor bracket for Unique Mixproof

Ordering

When ordering please purchase the following:

- Digital 8-30 VDC PNP/NPN.
- Number of solenoid valves (0-3).
- Type of solenoid valves (3/2 or 5/2).
- Push-in fittings $\varnothing 6$ mm or 1/4"
- Please state if for series 700 valves.
- Special indication pin; 9613158101 For Unique SSV-LS valves
- Special indication pin; 9612637001 For SRC-LS Stop valve size 2½"-4"/DN 65 - 100
- Special indication pin; 9613158101 For Unique SSV High Pressure valve size 3"-4"/DN 80100

Note!

For further information: See also ESE000353

The ThinkTop has Patented Sensor System, Registered Design and Registered Trademark owned by Alfa Laval

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