

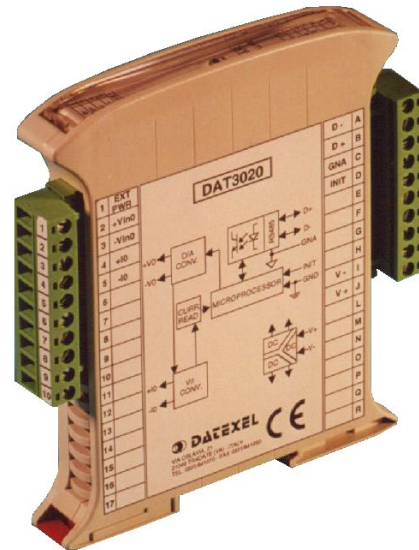
DAT 3020

FEATURES

computer-to-actuator interface
 for remote analog actuators manage
 Voltage or Current analog output
 Output signal configurable from remote host computer
 Communication on RS485 line
 2000Vac 3-way galvanic isolation
 In compliance with EMC standards - CE mark
 17.5 mm. thin profile housing
 DIN rail mounting

APPLICATIONS

- Network data acquisition & control
- Industrial process monitoring
- Factory & building automation
- Distributed measurement & control



GENERAL INFORMATION

DAT3020 signal conditioner converts the ASCII format data from the remote host computer, through the RS485 line, in an analog output signal. It is able to generate voltages up to 10V and currents up to 20mA, and it is configured from the remote host by sending the configuration data on the RS-485 serial line. It is moreover possible to set the slew-rate value of the output signal.

Thanks to the output value read-back, it is possible to notice breaks in the output circuit and it is possible to read the case temperature of the module for notice eventual overheatings.

The device is built around a microprocessor core which, over the various tasks performed, has the management of a 12-bit D/A converter, for generate the output signal with the needed accuracy, and of an A/D converter for output signal read-back. With the purpose to assure safe operation of the system, the module has two watchdogs which, in case of failure, can activate an alarm and can force the output in a safe condition. 3-way galvanically isolation is obtained between serial line, output and power supply by mean of photocouplers and transformers in such a way to guarantee a 2000Vac isolation. The management of the device and the message exchange with it are performed through simple commands sent to its communication port.

The DAT3020 module, designed, manufactured and tested in strict accordance with the quality assurance standard ISO 9001 /EN 29001, is in compliance with the directive 89/336/EEC on the electromagnetic compatibility and the CE mark confirms its compliance. The device is housed in a rough self extinguishing plastic container which, thank to its thin profile of 17.5 mm only, allows a high density mounting on DIN rail.

TECHNICAL SPECIFICATIONS (Typical @25°C and in the nominal conditions)

ANALOG OUTPUT

Output impedance	0,5 Ohm
Calibration error	+/- 0,1% F.S. for V, mA
	+/- 1% F.S. for read-back
Resolution	+/- 0,02% F.S.
Cold junction compens. error	+/-0,5°C
Thermal drift	+/-0,005 %/°C
Output Slew-Rate	Voltage : selectable from 0,0625 V/s to 128 V/s or immediate
	Corrente : selectable from 0,125 mA/s to 256 mA/s or immediate
Reverse polarity protection	60 Vdc max.
Sampling frequency	10 samples/sec
Supply voltage	10 to 30 Vdc
Power consumption	1W @ 24 Vdc
3-way isolation	2000 Vac, 50 Hz, 1 min.
Tempo di riscaldamento	3 min.
Electromagnetic Compatibility (EMC)	In compliance with EN50081-2 and EN50082-2
Operating temperature	- 10 ÷ 60 °C
Storage temperature	- 40 ÷ 85 °C
Relative humidity(not condensing)	0 ÷ 90 %
Dimensions(W x H x T) in mm.	100 x 120 x 17,5
Weight	100 g. approx. 100 g. circa

