

INUITIVE

DEPTH, AI AND TRACKING SENSOR MODULES

M4.3WN | M4.51-L



KEY FEATURES

Built around the NU4000 and NU4100 Vision-on-Chip processors, Inuitive's series of depth, AI and tracking sensor modules, easily integrate into robotic and other edge-AI vision systems, providing them with a human-like visual perception.

This series of sensor modules is specially designed in a metal case to best serve in industrial environment conditions and features accurate tracking and VSLAM navigation based on fisheye cameras and an IMU together with depth sensing and on-chip AI processing. This enables free navigation, localization, path planning, and static and dynamic obstacle avoidance – the main challenges for AMR and AGV systems.



Wide field of view
Depth (88°x58°)



Sensing range
(30 cm - 8 m)



SLAM on-chip



High ambient temperature
up to 50C°



On-chip AI
Processing core



KEY PARAMETERS

GENERAL PARAMETERS

Parameter	M4.3WN	M4.51-L
Module size – XYZ	125,40,27 mm	127,36,23.5 mm
Operating temperature range	0–50°C	
(tested on case; with airflow)		

DEPTH IMAGE GENERATION

Parameter	M4.3WN	M4.51-L
Sensor	OV9282	ams Mira130
Baseline	100mm	
Full Resolution	1280x800	1080x720
Binning Resolution	640x400	544x360
Hybrid Resolution	N/A	848x480
IR Filter	850nm	850nm
FOV (Calibrated) [HxV]	66°x44°	88°x58°
Min Sensing Range, Full Mode	72cm	30cm
Max Sensing Range	6m	8m
Depth Accuracy	0.3% at 1m	0.5% at 1m

InuView SDK

Supported operating systems	✓ Linux	✓ Win	✓ Android
Supported platforms	✓ RoS	✓ Ras-Pi	✓ ARM

AI PERFORMANCE

Performance	M4.3WN	M4.51-L
TOPs	1.8	3.5
Yolo V3	12 fps	40 fps
Yolo V7x	N/A	9 fps
Mobilenet SSD	60 fps	150 fps

RGB

Parameter	M4.3WN	M4.51-L
Sensor	OV2685	OV9782
Max Resolution (Full; Pixels)	1600x1200	1280x800
FOV	60°x45°	108°x80°

TRACKING

Parameter	M4.3WN
Sensor	OV7251
Resolution	640x480
FOV	133°x100°

* The M4.51-L does not support tracking

IMU

Parameter	M4.3WN	M4.51-L
Unit	BMI160	BMI055

SIMULTANEOUS DEPTH SENSING,
AI PROCESSING
AND VSLAM CAPABILITIES

M4.3WN HIGH LEVEL BLOCK DIAGRAM

