

LABOR – ASTER

INDUSTRIAL AUTOMATION



VOLTAGE CONVERTER TYPE U-S2

- Measurement of current $I \leq 5\text{Adc}$ or voltage $U \leq 500\text{Vdc}$
- Possibility of polarized input and output \pm , e.g. \pm
- Full galvanic separation of the circuits

APPLICATION:

The converter U-S2 is designed to convert small increases of voltage or current DC to standard signal (e.g. 4...20mA).

The user can calibrate the beginning and the span of the range by potentiometers (ZERO and SPAN) which are places on the front panel of the converter.

After agreement any supply voltage can be realized (18 ÷ 230V DC or AC).

BASIC TECHNICAL PARAMTERES

Input signal possible signals with \pm polarization (e.g. $\pm 10\text{V}$, $\pm 20\text{mA}$ etc.)

voltage - $\Delta U_{\min} = 5\text{mV}$, $\Delta U_{\max} = 500\text{Vdc}$
current - $\Delta I_{\min} = 1\mu\text{A}$, $\Delta I_{\max} = 5\text{Adc}$

Input resistance

voltage input - $\geq 250\text{k}\Omega$ (10M Ω on request)
for 10M Ω check [U-S2-OK](#)

current input - typically shunt 0,05W

Output signal

- any standard is for housing 12.5mm
for housing with a width of 22.5mm possible output \pm (e.g. $\pm 10\text{V}$, $\pm 20\text{mA}$ etc.)

Load resistance

output 0...5mA - 0...3k Ω
output 0(4)...20mA - 0...800 Ω
voltage output - >2k Ω

Output current max.

- 25mA

Class

- 0.1%

Nonlinearity

- $\pm 0.03\%$

Temperature drift

for $\Delta I \leq 3\mu\text{A}$, $\Delta U \leq 3\text{mV}$ - 0.02%/°C
for $\Delta I > 3\mu\text{A}$, $\Delta U > 3\text{mV}$ - 0.01%/°C

for thermocouples

- 0.03%/°C

Time constant

- 0.2s (or according to the order from range 0.05...1s)

Galvanic separation

- all circuits mutually separated
isolation test voltage - 2kV, 50Hz or equivalent

Supply voltage

version L - 230V, 50Hz
version W12.5 or W22.5 - 24Vdc/60mA (20 ...28V dc)
or according to the order from range 18-230Vac/dc

Housing

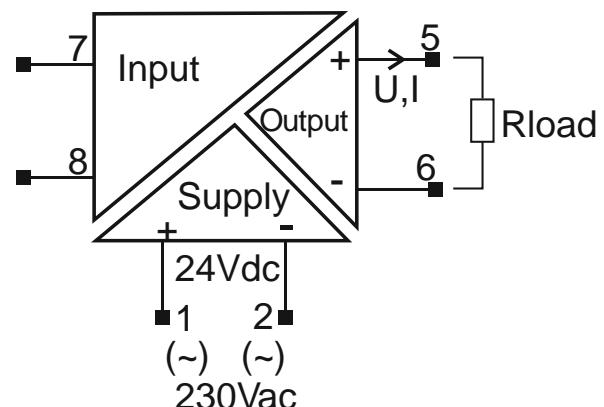
U-S2-L - rail 40mm IP40
U-S2-W22.5 - rail 22.5mm IP20
U-S2-W12.5 - rail 12.5mm IP20

