



FEATURES

- Field Bus data acquisition
- CANopen protocol
- Baud rate and ID Node programmable by dip-switch
- 4 Isolated analog outputs
- 4 mA and Voltage outputs
- LED signalling for errors and Power supply
- All ways galvanic isolation
- EMC compliance – CE Mark
- In compliance to EN-50022 DIN rail mounting

GENERAL DESCRIPTION

The DAT7024 device is a slave unit that can generate up to 4 analogue output signals. The data are transmitted by the CAN open protocol. To the outputs it is possible to connect active or passive current loop up to 20 mA or voltage signals up to 10 V.

The output channels are electrically isolated from each other.

For each channel it is provided an isolated power source for powering passive current loop.

The device guarantees high accuracy and a stable measure versus time and temperature.

The connection is made by removable screw-terminals.

The device realizes a full electrical isolation between the lines, introducing a valid protection against the effects of all ground loops eventually existing in industrial applications. The device is housed in a rough self-extinguishing plastic enclosure which, thanks to its thin profile of 22.5 mm only, allows a high density mounting on EN-50022 standard DIN rail.

COMMUNICATION PROTOCOLS

On the DAT7000 modules the following communication protocol is implemented:

CAN open Protocol: one of the most used standard communication protocol; it allows to interface the modules of DAT7000 series directly to the CAN Controllers that accept devices in compliance with the **CiA DS 301** and **CiA DS 401** standards. For communication setting, refer to the User manual.

USER INSTRUCTIONS

Before to install the device, please read carefully the "Installation instructions" section.

Connect the power supply, the data line and the output signals as shown in the "Wiring" section.

Refer to the "Led signalling" section to verify the correct working of the device.

To make easy the maintenance or the substitution of the device, it is possible the "hot swap" of the terminals.

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

DEVICE PROFILE			Output Accuracy (1)		POWER SUPPLY	
In compliance with the CiA DS 301 and CiA DS 401 standard.			mA	± 10 uA	Power supply voltage	18 .. 30 Vdc
			Volt	± 5 mV	Reverse polarity protection	60 Vdc max
ANALOGUE OUTPUTS			Load Resistance		Consumption (Not Operative Aux)	90 mA tip@24Vdc
			mA	≤ 500 Ω	Consumption (Not Operative Aux)	110 mA max@18Vdc
			Volt	≥ 5 kΩ	Consumption (**)	150 mA max @24Vdc
Output Type	Min	Max	Thermal drift (1)		ISOLATION	
Current			Full Scale	± 0,01 %/°C	Power Supply / CAN	1500 Vac, 50 Hz, 1 min
mA	0 mA	+20 mA	Auxiliary Supply (for each channel)		Outputs / Power supply	1500 Vac, 50 Hz, 1 min
Voltage				≥ 12 Vdc @ 20 mA	Outputs / CAN	1500 Vac, 50 Hz, 1 min
Volt	0 V	+10 V	Rise Time (from 10% to 90%)	15 ms	Output / Output	1500 Vac, 50 Hz, 1 min
			Sampling Time		ENVIRONMENTAL CONDITIONS	
			50 ms		Operative Temperature	-10°C .. +60°C
			Data Transmission		Storage Temperature	-40°C .. +85°C
			Baud rate	up to 1 Mbps	Humidity (not condensed)	0 .. 90 %
			Max. Distance	in function of the baud rate	Maximum Altitude	2000 m
			Protocol	CAN open	Installation	Indoor
					Category of installation	II
					Pollution Degree	2
					CONNECTIONS	
					CAN interface	Removable screw-terminals
					Outputs	Removable screw-terminals
					Power Supply	Removable screw-terminals
					MECHANICAL SPECIFICATIONS	
					Material	Self-extinguish plastic
					IP Code	IP20
					Wiring	wires with diameter 0.8÷2.1 mm ² /AWG 14-18
					Tightening Torque	0.5 N m
					Mounting	in compliance with DIN rail standard EN-50022
					Weight	about 150g
					EMC (for industrial environments)	
					Immunity	EN 61000-6-2
					Emission	EN 61000-6-4

(1) Referred to output Span (difference between max. and min. values)

(**) 4 Operative Auxiliary Supply @20mA

INSTALLATION INSTRUCTIONS

The device is suitable for fitting to DIN rails in vertical position. For optimum operation and long life follow these instructions:

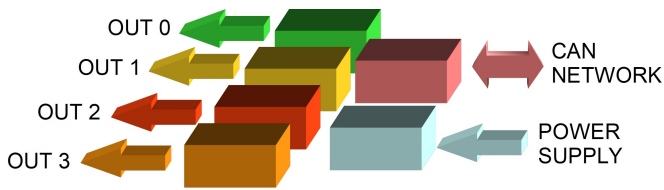
When the devices are installed side by side it is necessary to separate them by at least 5 mm in the following case:

- If panel temperature exceeds 45°C and power supply value @ 20 Vdc.

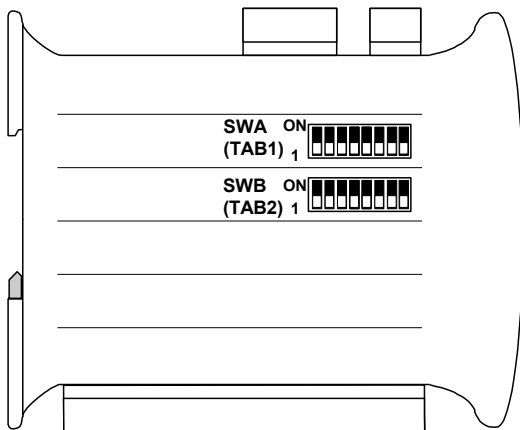
Make sure that sufficient air flow is provided for the device avoiding to place raceways or other objects which could obstruct the ventilation slits. Moreover it is suggested to avoid that devices are mounted above appliances generating heat; their ideal place should be in the lower part of the panel. Install the device in a place without vibrations.

