

Intelligent Feedback Unit

SISTO-SK-i

For Linear Valves
Stroke: Up to 60 mm

Type Series Booklet



SISTO

Legal information/Copyright

Type Series Booklet SISTO-SK-i

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Intelligent Actual-position Feedback Unit

Standards and technical codes / directives

Intelligent Actual-position Feedback Unit for Linear Valves

Standards

Enclosure to EN 60529	IP65
Safety class to EN 61140	Safety class III

SISTO-SK-i

Directives

EMC Directive	2014/30/EU
RoHS Directive	2011/65/EU
Machinery Directive	2006/42/EG



Product description of SISTO-SK-i

SISTO-SK-i is a compact intelligent actual-position feedback unit for linear valves. Valve position is indicated visually and clearly by means of colour-coded high-visibility LEDs. User-friendly setting of limit positions and fast commissioning by automatic on-site initialisation or via the process control system.

SISTO-SK-i continuously records valve travel and comprises a microcontroller-based analysing unit. Valve position is signalled visually by the device's high-visibility LEDs and electrically via digital outputs.

Main applications

- Biotechnology
- Chemical industry/Fine chemicals
- Food industry / beverage industry
- Pharmaceutical industry
- Process industry

Variants

Process interfaces

24 V	→ SK-i.310
IO-Link	→ SK-i.310 ¹⁾
AS interface	→ SK-i LED AS-i

Control

- Actual-position feedback unit
- Actual-position feedback unit with integrated 3/2-way solenoid valve for decentralised process automation
 - SF or OF actuator: 1 solenoid valve
 - AZ actuator: 2 solenoid valves (SK-i.310 only)

¹ Expected to be available from the third quarter of 2025

SISTO-SK-i.310



- Open/closed position feedback and fault status via digital output
- Status indication and position indication via high-visibility LEDs
- Pneumatic actuator control via integrated pilot valve (optional)

Product benefits

- Automatic initialisation for fast commissioning
- Remote initialising possible
- Precise and wear-free measurement system
- Smooth, easy-to-clean surfaces

Related documents

Table 3: Information/documents

Document	Reference number
Operating manual SISTO-SK-i.310	8676.82

Variants

Process interfaces

- 24 V → SK-i.310
 IO-Link → SK-i.310²⁾

Control

- Actual-position feedback unit
- Actual-position feedback unit with integrated 3/2-way solenoid valve for decentralised process automation
 - SF or OF actuator: 1 solenoid valve
 - AZ actuator: 2 solenoid valves

Operating data

Table 1: Operating properties

Characteristic	Value
Stroke [mm]	2 - 60
Min. permissible temperature [°C]	≥ -30
Max. permissible temperature [°C]	≤ +60

Materials

Table 2: Overview of available materials

Description	Material	Material number
Lower housing section	Plastic, black	PA66-GF30
Housing cover	Plastic, transparent	PA6
Electrical connection	X2CrNiMo17-12-2	1.4404

Design details

- Compact actual-position feedback unit for mounting on linear valves
- Electrical connection via M12 plug
- Continuous valve travel recording via non-contact, wear-free measurement system

Ordering key

Table 4: Ordering key

Ordering example: SK-i. 3 1 0 24 0M 30 00 01							
Product generation	3	1	0	24	0M	30	00 01
Housing material							
Plastic	1						
Interface							
24 V			24				
IO-Link			IO				
Control							
0 MV				OM			
1 MV (SF/OF)				1M			
2 MV (AZ)				2M			
Size							
Standard (stroke: 30 mm)					30		
High (stroke: 60 mm)					60		
Approval							
EU						00	
Mounting options							
SISTO-C LAP.520 MD 30 - MD 65							01
SISTO-C LAP.520 MD 92- MD 115 K100							02
SISTO-C LAP.520 MD 115 K160							03
SISTO-C LAP.520 MD 168							04
SISTO-C LAP.520 MD 202							05

