

trident

# I-VIEW GOLD

Intraoral Sensor

## Technical Info



Date: 19/07/2019

Language: English

Rev: 0

Code: IT12-EN.r0-I-View Gold Infotec

## DESCRIPTION AND INTENDED USE

I-ViewGold is a digital imaging solution for intraoral dental radiography based on CMOS (Complementary Metal-oxide Semiconductor) technology. The sensor is a receptor which captures the images obtained when using an X-Ray generator for diagnostic purposes.

State-of-the-art technology reduces the patients' exposure and provides excellent image quality with no missing data due to the single-chip CMOS.

The head has an ergonomic design based on human oral anatomy, for patient convenience and comfort.

I-ViewGold employs a fibre optic plate with CsI scintillator for X-Ray-to-light converter. The FOP (Fiber Optic Plate) is a highly X-Ray attenuating material that minimizes X-Ray absorption on the end CMOS photosensor array, thus, minimizing X-Ray induced noise at the photosensor array. In addition, the scintillators offer high-resolution performance compared to conventional phosphors.

I-ViewGold outputs X-Ray imaging data output of CMOS to 12-bit Digital Data through ADC. In addition, it can detect the external X-Ray source and send a trigger signal to acquire the synchronized X-Ray Imaging Data.

I-ViewGold is available in two sizes:

**I-View Gold size 1** 20.00 x 30.01 mm active area

**I-View Gold size 2** 25.95 x 37.96 mm active area

Code IS014-DL I-ViewGold intraoral sensor size 1

Code IS015-DL I-ViewGold intraoral sensor size 2

### Key Features

Rounded off edges

Smooth casing

Outstanding cable flexibility,

Direct connection to personal computer for image acquisition via USB direct connector.

Cesium Iodide (CsI) scintillator layer

Available in two formats: size 1 and size 2

## GENERAL CHARACTERISTICS

Unit name	I-View Gold
Manufacturer	Trident Srl Via Artigiani 4, Castenedolo, 25014 (BS) Italy
Classification according to Directive EC 93/42	Class IIa with Type BF applied parts
Applicable Standards	EN 60601-1:2005 EN 60601-1-2:2007 IEC 60601-2-65:2012

SPECIFICATIONS			
Parameter	Unit	Size 1	Size 2
Sensor Type	-	CMOS Photodiode Array	
X-ray convertor	-	FOS(FOP + CsI)	
Dimensions W x L x H)	mm	25.4 x 36.8 x 4,8	31,3 x 42,9 x 4,8
Weight	gr	Less than 100	
Pixel Size	µm	18	
Active Area	mm	20,00 x 30,01	25,95 x 37,96
Effective Area*	mm	19,80 x 29,80	25,77 x 37,78
Number of Active Pixels	pixels	1110 x 1666	1442 x 1998
Number of Effective Pixels	pixels	1100 x 1656	1432 x 1988
Data output	-	USB 2.0	
USB cable length	m	Less than 2.7	
Electrical rating		DC 5V, 500 mA	
Operation mode		Global shutter	
Protection against water		IP68	

\* X-Ray sensitive area

RECOMMENDED OPERATING CONDITIONS		
Parameter	Unit	Specification
Operating temperature	°C	+10 to +30
Operating humidity	%	30 to 80
Storage temperature	°C	-20 to +60
Storage humidity	%	10 to 80

SENSOR PERFORMANCE SPECIFICATIONS			
Parameter	Unit	Size 1	Size 2
SNR	dB	≥ 35	≥ 35
Sensitivity <sup>1</sup>	ADU/µGy <sup>2</sup>	5,0 to 8,0	5,0 to 8,0
Resolution <sup>3</sup>	3lp/mm	≥ 50	≥ 50
	6lp/mm	≥ 25	≥ 25
	8lp/mm	≥ 15	≥ 15
Noise <sup>4</sup>	ADU	≤ 2,0	≤ 2,0
A/D	Bits	12	12
Energy Range <sup>5</sup>	kVp	60 ~ 70	60 ~ 70

