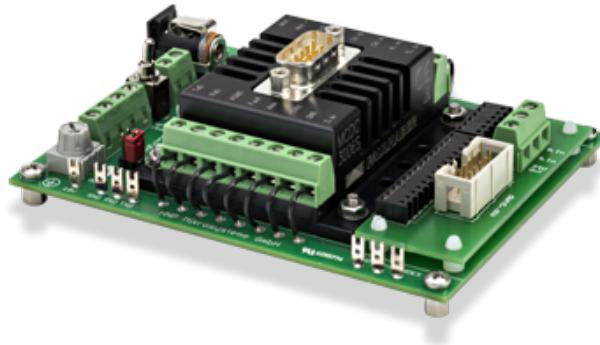


## Product information

### S-ND · Controller



#### Description

The controller S-ND is recommended for programmable, precise control of discrete dosage and continuous delivery tasks in combination with pumps mzi-2521, mzi-2921, mzi-4622, mzi-2542 and mzi-2942. The 16-bit microcontroller allows speed and position control for highly accurate dosage. The compact design on a PCB enables flexible installation. Process control link can be established via a RS-232 interface. Motor speed or flow rate can be set either by an analog input (0-10 V) or a potentiometer mounted on the PCB. There are three digital inputs, one of them is equipped with a switch. Programs for dosage can be saved in the memory.

#### Advantages

- High quality pump controller for continuous and discrete delivery
- Powerful 16-bit microcontroller
- Programming of controller
- Windows®-based software »Motion Manager«
- Potentiometer for speed set
- Analog input 0-10 V
- 3 digital inputs, 1 input is equipped with a switch
- 1 digital output, optionally programmable as input
- Two colored LED status indicator
- EEPROM memory
- RS-232 interface

## Technical data

Controller	PI-controller, speed and position control
Supply voltage	24 V DC (12 – 30 V)
Velocity range	1 - 6,000 rpm
Voltage	DIN 45323 socket, screw terminal
Pump connector	pin headers, 10-pole
Serial interface	RS-232, SUB-D plug, 9-pole
Input # 1 (speed)	0 - 10V
Error output (input # 2)	Open collector max. UB / 30 mA; no error: connected to GND; as input: low 0...0.5 V / high 4 V...UB
Digital inputs # 3, 4, 5	low 0...0.5 V / high 4...30 V; input # 3 with switch
Program memory	6,600bytes
Protection class	IP 20
Dimensions (L x W x H)	approx. 112 x 84 x 36 mm
Weight	approx. 170 g
Remarks	Subject to technical changes.

### Notice

Even if single parameters are within the indicated performance range of technical data, certain parameter combinations may not be achievable. Single parameters may exceed their indicated performance range under adequate circumstances. For detailed evaluation please contact HNP Mikrosysteme. Actual performance may vary. Specifications are subject to change without notice.

## Patents and trademarks

Micro annular gear pumps (and housings) are protected by assigned patents: EP 1 354 135 B1; US 7,698,818 B2; DE 10 2011 001 041 B4; CN 103 348 141 B; US 10,012,220 B2; CN 103 732 921 B; US 9,404,492 B2; US 6,520,757 B1. HNP<sup>®</sup>, m<sub>z</sub>r<sup>®</sup>, MoDoS<sup>®</sup>, μ-Clamp<sup>®</sup>, μDispense<sup>®</sup>, Centrifluidic Technologies<sup>®</sup>, LiquiDoS<sup>®</sup>, smartDoS<sup>®</sup>, ColorDoS<sup>®</sup> are registered German trademarks of HNP Mikrosysteme GmbH.

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