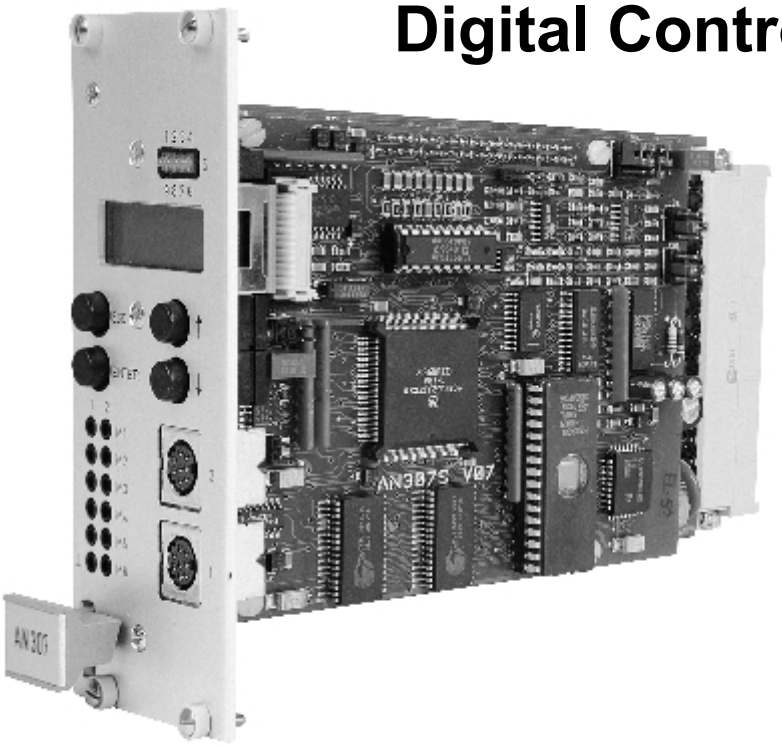
Regelsysteme für hydraulische und elektrische Antriebe

Digital Controller AN307



The AN307 digital controller is intended for operation in systems that have hitherto been built up from a number of analog modules.

The design objective was to develop a module that combines setpoint generator, ramp generator, controller and monitoring devices in a single unit.
In addition, an analog output stage with high dynamic performance has been included for special applications so that the controller can be used for proportional valves that have no integral drive amplifier. For such applications, the inclusion of the valve electronics in the AN307 controller represents a considerable cost saving. A 12 bit D/A converter is provided for the control of servo, regulating or proportional valves with integral electronics, so that the entire spectrum of hydraulic positioners can be controlled.

The setpoint generator permits the input of a maximum of 31 binary coded setpoints. The setpoint can also be input externally in analog form.
The ramp generator also permits the input of 31 different ramps in association with the 31 digital setpoints or the analog setpoint. The ramps can be in linear form, or, in the case of the digital setpoints, can be specified in sinusoidal form. The ramp times can be set from 10ms to 100sec in 9999 steps.

The controller is divided into 1, 2 or 3 blocks depending on the application. The output of each controller block becomes the command variable for the next block (cascade controller). Two controller blocks are designed as status controllers with precontrol and provide good results even with critical drives. The use of a 32 bit computer system achieves short cycle times, allowing drives with high dynamic demands to be controlled.

The sensor system is of universal design so that the widest variety of sensors can be evaluated by exchanging a module (e.g. 4...20mA, ±10V, 7.5V±4V). In addition, an integral medium-frequency generator permits the connection of an inductive displacement sensor.

The AN307 controller is equipped with two status displays. Status 1 displays the fault messages and status 2 indicates that the actual value is equal to the setpoint. The fault is displayed in such a manner that the cause of the fault can be easily identified.

