

IMPACT+ *OBJECT DETECTOR*

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IMPACT+ *OBJECT DETECTOR* is a machine vision turnkey solution for object detection applications in the T&L industry, including the new P14 Smart Camera, infrared illuminators, connection box and cables.

The P14 Smart Camera is an embedded standalone device featuring a dedicated User Interface for configuring object presence/absence inspections over any type of conveyor.

Combined with an easy-to-mount IR bandpass filter, extremely powerful infrared (IR) LED illuminators guarantee an outstanding image acquisition robust against external light variations with no annoying flashing for operators.

Based on the P-Series technology, **IMPACT+ *OBJECT DETECTOR*** is the perfect solution for object detection over cross-belt and tilt-tray conveyors in the T&L industry.



HIGHLIGHTS

- Turn-key solution for object detection including smart camera, illuminators, connection box and cables
- Ultra-compact P14 smart camera with rotating connectors (0° & 90° form factors) and rugged IP67 rated housing
- Dedicated easy to use software interface for creating object inspection applications
- Image capturing with infrared lighting, no annoying flashing and robust against external light variations
- Configurable I/O messages and digital outputs through Serial and Ethernet communication interfaces
- Outstanding adaptability to different conveyor types: cross-belt or tilt-tray

APPLICATIONS



IMPACT+ *OBJECT DETECTOR*

TECHNICAL DATA

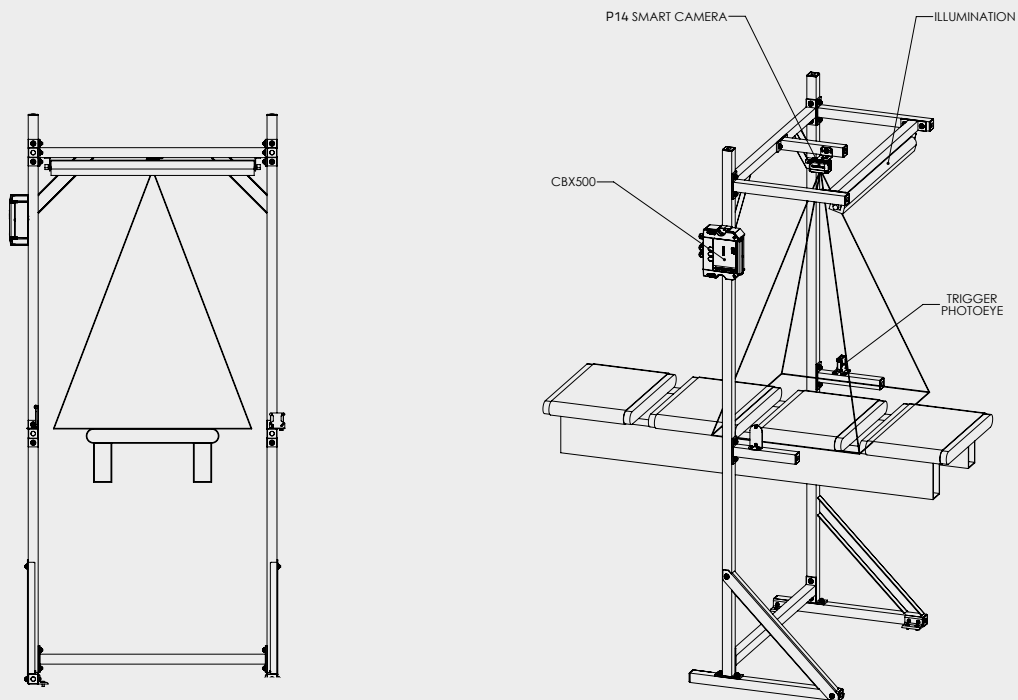
	P14 Smart Camera
Resolution	SXGA (1280 x 1024 pixels)
Imager type	CMOS global shutter
Pixel size	5.3 μ m
Imager size	1 / 1.8"
Frame rate	60 fps
Lens	9 mm *
Processor	660 MHz DSP
Digital I/O	2 IN/3 OUT
I/O type	Isolated INPUT Non-isolated OUTPUT
External button	Yes
Ethernet	10/100 Mbit/s
RS-232 serial	Yes
Inspection recipes	Up to 10
Power requirements	10 – 30 Vdc
Protection class	IP67
Dimensions	95 x 54 x 43 mm (3.7 x 2.1 x 1.7 in.) – Connector @ 0° 75 x 54 x 62 mm (3.0 x 2.1 x 2.4 in.) – Connector @ 90°
Case material	Aluminium, plastic protective window cover
Operating temperature	0 to 50 °C (32 to 122 °F)
Storage temperature	-20 to 70 °C (-4 to 158 °F)
	SMARTVISION LE SERIES ILLUMINATOR
Electrical Input	24 VDC +/- 5%
Current	750mA – Continuous mode ** 5A (during strobe) / 500mA Max. Avg. **
Power Consumption	18W – Continuous mode ** 120W (during strobe) / 12W Max. Avg. **
Connection	5 pin M12 connector
Operating Temperature	-40 to 50 °C (-40 to 122 °F)
IP Rating	IP65
	CBX500 CONNECTION BOX
Connection	25 Spring clamp connectors
Voltage supply	10 to 30 VDC
Operating temperature	0 to 50 °C (32 to 122 °F)
Storage temperature	-20 to 70 °C (-4 to 158 °F)
Protection class	IP65

*If required a 12 mm lens can be provided instead of a 9mm for both cross-belt and tilt-tray custom configurations

