

Instruction manual DFR-118

Purpose

Device is meant for change transmitting frequency of NMEA 0183 sentences with interpolation of sending data. DFR-118 is used when it is necessary to have coupling of transmitter with NMEA 0183 sentence frequency lower the value required by receiver.

Principle of operation

Operating regime with interpolation

Device receives NMEA 0183 sentences via RS-232/422 Input port. Then it saves digital data from the sentence in its memory. When the next sentence is received device interpolates received data by specified intervals N^* (thus, signal frequency is being raised N times) and generates it in the same format as received before. As it is necessary to receive minimum 1 message for interpolation there is time lag before output data renewal equal to NMEA input sentences period.

Note: N – multiplicity of frequency raise. E.g. on message receipt with frequency equal to 10 Hz and $N=2$, DFR-118 generates messages with 20 Hz frequency. Multiplicity of frequency raise shall be stated on device order. Maximum frequency of NMEA output sentences is 50 Hz.

Operating regime without interpolation

Operating principle is the same as operating regime with interpolation, except for DFR-118 doesn't effect data received conversion (i.e. device generates received message N time with specified time lag). As data processing is not effected in this regime there is no time lag of output data renewal.

Device adapts automatically to any type of input sentence (output format is identical to input sentence format), that is why it is impossible to send different types sentences to the device.

Attention! If heading value received before amounted to more than 270° , and heading value is less than 90° , heading interpolation direction is $270 \rightarrow 0 \rightarrow 90$. If heading value received before is less than 90° , and new heading value is more than 270° , heading interpolation direction is $90 \rightarrow 0 \rightarrow 270$. In all other cases interpolation is in direction from previous to new heading value.

Parameters of ports

Input interface RS-232/422*:

- Speed: 4800 bps
- Parity: No
- Stop bits: 1

Output interface RS-232 and RS-422*:

- Speed: 19200 bps
- Parity: No
- Stop bits: 1

Note: Parameters of input and output signals can be changed at the customer's request.

Technical characteristics

Power supply	10..36 VDC
Maximum power consumption	No more than 100 mA
Operating temperature	-20..+55 °C
Storage temperature	-50..+75 °C
Weight	не более 0,2 kg
Overall dimensions	135x66x21 mm

Installation and connection of device

- Choose place for device installation and prepare mounting holes in accordance with dimensional drawing (Fig. 1)
- Connect gyrocompass input with RS-232/422 Input according to label marking
- Connect receiver with RS-422 or RS-232 input according to label marking
- Supply power to terminal Power 24 VDC according to label marking.

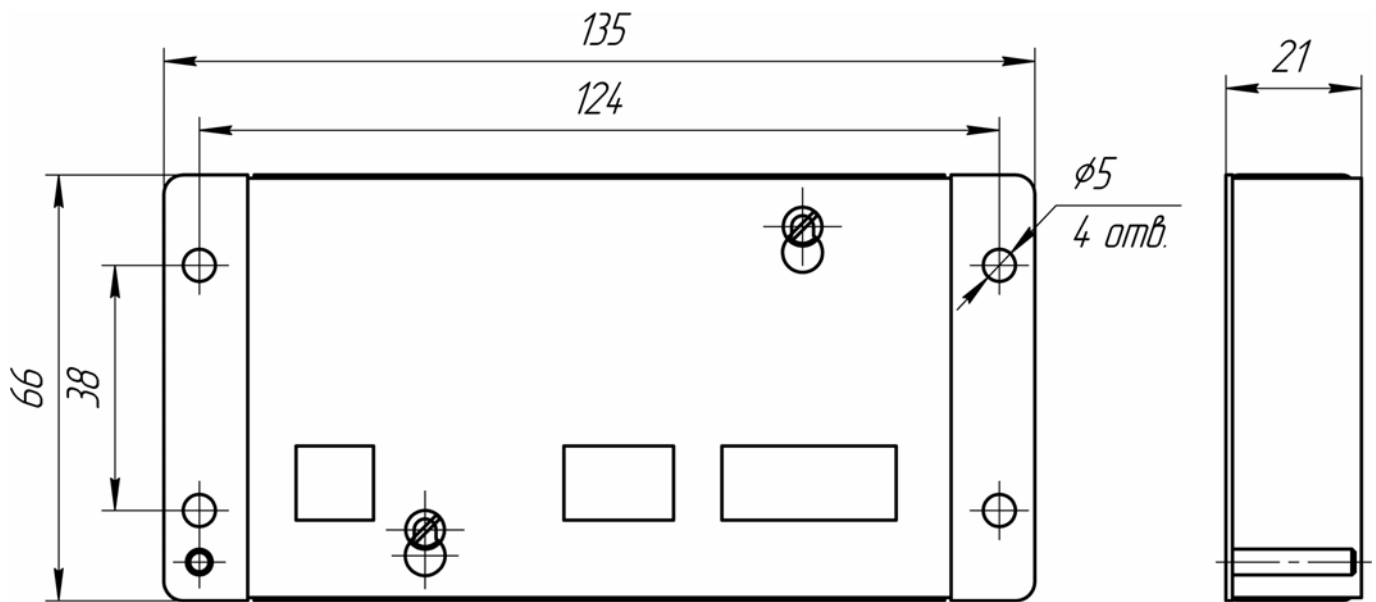


Fig. 1. Dimensional drawing.