Mounting

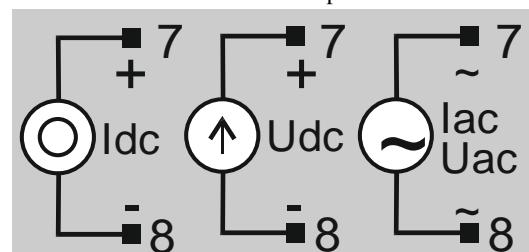
- on rail TS35



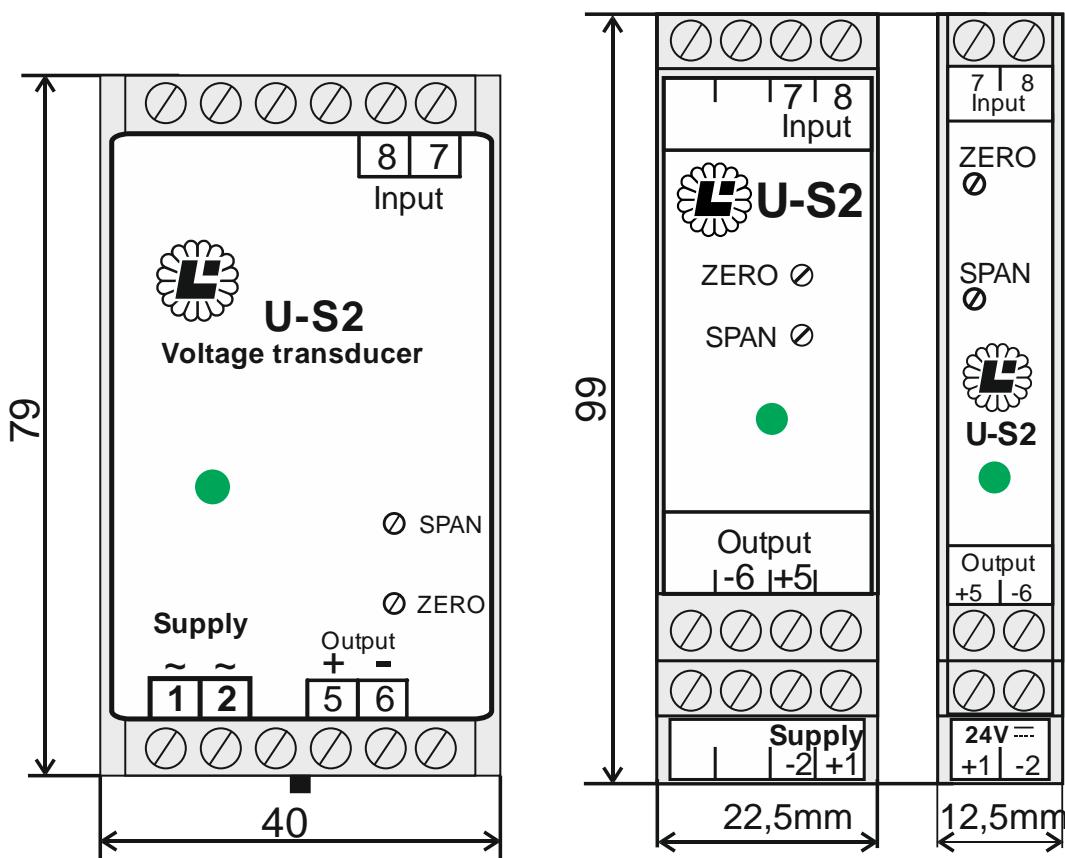
housing 12.5mm housing 22.5mm housing 40mm



Functional diagram of the U-S2 converter.
Terminals description.



Input connection



For unusual in/out signals
terminals 5,6,7,8 position
can be different than shown above

U-S2-L
supply 230Vac

U-S2-W22,5 **U-S2-W12,5**
supply 24Vdc supply 24Vdc

HOW TO ORDER:

Housing: _____
L - rail housing, width 40mm,

for supply 230Vac

W12,5 - rail housing, width 12,5mm,
for supply 24dc, for standard output signals

W22,5 - rail housing, width 22,5mm,
for supply 24Vdc, for output signals +/-

Power supply: 24Vdc, 230Vac or other _____

Input range: _____

Output range: _____

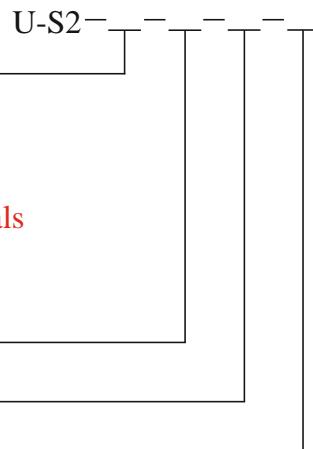
1 - 0...5mA ; 2 - 0...20mA

3 - active 4...20mA

4 - 0...5V ; 5 - 0...10V;

6 - 1...5V ; 7 - other non standard (describe)

8 - passive 4...20mA



Order example :

1). Converter of the voltage, housing 22,5, supply 24V, input 0-5Adc, output 0-10V type

U-S2 – W12,5 – 24V – (0-5Adc) – 5

Production and distribution:

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The manufacturer reserves the right to make changes to the product. Issue 05/2022