² Expected to be available from the third quarter of 2025

Technical data of SISTO-SK-i.310 24 V

Table 5: Electrical data of SISTO-SK-i.310 24 V

Characteristic	Value
Electrical connection	8-pin M12 round plug connector
Supply voltage [V]	24 +/- 10 %
Current input [mA]	80
Duty ratio	100 %
Digital outputs	24 V, max. 100 mA, short-circuit-proof <ul style="list-style-type: none"> ▪ Open ▪ Closed ▪ Fault
Digital inputs	24 V, low: 0 - 3 V, high: 18 - 24 V <ul style="list-style-type: none"> ▪ Remote initialisation

Table 6: Pin assignment of SISTO-SK-i.310 24 V

Connector	Pin	Assignment
	1	+ 24 V
	2	DO Open ³⁾
	3	0 V
	4	DO Closed ³⁾
	5	DI Teach-in ⁴⁾
	6	DI Solenoid valve ⁴⁾⁵⁾
	7	DO Fault ³⁾
	8	Not used

Technical data of SISTO SK-i.310 IO-Link

Table 7: Electrical data of SISTO-SK-i.310 IO-Link ⁶⁾

Characteristic	Value
Electrical connection	5-pin M12 round plug connector
Port class	A
Supply voltage [V]	24 (+/-25 %)
Specification	IO-Link V1.1.3
Duty ratio	100 %

Table 8: Pin assignment of SISTO-SK-i.310 IO-Link ⁶⁾

Connector	Pin	Assignment
	1	+24 V
	2	Not used
	3	GND
	4	C/Q IO-Link
	5	Not used

³⁾ Binary output
⁴⁾ Binary input
⁵⁾ With integrated solenoid valve only
⁶⁾ Expected to be available from the third quarter of 2025

Indicator and operating elements of SISTO-SK-i.310

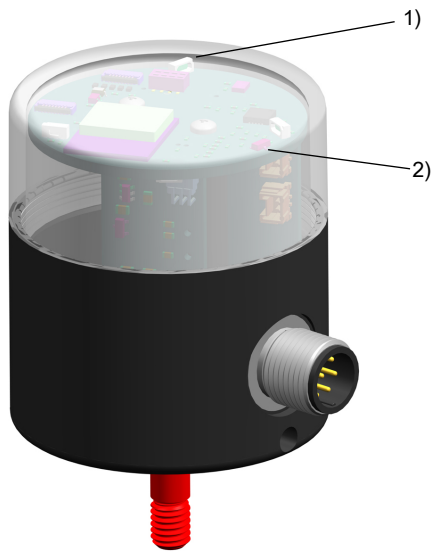


Fig. 1: Indicator and operating elements of SISTO-SK-i.310

1	High-visibility LED	2	Magnetic sensor for on-site initialisation
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Table 9: Colour code of high-visibility LED

Colour code of high-visibility LED	Operating status
Orange	Valve in open position
Green	Valve in closed position
Yellow	Warning
Red	Fault
White	Initialising
Blue	Not initialised

Additional technical data of SISTO-SK-i.310 with solenoid valve

Table 10: Electrical data

Characteristic	Value
Current input [mA]	140
Additional digital input	Solenoid valve

Table 11: Pneumatic data

Characteristic	Value
Threaded port	Internal thread M5
Flow rate [l _N /min.]	19
P max. [bar]	8

SISTO-SK-i.310 with solenoid valve is suitable for compressed air as control fluid in accordance with ISO 8573-1.

Table 12: Quality class of air as control fluid

	Operation above 0 °C	Operation down to -10 °C
Quality class	5.4.4	5.3.4
Filter	40 µm	40 µm
Oil concentration	5 mg/m ³	5 mg/m ³
Dew point	+3 °C	-20 °C

For determining the required air quality consider the specifications of all components used in the system.

