



1 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.

1 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 (depending on the configuration) 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

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 sensor
- 2 positions (closed and open valve) - 2 sensors
- 3 positions (open valve, closed valve, Mixproof seat cleaning) - 3 sensors

I Materials

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

I Technical specifications

Outdoor use	C1 – weather protected areas
Stroke	≤ 70 mm
Maximum shaft diameter	22 mm
Mounting position	360°
Fastening type	Screw-clamped
Operating medium	Filtered compressed air, grade of filtration 40 µm, lubricated or non lubricated
Measuring principle	Magnetic reed (micro), Bipolar, NO Magnetoresistive (inductive), PNP, NO
Measurement parameter	Position
Visual indicators	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 ... 60 °C
Protection class (in mounted status)	IP65, IP67
Operating voltage DC	24 V DC ± 10%

Pneumatic connections:

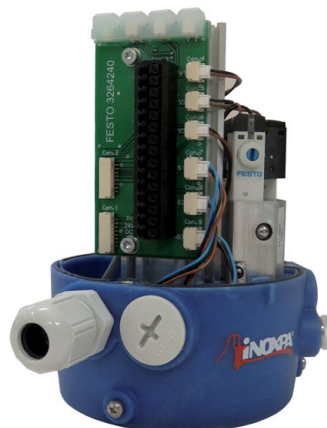
Connection 1: compressed air
connection for operating pressure QS-8 (Ø8 mm pipe)

Connection 3: exhaust Integrated silencer

Connection A1 ... A3: working lines
of the solenoid valves QS-6 (Ø6 mm pipe)

Max. line length 30 m

Electrical connection Terminal CAGE CLAMP (0,2 to 1,5 mm²)
Cable gland PG 16 x 1.5 (Ø10 mm cable)

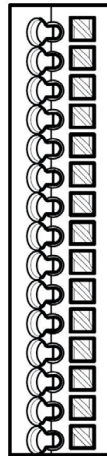


I Electrical connection

Version for managing max. 3+1 solenoid valves and 3+1 sensors

Pin allocation (spring force terminal 1 x 15 pin)

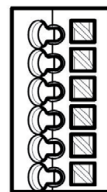
Signal	Printing	
Switching input of PLC 24 V DC valve V1	16	16
Switching input of PLC 24 V DC valve V2	15	15
Switching input of PLC 24 V DC valve V3	14	14
Switching input of PLC 24 V DC valve V4	13	13
Output 24 V DC external valve V4	12	12
Output 0 V DC external valve V4	11	11
Power supply 0 V external sensor S4	10	10
Power supply 24 V DC external sensor S4	9	9
Signal input external sensor S4	8	8
Output sensor 4 / LED yellow + green for PLC	7	7
Output sensor 3 / LED yellow for PLC	6	6
Output sensor 1 / LED green for PLC	5	5
Output sensor 2 / LED red for PLC	4	4
Power supply 0 V DC	0V	2
Power supply 24 V DC	24 V DC	1



Version for managing max. 2 solenoid valves and 2 sensors

Pin allocation (spring force terminal 1 x 6 pin)

Switching input of PLC 24 VDC valve V1	16	16
Switching input of PLC 24 VDC valve V2	15	15
Output sensor 1/LED green for PLC	5	5
Output sensor 2/LED red for PLC	4	4
Power supply 0 V DC	0V 2	2
Power supply 24 V DC	24 V DC	1



I General dimensions

