

SCORPION 3D STINGER™ SCANNER

SCOPE

Scorpion Stinger™ is a family of machine vision components and products. They provide building blocks for OEM and system integrators with focus on:

- industrial strength
- flexibility
- core features

The Scorpion 3D Stinger™ Scanner provides the following features:

HIGH PERFORMANCE 3D SENSORS

- 2MP CMOS Image Sensor Scanner
- Scanning rate up to 3500 line
- FPGA processing
- 12 bits HDR
- 2.3 MP Monochrome or colour camera

SUPERIOR PROJECTOR OPTIONS

- Power from 1mW to 250mW
- Single line red or infrared laser

SCORPION STINGER SMARTCARD

- Encoder interface
- Multiple 3D Scanner, Area camera synchronisation
- Power to multiple cameras, laser and LEDs
- LED and Laser Strobing in or off synch with camera
- Laser Safety Switch
- User configurable image and laser sequences

INDUSTRIAL HOUSING IP-64

- 24 Volt power supply
- Flexible baseline
- Laser can be inside
- Placed in a Scorpion Laser Box

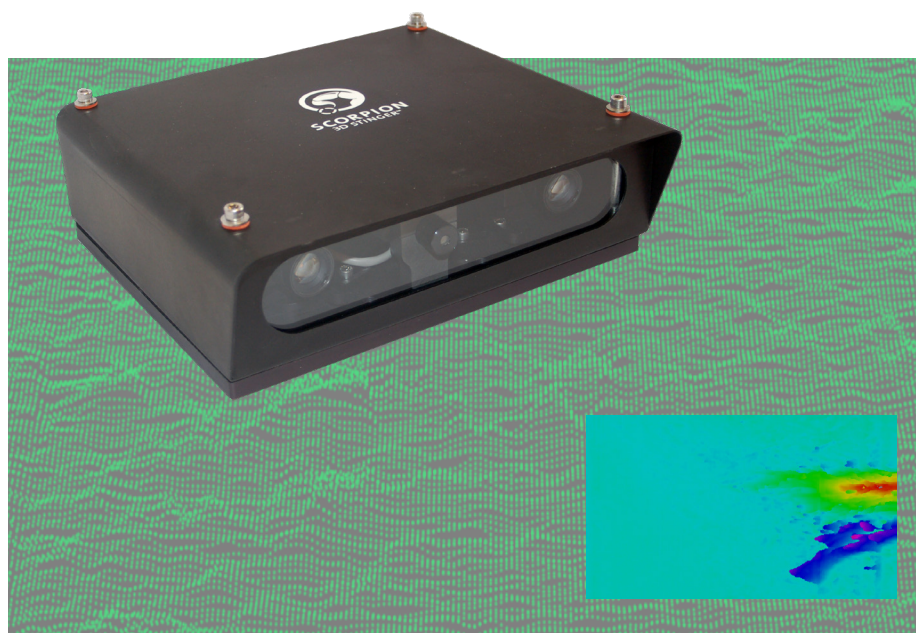
PROVEN SOFTWARE SUPPORT

- Scorpion Vision Software®
- SMART 3D Scanner driver
- SMART 2D Scanner driver
- Scorpion 3D Stinger™ Scanner

The Scorpion 3D Stinger™ Scanner is an industrial camera designed to be used in cutting-edge 3D Machine Vision applications. It provides cost effective way to provide 3D and 2D images on from a running conveyor, scanning objects for 3D bin picking or to scanning parts for surface verification.

The scanner is tightly integrated with Scorpion Vision Software® with regards to image capture and synchronization. Scorpion has complete support for 3D Image processing from filtering, measurement and detecting surface defects.

Main application areas are: Shape verification, defect detection and gauging.



Scorpion 3D Stinger™ Scanner scans metal surface to measure texture and locate defects.

The Scorpion Stinger SMARTcard provides to synchronize the 3D Scanner directly to the encoder signal from a conveyor. Capture one 3D images with a laser projection and then capturing synchronized companion 2D image set color or monochrome.

