



**INSPEKTO**  
AUTONOMOUS MACHINE VISION

# DATASHEET

# INSPEKTO S70



# PRODUCT OVERVIEW

**The INSPEKTO S70 is a self-contained, generic industrial inspection off-the-shelf product. It can be installed quickly and accurately by plant personnel, directly on the shop floor.**

The S70 can inspect products and components at any point on the production line - across many production processes and in any industry. It can be set up independently without any prior knowledge in machine-vision or artificial intelligence. And installed to inspect any quality control challenge on the manufacturing line.

## 30 minutes from box to ops – in 4 simple steps...



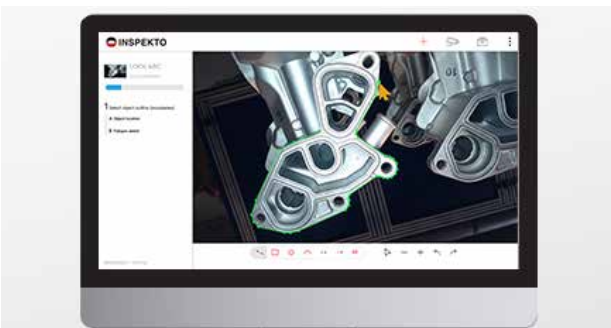
### Unbox

All INSPEKTO S70 components come packed in one practical box.



### Clip on

The INSPEKTO S70 can be installed on any production line and fits to any Bosch profile.



### Aim & Setup

Set up is simple. Use a mouse to draw a line around the product and present at least 20 good samples. The system learns what a good sample is.



### Run & Gun

Every INSPEKTO S70 comes ready to connect to your PLC, out of the box. That's all it takes to start inspection.



# AT THE HEART OF THE INSPEKTO S70 IS **PLUG & INSPECT**®

JUST **PLUG & INSPECT**®

**Plug & Inspect™ technology runs three AI engines in tandem. It merges computer vision, deep learning and real-time software optimization technologies to achieve true plug-and-play vision inspection.**

## **Self-learns**

by reviewing good products only

## **Self-sets**

its vision sensor parameters

## **Self-adapts**

to any changes on the production line such as vibrations, lighting changes or batch changes

## **Self-contained**

all you need in one box, in one single vision-inspection product



## **Built-in QUALIFY™ application**

**That enables the user to perform visual inspection on any product type:**

- No training on site required
- No defected samples required
- Learns from a minimum of 20 good samples, as they run on the production line
- Self-adapts to tolerance & surface variations for each object
- Detects any defect type, with no pre-defined limitations

## **Additional add-on applications**

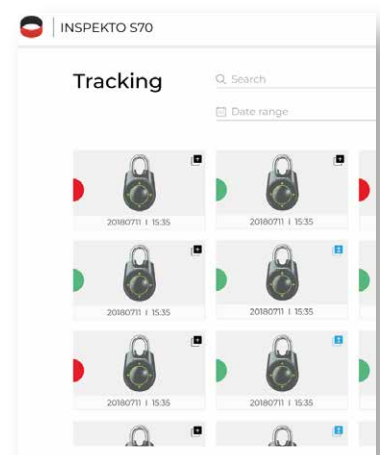
**Are available to boost the S70 profitability per line:**

**TRACKS™** for archiving, traceability and claim-rejection

**TYPES™** to address any number of different products by a single S70 on the same location

**PLANTMAP™** for central plant management

**FREECODES™** for integral code detection and reading and verification.



# KEY BENEFITS

**The INSPEKTO S70 can be applied to any production process, to inspect any product, in any industry. Common applications include:**

- Assembly verification
  - Positioning broken parts
  - Component surface inspection
  - Missing components
  - Print inspection presence / absence
  - Shape verification 1D & 2D code
  - Reading archive & traceability
  - Mixed applications
- 

## **GENERIC PRODUCT**

- High versatility, suitable for multiple use cases in a variety of inspection environments
  - Enables verification easily and immediately
  - Based on its unique tandem AI engines
- 

