



The Machine Vision and Imaging Specialists

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SR4500 Data Sheet



MESA
IMAGING

1 General Specifications

Imager parameters (z)		Value	Comment
Detection Range		0 to 9m	
Calibrated Range		0.8 to 9m	
Repeatability	P/N 00400020 P/N 00400021	5 mm 10 mm	1-sigma, at 2m, 30 fps, 100% reflectivity, w/o background light
Absolute accuracy		+/- 20 mm +/- 40 mm	0.5 – 5m >5m
Temperature Drift		< 0.5 mm/°C < 1 mm/°C	20 - 30 °C 0 - 50 °C
Frame Rate		10 to 30 fps (typ.)	Depends on integration time setting
Range ambiguity		Not applicable	Suppressed (default setting)
Operation of multiple cameras		Yes	Coded modulation, only DC light interference

Imager parameters (x,y)		Value	Comment
Pixel Array Size		176 (h) x 144 (v)	QCIF
Field of View	P/N 00400020 P/N 00400021	69° (h) x 56° (v) 43° (h) x 34° (v)	Wide FOV Standard FOV
Pixel Pitch		40 µm	Horizontal and vertical
Angular Resolution	P/N 00400020 P/N 00400021	0.39° 0.24°	Wide FOV; central pixels Standard FOV; central pixels

Environmental	Value	Comment
Operating Temperature	0 °C to +50 °C	Housing temperature
Storage Temperature	-20 °C to +60 °C	Ambient temperature

Communication	Value	Comment
Interface	Fast Ethernet	
Connector	M12, 4 pol, Female	Male connector on cable

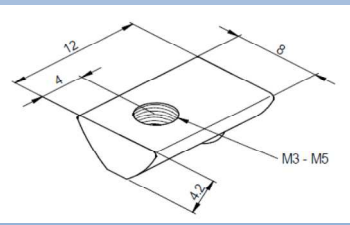
Power Connections	Value	Comment
Electrical Power Requirements	24 V (±10%), maximum 5.0 A, mean 0.5 A	
Power connector	M12, 5 pol, Male	Female connector on cable

Software	Value	Comment
Software Drivers	Windows XP, Windows 7 (32-bit and 64-bit), Vista (32-bit and 64-bit), Linux 32-bit	
Software API	C, C++, Matlab, Halcon	

Software features	Value	Comment
Acquisition mode	Continuous, Triggered	Software trigger only
Integration time	0.03 ms to 2.59 ms	Selectable, steps of 0.01 ms
Confidence Map	0-65535 (16 Bit)	Measures quality of distance data, quality threshold to be set by user

Data output	Value	Comment
Spherical distance (Range)	0-65535 (16 Bit) <--> 0-10 m	Data output from camera without Cartesian coordinate transformation
Cartesian XYZ coordinates	x, y, z (m)	
Signal amplitude	0-65535 (16 Bit)	Value above 32767 indicates saturation
Converted grayscale Image	0-65535 (16 Bit)	Value above 32767 indicates saturation
Confidence Map	0-65535 (16 Bit)	Quality threshold to be set by user

Ratings	Value	Comment
Enclosure rating	IP 67	
Eye safety	EN 60825-1: 2002: Class 1	
EMC	EN 55022 : Class A EN 61000 EN 55024	

Mechanical	Value	Comment
Dimensions	119 mm x 75 mm x 69 mm	w x h x d (without connectors)
Case Material	Anodized Aluminum	
Window Material	PMMA	
Camera Mounting	Each lateral face of the camera has two mounting slots. 4 slot nuts (see figure to the right) to be placed in the slots are delivered with the camera. The nuts that are provided have M4 holes. Minimal distance between nut holes: 16mm Maximal distance between nut holes: 43.8mm	
Weight	850 g	
Cooling	Passive, no fan	

2 Drawings

