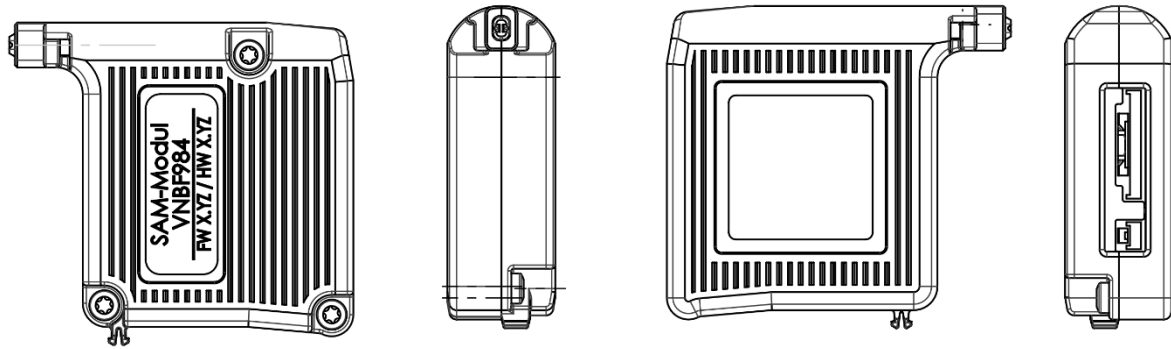


SmartAccess Radio Module

Data Sheet



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Overview

Radio Module with Bluetooth Communication for Fuhr Locks.

Dimensions	~ 45 mm x 50 mm x 15 mm
Supply Voltage	12 V - 26 V DC
Supply Current	Startup: max. 60 mA Idle: < 5 mA @ 12 V (60 mW) < 3 mA @ 26 V (78 mW)
Radio Transmitter	Bluetooth 2.4 GHz
Communication Ports	RS485 Open Collector Input Data Bus for Fuhr locks Relais Output for 3rd Party locks Reed Contact Inputs
Relais Output Capability	Max: 2 A @32 V
Cryptographic methods	AES128-GCM, ECDH (secp256r1), HKDF
RTC	Capacitor buffered, ~5 days run time
PCB-Material	FR4 UL 94 V0
Case Material	PA6 GF25
Protection Class	IP20
Operating temperature range	-10°C ... + 60 °C
Operating humidity range	10 % ... 90%, non-condensing

Pin Description

Pin #	Name	Description
1	RS485_A	Data Bus for Fingerprint Scanner
2	RS485_B	Data Bus for Fingerprint Scanner
3	1-Wire	Data Bus for Fuhr Locks
4	GND	Ground
5	Vcc out	Voltage output for Fingerprint or TouchSensor, same as input voltage
6	Relais	Potential free Output for 3rd Party Locks or Actuator
7	Actuator in	Open Collector Input for Actuator
8	Relais	Potential free Output for 3rd Party Locks or Actuator
9	Vcc in	Power Supply Input, 12 V – 26 V DC, max. 50 mA current draw (without Fingerprint Scanner and without TouchSensor)

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10	Vcc out	Auxiliary Voltage Supply pin
11	GND	Power Supply Input GND

Pin 1 & 2 RS485

Asynchronous, symmetric Bus, 115200 BAUD, 3 V signal output. +/- 60 V input tolerant. A Fuhr Fingerprint Scanner can be connected to these pins.

The Cable length of the RS485 Bus must not exceed 3 m.

Pin 3 1-Wire

OneWire like Bus for communication with Fuhr Locks. Opening commands are sent via this pin to a lock and lock/door states are read.

Pin 4 GND

Ground Supply Pin for Fingerprint Scanner or TouchSensor

Pin 5 Vcc out

Voltage supply output pin for Fingerprint Scanner and TouchSensor. The voltage level is the same as the input voltage of the module on Pin 9.

Pin 6 & 8 Relais

These two pins form a potential free output for opening impulses for 3rd Party locks or Actuator

Pin 7 Actuator in

OpenCollector Input for activation signals from a TouchSensor actuator, active low.

Pin 9 Vcc input

Positive Voltage Supply, 12 V - 26 V DC, maximal 60 mA.

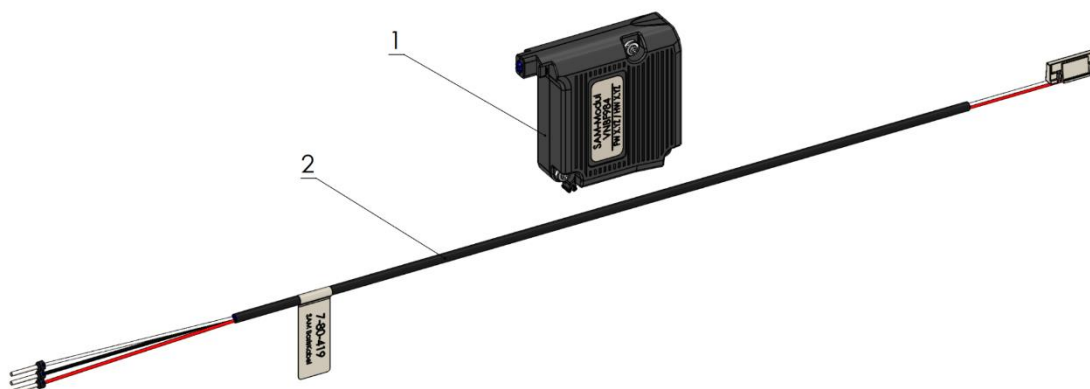
Pin 10 Vcc output

Voltage supply output for Fingerprint Scanner or TouchSensor. This pin is directly connected to Pin 9.

Pin 11 GND

Ground Pin for voltage supply.

Connection to Fuhr Locks



The SmartAccess RadioModule (1) can be connected to Fuhr Locks via the 7-80-419 Basis cable (2) as followed:

Fuhr Lock Terminal Pin	Description	7-80-419 Cable Color
1	Data Bus	White
2	GND	
3	+12 V	
4	Unlock, OpenCollector	
5	GND	Black
6	12V DC out, 350 mA	Red
7	Unlock, 6 –12 AC, 6-24v DC	

Changelog

Datasheet version	SAM-HW version	Changes	Date	Author
V0.1	V3.1	Initial datasheet	19.08.24	Wilko Neu
V0.2	V3.1	PCB & Case Material; Connection section; Drawings added	17.12.24	Wilko Neu
V0.3	V3.3	Relais Output Capability; Cryptographic methods; Fixed typos	30.04.26	Sven Franken