

Controller LC100D



Valve's controller LC100D is intended for control high speed micro-dispensing valves, nozzle heater and provides measurements of the pressure in the pneumatic circuit.

The controller has onboard 5-inch color TFT panel and resistive touchscreen which allows a user to choose operation modes, set parameters and to observe the working process.

There are two operation modes: master and slave. In master mode, all the necessary settings apply from the user menu. In slave mode, it ignores some settings and provides a direct forming of valve's time.

Valves control system



- Number of channels: 2
- Synchronous valve's control
- Internal (master mode) and external (slave mode) valve's modes of control
- Manual switch between modes by menu

User Interface

- User-friendly interface on 5 inch color TFT display with touchscreen
- Time to ready after power on is 20 second

Electrical characteristics

- Operating voltage: +24B \pm 5%
- Current consumption (without valves and heater) with TFT: 200 mA
- Current consumption (without valves and heater) without TFT: 70 mA
- Total current consumption (with valves and heater) with TFT: 4200 mA (max)

Internal master mode

- Setting following parameters for first valve
 - Units of frequency: Hz or ms
 - Units of durations: ms
- Setting following parameters for second valve
 - Units of duration : ms
 - Delay between the start of first and second pulses. It can be negative. (The second pulse starts earlier than the first one).
- Long term accuracy of pulse's frequency: 50 ppm
- Step of period of the pulses: 250 nS – 1 uS
- Long term accuracy of pulse's duration: 50 ppm
- Step of duration of the pulses: 250 nS – 1 uS

External slave mode

- Type of input: LED of the photo coupler
- Actuation delay (delay between changing the input signal and actuation the output: 2...10 uS
- Operation voltage of logical '1': 5...24V
- Operation voltage of logical '0': 0...2V
- Isolation voltage: 2.5 kV
- Protection from short pulses
- Resettable fuse for overvoltage and reverse voltage protection +60V -30V cycles 100 min.

Output specification

- Valves operating voltage: 24V \pm 5% *
- Operating current of control switch: up to 4A
- Switch on resistance: 3 mOhm
- Protection circuit current threshold: 4.5 A
- Protection circuit time threshold: 50 us

* - it depends on the used power supply

Thermal control heating system

There are single input and output in the thermal control heating system.

The input provides connection of Pt100 type thermosensor and output is intended for plugging the heater.

- Type of thermosensor: Pt100 nominal resistance 100 Ohm at 25 °C
- Temperature measurement ranges: 0...90 °C , 0...300 °C
- Connection type: 2-wire
- Sensor power current: 1 mA
- Sampling rate : 15 sample/s
- Channel bandwidth: 6 Hz
- Temperature measurement accuracy: ± 0.05 °C
- Protection against short pulses and power interference (50 or 60 Hz)
- Heater's operating voltage: $24V \pm 5\%$ *
- Operating current of control switch: up to 4A
- Switch on resistance: 3 mOhm
- Protection circuit current threshold: 4.5 A
- Protection circuit time threshold: 50 us
- Regulator type: PID with automatic tuning coefficients.
- Temperature hold accuracy: ± 0.1 °C (max)

* - depends from used power supply

Pressure measurement system

- Number of channels: 2
- Pressure port: Male – 0.19" (4.93mm)
- Pressure measurement accuracy: ± 2.5 %
- Pressure measurement range: 0...700 kPa
- Working input pressure range: 600...950 kPa
- Absolute input pressure in pneumatic system: 1000 kPa
- Period between two serial measurements: 330 ms

External interfaces

- External control interfaces (protocol MODBUS or custom)
 - Ethernet 10/100 Mb
 - Wi-Fi 80211b/g/n 54Mb (AP or client optional)
 - Isolated RS485 1200-115200 baud (optional)
- External trigger signals
- External direct driving signals