

Block Diagram Smart Card Reader

Description:

The Scheidt & Bachmann **S**mart **C**ard **R**eader is designed for use in S&B field devices like TVMs, Gates, Validators and other devices with smart card functionality.

The SCR consists of two PCBs:

The **CPU module** contains the CPU together with an FPGA. All necessary interface lines are feed to a connector. The CPU Module is plugged into the baseboard.

On the **baseboard** resides the power supply that converts the input voltage of 8V—12V into 5V and 3.3V. Alternatively the SCR can be supplied with a 5V power supply. Additionally two chips are implemented to interface to two independent antennas for transactions with contact less smartcards. Another chip is used, to interface to four SAM sockets.

Finally there are all connectors, transceivers and other components integrated, that the SCR needs to communicate to a host (USB 1.1, RS232) and to the customer (antenna, LEDs, buzzer).

The **Smart Card Target** (that is the area, where the customer shall tag the contact less smart card) is a separate PCB, designed as antenna, with three LEDs and a buzzer as user interface. The SCR supports two independent antennas.

All layers of ISO 14443 Type A and B are supported.

Four SAMs (**s**ecure **a**ccess **m**odule) sockets are implemented to handle keys and to store transaction data (depends on application).

The SCR is equipped with a **USB 2.0** compliant interface to perform upload of transactional and event data and download of firmware versions and operational data.

The SCR can be equipped with a **RS232** interface to perform the same data exchange that is possible with USB.

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Cable

Functon	Connector SCR	Type	No			Count	Length
Power 5V 5V 8V-24V 8V-24V	ST950	2 x AWG20 UL SW	50 62106	0		1	0-3m
		3 x AWG20 C UL SW	50 60120	0	A		0-3m
		2 x AWG20 UL SW	50 62106	0			0-3m
		3 x AWG20 C UL SW	50 60120	0	A		0-3m
LED/Buzzer	ST572 / ST582	6 x AWG24 C UL SW	50 61441	0	A	2	0-7,3m
Antenna	BU500 / BU550	M17 / 113-RG316	5063381	0		2	0-7,3m
Host RS232 USB	ST301	4 x AWG24C UL CSA SW	50 61440	0	A	1	0-3m
	BU410						0-5

Used components

Component	PCB	Version	Index	Remarks
Reader Baseboard CPU Module	03 51634 03 53742	0 0	F D	
Antenna	03 57xxx	X	x	To achieve the best performance the equipment of the antenna must be changed, depending on the housing situation.