## **SAVES TIME & EFFORT**

- Short time to verification - 30-60 minutes to set-up
  - Portable and flexible - simple self-setup to any location on the production line
  - Easy to use / simple & intuitive user interface guiding you all the way to successful deployment
  - Straight out-of-the-box line connectivity - EtherNet/IP, PROFINET and more
- 

## **TOTAL QA IS POSSIBLE**

- 1/10 the cost than traditional machine vision inspection systems
  - 1000 times faster to install
  - No production downtime
  - No experts required
- 



# SPECIFICATIONS

<b>Inspection</b>	
Inspection cycle time	~0.5 second
Part speed	Stationary
Installation distance	10cm - 100cm
Minimal defect size	0.3mm @ 10cm distance W/O optical zoom (*1)
Optical Zoom level	X12
Optics and Lighting Adjustment (Focus, Exposure, Gain, others)	Autonomous
Detection and Positioning	Autonomous
Trigger type	Automatic / Manual / PLC
Sensor Color	Greyscale
Number of Inspection Profiles supported on a single S70	Unlimited (*2)
Number of Actionable ROIs on any inspected product/component	Unlimited
Lighting	Embedded
<b>Code Reading(*3)</b>	
2D Code	QR, DMC
1D Barcode	EAN-13/UPC-A, UPC-E, EAN-8, Code 128, Code 39, Interleaved 2 of 5
<b>Controller</b>	
Storage	2 Million Images (*4)
Redundancy	Yes - RAID1
OS	Linux (Ubuntu distribution)
Networking	Ethernet   Wi-Fi
Industrial Connectivity	ProfiNet, EtherNet/IP, Modbus/TCP, Digital IO
Weight	4.5 Kg
Dimensions	Height: 110.5 mm
Width:	225 mm
Depth:	240 mm
<b>Monitor</b>	
Size	21.5"
Resolution	1920 x 1080 at 60 Hz
Dimensions	Height: 293.4 mm Width: 487.3 mm Depth: 41.3 mm
<b>Mounting</b>	
Industrial Profile Mounting	(2 screws & T-nuts supplied in the S70 box)
Mounting Arm	Flexible arm including 3 arm segments (360°)
Cobots Mounting	Ready for cobots mounting
<b>Power</b>	
Power Supply	110-220V – 3 sockets for: Controller, Lighting, Monitor
Controller DC Input	1x 3-pin pluggable terminal block for 8-35VDC
<b>Environmental</b>	
Operating Temperature	Operating ambient range is of 10 to 38 °C (50 to 100 °F)
Humidity	20-80%
Maximum operating altitude	2000 m asl.
Outdoor/Indoor usage	Indoor only
(*1) Minimal defect size is depending on the Vision Sensor distance from the inspected part. (*2) Requires FreeCodes™ application installation. (*3) Optical zoom level, part material and environmental conditions. (*4) Requires Tracks™ application installation.	

# WHAT'S IN THE BOX

The **INSPEKTO S70** is a self-contained visual inspection product. It comes ready to connect directly to your PLC, straight out of the box