Moreover it is suggested to avoid routing conductors near power signal cables (motors, induction ovens, inverters, etc...) and to use shielded cable for connecting signals.

ISOLATION STRUCTURE



DIP SWITCH POSITION



DIP-SWITCH CONFIGURATION TABLES

TAB.1 Address setting 1÷127
(Pos.1 LSB; Pos.7 MSB)

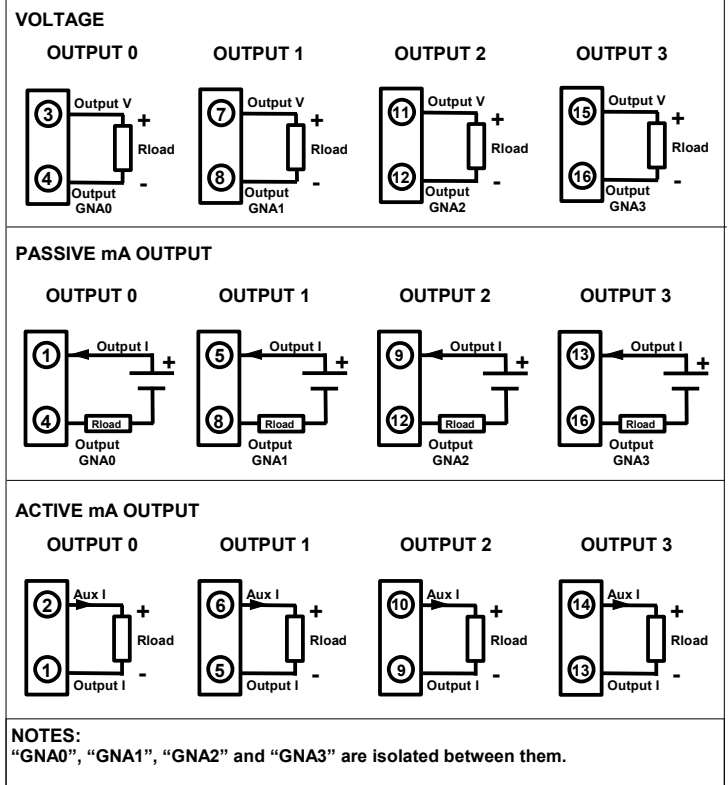
SWA	Addr
1 2 3 4 5 6 7	Addr 1
1 2 3 4 5 6 7	Addr 2
1 2 3 4 5 6 7	Addr 3
1 2 3 4 5 6 7	Addr 4
1 2 3 4 5 6 7	Addr 5
...	...
1 2 3 4 5 6 7	Addr 127

TAB.2 Baud rate setting
(Pos.5 LSB; Pos.8 MSB)

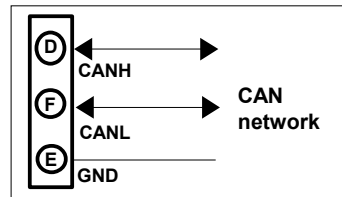
SWB	Baud Rate
5 6 7 8	10 Kbps
5 6 7 8	20 Kbps
5 6 7 8	50 Kbps
5 6 7 8	125 Kbps
5 6 7 8	250 Kbps
5 6 7 8	500 Kbps
5 6 7 8	800 Kbps
5 6 7 8	1 Mbps

CONNECTIONS

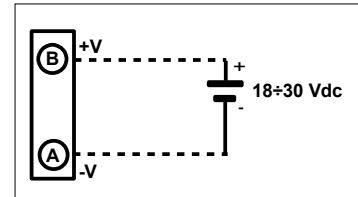
ANALOG OUTPUTS



CAN NETWORK WIRING



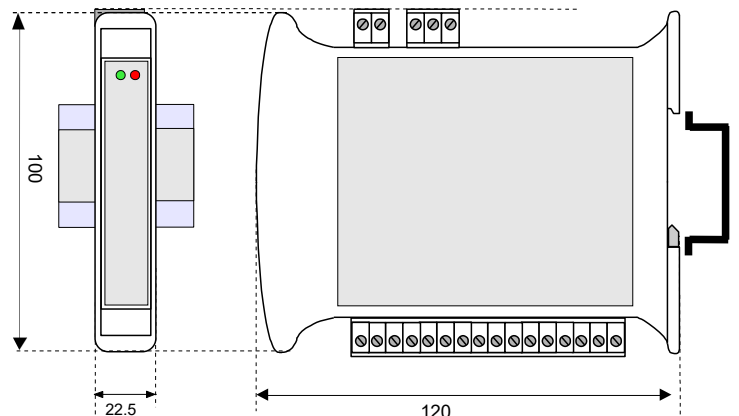
POWER SUPPLY WIRING



LED SIGNALLING

LED	COLOR	STATE	DESCRIPTION
RUN	GREEN	ON	Device in Operational mode
		BLINKING	Device in Pre-Operational mode
		SLOW BLINKING	Device stopped
ERR	RED	OFF	No error
		BLINKING	Communication error

MECHANICAL DIMENSIONS (mm)



HOW TO ORDER
DAT 7024

The symbol reported on the product indicates that the product itself must not be considered as a domestic waste. It must be brought to the authorized recycle plant for the recycling of electrical and electronic waste. For more information contact the proper office in the user's city, the service for the waste treatment or the supplier from which the product has been purchased.