Pneumatic connection

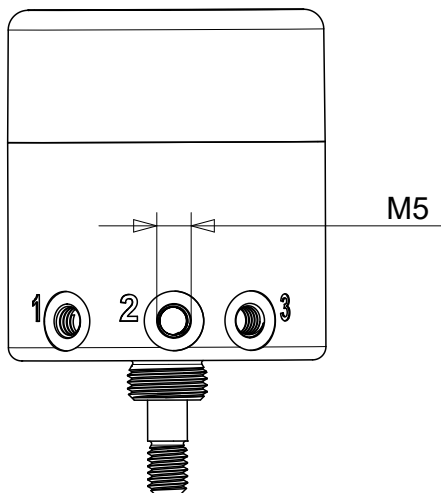


Fig. 2: Pneumatic connection of SK-i.310

Table 13: Terminal configuration

Connection	Assignment	Connection
1	Air supply	
2	Actuator	
3	Air outlet	

Dimensions and weights

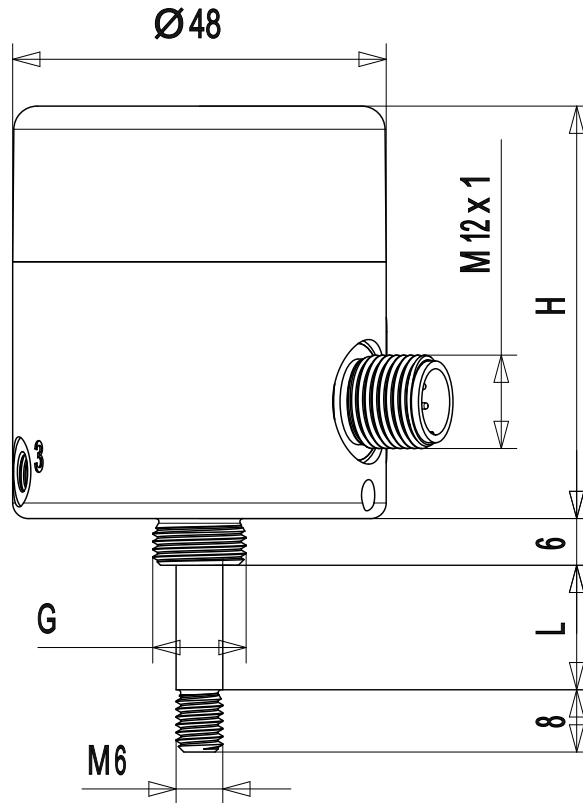


Fig. 3: SISTO-SK-i.310

Mechanical data

Table 14: Dimensions table of SISTO-SK-i.310

Valve actuator	SISTO-C LAP.520				
Order code for mounting options ⁷⁾	01	02	03	04	05
Diaphragm diameter	30 - 65	92 - 115	115 K160	168	202
Adapter thread G	M12 x 1			M18 x 1	
Max. stroke L	16	30	36	56	67,5
Rod length [mm]	28	46	52	72	83,5
Size [mm]	30			60	
Height H [mm]	53			83	
Diameter [mm]	48				
Weight [kg]	0,07			0,08	

⁷⁾ Further mounting variants available on request

Accessories of SISTO-SK-i.310

Set comprising programming magnet, Allen key and lanyard

Order number: 42504056



Fig. 4: Accessories of SISTO-SK-i.310

1)	Lanyard	2)	Programming magnet	3)	Allen key
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SISTO-SK-i LED AS-i



Variants

Housing

- Plastic
- Stainless steel (1.4404)

Control

- Integrated 3/2-way solenoid valve (SF or OF actuator)

Operating data

Table 15: Operating properties

Characteristic	Value
Stroke [mm]	5 - 45
Min. permissible temperature [°C]	≥ -30
Max. permissible temperature [°C]	≤ +60

Materials

Table 16: Overview of available materials

Description	Material	Material number
Lower housing section	Plastic, black	PA66-GF30
Lower housing section	X2CrNiMo17-12-2	1.4404
Housing cover	Plastic, transparent	PA6
Electrical connection	X2CrNiMo17-12-2	1.4404

Design details

- Binary fault output
- Electrical connection via M12 plug
- Compact actual-position feedback unit for mounting on linear valves
- Continuous valve travel recording via microcontroller
- Open/closed position feedback
- Status indication and position indication via high-visibility LEDs

