

Digital Module ADN 411



Outline description: ADN 411 CNC module

The **ADN 411** has been developed as a CNC control system for operation with a valve in which the electronics are mounted on the valve. The assembly consists of two modules, of types MD6 and MD14. The MD6 is the basic module (equivalent to **ADN 407**). The MD14 is the add-on CNC module. The MD14 CNC module is also used in other device combinations, due to the modular structure of this system.

The **ADN 407** basic module has, in this particular case, already been described, with the result that the following outline description relates primarily to the add-on module.

The MD14 CNC module is equipped with an SSI interface for operation with an absolute position encoder, such as absolute shaft encoders or Temposonic, for example. An interface which permits incremental position measurement is also included. Position measurement uses for recognition of direction an A and a B channel with an index which permits correct detection of zero in combination with a limit

switch. The pulse generator is supplied with 24V from the **ADN 411**.

The MD14 CNC module is equipped with its own signal processor, which has a processing speed of 40 MIPS. Four further inputs and four outputs are also provided, with the result that the **ADN 411** device combination has a total of 11 inputs and 5 outputs.

The **ADN 411** device has been created by combining the MD6 (**ADN 407**) and the MD14. It has a width of 45 mm and is suitable for installation on DIN 50022 rails.

The **ADN 411** is equipped with two microprocessors, each of 40 MIPS. Combination of digital and analog sensors is therefore possible in special cases without overloading the microprocessors' processing speed.

The **ADN 411** is equipped with the CAN bus, which permits communication of a large number of devices with one another. Augmentation of such a device group with the Profibus assures an interface to the majority of PLC control systems. The necessary GSD file is provided if a Profibus is used.

As already mentioned in the outline description of the **ADN 407**, the MD6 basic module does not feature an output stage for correcting elements in which the actuation electronics are mounted on the correcting element.

All settings on the **ADN 411** are effected using the **ADN configurator** via an **RS232** interface in combination with a PC or laptop computer.

The input software **ADN configurator** is available on the Internet.

Further information:

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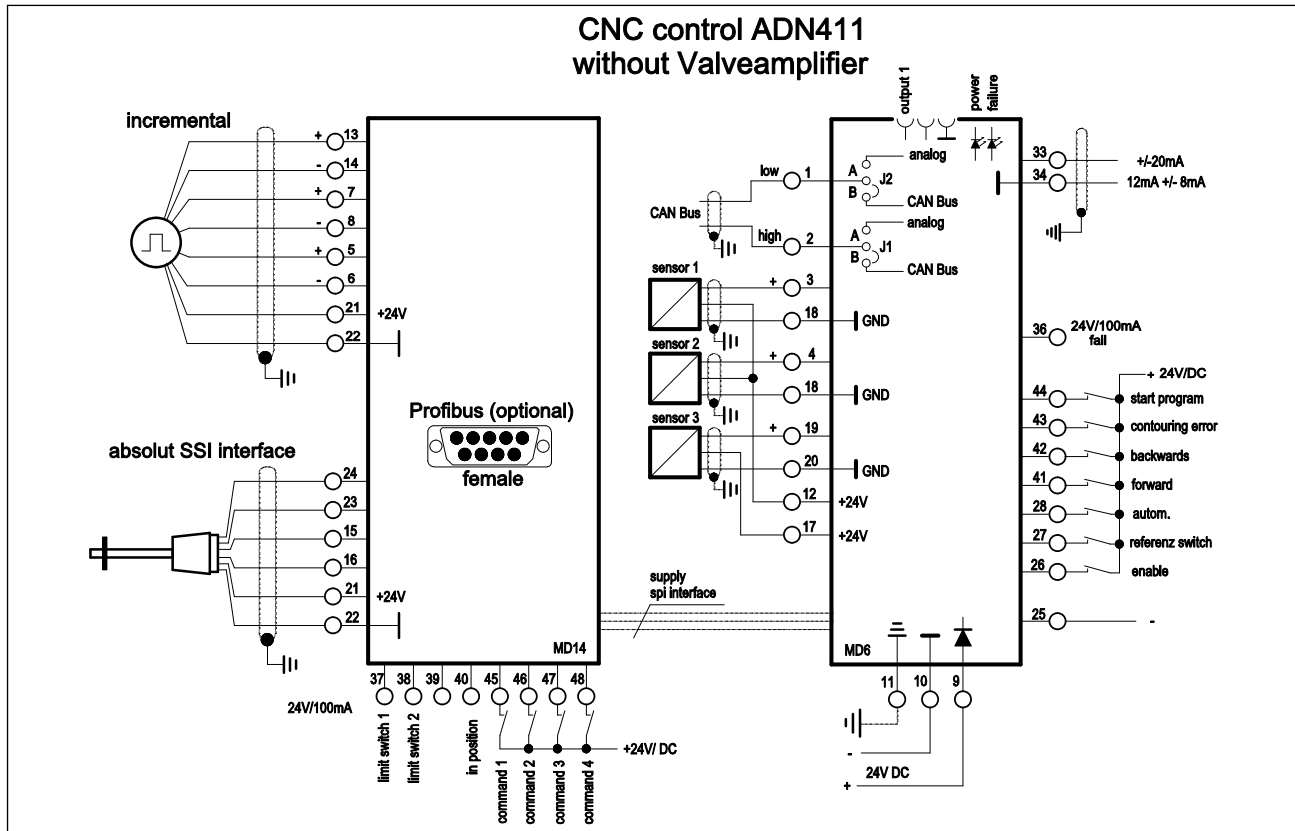
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COMPONENTS

Digital Module ADN 411



Technical data:

Supply voltage	24V DC, nominal (22 to 28V) DC
Bias current (idling)	approx. 70 mA
Auxiliary voltage	22 to 28V DC for supply of the sensors sustained short-circuit-proof via a 0.5A resettable fuse
Output signal	± 20 mA or 12 mA ± 8 mA
Inputs	11, opto-decoupled, of which 1 x Enable
Outputs	5 x 24V/100 mA
Measuring sockets	The output signal can be measured at ± 10 V for maximum level on Measuring Sockets M1 and M2.
Ambient temperature	-20 to +60°C
Microprocessors	2 x 16 bit signal processors, each with a processing speed of 40 MIPS
Program cycle time	9.7 kHz for the entire computer program, approx. 0.1 ms
Controller setting range	1 to 32000 for P, I, DT1
Function generator	Sinusoidal, triangular and square-wave generator, with offset and amplitude setting of ± 10 V; frequency range is 0.1 to 50 Hz
Sensor modules for MD1	± 10 V, 12 mA ± 8 mA, 4-20 mA, 0-10 V, 7.5 V ± 4 V
Fault signalization	Wire breakage in modules 12 mA ± 8 mA 4-20 mA 7.5 V ± 4 V in case of short-circuit in the sensor supply. Signalization via a 24V/100mA output, flashing red LED and display on the ADN configurator
Parametering	Parameters are entered on the ADN configurator . This input software is available via the Internet.
Position encoder	absolute, via SSI interface, or incremental, via pulse generator
Field bus	CAN bus for external and internal communication; Profibus DP (optional) for communication with PLC control system or external sensors

An USB-to-RS232 adapter is required for use with laptops with a USB interface.