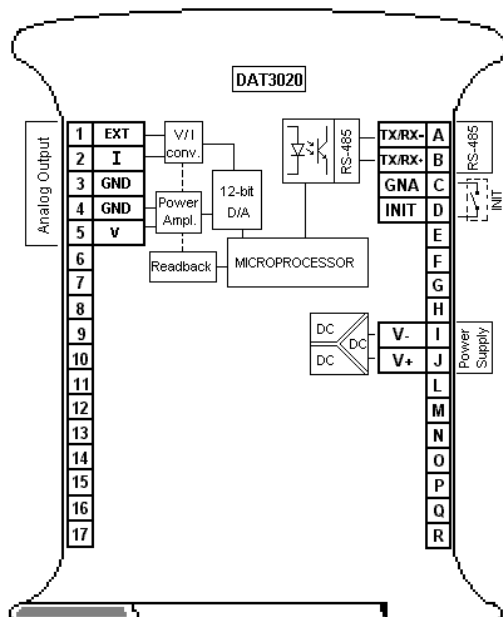
OUTPUT TYPES AND RANGES

Type	Range	Format
0-20 mA	0mA ~ +20 mA	+20.000
4-20 mA	+4mA ~ +20 mA	+20.000
0-10 V	0V ~ +10V	+10.000

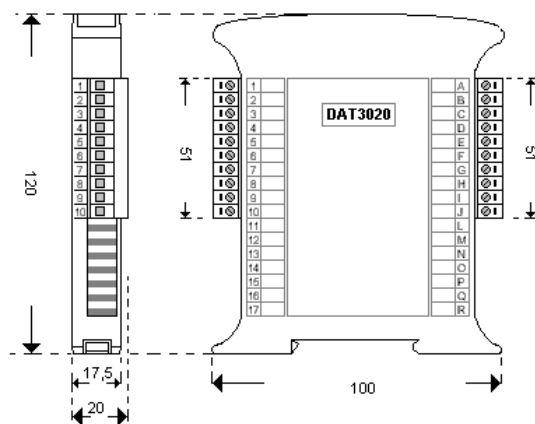
OPERATING INSTRUCTIONS

To put the device in operation it is necessary to make the wiring of power supply, outputs and serial line, as indicated in the "BLOCK DIAGRAM" hereafter illustrated. Then it is necessary to proceed to its configuration following the instructions listed in the "User Manual". The various phases through which such procedure is performed are fundamentally the followings: set up of the data; set up of the timer watchdog; set up of the alarms; calibration if it is necessary. Then the module is ready for operation. Please note that the use of pin INIT allows to start up the module, when its address and baud rate are not known, following the default settings listed in the "User manual".

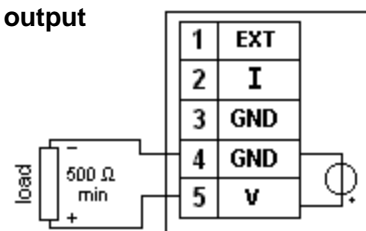
BLOCK DIAGRAM



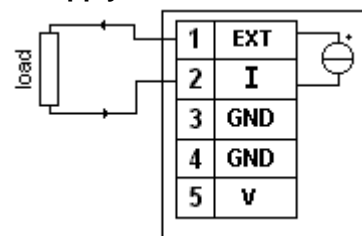
MECHANICAL DIMENSIONS (mm.)



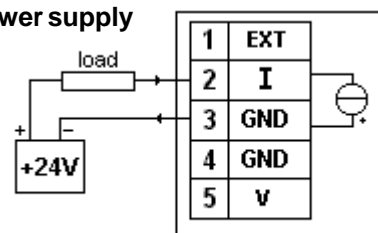
Voltage output



Current output Internal power supply



Current output External power supply



HOW TO ORDER:

DAT 3020 - ☐
 "L" = voltage load >500 ohm
 "H" = voltage load >5 Kohm

EDIT.06.02-REV.00