Alfa Laval ThinkTop® AS-Interface

Leave Surveillance to the Top

Concept

The ThinkTop® is a uniform modular control unit that consists of a proven no-touch, set-and-forget sensor system with light-emitting diodes (LEDs), solenoid valves and valve control sensor board for connection to any PLC (Programming Logic Controller) system with one of the three interfaces; Digital, AS-Interface and DeviceNet. ThinkTop is offering a solution that utilizes all the features available on Alfa Laval butterfly, single-seat and Mixproof valves and is designed for use in the dairy, food and beverage, and biopharm industries; ThinkTop provides real-time information about valve operating status 24/7 while helping to improve production performance and secure traceability.

Working principle

ThinkTop is an automated control unit that can be fitted with up to three solenoid valves and who convert the electrical PLC and sensor signals into mechanical energy to open or close the air-operated valve, using the physical stimulus of an indication pin mounted on the valve stem. ThinkTop fits onto all Alfa Laval hygienic actuators equipped with mushrooms. Installation is straightforward; no special expertise, adapters or tools are required. To initiate manual setup, simply press the push-button startup sequence. Or set up without dismantling the control head using the optional IR keypad for remote control.

TECHNICAL DATA

Communication

Interface option 1	AS-Interface v2.1, 31 node
Supply voltage	29.5V - 31.6 VDC
Slave profile	7.F.F.F
Default slave address	0
Interface option 2	AS-Interface v3.0, 62 node
Supply voltage	29.5V - 31.6 VDC
Slave profile	7.A.7.7
Default slave address	0

Sensor board

Max current consumption	45mA
Feedback signal #1	Closed valve
Feedback signal #2	Open valve
Feedback signal #3	Seat-lift 1
Feedback signal #4	Seat-lift 2
Feedback signal #5	Status
Valve tolerance band options	5
Default tolerance band	± 5 mm
Sensor accuracy	±0.1 mm
Stroke length	0.1 - 80 mm

Solenoid valve

Max current consumption	45mA
Air supply	300-900 kPa (3-9 bar)
Type of solenoids	3/2-ways or 5/2-ways
Numbers of solenoids	0-3
Manual hold override	Yes
Throttle air in/out 1A, 1B	0-100 %
Push-in fittings	ø6 mm or 1/4”

PHYSICAL DATA

Materials

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

Environment

Working temperature	-20 °C to +85 °C
Protection class	IP66 and IP67
Protection class equivalent	NEMA 4.4x and 6P

Cable connection

Main cable gland	PG11 (4 - 10 mm)
Optional main M12 plug	2 wire (A coded)
Max wire size	0.75 mm^2 (AWG 19)
Optional cable gland	PG7 (4 - 6,8 mm)

Note!

For further information: See also ESE00356

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

CE

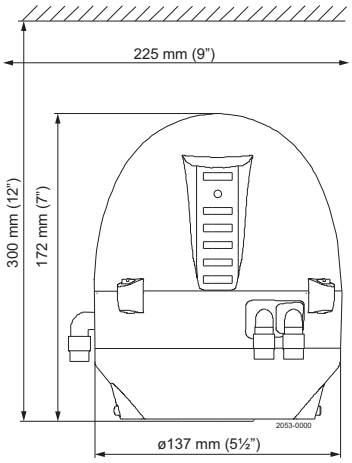
c UL us LISTED

Options
- Communication interface
- Solenoid valve configurator
- Pneumatic tubing interface
- Main cable connection

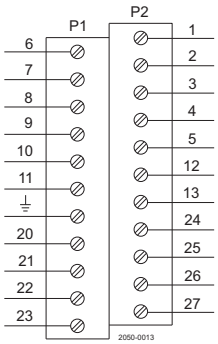
Accessories
- Remote programming (IR keypad)
- For upper seat-lift detection on Mixproof valves:
  - External PNP sensors (Refer to Brackets and Inductive Sensors)
  - Cable gland PG7
  - External sensor bracket (Refer to Brackets and Inductive Sensors)

- Various cable options
- Threaded plate for indication pin on SRC, SMP-BC and i-SSV valves
- Special indication pin for Unique SSV-LS, Unique SSV High Pressure valves
- Adaptor for Unique SSSV valves

Dimensions

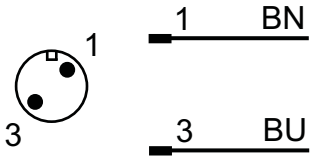


Electrical connection



6	ASI + (BN, Brown)	1	N/C
7	ASI - (BU, blue)	2	N/C
8	N/C	3	N/C
9	N/C	4	N/C
10	N/C	5	N/C
11	N/C	12	PWM Jumper
Earth	Earth	13	PWM Jumper
20	Solenoid common grey	24	Seat-lift 1 “upper”
21	Solenoid 1, grey	25	Seat-lift 2 “lower”
22	Solenoid 2, grey	26	Supply +
23	Solenoid 3, grey	27	Supply -

M12 Plug option



AS-Interface bits assignment

For AS-interface version with 31 and 62 node, the following bit assignment can be used.

DI0	Feedback #1 Closed valve
DI1	Feedback #2 Open valve
DI2	Feedback #3-4 Seatlift 1 or Seatlift 2
DI3	Feedback #5 Status
DO0	Out #1 Not connected
DO1	Out #2 Solenoid valve 1
DO2	Out #3 Solenoid valve 2
DO3	Out #4 Solenoid valve 3

ESE00298en 1801

How to contact Alfa Laval
Contact details for all countries
are continually updated on our website.
Please visit www.alfalaval.com to
access the information direct.