1 Measured @ 60 kVp, 4mm Al filter

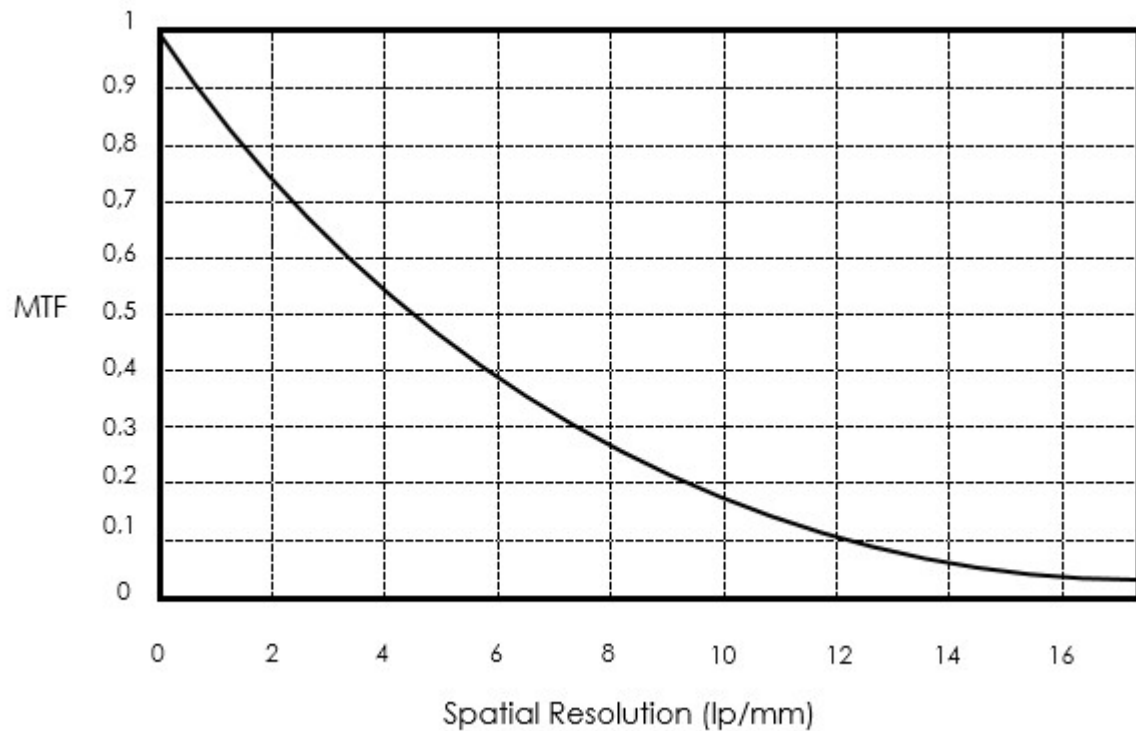
2 µGy is the unit of X-Ray exposure (1mR = 8.69 µGy)

