

## 1 General

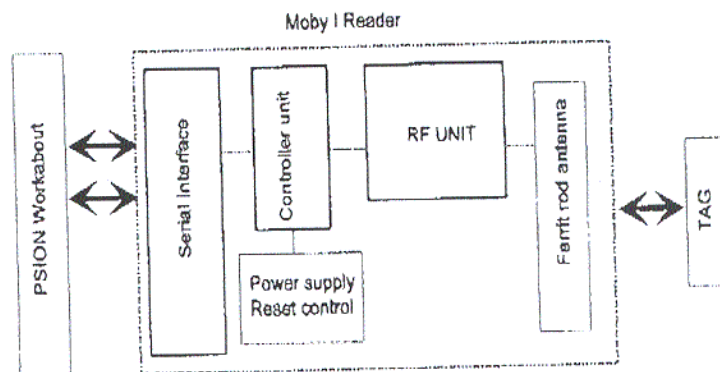
The Psion Plug-On Moby STG I device is a transponder reader module for the Psion Workabout and can contactless read and write Moby I transponders.

The reader module can be connected on the top of the Psion hand-held device. Power supply and communication is realized via the serial TTL interface of the Psion.

## 2 Hardware

The hardware of the module can be divided into 4 units:

- serial interface
- controller
- Rf part
- antenna



### 2.1 Serial interface

The interface to the host system is realised by RS 232 TTL connection and includes as well the power supply.

### 2.2 Controller

The controller unit consists of a standard microcontroller. The controller is able to handle the communication with the Psion Workabout and the transponder. The transponder data can be converted and the Rf field can be switched on and off.

### 2.3 Rf unit

The RF unit consists of the driver for the antenna and the demodulation unit for the received data.

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The driver unit is divided into 2 transmission channels. To power up a Moby I transponder a 134kHz power signal is necessary. The data transmission is realised by a 1.84MHz signal and pulse code data modulation. The transmission rate is 19200baud.  
 The demodulation and filter unit, demodulates and edits the data for the controller.

**2.4 Antenna**

The antenna is made of a rod ferrite with two coils.

**3 Mechanical dimensions**

length	c. 65 mm
width	c. 89 mm
height	c. 55 mm

**4 Electrical data**

Temperature	- 20° C ... + 60° C
Power supply	5 V DC ± 2,5%, < 200 mA
Power carrier frequency	136 kHz
Data carrier frequency	1,84 MHz
Interface	9600 Baud, serial, TTL RS232

**5 Transponder**

	MDS 302 MDS 115 MDS 506 MDS 507
READ / WRITE distances	depends on tag

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