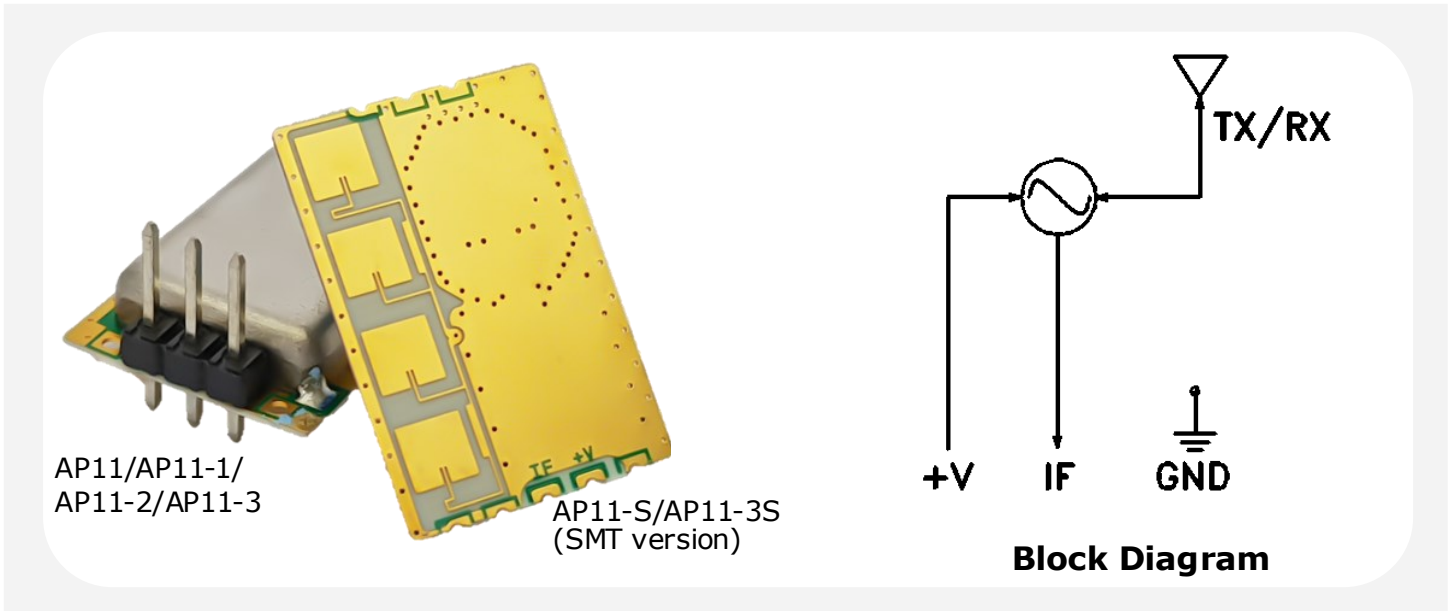


AP11



Miniature K-band Sensor Module

The AP11 K-band miniature sensor is an ultra small monostatic Doppler transceiver. It is suitable for applications in automatic access, security, lighting control and speed measurement.

The AP11's compact footprint, low profile and light weight enables OEMs to create products where tight spaces are a priority. Its integrated architecture minimizes component count for cost effectiveness. It is available in surface mount technology (SMT) and standard pin header versions for mounting flexibility.

Key Applications:

- Motion detection
- Lighting control
- Security alarm
- Automatic door control

Key Features:

- Ultra small and flat profile
- Light weight
- CW and pulse mode operation
- Low current consumption

