

## UHF RF FIELD MONITOR

Check for samples: [EVAL02-PHOTON-R](#)



## FEATURES

- 860MHz-960MHz operation
- Sparkling LED in presence of RF field
- High brightness green LED using InGaN dice technologies
- Super wide viewing angle at 120°

## DESCRIPTION

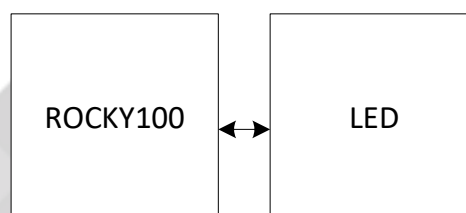
PHOTON-R is a UHF RF field monitor based on Farsens' batteryless sensor technology. Built in a compact PCB format, the tag includes a LED indicator that switches on in presence of RF field.

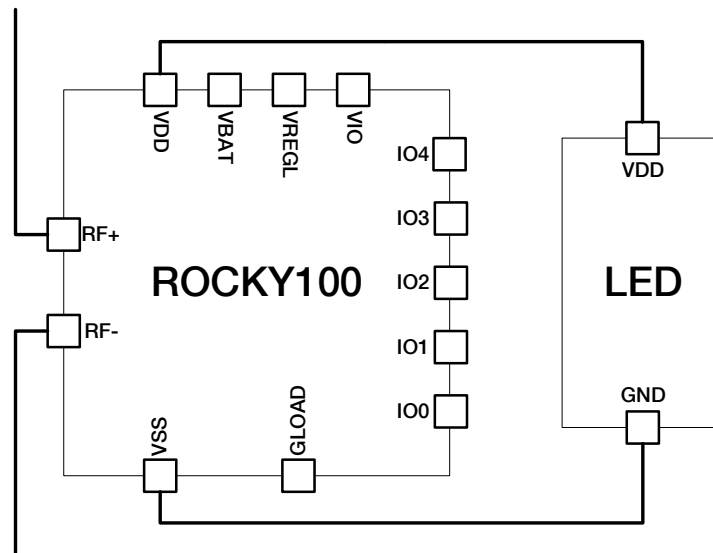
These RFID sensor tags are compatible with commercial UHF RFID readers (EPC C1G2). With a 2W ERP setup the battery-less rf field monitor tag can operate to over 5 meters - 16 feet.

The PHOTON-R can be customized with different antenna design and sizes, depending on the specific application. It can be encapsulated in an IP67 or IP68 casing for usage in harsh environments.

## BLOCK DIAGRAM

The PHOTON-R tag consists of a ROCKY100 IC for energy harvesting and wireless communication and an LED indicator.





The ROCKY100 IC includes the RF frontend for UHF RFID power harvesting and communication, a power supply module to generate the required voltage levels, and an EPC C1G2/ISO18000-6C digital processor.

Upon receiving energy from a RF source, PHOTON-R will turn on the on board LED. The brightness of the LED depends on the amount of energy available in the RF signal.

## CHARACTERISTICS

SYMBOL	PARAMETER	MIN	TYP	MAX	UNIT
<b>RFID</b>					
$r_{operation}$	Operation range full passive		5		m
<b>OPERATING CONDITIONS</b>					
$T_{OP\_TOP}$	Operating temperature range	-40		85	°C
<b>LED INDICATOR</b>					
C	LED color		green		
$\lambda_D$	Dominant Wavelength		525		nm
$2\theta_{1/2}$	Viewing Angle		120		degrees

## REFERENCES

The next table shows the available references of the PHOTON-R.

Ref.	Name	Description
40702	EVAL02-PHOTON-R-DKWB	PHOTON-R, dipole wideband antenna, PCB format

For custom references with other antennas and housings, please contact us at [sales@farsens.com](mailto:sales@farsens.com).

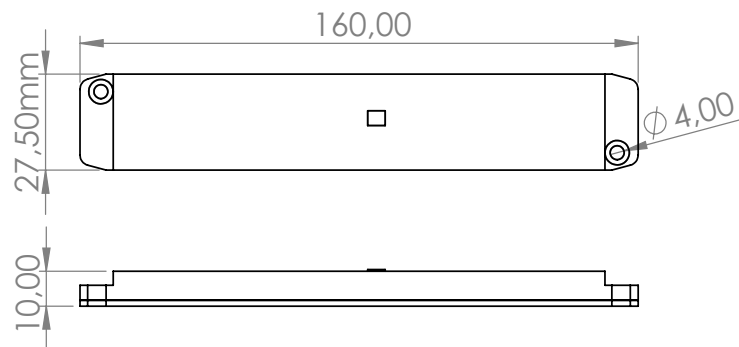
## MECHANICAL DIMENSIONS

All dimensions are in millimeters.

### DKWB

Valid for reference(s): 42705

### 2D VIEW



### 3D VIEW