## What's in the box...



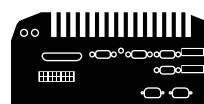
Camera



Lens



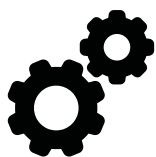
Lighting



Industrial Controller



Monitor



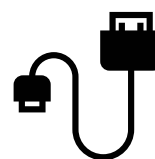
Software



Keyboard & mouse



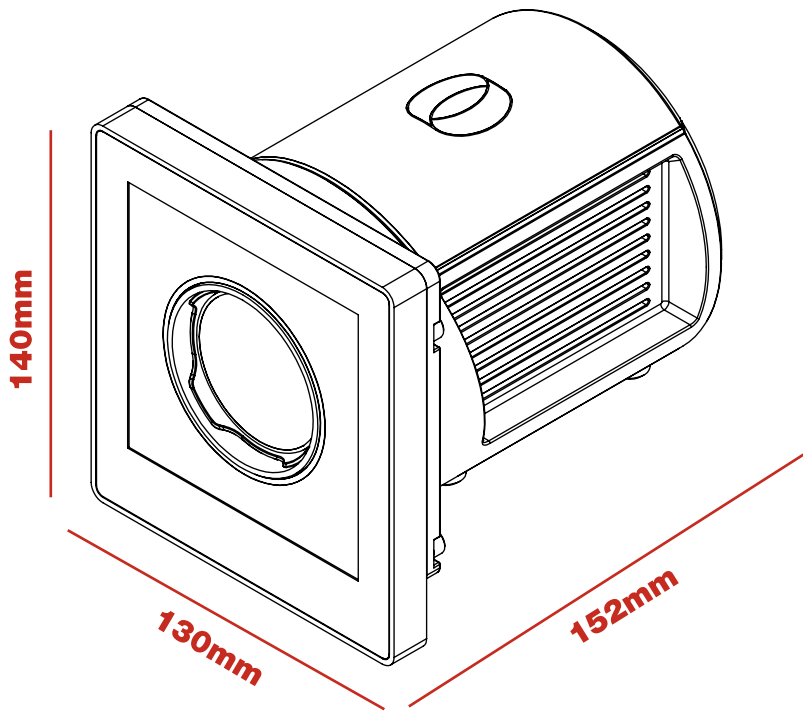
Mounting adaptor



Cables



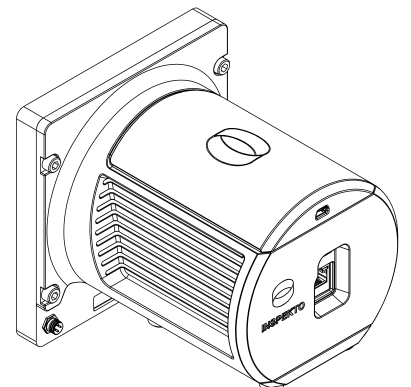
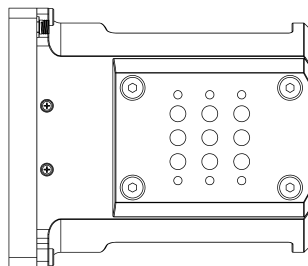
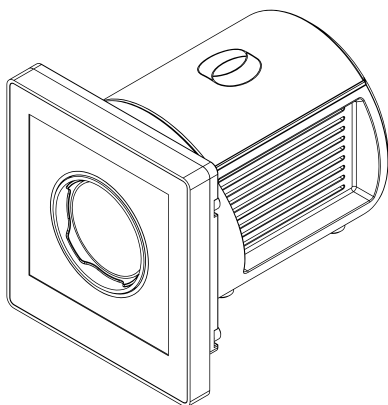
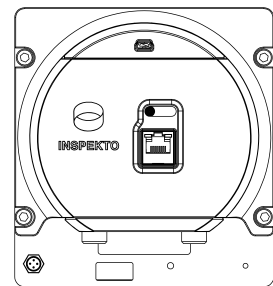
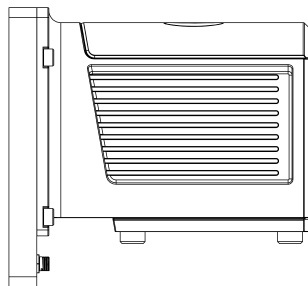
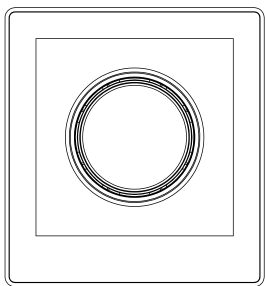
# PRODUCT DIMENSIONS



