

## ams launches extended operating range dToF module enabling smartphones with space-saving accurate distance measurement

**New TMF8801 enables laser detection auto-focus for a smartphone camera to zero in on the target with accurate distance measurement even when the cover glass is smudged or dirty.**

Premstaetten, Austria (25 September, 2019) -- ams (SIX: AMS), a leading worldwide supplier of high performance sensor solutions, today announces the release of the world's smallest integrated module for direct time-of-flight (ToF) distance measurement providing accurate measurements from 2cm up to 2.5m.

The TMF8801 is more than 30% smaller than competing ToF sensors – making it perfect for compact space constrained designs – yet offers superior performance in important parameters including accuracy and usability in the presence of sunlight. Competing ToF sensors struggle to accurately measure distance below dirty or smudged cover glass whereas the TMF8801 maintains high accuracy through use of its on-chip histogram processing.

“The new TMF8801 direct ToF sensor which complements the TMF8701 short range ToF sensor released in 2018, provides extended distance range sensing for smartphones,” says Dave Moon, Senior Product Marketing Manager in the Integrated Optical Sensors business line at ams.

“The TMF8801 is ideally suited to provide support for improving world-facing mobile phone camera performance using laser detection auto-focus (LDAF), enabling mobile phone users to take pin-sharp photos and selfies.”

### **How do we achieve industry-leading accuracy?**

With an integrated VCSEL infrared emitter, multiple SPAD (single photon avalanche photo-diode) light detectors, time-to-digital converter, and on-chip microcontroller for processing histograms, the TMF8801 delivers superior ToF performance. Compared to distance averaging employed with an indirect ToF system, the direct ToF time measurement methodology used in the TMF8801 delivers higher accuracy true-distance measurements.

When used to support LDAF, high accuracy distance measurements deliver improved camera performance: sharper, in-focused images under any ambient lighting conditions, and accurate adjustment of the camera flash brightness to improve picture quality.

### **Not just for smartphones – further applications**

The small size and low power consumption of the TMF8801 is ideal for fast-ranging collision avoidance detection used in autonomous vacuum cleaners, and industrial robotics. For display-based

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products such as mobile computing, the TMF8801 can be used for user presence detection to automatically wake up or put the system into a low-power sleep mode based on the presence or absence of a user.

The TMF8801 is housed in a 2.2mm x 3.6mm x 1.0mm package and is in volume production. Unit pricing is \$2.89 in order quantities of 5,000 pieces.

For sample requests and the evaluation board for the TMF8801, contact ams sales representatives. More technical information can be found at <https://ams.com/tmf8801>.

### About ams

ams is a global leader in the design and manufacture of advanced sensor solutions. Our mission is to shape the world with sensor solutions by providing a seamless interface between humans and technology.

ams' high-performance sensor solutions drive applications requiring small form factor, low power, highest sensitivity and multi-sensor integration. Products include sensor solutions, sensor ICs, interfaces and related software for consumer, communications, industrial, medical, and automotive markets.

With headquarters in Austria, ams employs about 9,000 people globally and serves more than 8,000 customers worldwide. ams is listed on the SIX Swiss stock exchange (ticker symbol: AMS). More information about ams can be found at [www.ams.com](http://www.ams.com)

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### for further information

#### Media Relations

**ams AG**  
Amy Flécher  
Vice President Marketing Communications  
T +43 664 8816 2121  
[press@ams.com](mailto:press@ams.com)  
[www.ams.com](http://www.ams.com)

#### Technical Contact

**ams AG**  
Dave Moon  
Senior Product Marketing Manager  
T +1 469 298 4283  
[david.moon@ams.com](mailto:david.moon@ams.com)  
[www.ams.com](http://www.ams.com)