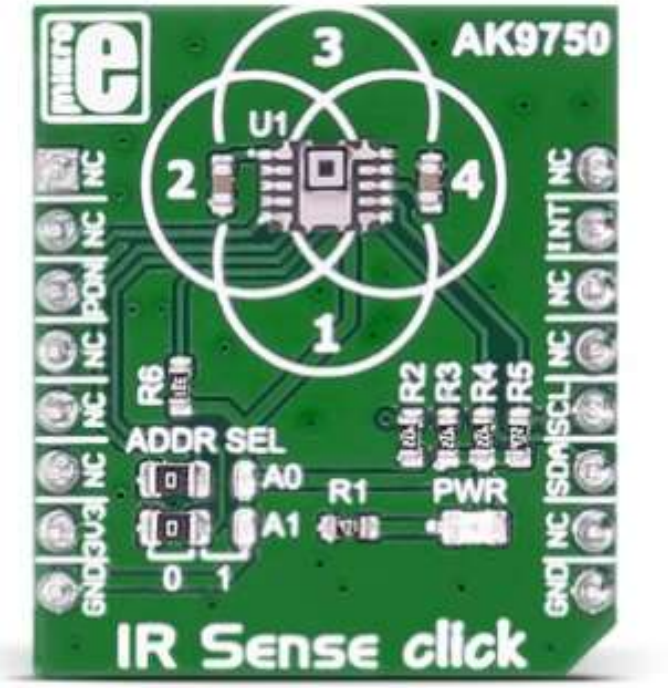
IR Sense click

PID: MIKROE-2677

IR Sense click carries the AK9750 quantum-type IR sensor. The click is designed to run on a 3.3V power supply. It communicates with the target microcontroller over I2C interface, with additional functionality provided by the INT pin on the mikroBUS™ line.



IR Sense cilck detects the temperature of objects and people in motion. It can also detect a human body that remains still. So, it distinguishes heat regardless of the fact whether or not an object is moving.

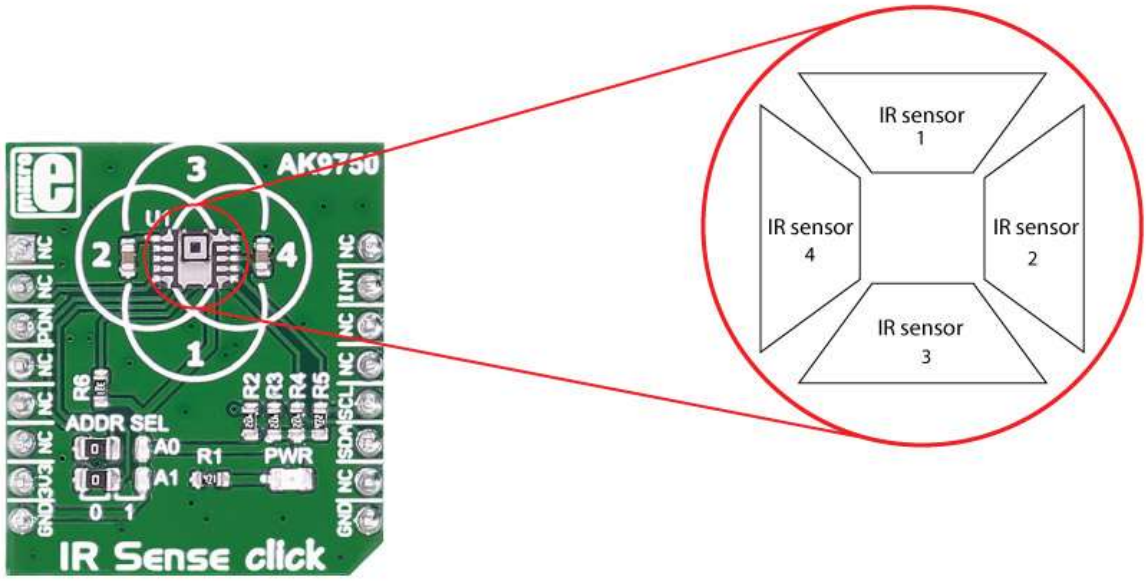
AK9750 features

The AK9750 is an ultra-low power and compact infrared-ray (IR) sensor module. It is composed of four quantum IR sensors and an integrated circuit (IC) for characteristic compensation.

An integral analog-to-digital converter provides 16-bits data outputs. Additional integrated features include a field of view limiter and an optical filter.

How it works

The IR sensors are arranged as shown. Each sensor detects the diagonal area, as indicated in the image below:



The observable area of the four sensors is as you see it on the silk of the IR Sense click board™.

Specifications

Type	IR,Temperature
Applications	Detecting heat with the four IR sensors
On-board modules	AK9750 IR sensor
Key Features	Low current consumption: Max. 1μA in Power down Mode; Integrated temperature sensor, 16-bits Digital Outputs to I2C bus
Interface	I2C
Input Voltage	3.3V
Click board size	S (28.6 x 25.4 mm)

Pinout diagram

This table shows how the pinout on **IR Sense click** corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikroBUS				Pin	Notes
	ALR	1	AN	PWM	16	NC	
	NC	2	RST	INT	15	**INT**	Interrupt
Power down pin	**PDN**	3	CS	TX	14	NC	
	NC	4	SCK	RX	13	NC	
	NC	5	MISO	SCL	12	**SCL**	SCL I2C line
	NC	6	MOSI	SDA	11	**SDA**	SDA I2C line
Power supply	**+3.3V**	7	3.3V	5V	10	NC	
Ground	**GND**	8	GND	GND	9	**GND**	Ground

Jumpers and settings

Designator	Name	Default Position	Default Option	Description
A0	A0	Left	0	Selection of I2C address bit 0
A1	A1	Left	1	Selection of I2C address bit 1