

TECHNICAL REFERENCE MANUAL

CONVERTER RS-232/TTY

Type DKS-10C



 Energautomatyka	TRM Converter RS 232 / TTY DKS-10C	2
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1. INTENDED USE

The DKS-10C Converter ensures a bidirectional, galvanically separated transfer from RS 232C to TTY (20 mA current loop) standard. It is applicable when connecting units operating at different standards or when transmission shall be done to greater distance using a current loop.

2. COMPLETE DELIVERY DATA

The unit comes with:

- Technical Reference Manual, the number of copies being as ordered,
- Guarantee Card.

3. CONSTRUCTION

The **DKS-10C** Converter is mounted in **EMG** housing from PHOENIX Company. It is installed on standard buses of T-35 terminal strips where it occupies 37.5mm of strip length. There are two groups of terminals: for power supply and RS 232 standard on the left-hand side and current loop terminals on the right-hand side of the housing as shown in Fig.2. On the front side of converter, there is a LED which, when on, indicates that the secondary voltage of converter is turned on. Terminals and electronic components are mounted on a PC board. The SMD technology is used to mount the components.

4. TECHNICAL DATA

4.1. Power supply	24V±20% / 100 mA
4.3. Max. transmission speed guaranteed	19,2 kBaud
4.4. Separation between power supply and transmission circuits	
- insulation resistance	> 20 MΩ
- insulation level	1000 V RMS
4.5. Separation between RS 232 circuit and "current loop" circuits	
- insulation resistance	> 20 MΩ
- insulation level	1000 V RMS
4.6. Electric parameters of signals	as required for the
standards	
4.7. Operating conditions	
- ambient temperature	-10 ÷ + 60°C
- relative humidity	< 90 % without
condensation	
- sinusoidal vibrations	10 - 55 Hz / 0.15 mm
- foreign magnetic field	0 - 400 A/m
- noise emission	level N
4.8. Dimensions(height x width x depth)	75 * 45 * 37,5 mm
4.9. Mass	0.3 kg approx.

5. PRINCIPLE OF OPERATION

Block diagram of Converter is shown in Fig.1. Power supply of 24 V, via a posistor protection, is applied to converter providing 24 V to "current loop" circuits" and 5 V to supply RS 232 standard. Power supply of "current loop" consists in two current sources, each of 20 mA, which may be independently connected into transmitter and receiver circuits. The way of supply is selected by connecting the external circuits.

A special IC device (MAX232) is used on the standard RS-232 side providing suitable electric standard of transmission (nominal signal levels are -12V , +12V). Transmission channels are galvanically separated each other by high-frequency optoisolator (0.5 MHz).

6. INSTALLATION AND OPERATION

The DKS-10C Converters are mounted on standard buses of T-35 terminal strips. The buses shall be located in cabinets or field boxes, unless they are placed in closed rooms with environment as specified in technical data.

The maximum cross-section area of leads is 2.5 mm².

The Converter, in which power supply of both loops (transmitting and receiving) are used, shall be located at least 20 mm from the next similar converter (this may be done by placing terminals there between. This refers to operation at ambient temperature over 35°C.

7. GUARANTEE

The products are guaranteed by **ENERGOAUTOMATYKA S.C.** for 24 months.

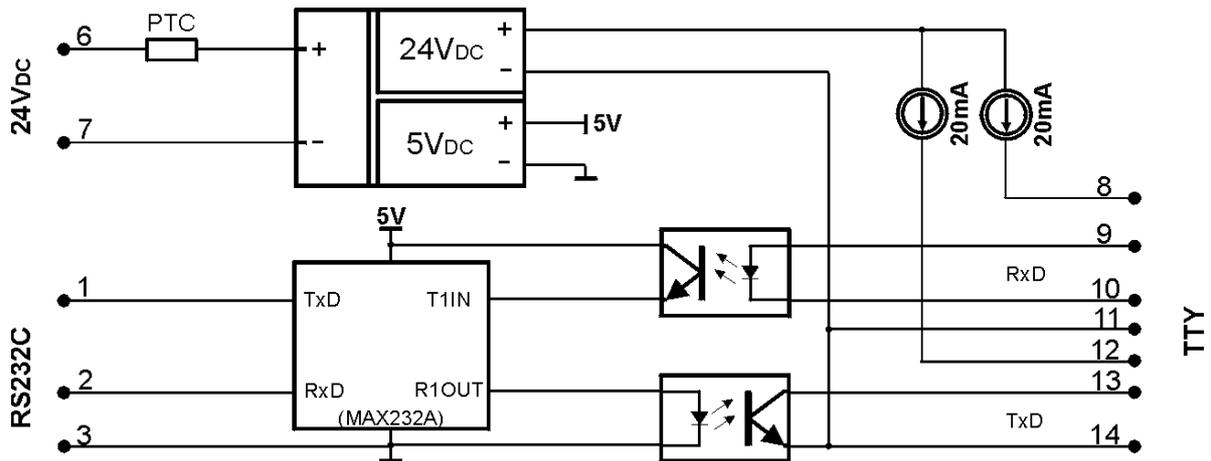


Fig.1. Block diagram of DKS-10C

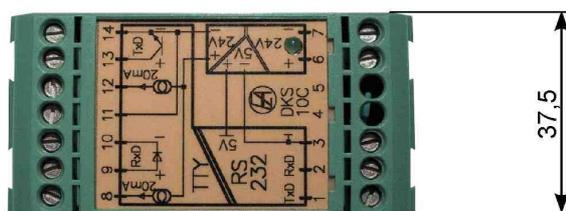
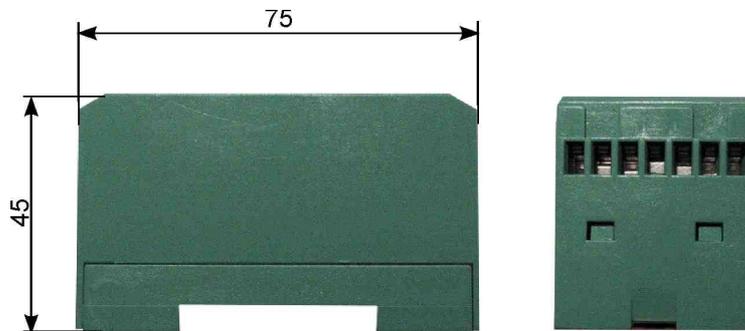


Fig.2. Dimensional drawing