

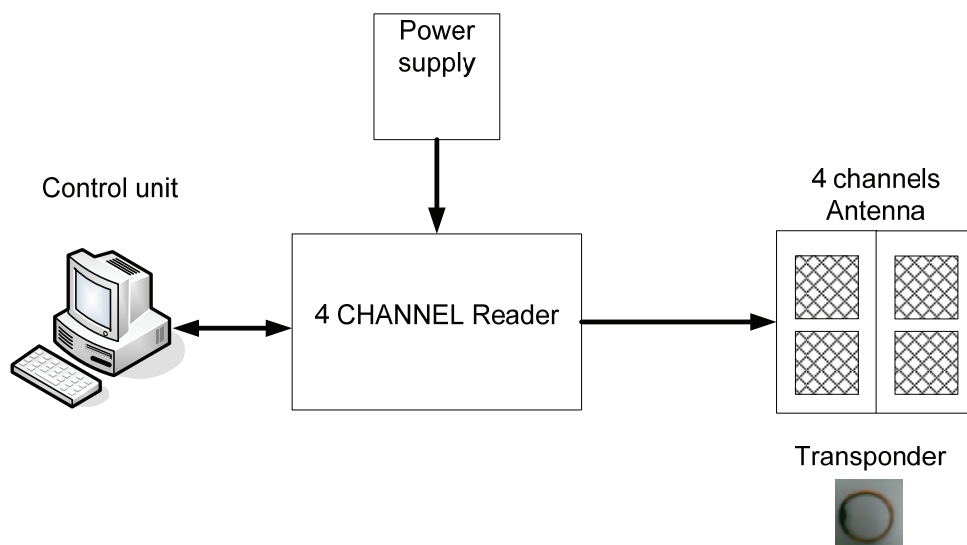
Rev 1

## Alaris 4 CHANNEL Reader 125KHz – theory of operation

The system contains 3 main components:

- Reader
- 2 antennas
- Transponders HITAG S

The Reader has serial output which connects to control unit MCU or PC with software application that control the reader. The antennas connect to the output of the Reader:



Connect the Reader to power supply and serial connection to MCU.

The MCU send a command states to the Reader to identify transponders. At this situation the Reader is creating electromagnetic field emitting through the antenna. When placing a transponder near/on/above the antennas, at a distance which sufficient enough to create reaction at the transponder; a voltage generates at the transponder coil. The transponder is transmitting back to the antenna its ID and/or data from its memory according to the Reader's command.

If the Reader identifies the transponder's encryption/data it is sending the transponder's ID/data to the control unit.

At the same similar way the Reader can write info to the transponder memory, including verification process.