Product benefits

- Easy on-site initialisation by magnet
- Remote initialising possible
- AS-i field bus connection
- Smooth, easy-to-clean surfaces

Related documents

Table 17: Information/documents

Document	Reference number
Operating manual SISTO-SK-i LED/SK-i LED AS-i	8676.81

Ordering key

Table 18: Ordering key

	Ordering example: SK-i	LED	A	6	KO	OO
Product generation	LED					
Interface						
AS interface	A					
Control						
Actual-position feedback unit		1				
With integrated solenoid valve (SF/OF)		6				
Housing material						
Plastic				KO		
Stainless steel 1.4404				OO		
Mounting options						
SISTO-C LAP.520 MD 30 - MD 65						01
SISTO-C LAP.520 MD 92- MD 115						02
SISTO-C LAP.520/530 MD 168						03

Technical data of SISTO-SK-i LED AS-i

Table 19: Electrical data of SISTO-SK-i LED AS-i

Characteristic	Value
Electrical connection	5-pin M12 round plug connector
Supply voltage [V]	26,5 - 31,6
Current input [mA]	Approx. 85
Duty ratio	100 %
AS-i specification	V3.0

Table 20: AS interface profile

Characteristic	Value
I/O configuration	7
ID code	A
ID1 code	*
ID2 code	E

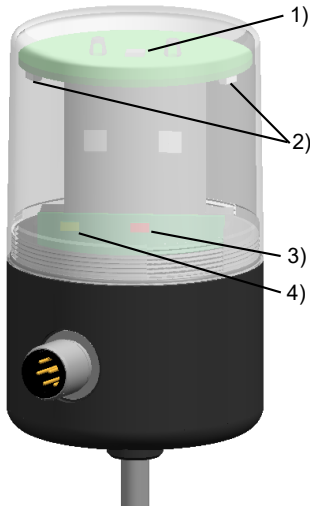
Table 21: Inputs of SISTO SK-i LED AS-i (AS-i master perspective)

Bit	Function	Logic
D10	OPEN position	0 = "Not open" position 1 = "Open" position
D11	CLOSED position	0 = "Not closed" position 1 = "Closed" position
D12	Ready	0 = Normal operation 1 = Initialisation mode
D13	Fault	0 = Normal operation 1 = Fault Alternating at 1 Hz = valve not initialised

Table 22: Outputs of SISTO-SK-i LED AS-i (AS-i master perspective)

Bit	Function	Logic
DO0	Operate valve	0 = Pilot valve not operated (if fitted) 1 = Pilot valve operated
DO1	Not connected	-
DO2	Activate teach-in	0 = Normal operation 1 = Initialisation mode
DO3	Not connected	-

Indicator and operating elements of SISTO-SK-i LED AS-i



1)	Magnetic sensor	2)	High-visibility LED
3)	AS-i Fault	4)	AS-i Power

Table 23: Colour code of high-visibility LED

Colour code of high-visibility LED	Operating status
Orange	Valve in open position
Green	Valve in closed position
Red	Fault
Yellow	Initialising
Blue	Not initialised

