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**Commentary of Changes made between previous product
17-5234., and proposed new product , 17-5241**

The product 17-5241 is a re-design of the previous version 17-5234. The reason for the changes is to comply with HAZLOC (UL913).

UL913 has many very strict requirements. One of the main requirements is the need for strict production quality control. The Radio transmit module used in the product 17-5234 is manufactured by a 3rd party. There is a considerable cost associated with the audits, and to minimise this cost, we decided that our subcontractor in China would manufacture the entire product. This dictated the need for the RF components to be integrated on to the main pcb assembly, instead of using a module.

The new RF section is based on a PLL industry standard radio transmit IC, Atmel T5750 (IC2). This device was designed for RKE and Tire pressure monitoring applications, and is perfectly suited to our application. The RF part of the circuit was designed according to the application information provided by Atmel. The RF output power, modulation scheme and deviation are similar levels to the previous product 17-5241. The new product is required to be backwards compatible with the previous product.

Other changes are the inclusion of zener clamping diodes (Z1, Z2, Z3, Z4), to limit voltages as required by HAZLOC, and the resistors R1, R2, R3, R4, placed in series with the battery in order to limit power & current into the circuit.

The low level analogue amplifier circuit is of similar design to the previous product., as is the method of generation the AC drive voltage required by the transducer.

The physical construction is changed from through hole components to surface mount due to the requirements of the RF design, and also for HAZLOC, in order to maintain conductor clearances.

Thank you for your attention to these matters.

Yours faithfully
Tekelek Europe Ltd

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