



When Indication is all you Need

Indication Units for LKB/LKLA

Concept

The indication units from Alfa Laval are designed as a simple and easy to use, electrical feedback unit for Laval sanitary butterfly valves. The units are compatible with all major PLC (Programmable Logic Controller with PNP/NPN interface) and used in food, dairy and brewery installations and in biopharmaceutical applications.

Working principle – Micro switch

A micro switch can be compared with a standard light switch but in a very small size and light in weight, a so called sub-miniature switch. It is activated mechanically by a roller leaf. Standard function is normally open (NO), normally closed (NC) and is always a digital signal (on/off).

Working principle – Hall proximity switch

The Hall prox. switches are also non-contact electronic switching elements. The sensor registers a magnetic field and consists of a Hall element matching part. The output signal is always on/off, digital and is ideal for modern computer processing. These indication units are available for the output polarity PNP/NPN.

Output polarity:	NPN	PNP
Activated sensor	0	1
Non-activated sensor	1	0

These indication units are easily mounted without any further mechanical adjustments and have to be installed laterally between the air operated actuator and the valve. The code numbers can be found in the Alfa Laval Product Program for the different valve types.

The hall proximity switch units are interchangeable with Alfa Laval IndiTop without rewiring the plug connection

TECHNICAL DATA

Communication

Indication type	Micro switch
Interface	On/Off Digital
Supply voltage	24-55 VDC
Supply voltage	110 VAC
Min load	100 mA
Max load	1 A
Feedback signal #1	De-energized valve
Feedback signal #2	Energized valve
Switch accuracy	± 2 mm

Communication

Indication type	Hall proximity switch
Interface	On/Off Digital
Output polarity	Output polarity
Supply voltage	5-24 VDC (Yellow)
Supply voltage	5-24 VDC (Green)
Supply voltage	20-30 VDC (Grey)
Min load	10-15 mA
Feedback signal #1	De-energized valve
Feedback signal #2	Energized valve
Switch accuracy	± 2 mm



PHYSICAL DATA

Materials

Plastic parts	Nylon PA 6 and POM
Steel parts	Stainless steel DIN 914 A2. Brass
Rubber parts	SEBS

Compatible actuators

LKLA ø85	Yes
LKLA ø133	Yes
LKB	Yes
LKB-2	Yes

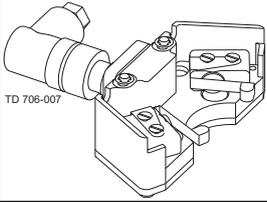
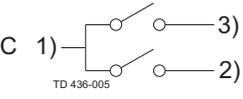
Environment

Working temperature	-20°C to +85°C
Protection class	IP67

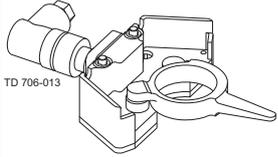
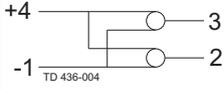
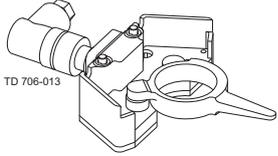
Cable connection

Encapsulated	M12 plug, incl. M12 socket
Wire diameter	0.129 mm ² (AWG26)
Cable gland entry	PG7 (ø3 - ø6.5 mm)

Electrical connection

<p>Micro Switch</p> <p>Type: NO or NC.</p> <p>Signal output: On/off, digital.</p> <p>Supply voltage: 24-55 (110) VDC/VAC.</p> <p>Supply current: Min. 100 mA. Max. 1 A.</p> <p>Note! As the unit is not earthed it should not be used for voltage exceeding 55 V.</p>		<p>For valve types: LKB/LKLA</p> <p>C 1)  3) 3. ø3 closed valve 2) 2. ø2 open valve</p> <p>TD 436-005</p>
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Electrical data and connection

<p>Hall proximity switch NPN, yellow coloured:</p> <ul style="list-style-type: none"> - Signal output: Digital - Supply voltage: 5 to 24 VDC. Built-in regulator. - Supply current: Max. 10 mA, normally 5 mA. - Output: NPN open collector, max. 24 V, 25 mA. - Activation: Magnet, N-pole. - Temperature range: -20°C to 70°C. <p>Hall proximity switch PNP, grey coloured:</p> <ul style="list-style-type: none"> - Signal output: Digital - Supply voltage: 20 to 30 VDC. Built-in regulator. - Supply current: Max. 15 mA, normally 10 mA. - Output: PNP open collector, max. 24 V, 150 mA. - Activation: Magnet, N-pole. - Temperature range: -20°C to 70°C. 	<p>For valve types: LKB/LKLA</p>  <p>TD 706-013</p>  <p>TD 436-004</p> <p>3. ø3 closed valve 2. ø2 open valve</p>
<p>Technical data for female M12 plug</p> <ul style="list-style-type: none"> - Voltage: 250V AC/DC - Current: 4A - Temperature: -25 - +90°C - PA66 - IP67 - PG9, cable diameter OD ≥ 6 ≤ 9mm <p>The plug is 90° angled and can be turned 4 x 90°</p>	 <p>TD 706-013</p>

Notel

The counterpart connector (M12 angled socket) are delivered within the same indication unit package

For further information: See also ESE001257

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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.