

## Freely configurable input/output galvanic isolator

### Product features

- freely configurable inputs/outputs via USB port
- -125 – +125 V / -2,5 – +2,5 V / -25 – +25 mA input ranges
- 0–22 mA / 0–10,5 V output ranges
- 3 way isolation (input/output/power supply)
- non-linearity: < 0.01%
- temperature coefficient: < 25ppm / °C typ.
- 24 V ± 10% DC,  
230 V ± 10% AC/DC power supply
- TS-35 rail mounting, 12.5 mm width DIN rail housing



### Type Designation

**DT1102 V** 24 VDC POWER SUPPLY

**DT1102 V PS** 230 V AC/DC POWER SUPPLY

**The freely configurable galvanic isolator DT1102 V...** provide galvanic isolation and signal conversion between the signal source and the signal processing unit. Both the input and output signal levels - via USB port - can be adjusted freely within the specified ranges.

The DT 1102 V has three-way isolation, i.e. the input, output and power supply are galvanically isolated from each other. Continuous isolation voltage is 250 VAC<sub>eff</sub>.

The device has three inputs:

- current: -25 mA – +25 mA\*
- voltage: -2,5 V– +2,5 V\*
- voltage: -125 V– +125 V\*,

and two outputs:

- current: 0 – 22 mA\*
- voltage: 0 – 10,5 V\*.

\* only one input and output can be used at the same time

The device can be ordered with two types of power supply:

- DT1102 V: 24 V ± 10% DC,
- DT1102 V PS: 230 V ± 10% AC/DC

The transmission characteristics are exceptionally good: non-linearity < 0.01%, temperature factor < 25 ppm / °C typically. The input and output signal levels can be freely configured via the USB port. The configuration program can be freely downloaded from the [www.datcon.hu](http://www.datcon.hu) website after registration.

The USB port is galvanically isolated from the device, so the PC can be connected to the device even during operating conditions.

The LED indicators on the front panel provide information on the presence of power supply and possible error conditions.

**Safety data:**

The connection terminals of the supply voltages are isolated from each other, the isolation is in compliance with the standard EN 61010-1, taking into consideration the following:

Pollution level: 2  
 Measurement category: II

**Input parameters:**

Input signal: DC current or DC voltage  
 Ranges: -2,5 – +2,5 V @  $U_{in1}$   
 -125 – +125 V @  $U_{in2}$   
 -25 – +25 mA @  $I_{in}$   
 Overload: 50 V @  $U_{in1}$   
 150 V @  $U_{in2}$   
 ±200 mA @  $I_{in}$   
 Scaling: linear, the start and end values can be set freely in the entire range

Input resistance (current input)::  
 $U_{in1}$ : 1,1 Mohm @ -500 – +500 mV range  
 124 kohm @ out of -500 – +500 mV range,  
 up to -2,5 – +2,5 V range  
 $U_{in2}$ : 1 Mohm  
 Input resistance (voltage input): 10 ohm  
 Configured: via the USB port

**Output parameters:**

Output signal: DC current or DC voltage  
 Ranges: 0–22 mA (current output)  
 0–10.5 V (voltage output)  
 Overdriving ability: 22 mA (current output)  
 10.5 V (voltage output)  
 Load resistance: ≤600 ohm (current output)  
 ≥500 ohm (voltage output)  
 Output resistance: >5 Mohm (current output)  
 <0.2 ohm (voltage output)  
 Error of output: ±0,05% @ 25 °C ±2 °C (max.)  
 Non-linearity:: 0,01 % (max.)  
 Temperature coefficient: tip.: 25 ppm / °C; max.: 50 ppm / °C  
 Supply-voltage effect: practically zero  
 Settling time: 250 ms (90%) / 300 ms (99%)

**Galvanic isolation:**

Working voltage: 250  $V_{eff}$  (between the input, the output and the power supply terminals)  
 2500 VDC (1 min.)

**Power supply:**

Supply voltage: 24 V ± 10% DC (DT1102 V)  
 230 V ± 10% AC/DC (DT1102 V PS)  
 Power consumption: ≤ 1.6 W / 2.2 VA (DT1102 V)  
 ≤ 1.8 W / 2.4 VA (DT1102 V PS)

**Ambient conditions**

Operating temperature range: 0–60 °C or -20 – +60 °C (for customer request)  
 Relative humidity: 90% (max., non-condensing)  
 Place of installation: cabinet  
 Mounting position: vertical (horizontal rail position)

**Electromagnetic compatibility (EMC):**

**Accordance with the standard EN 61326-1**

Noise emission: Group 1, Class B  
 Immunity: industrial area

**General data:**

Housing: TS-35 rail mounting housing material: polyamide PA6.6  
 Connection: Pluggable screw-terminal  
 Connecting cable: 0.25–2.5 mm<sup>2</sup> (max.)  
 Dimensions: 12.5 × 99 × 115 mm (width × height × depth)  
 Weight: 0.15 kg  
 Protection: IP 20

Detailed information see in operating instructions. The Manufacturer maintains the right to change the technical data!