

RS-SMK-001-01 / 01 Overview

Photoelectric Smoke Module

Brand: ROGERSENSE

Model: RS-SMK-001-01

Document version: 1.0

Hardware / firmware revision: TBD



Product presentation. Delivered configuration: TBD.

Key functions

Parameter	Value / conditions	Rev.
Principle	Photoelectric smoke detection; white / black smoke channels	1.0
Detection range	0.1-0.8 dB/m p.3; not gas ppm or a PM2.5 concentration range	1.0
Operating supply	3.0-5.0 V DC p.5; absolute maximum is not operating voltage	1.0

Delivery configuration

Configuration and delivery contents are confirmed in the integration project; no online sample offer.

Application scope

Reference specifications for project evaluation. Final delivery is subject to the agreed hardware, firmware, accessories and acceptance conditions. Presentation imagery does not define manufacturing geometry.

RS-SMK-001-01 / 02 Technical data

Documented values and operating conditions. Conflicting or unavailable values are marked TBD.

Parameter	Value / conditions	Rev.
Principle	Photoelectric smoke detection; white / black smoke channels	1.0
Detection range	0.1-0.8 dB/m p.3; not gas ppm or a PM2.5 concentration range	1.0
Operating supply	3.0-5.0 V DC p.5; absolute maximum is not operating voltage	1.0
Interface	UART TX/RX and STATUS alarm output pp.4,6	1.0
UART rate	9600 bit/s p.3	1.0
Default detection period	Standby default 8 s; smoke-active detection fixed 1 s (register 0x2D) pp.5-6; not UART baud rate	1.0
Standby current	<15 uA at 3 V Wakes for detection every 8 seconds	1.0
Dimensions / mass	37 x 37 x 28 mm; 14.7 g Nominal product dimensions	1.0
Operating current	Typical 3 mA; maximum 20 mA at 3 V, Ta 25 deg C	1.0
Standby current detail	Typical 10 uA; maximum 15 uA at 3 V, 8 s period	1.0
Absolute maximum supply	VSS-0.1 to VSS+5.5 V; stress rating, not normal operating voltage	1.0
Temperature / absolute-rating section	Operating -10 to +55 deg C; storage -15 to +60 deg C, as listed in absolute ratings	1.0
Power dissipation / stress rating	110 mW; not a guaranteed normal-use power budget	1.0

RS-SMK-001-01 / 03 Electrical interface

Pin / terminal definitions

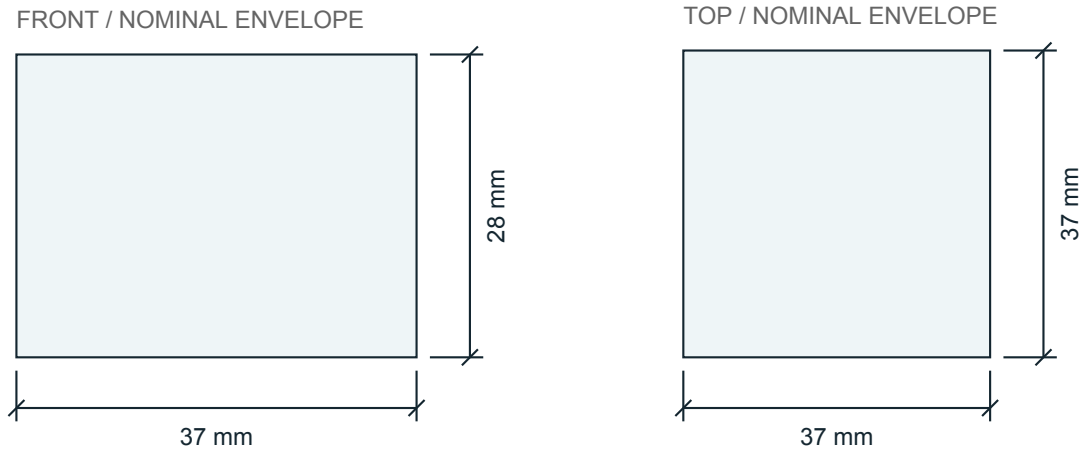
Parameter	Value / conditions	Rev.
1 / 2	VDD / VSS p.4; orientation from original drawing	1.0
3 / 4	UART RX / TX p.4	1.0
5	STATUS; default normal low, alarm high pp.4,6; configurable	1.0

Electrical conditions

Item	Value / condition	Rev.
Pin viewing orientation	TBD unless identified in the approved wiring drawing	1.0
Harness / logic compatibility	TBD; confirm against the delivered hardware before wiring	1.0
EMC / isolation / load derating	TBD; component ratings do not establish system ratings	1.0

RS-SMK-001-01 / 04 Mechanical & installation

Dimensions / unit: mm



Unit: mm. Not to scale. Holes / datum / unspecified tolerances: TBD.