## Vision Sensor

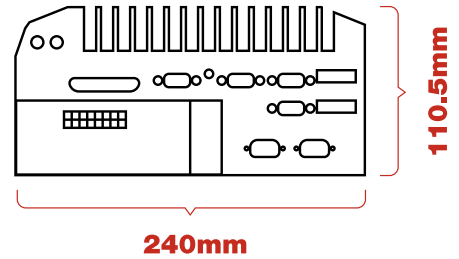
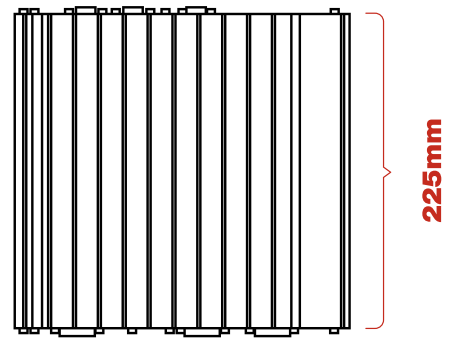
Fully Integrated Vision Sensor includes:

- Camera & lens (X12 Optical Zoom)
- Lighting
- Vibrations sensor
- Mounting adaptor

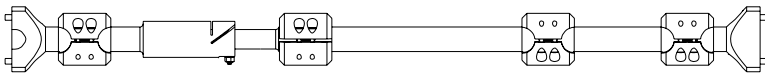


## Industrial Controller

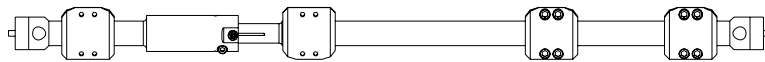
Ruggedized Edge Computing Controller  
Pre-installed INSPEKTO S70 QUALIFY™  
Application



### Fully extended 649.1mm



### Fully retracted 456.3mm



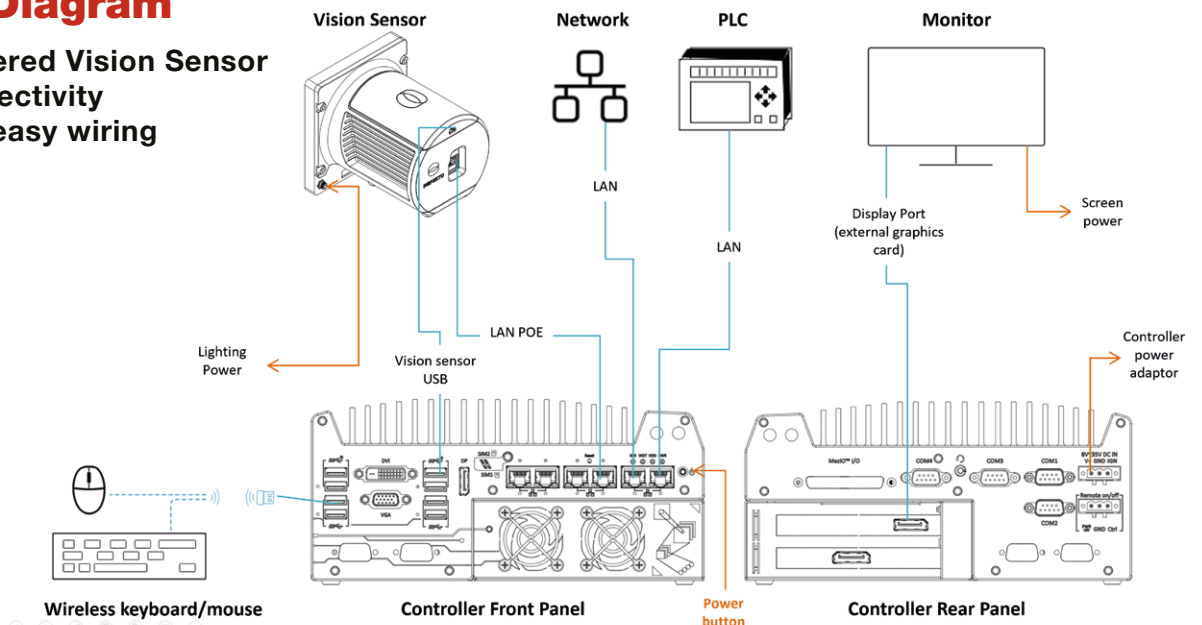
## Mounting Arm

Flexible mounting arm ready for installation on any production line

3 arm segments (long, short, adjustable)