The components are selected with the highest quality. The unit's design will save man-hours when creating and deploying 3D Machine Vision Solutions. The unit, with a nominal weight of 3,5 kg, can be mounted on a robot or above a conveyor.

Multiple scanners can be mounted together to provide two-sided scanning for thickness verification and to scan a wide area with resolutions from 0.01 mm.

The unit is designed to be used in 3D Robot Vision, 3D Laser Triangulation, 3D Gauging, 3D Assembly Verification and other advanced Machine Vision Solutions.



HARDWARE CONFIGURATION

All models has one 3D Laser Triangulation Camera with a 2MP CMOS sensor. Supporting scan rate up to 3500 fps. It includes lenses, power and easy mounting. An optional 2D Area Color or Monochrome camera can be added. The standard unit is based on ethernet and GigE The unit is fed with 24 volts. Internally 5V and 12V are available to power cameras, laser and other internal and external components. A laser safety interlock and strobing is included in the Scorpion Stinger SMARTcard.

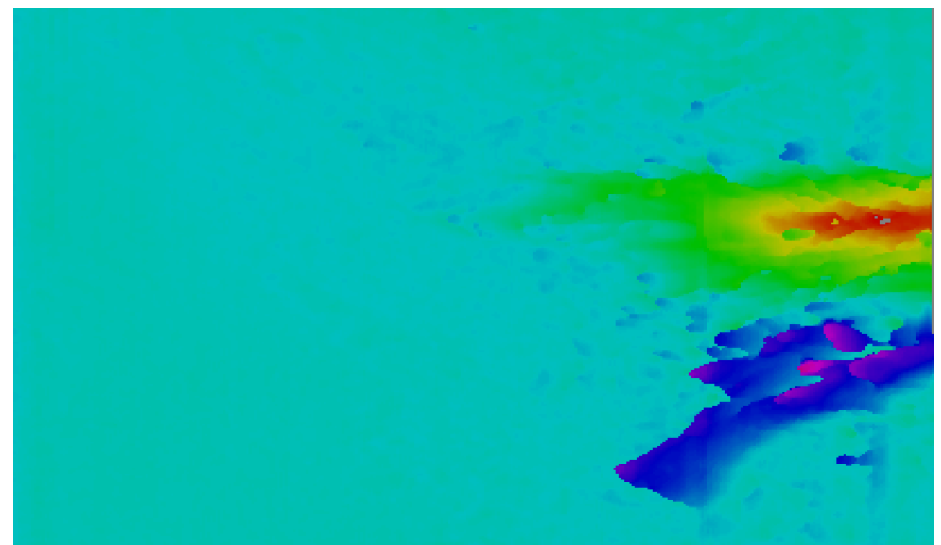
ARTICLE #	C=CAMERA	BL= BASELINE MM	M=LED TYPE ¹⁾	O=LED LENS	COMMENT
STG-3DS-X-X-X-BL	X = no camera	N mm	X = no LED	X = no LED	Laser is specified as separate option
STG-3DS-C-M-O-BL	2.3 MP 5.0 MP GigE camera	N mm	White or IR	24,2° 33,5°	LED lens is selected based on FOV specification.
STG-3DS-C-M-O-BL	2.3 MP 5.0 MP GigE camera	N mm	White or IR	24,2° 33,5°	

2D CAMERA OPTIONS COLOR OR MONOCHROME

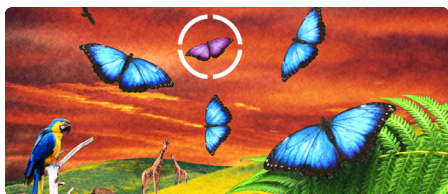
CAMERAS	TYPE	SENSOR
2.3 MP	CMOS	Color or Monochrome IMX249
5.0 MP	CMOS	Color or Monochrome IMX262
		Other sensor available upon request

SINGLE LINE LASER OPTIONS RED - 660NM OR OR INFRARED - 830 NM

WAVELENGTH	TYPE	COMMENT
660 nm	Single Line - Opening Angle	Based upon application require- ment the laser wavelength, opening angle and laser power is chosen
785 830 nm	Single Line - Opening Angle	



Height map of a metal surface scan using the deviation mode where only height deviations are in focus. Targets application where small defects are to be detected.



