

Deres ref :

Vår ref : PS-994-8D

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ETS50200 Dual frequency transducer.

The ETS50200 transducer is a relatively new product, that, in some cases, we have seen has a tendency to degrade under use. We have analysed the returned products and found a number of root causes, some due to production technique/quality, and others due to design limitations. The production of these units is now tightened up, and the design limitations are under long term analysis/test.

This is a product that is logical to have in our portfolio, so high focus and monitoring is and will continue on the product.

How you see the problem

The range of the transducer will reduce over time (it is important that it reduces, and is not poor from the start, which can also be mounting issues) measuring the impedance with an ETT985 tester will eventually show values outside of the recommended values, probably a shift of resonant frequency on the 50 kHz. This weakened signal will be most obvious in deep water with the transducer struggling to find depths over 200m on 50kHz in normal conditions.

Temporary Preventative Solution

The issue occurs when the transducer is run in 50kHz mode at full power. SKIPPER has released a software version for ESN200 v 1.1.4.0 that sets new maximum limits of this mode. We advise all customers using this transducer to install this software, or to restrict the power output of this transducer to 60%/70%. The instructions for this are attached.

Running the 50kHz at 60% power will slightly reduce the maximum range of the system, (but much less than 60%). ESN100 has very few reported issues.

Users with ETS50200 transducers produced before august 2021, may continue to use their product, with the above restriction.

Root cause

The failed transducers were working at too high a voltage and power, and in some cases, this was changing the impedance characteristics of the ceramic. In other cases, the connections to the ceramic or the ceramic itself was being completely or partially destroyed. This resulting in total or partial failure. When powered in this extreme way, small production irregularities made the ceramic more vulnerable to these errors.

The ETS50200 is a unique design, for 2 frequencies, giving a better specification than most other 2 frequency devices of similar design/cost.

The ETS50200 transducer was intensively tested on ESN100, a lower powered system, the ESN200 is a higher powered system and, although tested, has required further testing.

Permanent Solution

The production methods of the device are improved, and the restrictions in maximum power, have been tested and shown to allow the transducer to work with no signs of deterioration.

Software update to version SW-M004/5-1.1.4.0 upwards (available on the skipper website and installed in factory in the JB70D2-SA from Serial Number XXXXX) is optimised for these power changes.

Preventative actions

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The Transducer and transceiver of the ESN200 have been closely analysed and tested both extreme and realistic, in air and water, in laboratory and at sea, with long and short cables. Weaknesses in the product are identified, and improved, and will continue to be improved both in the ESN200 design and ETS50200 future versions. Long term testing will continue the results being reviewed regularly. Other transducers supplied by Skipper will/have also benefitted from this analysis, and power level changes are also added for ETN050, ETN200S.

Best regards



SKIPPER Electronics AS.

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