



# MULTISENSE S27

*An ultra-rugged stereo computer sensor with on-board processing, intelligently designed to facilitate complete and stand-alone sensor solutions in harsh outdoor environments.*

# MULTISENSE S27

## PHYSICAL

<b>Height:</b>	6.0 cm
<b>Width:</b>	35.0 cm
<b>Depth:</b>	16.0cm
<b>Construction:</b>	Aluminum
<b>Mounting:</b>	3x M6 or 3x 1/4" -20

## ENVIRONMENTAL

<b>Operating Temperature:</b>	-40 to 80 C
<b>Environmental Rating:</b>	IP 67
<b>Operating Relative Humidity:</b>	93%

## RUGGEDIZATION

<b>Regulatory:</b>	RoHS
<b>Shock:</b>	100 G
<b>Vibration:</b>	15 Grms
<b>Gravel Bombardment:</b>	Rock chip resistant objective elements
<b>Blunt Object Strike:</b>	Resilient silicone rubber lens hoods
<b>Water Accumulation:</b>	Hydrophobic lens coating
<b>Mud/Grime Accumulation</b>	100% convex design

## STEREO IMAGE SENSOR

<b>Color:</b>	Monochrome
<b>Resolution:</b>	1920 x 1280
<b>Shutter Type:</b>	Global Shutter
<b>Frame Rate:</b>	30 FPS max

## COLOR IMAGE SENSOR

<b>Color:</b>	RGB
<b>Resolution:</b>	1920 x 1188
<b>Shutter Type:</b>	Rolling shutter, backside illuminated
<b>Frame Rate:</b>	30 FPS max

## STEREO VISION

<b>Algorithm:</b>	SGM (Semi-global stereo matching)
<b>Baseline:</b>	27.0 cm
<b>Stereo Algorithm Speed:</b>	30 FPS @ 0.5MP, 256 Disp.
<b>Range:</b>	1.4 - 30 m
<b>View Angle:</b>	24° below horizontal

## OPTICS

<b>Color Field of View (Raw):</b>	135° H x 84° V
<b>Stereo Field of View (Raw):</b>	91° H x 54° V
<b>Focal Length:</b>	3.9mm (stereo)/2.5mm (color)

## ON-BOARD PROCESSING

<b>Processor:</b>	Quad Core ARM A53
<b>Real-Time Processing:</b>	ARM Cortex R5
<b>GPU:</b>	ARM Mali-400 MP2
<b>RAM:</b>	4 GB DDR4 w/ ECC
<b>Operating System:</b>	Petalinux
<b>Available Programmable Logic:</b>	Up to 150,000 logic cells

## ELECTRICAL

<b>Voltage (range):</b>	9–36 VDC
<b>Overvoltage:</b>	48 VDC
<b>Cold Cranking:</b>	6 V
<b>Load Dump:</b>	Up to 2000 J
<b>Power (nominal):</b>	10-15 W (algorithm dependant)

## INTERFACE

<b>Network Interface:</b>	1 Gigabit ethernet port (1000BASE-T) 100 MBit 100Base T1 output (optional)
<b>Protocol:</b>	CAN, CAN-FD
<b>Connector 1:</b>	8-pin Deutsch
<b>Connector 2:</b>	2-pin MCON (optional)
<b>Connector 3:</b>	8-pin x-coded M12

