

Control Unit

C-TOP S

I Application

The C-TOP S control unit can adapt to any INOXPA actuator, and both efficiently and individually automate pneumatically driven process valves. These include: butterfly, ball, diaphragm and single or double seat valves.

I Operating principle

The control unit contains a linear detection electronic module comprised of several hall sensors.

A PLC systems sends signals to the solenoid valves through the unit's electronic module to control and operate the main valve. At the same time, the electronic module sends return signals to the PLC to indicate the valve's current position.

The C-TOP S is configured using the electronic module's buttons.

A specific colour for each valve position lights up to indicate the valve's current status at all times. The unit's coloured lights can be configured using the DIP switches that are also found on the electronic module.

I Technical specifications**Materials:**

Plastic parts	PA6
Nuts and bolts	A2
Gaskets	NBR
Pneumatic connections	Nickel-plated brass

Outdoor use	C1 – protected areas
Storage temperature	-20 to 50 °C
Ambient temperature	-5 to 50 °C
Protection rating	IP65, IP67

Stroke	≤ 80 mm
Maximum shaft diameter	22 mm
Fastening type	Screws
Operating medium	Filtered compressed air, filtration grade 40 µm, lubricated or non-lubricated

Measurement principle	Magnetic, the Hall effect, contactless
Measurement parameter	Position
Accuracy	±0.8 mm
Visual indicators	LED

Solenoid valves:

Amount	0-3
Type	3/2 ways, normally closed with manual interlocking
Operating pressure	3 to 7 bar
Voltage supply	24 V DC ± 10%
Power consumed	0.35W

Compressed air supply (1)	Screwed adapter G1/8, QS-8 (for a Ø8 mm pipe)
Service ports (A1... A3)	Screwed adapter G1/8, QS-6 (for a Ø6 mm pipe)
Exhaust (3)	Screwed silencer G1/8
Max. line length	30 m



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1 Design and features

The C-TOP S installs easily onto the top of the valve's actuator.

AUTOTUNE mode enables quick and simple configuration.

Line detection using hall sensors.

Use of up to three solenoid valves possible. One solenoid valve is required for single-acting control valves, two for double-acting control valves, and three for mixproof valves.

External sensor connection possible.

360° view of lights indicating valve status.



Electronic module

Different coloured lights to indicate valve status:



Indicates the start and end of the different operating modes



Indicates transition



Indicates an electronic fault with the device

Personalisation of the visual indicator colours for each valve position using DIP switches possible, based on the following table:

DIP 1	DIP 2	DIP 3	Output 1	Output 2	Output 3	Output 4
0	0	0	blue	green	yellow	orange
1	0	0	green	blue	yellow	orange
0	1	0	green	yellow	blue	orange
1	1	0	blue	yellow	green	orange
0	0	1	yellow	blue	green	orange
1	0	1	yellow	green	blue	orange
0	1	1	blue	green	orange	orange
1	1	1	green	blue	orange	orange



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FT-C-TOP S-EN_1120

I 24 V DC digital communication

Voltage supply	24 V DC \pm 10%
Outputs	PNP normally open
Terminal	Push-in type, nominal cable section from 0.2 to 1.5 mm ² (22AWG to 16AWG)
Main input	M16 stuffing gland x 1.5 (4 to 10 mm diameter cable)
External sensor input	M16 plug x 1.5

Electrical connections

Version for up to 1 solenoid valve and 3 outputs



Marking	Description
O 3	Output position 3
O 2	Output position 2
O 1	Output position 1
I 1	Input 1 (solenoid valve 1)
-	0 V (GND)
+	24 V DC

Version for up to 3 solenoid valves and 4 outputs



Marking	Description
O 4	Output position 4
O 3	Output position 3
O 2	Output position 2
O 1	Output position 1
Ext -	0V (GND) external sensor
Ext +	24 V DC external sensor
Ext S	External sensor signal
I 3	Input 3 (solenoid valve 3)
I 2	Input 2 (solenoid valve 2)
I 1	Input 1 (solenoid valve 1)
-	0 V (GND)
+	24 V DC



I AS-interface communication

Voltage supply	AS-i cable from 29.5 to 31.6 V DC
Terminal	Push-in type, nominal cable section from 0.2 to 1.5 mm ² (22AWG to 16AWG)
Main input	M16 stuffing gland x 1.5 with a 2 m cable and a 4 pole male M12 connector
External sensor input	M16 plug x 1.5
Version	v3.0 (A/B addressing and up to 62 nodes)
Slave profile	7A77

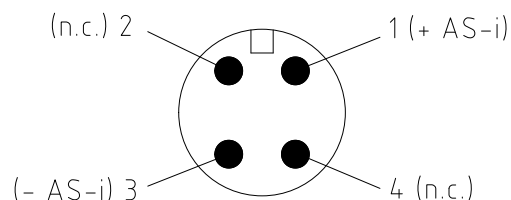
Bits configuration

AS-i data bit	D3	D2	D1	D0
Master input	position 4	position 3	position 2	position 1
Master output	not configured	solenoid valve 3	solenoid valve 2	solenoid valve 1

Electrical connections

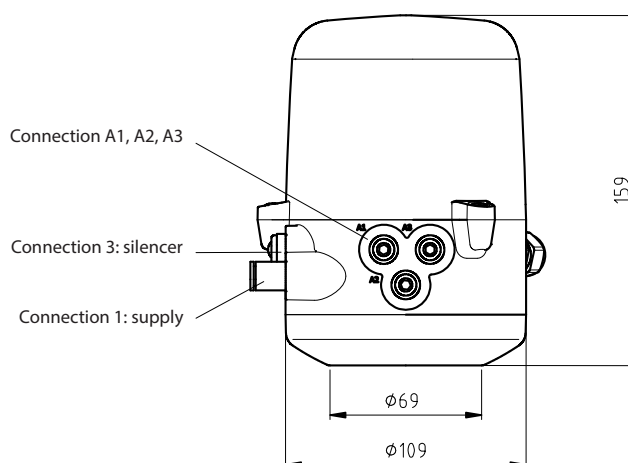
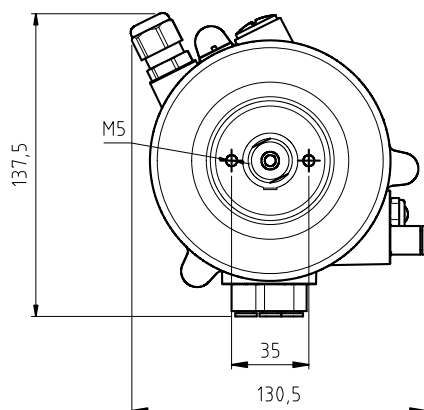


Marking	Description
Ext -	0V (GND) external sensor
Ext +	24 V DC external sensor
Ext S	External sensor signal
-	- AS-i (pin 3)
+	+ AS-i (pin 1)



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I Dimensions



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