

K-MC1, K-MC3, K-MC4 Updates

Change Letter #1

Purpose of this Document

This is a general description of hardware updates found in the latest series in some of our Radar sensors. It describes changes that may concern some applications, especially if the VCO feature is used.

Sensors Concerned

K-MC1 starting from Lot# L1114

K-MC3 starting from Lot# L1108

K-MC4 starting from Lot# L1120

Technical Changes

IF Outputs

Item	New	Old	Consequences
"DC" and "AC" outputs	Independent	cascaded	If DC output becomes saturated due to a non matched cover, AC output remains working.
"DC Output" frequency response:	0 ... 500kHz	0 ... 100kHz	FSK possible at higher rates. Wider noise floor bandwidth.
"AC" output gain adjustment	Feature omitted	adjustable via external resistor	Gain at "AC" output is fixed.

VCO Oscillator

Item	New	Old	Consequences
Resonator	Ceramic	Microstrip	Noise at IF outputs is less dependent on reflection strength: Better overall S/N ratio
FM voltage range	1 .. 10V	0 .. 4V	Broader modulation range Better reproducibility
FM input resistance	10kOhm resistor to 5V	10kOhm to 0.85V	External drive circuit must sink and source >0.5mA
FM linearity characteristics	Predictable		Can be interpolated from 3 points. An interpolation tool is available from RFbeam

RSW Power Saving

(Rapid Sleep Wakeup)

Item	New	Old	Consequences
Minimal On Time	4us	7us	Allows shorter power on times and may compensate the higher sleep current.
Sleep mode power consumption	<10mA	<7mA	Higher consumption at same switching conditions.
Charge Injection	20% increased at "DC" out		This is due to the higher bandwidth of "DC" output. No change at "AC" output

Enclosure (K-MC1 only)

Please refer to the latest K-MC1 data sheet on our website www.rfbeam.ch

Item	New	Old	Consequences
New mounting holes	separate mounting screws	no separate screws	Antenna fixing screws remain untouched

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