Rectangular envelope reference: first two dimensions represent the documented body diameter. The actual product is cylindrical.

Item	Value / condition	Rev.
Body diameter	37.0 +/-0.2 mm	1.0
Body height	28.0 +/-0.2 mm	1.0
Pin projection	6.0 +/-0.1 mm	1.0
Pin pitch	2.54 +/-0.05 mm	1.0
Mass	14.7 g as separately published	1.0

Installation control

Confirm mounting datum, clearance, connector access and the exact delivered revision. Drawing spans listed in the table require an approved drawing to establish orientation. Unspecified geometry and tolerances: TBD.

RS-SMK-001-01 / 05 Protocol & software

Native interfaces and protocol

Item	Value / condition	Rev.
UART	9600 bit/s; data 8 bits; start-low and stop-bit framing per source	1.0
Command frame	4 bytes: instruction, address, data, checksum	1.0
Command checksum	Negative sum of first 3 bytes, modulo 256	1.0
Response frame	0xAA, length, device type 0x11, protocol version 0x01, instruction, payload, checksum	1.0
Read status example	AC 00 00 54; U3 response begins AA 29 11 01 AC, 41 bytes	1.0
Read version example	AD 00 00 53; production date / software version in BCD	1.0
Alarm STATUS	Normal LOW, alarm HIGH by default; polarity configurable	1.0

ROGERSENSE integration services

MQTT connectivity, OTA firmware updates, gateways and cloud platform are available for delivery. Model-specific controllers, interfaces and adaptation are agreed per project. These services do not imply native MQTT or OTA support inside every sensor.

Platform: <https://iot.rogersense.com>

Item	Value / condition	Rev.
Gateway / firmware build	TBD	1.0
MQTT topic / payload / credentials	TBD	1.0
OTA signing / rollback / access control	TBD	1.0

RS-SMK-001-01 / 06 Delivery & verification

Configuration and acceptance record

Item	Value / condition	Rev.
Document version	1.0	1.0
Brand / model	ROGERSENSE / RS-SMK-001-01	1.0
Hardware / firmware revision	TBD	1.0
Serial number / calibration report	TBD	1.0
Approved mechanical drawing	TBD	1.0
Inspection / acceptance report	TBD	1.0
Packing / harness / accessories	TBD; confirm the ordered configuration	1.0
Certification / compliance evidence	TBD unless identified in the delivery agreement	1.0

Open items

Every TBD item and any conflicting supply, accuracy, dimensional or revision requirement must be resolved in the approved delivery configuration. Calibration conditions, wiring orientation, installation datum and application suitability require project verification.

After-sales

After-sales follows the existing ROGERSENSE policy and the approved order. <https://rogersense.com/returns>

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Commands and status fields

Item	Value / condition	Rev.
U0 / U1	AF reset / AD read production date and software version	1.0
U2 / U3	AB air calibration (8 s) / AC status and data	1.0
U4 / U5	E0 write configuration register / D0 read configuration register	1.0
U6 / U7	D2 read run variable / A0 factory reset	1.0
Status bits	0 calibrated; 1 pre-alarm; 2 alarm; 3 fault; 5 initialisation	1.0
Run variables 0x90-0x96	Device status; VBG ADC; reference; A/B status	1.0
Run variables 0x9B-0xA2	A/B raw or filtered values; A/B calibration zeros (2 bytes each)	1.0
Run variables 0xA3-0xA7	A/B thresholds; ratio = 128 x actual ratio	1.0
Run variables 0xAA-0xB0	Alarm count -12..3; temperature ADC; fault count; smoke count	1.0
Run variables 0xB1 / 0xB2	VDD = encoded value / 1024, volts	1.0

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.

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Configuration register reference

Item	Value / condition	Rev.
0x08 / 0x09	A calibration upper / lower limits: C8 / 19 default	1.0
0x0A / 0x0B	B calibration upper / lower limits: C8 / 19 default	1.0
0x10 / 0x11	12-bit A threshold, low / high bytes default 26 / 02	1.0
0x12 / 0x13	12-bit B threshold, low / high bytes default 64 / 00	1.0
0x2D	Standby seconds default 08; smoke-active detection 1 s	1.0
0x2E	80 detailed automatic data; 81 simple; 00 disabled	1.0
0x2F	Alarm polarity: 80 active-high; 00 active-low	1.0
Reserved addresses	Do not modify; final production settings / calibration file TBD	1.0

Reference information from the existing ROGERSENSE specification. Use the approved hardware, firmware, harness and calibration revision; unlisted implementation details remain TBD.