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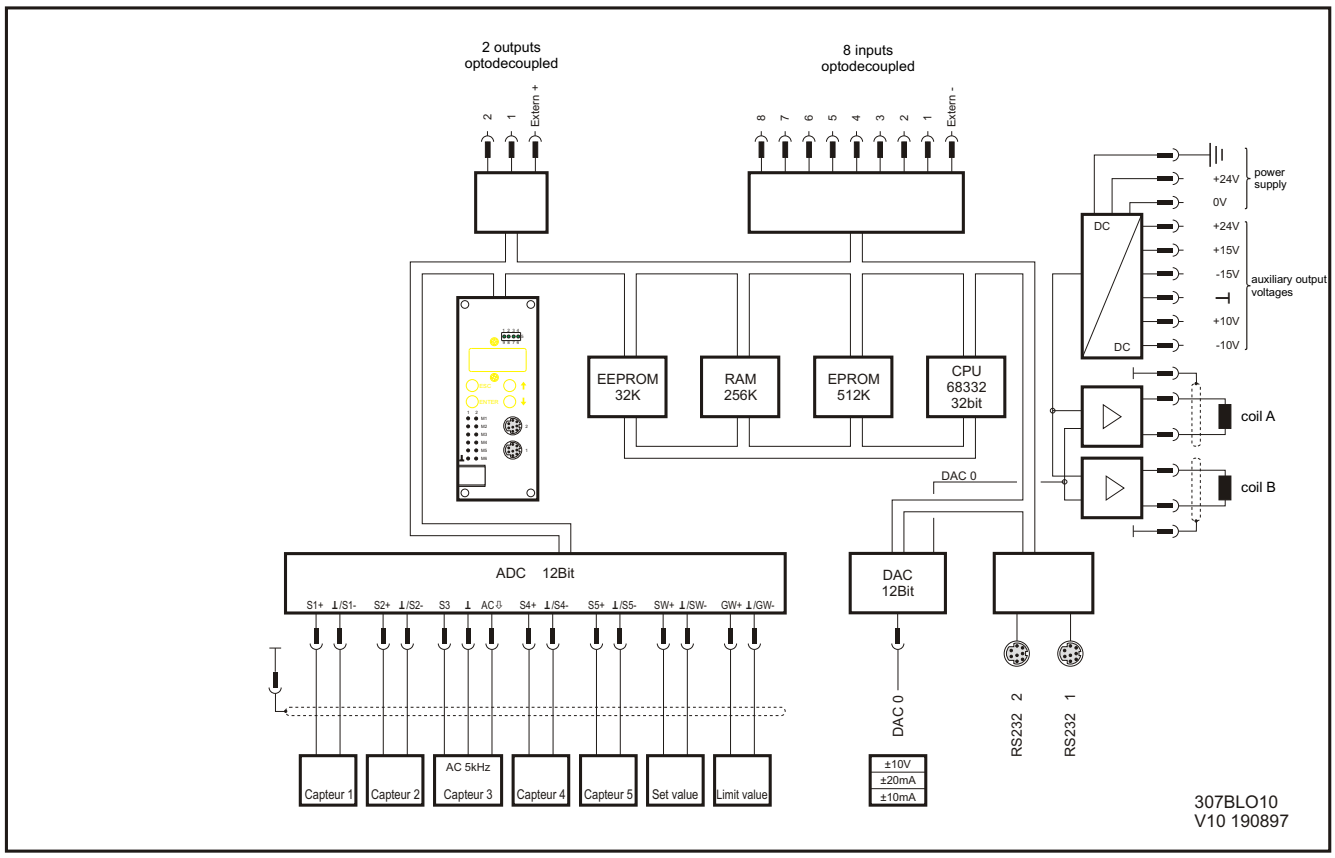

Technical data:

Supply voltage	24V DC (18...32V DC)
Auxiliary voltages	approx. +24V, unstabilised approx. +15V, unstabilised approx. -15V, unstabilised +10V, stabilised -10V, stabilised
Output stage	PWM output stage with high dynamic response PWM frequency approx. 6kHz
Output current	I_{nom} has 3 plug-selectable ranges: 800mA; 1600mA; 3000mA
Dither	Adjustable frequency & amplitude Frequency: 50...400Hz Amplitude: 0...10% of nominal current
Plug connection	48 pin connector DIN41612 F48
Dimensions	Width: 50.8mm Height: 128.4mm Depth: 189.5mm
Protection, filter circuitry	To IEC801, module complies with EMC regulations

CPU	Motrorola MC68332
Memory	RAM 256KB EPROM 128KB / 512KB EEPROM 32KB
Data input	Parameters and setpoints entered via the serial interface or via the optional keypad and the 8-character display.
Digital inputs	8 digital inputs, 24V, approx. 8mA
Digital outputs	2 digital outputs, 24V, approx. 100mA
Analog inputs	1 setpoint input 1 limit value input 5 sensor inputs All inputs can be adapted by modules, 12 bit converter resolution
Analog outputs	1 analog output, (±10V, ±20mA, ±10mA), 12 bit converter resolution
Interfaces	RS232 (9600 baud)

AN307V10-260711Rev02 • Subject to change without notice

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