



# TERABEE

## TeraRanger Evo Thermal

Monitor temperature and heat variations, detect movement and capture the unseen! The Evo Thermal sensor offers versatile performance in a compact and affordable design!

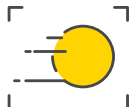
### Key features

- 32x32 pixel thermal image
- Available in 2 versions: 90° and 33° Field-Of-View
- Repeatability  $< \pm 0.3^{\circ}\text{C}$  for 33° version - Suitable for applications measuring human body temperature
- Small and lightweight design (from 7 grams)
- UART and USB interface
- Low power consumption
- Privacy protected, non-intrusive data collection
- Operates in a broad range of conditions: sunlight, darkness, poor visibility
- Free Graphical user interface available on PC

### Applications



Human body temperature monitoring - Fever detection



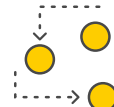
Heat source tracking, counting



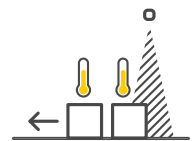
Building efficiency optimization



Adaptive lighting



Heat movement monitoring



Machine and process temperature monitoring

## Fever detection and human body temperature monitoring

The latest generation Evo Thermal 33 sensor is ideally suited for facial fever screening applications. Please see the related Application Note document here (<https://www.terabee.com/wp-content/uploads/2020/05/Application-note-on-fever-detection-with-Evo-Thermal-33.pdf>)

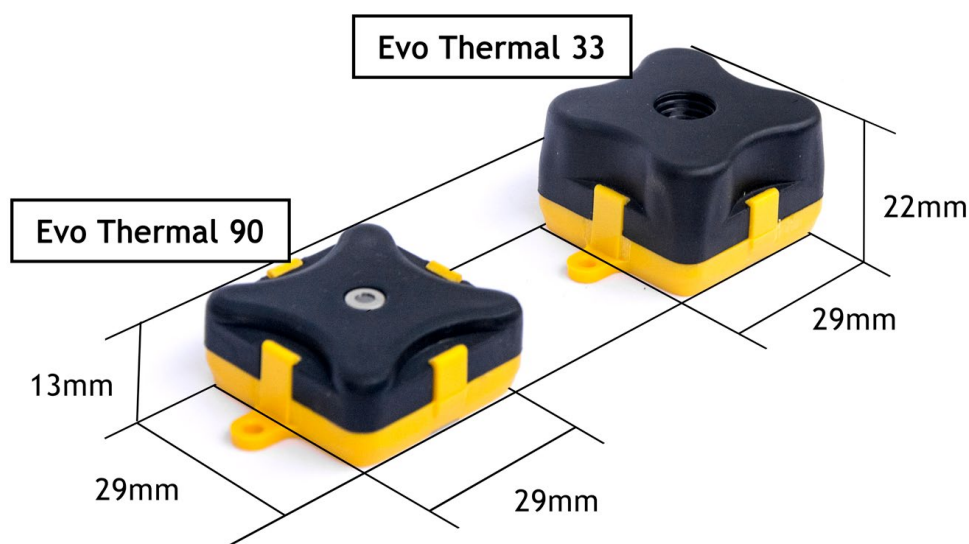
## Technical specifications

	Evo Thermal 90	Evo Thermal 33 <sup>(1)</sup>
<b>Performance</b>		
Principle	Infrared thermopile array	Infrared thermopile array
Resolution	32 x 32 pixels	32 x 32 pixels
Field of View	90°x 90°	33° x 33°
Update rate	7 Hz	7 Hz
Repeatability <sup>(2)</sup>	±2°C	< ±0.3°C
Temperature Accuracy <sup>(3)</sup>	±2°C for targets below 100°C; 2% for targets above 100°C	±2°C for targets below 100°C; 2% for targets above 100°C
NETD: (at 1Hz, 25°C)	330 mK (0.33°C)	254 mK (0.25°C)
Range, specific to human body detection	Up to 5m	Up to 13m
Temperature Compensation	Automatic	Automatic
Supply Voltage	5V DC ±5%	5V DC ±5%
Current consumption: (typical-maximum)	45mA - 75mA	45mA - 75mA
Operating temperature	-10°C to 65°C	-10°C to 65°C
Interfaces	USB 2.0 Micro-B UART, +3.3V level, 460800,8,N,1	USB 2.0 Micro-B UART, +3.3V level, 460800,8,N,1
Connectors	Single 9 pin Hirose DF13 (UART Blackboard) Micro USB (USB Backboard)	Single 9 pin Hirose DF13 (UART Blackboard) Micro USB (USB Backboard)
Weight	7g (sensor) + 3g (backboard)	9g (sensor) + 3g (backboard)
Dimensions: (sensor + backboard)	Approx. 29x29x13mm	Approx. 29x29x22mm
Conformity	RoHS, CE certified	RoHS, CE certified

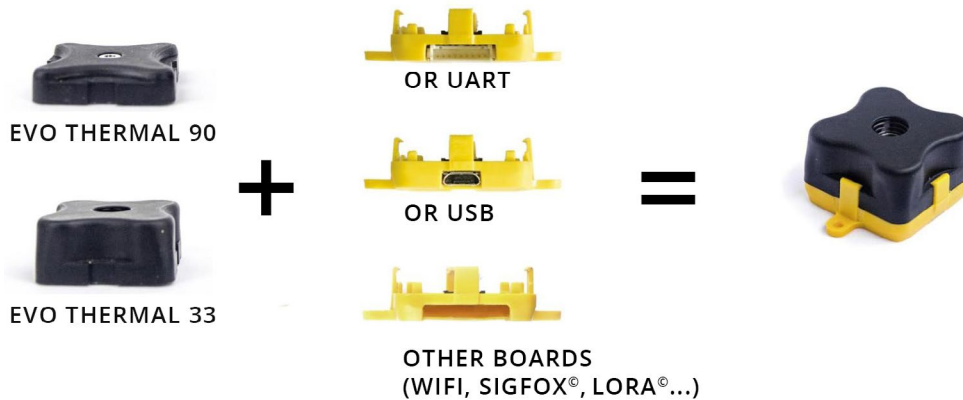
<sup>(1)</sup> Shipped from June 2020 onwards.

<sup>(2)</sup> Repeatability from sensor to sensor within a production batch.

<sup>(3)</sup> Accuracy may vary depending on distance, target emissivity, and ambient temperature.



## Customizable and modular Evo design



Evo Thermal sensors consist of a thermographic sensing device (black module, 7g or 9g) and a choice of backboard (yellow module, 3g), which simply plugs-in to provide the sensor with a communication link and power management capabilities. You simply choose the backboard that best suits your application and communication protocol! **USB and UART backboards are available.** Other Backboards with industry-standard interfaces and protocols can also be made to support your application. Contact us at [terabee-sales@terabee.com](mailto:terabee-sales@terabee.com) to discuss your project requirements.

The TeraRanger Evo Thermal sensors can be purchased via our online store at: <https://www.terabee.com/sensors-modules/thermal-cameras/>

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