CONNECTIONS

The Scorpion 3D Stinger™ Scanner is a high performance industrial camera enclosed in an IP rated industrialised housing which contains electronics for illumination, camera connectivity and power distribution. The unit has integrated encoder interfaces to be able in synch with object movement. The Scorpion Stinger SMARTio can also be used for the same purpose. The extensive and flexible input and output connections are given in the tables below.

POWER CONSUMPTION

The units is powered with 24 Volt. Type typical power consumption is 30 Watts. The actual power consumption depends on the camera configuration.

INPUT
24V
Trig In
Ethernet
RS232 for SMARTcard configuration
Safety Interlock for laser

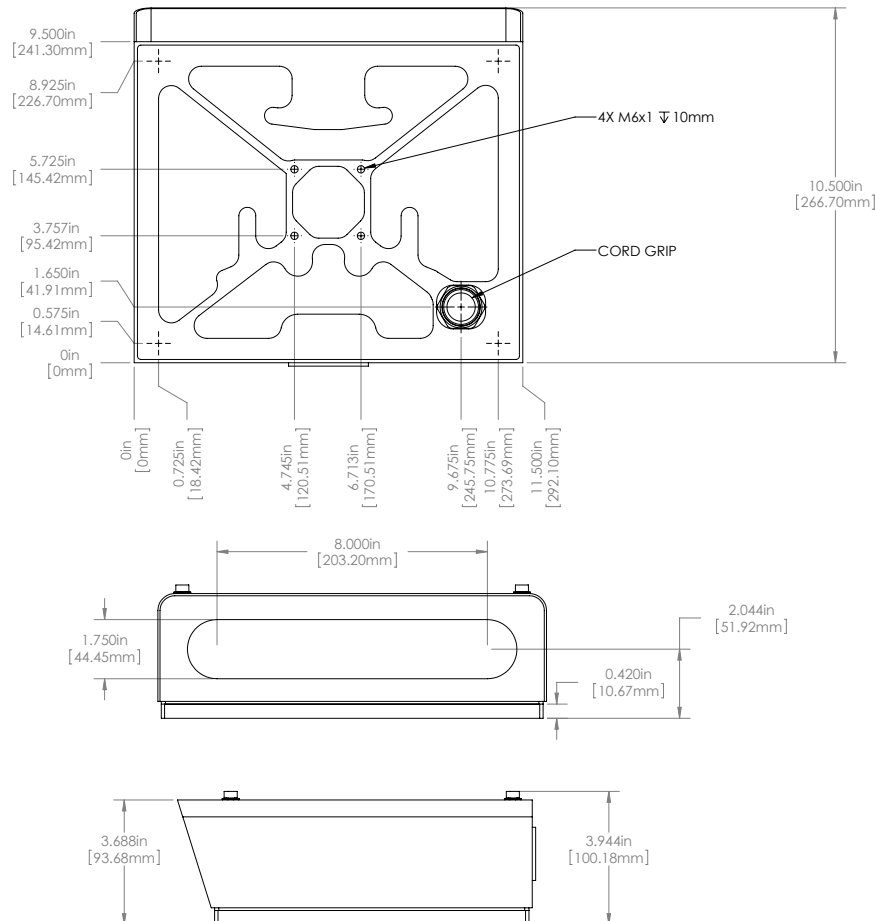
OUTPUT
24V
12V
5V
Connection for up to 3 lasers
4 separate LED interfaces
Camera Expo out
5 Output signals for multiple camera synchronisation

The Scorpion 3D Stinger Scanner is compatible with the complete range of Stinger products from Tordivel. Scorpion DuoLED, Scorpion Laser Box, Scorpion Box Camera, Scorpion LEDbar, Stinger LEDspot and Scorpion 3D Venom Camera.

DIMENSIONS - WEIGHT 3.5 KG



The Scorpion 3D Stinger Scanner are often used together with industrial strobed LED light.



For more information:



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Scorpion Vision Software® is a registered trademark and Scorpion 3D Stinger™ is a trademark of Tordivel AS.