Technical Specifications

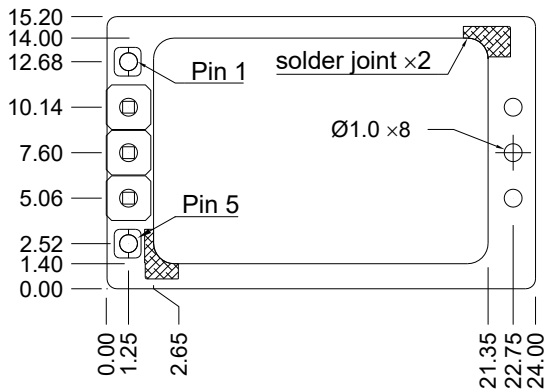
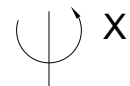
PARAMETER	REMARKS	MIN	TYPICAL	MAX	UNITS
OPERATING CONDITIONS					
Supply voltage, V_{IN}	AP11-3, AP11-3S	2.85	3	3.15	V_{DC}
	AP11, AP11-1, AP11-2, AP11-S	4.75	5	5.25	V_{DC}
Current consumption			30	40	mA
Operating temperature		-20		60	°C
RECOMMENDED PULSE SCHEME					
Pulse frequency	Pulse mode		2		KHz
Duty cycle	Pulse mode		2		%
TRANSMITTER					
Operating frequency	AP11, AP11-3, AP11-S, AP11-3S	24.000	24.125	24.250	GHz
	AP11-1	24.075	24.125	24.175	GHz
	AP11-2	24.150	24.200	24.250	GHz
Radiated power (EIRP)				13	dBm
Spurious emission				-30	dBm
Frequency drift vs temperature			-1		MHz/°C
ANTENNA					
Antenna beam-width (3 dB) - X			32		°
Antenna beam-width (3 dB) - Y			80		°
Antenna sidelobe rejection			15		dB
RECEIVER					
Noise level, 100 Hz—1 KHz	AP11, AP11-S, AP11-1, AP11-2		80		μV_{rms}
	AP11-3, AP11-3S		40		μV_{rms}
DC Offset			1.8		V
PHYSICAL PROPERTIES					
Dimensions	AP11, AP11-1, AP11-2, AP11-3		15.2 × 24.0 × 11.8		mm
	AP11-S/AP11-3S		15.2 × 21.5 × 3.5		mm
Weight	AP11, AP11-1, AP11-2, AP11-3		1.4		g
	AP11-S/AP11-3S		1.2		g

Unless noted otherwise, the specifications are measured in CW mode, $V_{IN} = 3 V_{DC}$ and 12k ohm load at +25°C.

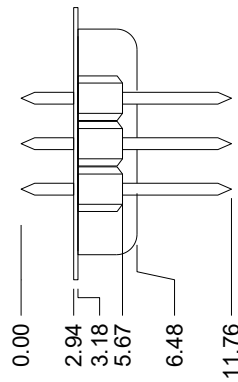
Note 1: AP11 complies with EN 300 440 and FCC Part 15.245.

Note 2: **CAUTION: ELECTROSTATIC SENSITIVE DEVICE.** Observe precautions for handling and storage.

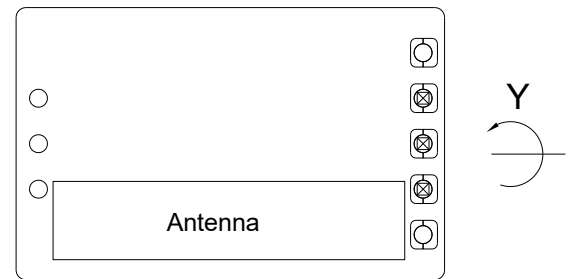
Outline Diagram (AP11, AP11-1, AP11-2, AP11-3)



REAR VIEW

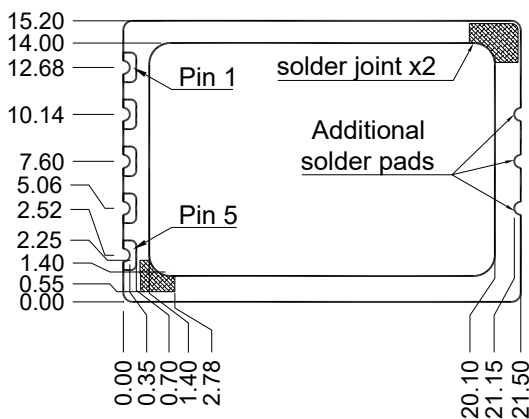
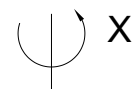


SIDE VIEW

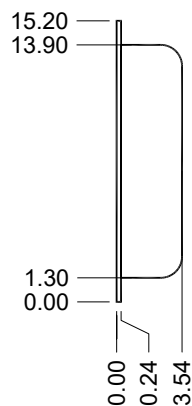


FRONT VIEW - ANTENNA

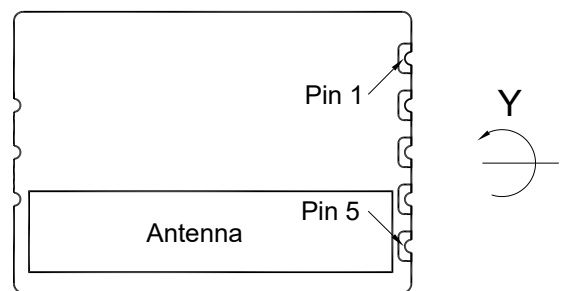
Outline Diagram (AP11-S, AP11-3S)



REAR VIEW



SIDE VIEW



FRONT VIEW - ANTENNA

Pin	Name	Description
1	GND	Ground
2	+V	Supply voltage, V_{IN}
3	IF	IF_{out}
4	GND	Ground
5	GND	Ground

Antenna Beam Pattern

