The DAT 3024 device generates 4 output analog signals from digital commands. The data are transmitted with MODBUS RTU/MODBUS ASCII protocol on the RS-485 network (RS-232 interface is available).

The isolation between the parts of circuit removes eventual ground-loop effects, allowing the use of the device even in the heavy environmental conditions.

To simplify handling or replacing of the device, it is possible to remove the wired terminals even with the device powered.

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

<table>
<thead>
<tr>
<th>OUTPUT (4 channels)</th>
<th>Output Accuracy</th>
<th>POWER SUPPLY</th>
<th>ISOLATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output type</td>
<td>Current ± 20 uA</td>
<td>Power supply voltage 18 .. 30 Vdc</td>
<td>On all the ways 2000 Vac, 50 Hz, 1 min</td>
</tr>
<tr>
<td></td>
<td>Voltage ± 10 mV</td>
<td>Reverse polarity protection 60 Vdc max</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Thermal drift ± 0.01 % / °C</td>
<td>Current consumption 100 mA max.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Load resistance ≥ 5 KΩ</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Current ≥ 500 Ω</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Auxiliary Voltage &gt; 12V @ 20mA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Response time</td>
<td>Slew-rate analogue output (with dedicated setting for each channel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value V/s mA/s</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0Oh Disabled</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>01h 0.15 0.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>02h 0.30 0.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>03h 0.60 1.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>04h 1.20 2.40</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>05h 2.40 4.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>06h 4.80 9.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>07h 9.60 19.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>08h 19.2 38.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>09h 38.4 76.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0Ah 76.8 153</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0Bh 153 306</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0Ch Immediate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Data Transmission 115.2 Kbps</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Max. distance 1.2 Km – 4000 ft</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ENVIRONMENTAL CONDITIONS**

- Operative Temperature -10°C .. +60°C
- UL Operative Temperature -10°C .. +40°C
- Storage Temperature -40°C .. +85°C
- Humidity (not condensed) 0 .. 90 %
- Maximum Altitude 2000 m
- Installation Indoor
- Category of installation II
- Pollution Degree 2

**MECHANICAL SPECIFICATIONS**

- Material Self-extinguish plastic
- IP Code IP20
- Wiring wires with diameter 0.8-2.1 mm² /AWG 14-18
- Tightening Torque 0.5 N m
- Mounting in compliance with DIN rail standard EN-50022
- Weight about 150 g.

**CERTIFICATIONS**

- EMC (for industrial environments) Immunity EN 61000-6-2
- Emission EN 61000-6-4
- UL US Standard UL 60101-1
- Canadian Standard CSA C22.2 No 61010-1
- CCN NRAQ/NRAQ7
- Typology Open Type device
- Classification Industrial Control Equipment
- File Number E352854
INSTALLATION INSTRUCTIONS

The DAT 3024 is suitable for fitting to DIN rails in the vertical position. For optimum operation and long life follow these instructions:

When the devices are installed side by side it may be necessary to separate them by at least 5 mm in the following case:
- If panel temperature exceeds 45°C and at least one of the overload conditions exist.
- If panel temperature exceeds 35°C and at least two of the overload conditions exist.

The overload conditions are the following:
- High supply voltage: >27Vdc
- Use of the auxiliary power supply

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.

CABLING

RS-485 NETWORK

POWER SUPPLY

INIT

OUTPUT #0
OUTPUT #1
OUTPUT #2
OUTPUT #3

LIGHT SIGNALLING

<table>
<thead>
<tr>
<th>LED</th>
<th>COLOUR</th>
<th>STATE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR</td>
<td>GREEN</td>
<td>ON</td>
<td>Device powered</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OFF</td>
<td>Device not powered / Wrong RS-485 cabling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FAST BLINK</td>
<td>Communication in progress (blink frequency depends to baud-rate)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 second BLINK</td>
<td>Watch-Dog Alarm condition</td>
</tr>
</tbody>
</table>

MECHANICAL DIMENSIONS (mm)

175.5
20
120

ANALOGUE OUTPUTS

PASSIVE CURRENT

ACTIVE CURRENT

VOLTAGE

ANALOGUE OUTPUTS

RS-485 NETWORK

RS-232 NETWORK

POWER SUPPLY (*)

INIT (**) 

Notes:
(*) for UL installation the device must be powered using a power supply unit classified NEC class 2 or SELV
(**) for RS232 version INIT and GND are inverted between them

ISOLATION STRUCTURE

ANALOGUE OUTPUT

POWER SUPPLY

SERIAL LINE

HOW TO ORDER

In the order phase, it is mandatory to specify the interface type (RS485 or RS232).
DAT3024 can be supplied with the configuration specified by the customer.

ORDER CODE:
DAT 3024 / 485 / mA

Interface type
485 : RS-485
232 : RS-232

Output type

= Requested

= Optional

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.

ED.03.15 REV.03
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