

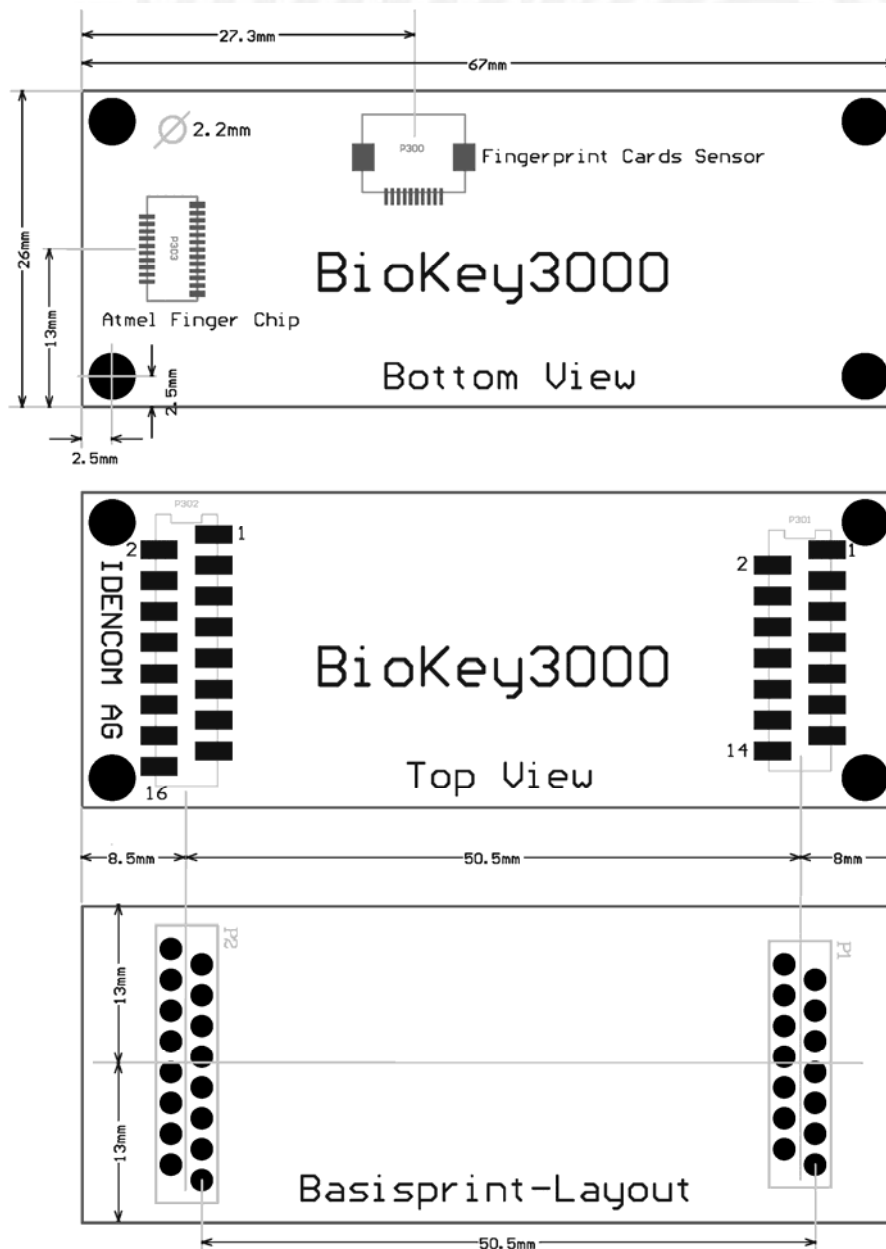
# Integration

Embedded

## BioKey® 3000

for Fingerprint Identification

### Mechanical Integration



# Integration

## Pin assignment

### Connector **P301**:

Pin	Identifier	Pin-Type	Description
1	<b>GND</b>	PWR	Ground
2	<b>TXD</b>	O	Communication interface – UART transmit (either RS232 or CMOS level)
3	<b>RXD</b>	I	Communication interface – UART receive (either RS232 or CMOS level)
4	<b>EN</b>	PWR/I	Voltage regulator enable
5	<b>VIN</b>	PWR/I	Power supply (2.2 ... 10 V DC)
6	<b>Data0</b>	O	Data0 (Wiegand)
7	<b>Data1</b>	O	Data1 (Wiegand)
8	<b>SDA</b>	I/O	SDA (I2C)
9	<b>SCL</b>	I/O	SCL (I2C)
10	<b>D+</b>	I/O	Communication interface – either USB device port or UART (RS485 level)
11	<b>D-</b>	I/O	Communication interface – either USB device port or UART (RS485 level)
12	<b>K1</b>	Switch	Relay contact (normally open, potential free contact)
13	<b>K2</b>	Switch	Relay contact (normally open, potential free contact)
14	<b>GND</b>	PWR	Ground

### Remarks

- Signal levels on pins 2/3 and pins 10/11 depend on assembly variant.
- Relay contact is intended to control a door opener. See datasheet of on-board relay (Zettler AZ956).

**Connector P302**

Pin	Identifier	Pin-Type	Description
1	<b>Delete</b>	I	Button-/Signal-Input (low active): Delete the database
2	<b>Enroll</b>	I	Button-/Signal-Input (low-active): Encoding and saving of a fingerprint into the database
3	<b>Identify</b>	I	Button-/Signal-Input (low-active): Search of a fingerprint in the module database
4	<b>Acquisition mode</b>	I	Button-/Signal-Input: Switch between continuous identification-only (High-Level) and single (Low-Level) activation of functions.
5	<b>LED1</b>	O	LED-/Signal-Output (yellow): signals "process active (Enroll, Identify, Delete)"
6	<b>LED2</b>	O	LED-/Signal-Output (red): signals "process failed"
7	<b>LED3</b>	O	LED-/Signal-Output (green): signals "process was successful"
8	<b>Recognized</b>	O	Signal-Output: signals that the finger was recognized (positive identification)
9	<b>Buzzer</b>	O	signals an identification with 4kHz output for adjustable durations (recognized / rejected)
10	<b>reserved</b>	I/O	do not use
11	<b>reserved</b>	I/O	do not use
12	<b>reserved</b>	I/O	do not use
13	<b>reserved</b>	I/O	do not use
14	<b>reserved</b>	I/O	do not use
15	<b>VCC3.3</b>	PWR/O	regulated voltage output 3.3 V DC (max. 150 mA – preliminary)
16	<b>GND</b>	PWR	Ground

**Remarks**

- The maximal output source or sink current for the pins 5 ... 9 is  $\pm 8$  mA each.
- Pins 1 ... 4 have a 100K pull-up resistor.

**Connectors at BioKey3000 Hardware Development Kit:**
**J1:**

Pin	Identifier	Pin-Type	Description
1	<b>GND</b>	PWR	Ground
2	<b>Reserved</b>	I/O	Do not use
3	<b>Reserved</b>	I/O	Do not use
4	<b>Reserved</b>	I/O	Do not use
5	<b>Reserved</b>	I/O	Do not use
6	<b>K1</b>	Switch	Relay contact (normally open, potential free contact)
7	<b>K2</b>	Switch	Relay contact (normally open, potential free contact)

**JP1:** do not use