



### I Application

The C-TOP+ is a pneumatic control unit designed to ensure an optimum control over the INOXPA process valves. It is compatible with most PLC (Programmable Logic Controllers) automated systems with digital communication.

C-TOP+ can be installed to any current process valve in the food-processing, beverage and biopharmaceutical industries.

### I Operating principle

The C-TOP+ control unit incorporates indication and command devices to control pneumatically operated process valves.

This unit as a single piece has the following features:

- Pneumatic and electric control over the valve
- Position sensors with feedback

The control units are fitted to the pneumatic actuator. It receives signals from a control panel or from a PLC to actuate the valves and sends signals to the PLC or to the control panel to communicate the status/position of the valve.

C-TOP+ unit contains three LEDs constantly indicating the operating status of the valve. A fourth LED (white) indicates whether the operating voltage supply is connected.

White LED	Red LED	Green LED	Yellow LED	Description
○	○	○	○	Operating voltage not applied (no led illuminated)
☀	○	○	○	Operating voltage is applied, no sensor activated
☀	○	●	○	Sensor S1 is activated
☀	●	○	○	Sensor S2 is activated
☀	○	○	☀	Sensor S3 is activated
☀	○	●	☀	Sensor S4 (external) is activated

### I Design and features

The design of the C-TOP+ unit is simple, modular and resistant that guarantees the maximum flexibility. Depending on the product version it has up to three 3/2 solenoid valves (NC) and three sensors. If necessary, an additional external sensor and an additional external solenoid valve can be connected.

The sensors are actuated contact-free by a magnet attached to the control rod. The sensor can be magnetoresistive or magnetic reed type and it is activated without contact with a magnet in the shaft control.

The C-TOP+ units can be set up according to the customer's requirements.

Configuration of solenoid valves

- Single-acting actuation - 1 solenoid valve
- Double-acting actuation - 2 solenoid valves
- Mixproof valve – 3 solenoid valves

Configuration of sensors

- 1 position (closed or open valve) - 1 detector
- 2 positions (closed and open valve) - 2 detectors
- 3 positions (open valve, closed valve, Mixproof seat cleaning) - 3 detectors

**I Materials**

End cap	Polypropylene
Housing	Reinforced polypropylene
Plate	Reinforced polypropylene
Seals	EPDM
Screws	Stainless steel

**I Technical specifications**

Outside use	C1 – weather protected areas
Stroke	≤ 70 mm
Max. stem diameter	22 mm
Mounting position	360°
Type of mounting	Screw-clamped
Operating medium	Filtered compressed air, grade of filtration 40 µm, lubricated or non lubricated
Measuring principle	Magnetic reed (micro), Bipolar, NA Magneto-resistive (inductive), PNP, NA
Measured variable	Position
Display	LED
Solenoid valves	3/2 way, NC
Operating pressure	3 ... 8 bar
Nominal operating pressure	6 bar
Standard nominal flow rate	200 l/min
Storage temperature	-20 ... 60 °C
Ambient temperature	-5 ... 50 °C
Protection class (in mounted status)	IP65, IP67
Operating voltage DC	24 V DC ± 10%

**Pneumatic connections:**

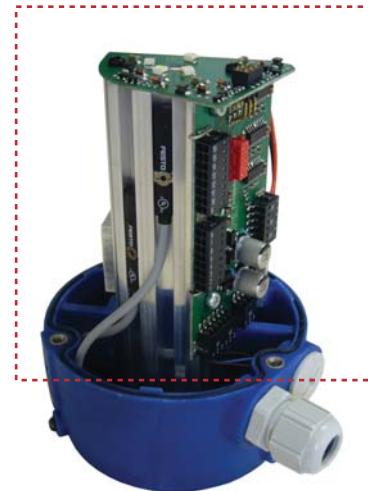
Connection 1: compressed air connection for operating pressure      QS-8 (for tubing diameter 8 mm)

Connection 3: exhaust      Integrated silencer

Connection A1 ... A3: working lines of the solenoid valves      QS-6 (for tubing diameter 6 mm)

Max. line length      30 m

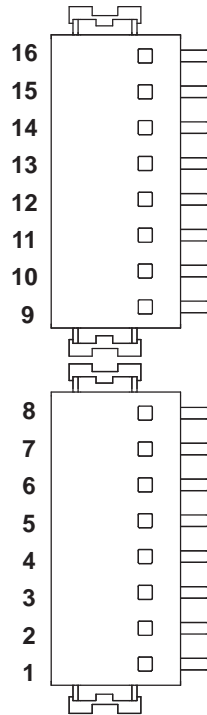
Electrical connection      Terminal CAGE CLAMP (0,2 to 0,75 mm<sup>2</sup>)  
Cable gland PG 16 x 1.5 (Ø10 mm cable)



**I Electrical connection**

- Input 1, Solenoid valve V1 <sup>1</sup>
- Input 2, Solenoid valve V2 <sup>1</sup>
- Input 3, Solenoid valve V3 <sup>1</sup>
- Input 4, Solenoid valve V4
- Valve 4, Terminal for external valve
- Input 2, Solenoid valve V2
- Input 2, Solenoid valve V2
- Input 2, Solenoid valve V2

- Signal sensor 4, terminal for external sensor
- Output 4, Sensor signal S4 - yellow and green LED
- Output 3, Sensor signal S3 - yellow LED <sup>1</sup>
- Output 1, Sensor signal S1 - green LED <sup>1</sup>
- Output 2, Sensor signal S2 - red LED <sup>1</sup>
- GND
- Power supply 24 V DC <sup>2</sup>
- Power supply 24 V DC <sup>2</sup>



1) Only available with the variant with the appropriate number of internal valves and sensors;  
for other variants: n.c. (not connected)

2) Polarity is freely selectable (pin 1, pin 2)

**I General dimensions**

