

## Sun Sensor for small satellites with digital interface

The Sun Sensor on a Chip (SSOC) architecture, achieved through a MEMS fabrication process, results in a highly integrated sensing structure, providing accurate and reliable sun-tracking, pointing and attitude determination. The SSOC-D60 measures the incident angle of the sun's rays in two axes, leveraging the geometry of the design to provide high sensitivity in a form factor perfect for small satellites.

The SSOC-D60 includes an internal microprocessor that calculates and outputs the sun light incident angles and their derivatives without external computation.

Every sensor is calibrated, characterized and includes a metal shield with cover glass over the optical eye to minimize ageing in higher radiation environments.

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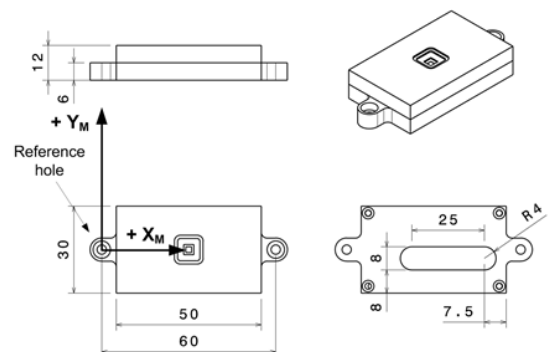
### Technical specifications:

Parameter	SSOC-A60	Unit	Comments
Sensor type	2 axes	-	Orthogonal
Field of view (FOV)	$\pm 60^\circ$	$^\circ$	Angular size of the view cone
Accuracy	$< 0.3$	$^\circ$	$3\sigma$
Precision	$< 0.05$	$^\circ$	-
Average consumption	70	mA	-
Supply voltage	5	V	-
Interface	-	-	SPI, UART, I2C and RS422
Mass	35	g	-
Housing	6082		Aluminum, black anodizing

### Qualification Data and Flight Heritage:

Data	Value
Operating Temperature	$-45^\circ$ to $85^\circ$ Celsius
Radiation	30 kRad (gamma) 6 MeV 3000 kRad (protons)
Random vibration	14,1 g @ 20-2000 Hz
Shock	3000 g @ 1-100 ms

The unit includes MEMS technology from Solar MEMS, space grade electronic components and significant flight heritage. More than **50 flight models** have been delivered in support of more than 15 missions.



*Mechanical layout and interface dimensions*