
The Hydra Automotive 3D Imaging Sensor

FEATURES:

- Integrated on-board computer delivers 3D image data in user-configurable formats
- Active 940nm IR illumination, insensitive to ambient lighting conditions
- IP67-rated package
- Full internet/Ethernet connectivity
- Infineon IRS1125A 3D image sensor with a resolution of 352 x 288 pixels
- Frame rates from 5 to 60 fps
- Range up to 10 m
- Input voltage tolerant from 12 to 36V
- Thermally enhanced packaging
- Wide temperature range -40 to 85°C
- 100 x 85° field of view
- Selectable frame ranges from 5—60 FPS
- Fully calibrated and accurate to 1% of full range

DESCRIPTION:

The Hydra 3D camera is a compact, rugged, time-of-flight 3D imaging sensor designed for demanding applications and environments such as automotive, drone, and marine. The module includes a powerful on-board processing engine, and all sensor data is processed on the module to produce the 3D image. The 3D point-cloud data can be provided in a full 3D format, or as distance data. The camera is controlled via the Ethernet interface using standard internet protocols. The Hydra is sealed in a thermally enhanced, compact (32 x 61 x 72 mm) package with mounting holes on two sides, and power and Ethernet signaling are connected through a single, ruggedized connector. The Hydra uses active infrared illumination at 940nm and is not sensitive to the ambient lighting conditions, operating at spec in darkness or full sunlight.





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RATINGS

Operating temperature range	-40—85C
Storage temperature range	-55—150C
Power supply voltage range	12 to 36V

ORDERING INFORMATION

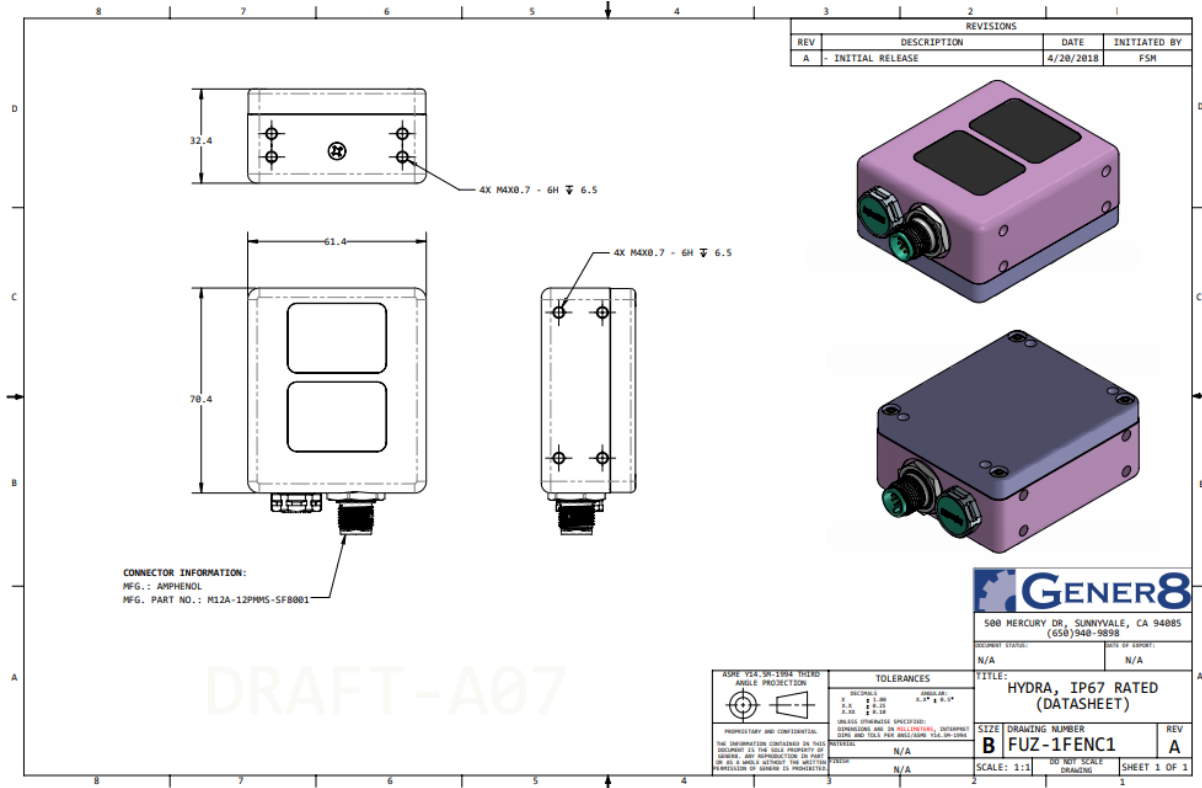
Part number	Interface	Enclosure
GN8-1KGBA1	1000Base-T	Enclosed

OPERATING/PERFORMANCE DATA (PRELIMINARY)

Parameter	Min	Typ	Max	Units
Range	0.1		10	m
Range accuracy		1	2	%
Range precision		12		Bits/full scale
Frame rate ¹	5		60	FPS
FOV		100 x 85		degrees
Mass Enclosed		224		grams
Power (average)			8	Watts
Power (peak)			17	Watts

¹User selectable

PACKAGING



CONNECTOR PINOUT

Pin	Function
1	Power in (9—24V)
2	Power RTN
3	Gigabit Ethernet: D0P T1: DP
4	Gigabit Ethernet : D0N T1: DN
5	Gigabit Ethernet D1P
6	Gigabit Ethernet D1N
7	Gigabit Ethernet D2P
8	Gigabit Ethernet D2N
9	Gigabit Ethernet D3P
10	Gigabit Ethernet D3N
11	Trigger IN
12	Trigger RTN

Manufacturer	Amphenol LTW
Part number	M12A-12PMMS-SF8001
Mating cable(s)	ACD-12AFFM-LL7Axx (xx = length in meters)

