

Digital Module ADN 412



Outline description: ADN 412 CNC module

The **ADN 412** has been developed as a dual CNC control unit for operation with two correcting elements in which the electronics are mounted on the valves. The assembly consists of two modules, of types MD6 and MD15. MD6 is the basic module (equivalent to **ADN 407**). The MD15 is the add-on CNC module. The MD15 CNC module is also used in other device combinations, due to the modular structure of this system. The **ADN 407** basic module has, in the present case, already been described, with the result that this outline description relates primarily to the add-on module.

The MD15 CNC module is equipped with two SSI interfaces for operation with absolute position encoders, such as absolute shaft encoders or Temposonic, for example.

The position encoder is supplied with power from the **ADN 412**.

The MD15 CNC module is equipped with its own 16 bit signal processor, which has a processing speed of 40 MIPS. A further four in-

puts and four outputs are also provided, with the result that the **ADN 412** device combination has a total of 11 inputs and 5 outputs.

A Profibus DP can be used as an option. We then supply the Profibus GSD file, which contains all important information for data input, status displays and diagnosis.

The **ADN 412** device has been created by combining the MD6 (**ADN 407**) and the MD15. It has a width of 45 mm and is suitable for installation on DIN 50022 rails.

The **ADN 412** 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 412** is equipped with the CAN bus, which permits communication of a large number of devices with one another. The augmentation of such a device group with Profibus assures an interface to the majority of PLC control systems.

As already mentioned in the outline description of the **ADN 407**, the MD6 basic module does not feature an output stage for valves on which the output stage is mounted on the valve itself.

All settings for the **ADN 412** are effected using the **ADN configurator** via an **RS232** interface linked to a PC or laptop computer.

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

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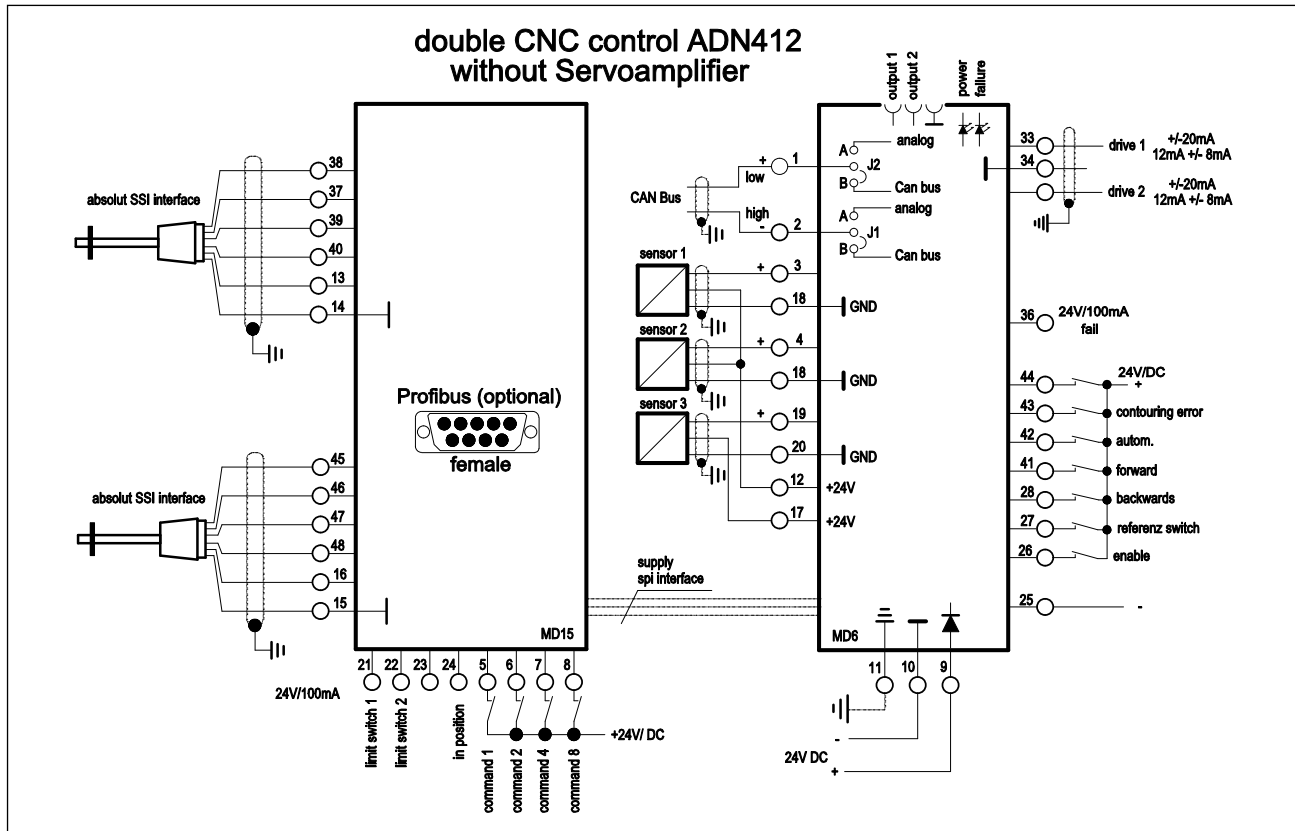
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COMPONENTS

Digital Module ADN 412



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 0.5A resettable fuse
Output signal	2 x ± 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/100 mA 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	2 x absolute, via SSI interface
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.