Table 24: Colour code of LED

Colour code of LED	Operating status
Green	AS-i Power
Red	AS-i Fault

Connector pin assignment of SISTO-SK-i LED AS-i

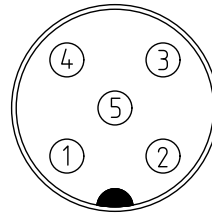


Fig. 5: Connector of SISTO-SK-i LED AS-i

Table 25: Pin assignment

Pin	Assignment
1	AS-i +
2	Not used
3	AS-i -
4	Not used
5	Not used

Pneumatic connection

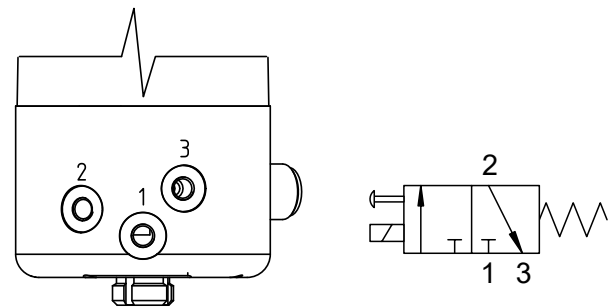


Table 26: Assignment of threaded ports

Threaded port	Assignment
1	Air supply
2	Actuator
3	Air outlet

Additional technical data of SISTO-SK-i LED AS-i with solenoid valve

Table 27: Electrical data

Characteristic	Value
Current input [mA]	Approx. 135

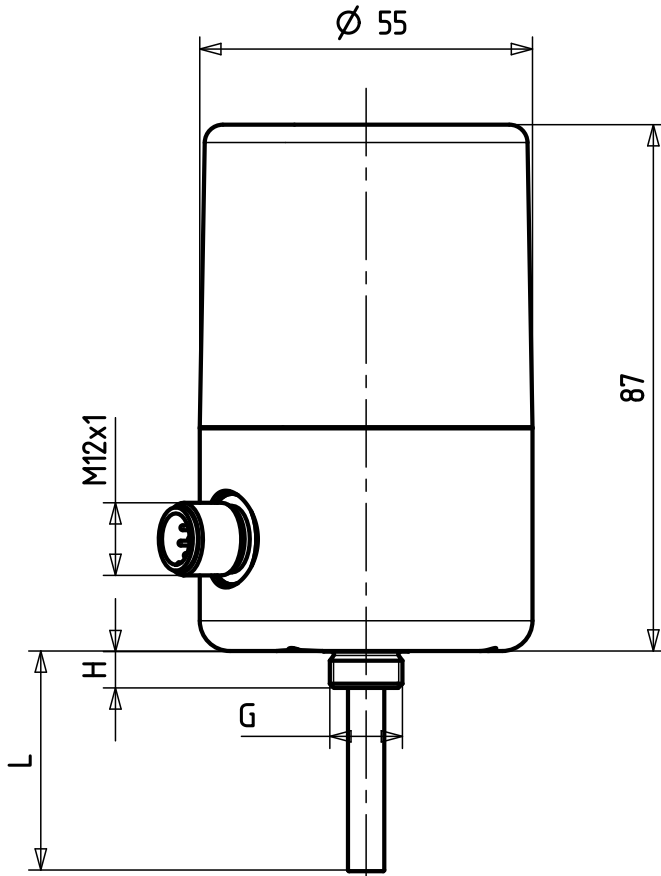
Table 28: Pneumatic data

Characteristic	Value
Threaded port	Internal thread M5
Flow rate [$l_N/min.$]	15
P max. [bar]	10
Compressed air quality	ISO 8573-1 3/3/3

Table 29: Materials

Description	Material	Material number
Pneumatic connection	X2CrNiMo17-12-2	1.4404

Dimensions and weights



SISTO-C LAP.520

Mechanical data

Table 30: Dimensions table of SISTO-SK-i LED/SK-i LED AS-i

Dimensions	[mm]
Diameter	55
Height	87
Stroke	5 - 45

Table 31: Weights

Material	Material number	Weight [kg]
Plastic, black	PA66-GF30	0,170
X2CrNiMo17-12-2	1.4404	0,380

Table 32: Linear valves, variants for actuator SISTO-C LAP.520/.530⁸⁾

Order code for mounting options	01	02	03
L [mm]	38	38	59
G	M12 x 1	M18 x 1	M18 x 1
H [mm]	6	6	8
Diaphragm diameter [mm]	30 - 65	92 - 115	168

⁸ Further mounting variants available on request

Accessories of SISTO-SK-i LED

Set comprising programming magnet, wire pin and lanyard

Order number: 42493506



Fig. 6: Accessories of SISTO-SK-i LED

1)	Lanyard	2)	Programming magnet	3)	Wire pin
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