## Wiring Diagram

- POE Powered Vision Sensor
- PLC connectivity
- Fast and easy wiring

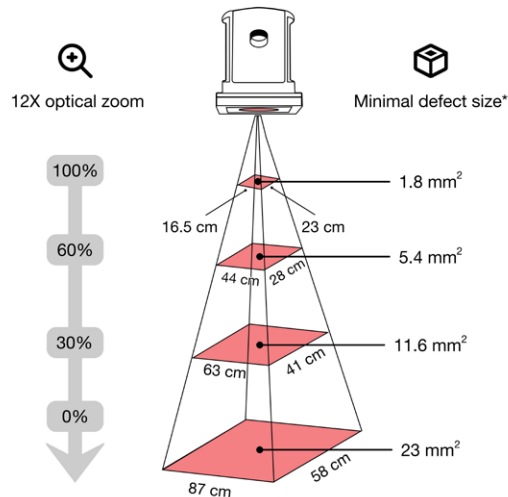




## Zoom level from 1 meter / inspection FOV

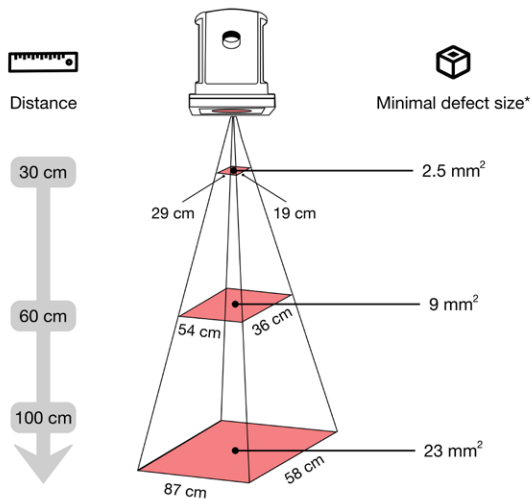
### Inspection Field of View and minimal defect size

Wide range of part sizes and minimal defect sizes detection.



\* Minimal defect size may be affected by part type, material or environmental conditions.

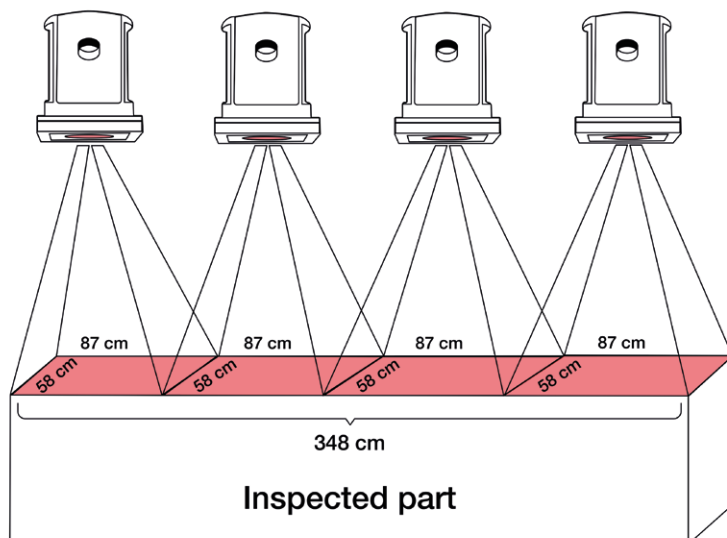
## Vision Sensor distance from part / inspection FOV



Correlated to the Vision Sensor set-up distance from the inspected part and the level of the used optical zoom as described in the diagram:

### Flexible set-up

The parameters of the vision inspection system can be modified to inspect larger products by incorporating multiple systems along the production line.





**inspekto.com**

**+49 (0)179 5432139**

**Israel Headquarters**

Hashachar Tower  
Ariel Sharon 4 St.  
Givatayim  
ISRAEL

**+972544232272**

**European Headquarters**

Wirtschafts- und Technologiezentrum  
Im Zukunftspark 10  
74076 Heilbronn  
GERMANY

**+49 7131 7456410**



CIPR PRIDE AWARDS 2019

**GOLD  
WINNER**