3 Theoretical Spatial Resolution

4 RMS of dark current

5 Recommended Range, more than 70 kVp affects the sensor's life time

## RESOLUTION

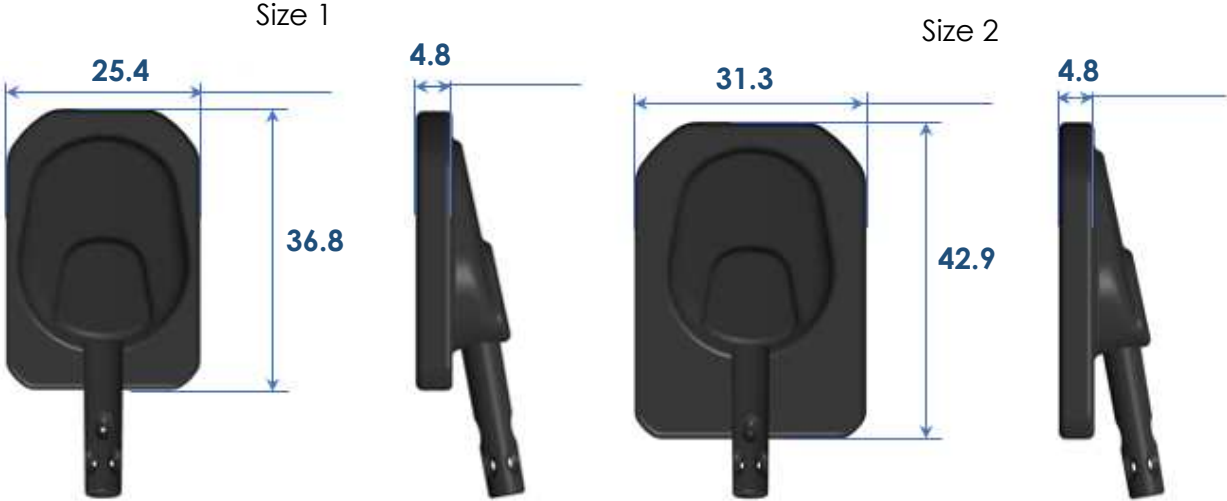


## SYSTEM REQUIREMENTS

1. [Operating System](#)
  - Windows® 7 (32/64 bit) SP1, Windows® 8 64 bit, Windows® 10
2. [Hardware requirements:](#)
  - Main CPU: Intel i5-2520M 2.5 GHz or superior
  - Main Memory: 4 GB
  - Video: 1024x768 resolution in 65,000 colours (ideally 1280x1024 - 16 million colours, 32 bit)
  - HDD: 500 GB
  - USB Port 2.0

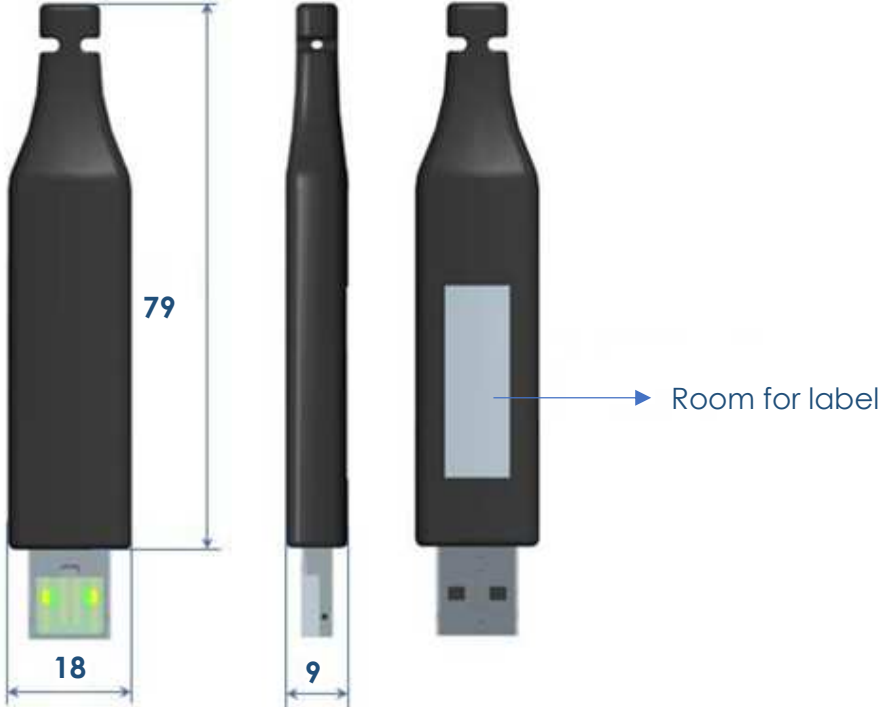
# GEOMETRIC INFORMATION (in mm)


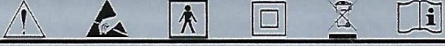


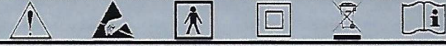

## Sensor head



## Interface board

Interface board is common component for both sizes



LABEL	
 Device: I-View Gold <span style="float: right;">19-07-19</span> Device S/N: <b>TRD1 – 1912345</b> REF: <b>IS014–DL</b> <span style="float: right;">CE 0051</span> Voltage: 5V DC    I <sub>max</sub> : 500 mA    Connection: USB A standard   Trident s.r.l. via Artigiani 4 25014 Castenedolo (BS) Italy info@trident-dental.com	 Device: I-View Gold Size 2 <span style="float: right;">19-07-19</span> Device S/N: <b>TRD2 – 1998765</b> REF: <b>IS015–DL</b> <span style="float: right;">CE 0051</span> Voltage: 5V DC    I <sub>max</sub> : 500 mA    Connection: USB A standard   Trident s.r.l. via Artigiani 4 25014 Castenedolo (BS) Italy info@trident-dental.com

PACKAGING		
Box	W (Kg)	Size (cm)
	0.4Kg	18 x 13 x h3.5