

5 Modes of operation

The following chapters describe the modes of operation that can be carried out by the DM3 devices.

5.1 Remote keyless Entry

The Remote Keyless Entry (RKE) functions enable the user to control the central locking system and other functions of a vehicle from a distance. It is always manually activated by pressing one of the buttons on the device. When activated, the device will transmit a sequence of RF messages. In RKE mode RF communication is processed in simplex mode. For some comfort functions which are activated by holding the buttons pressed continuously, the devices respond with RF transmission triggered by LF (125 KHz) message sent by the vehicle.

5.2 Keyless Entry / Keyless Go

Keyless Entry / Keyless Go functions allow the user control of the central locking system and engine start / stop without manual operation of the key. For these functions the devices can be woken up by a 125 KHz low frequency (LF) signal generated by the vehicle. For recognition of LF signals the devices contain a set of 3 orthogonal sensor coils (LF antenna array) and a detection circuit that is integrated in the main μ C. For Keyless Entry / Keyless Go functions RF communication takes place in half duplex mode.

5.3 Transponder mode

The transponder mode serves as a backup means for deactivation of the immobilizer system if the keyless go function is not available for any reason. In transponder mode, the device is supplied from the magnetic field generated by the immobilizer system of the vehicle and communicates with the vehicle using damping modulation. The nominal working frequency of the transponder system is 125 KHz. No RF communication is used in transponder mode. Therefore, the device does not generate or emit any RF energy in this mode.