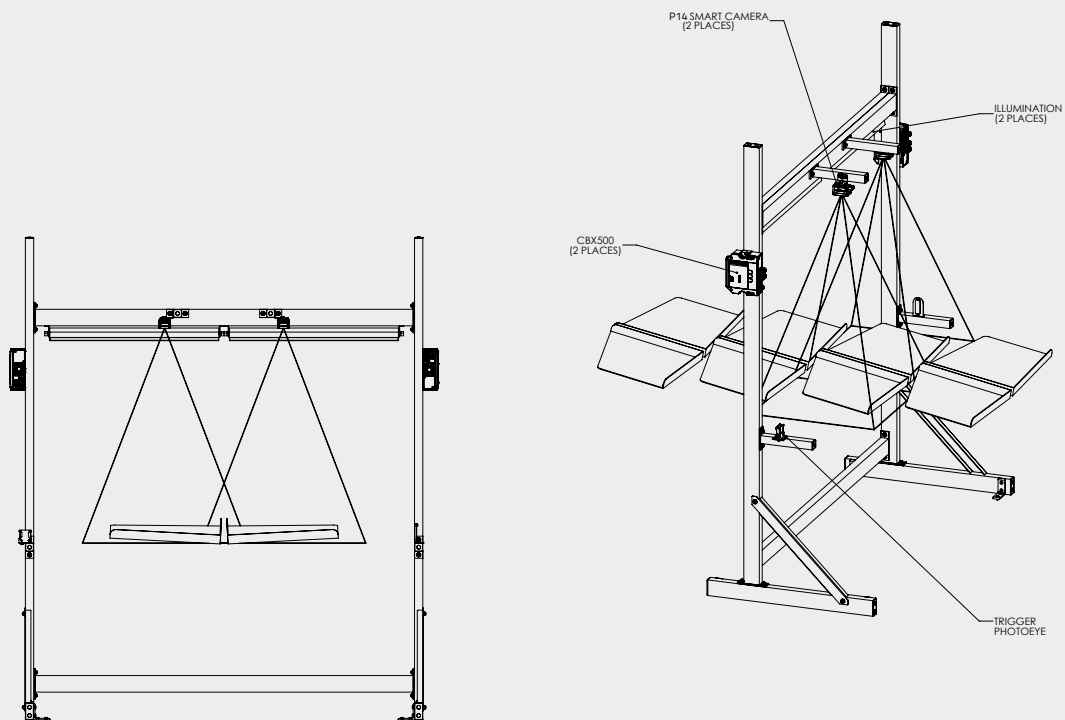
** Technical data refers to 300mm LED segment

DRAWINGS

CROSS-BELT CONFIGURATION

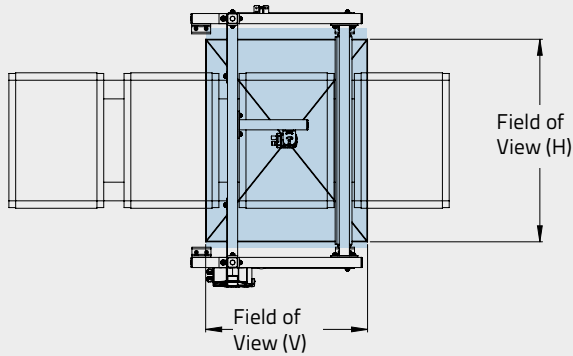


TILT-TRAY CONFIGURATION

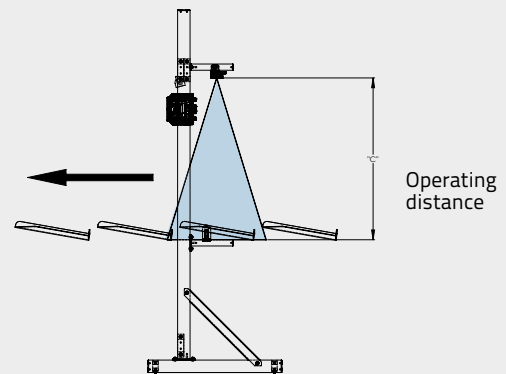
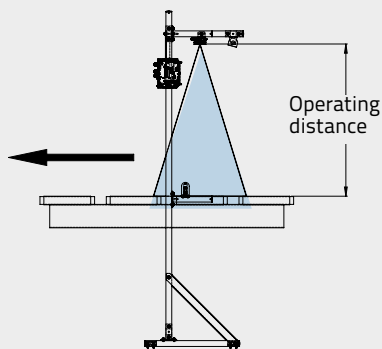
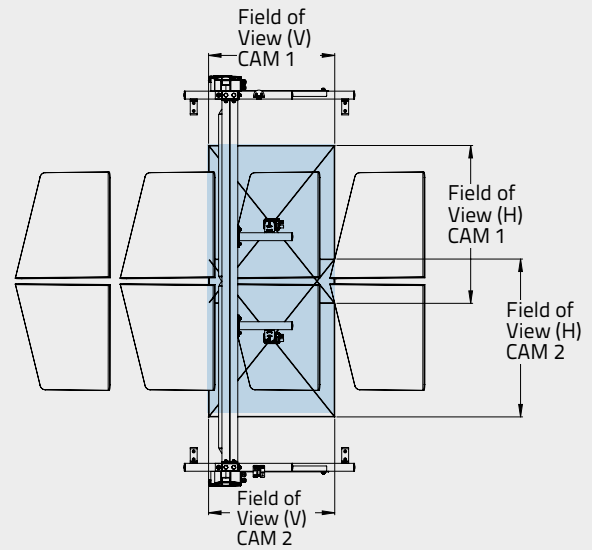


SYSTEM SPECIFICATIONS

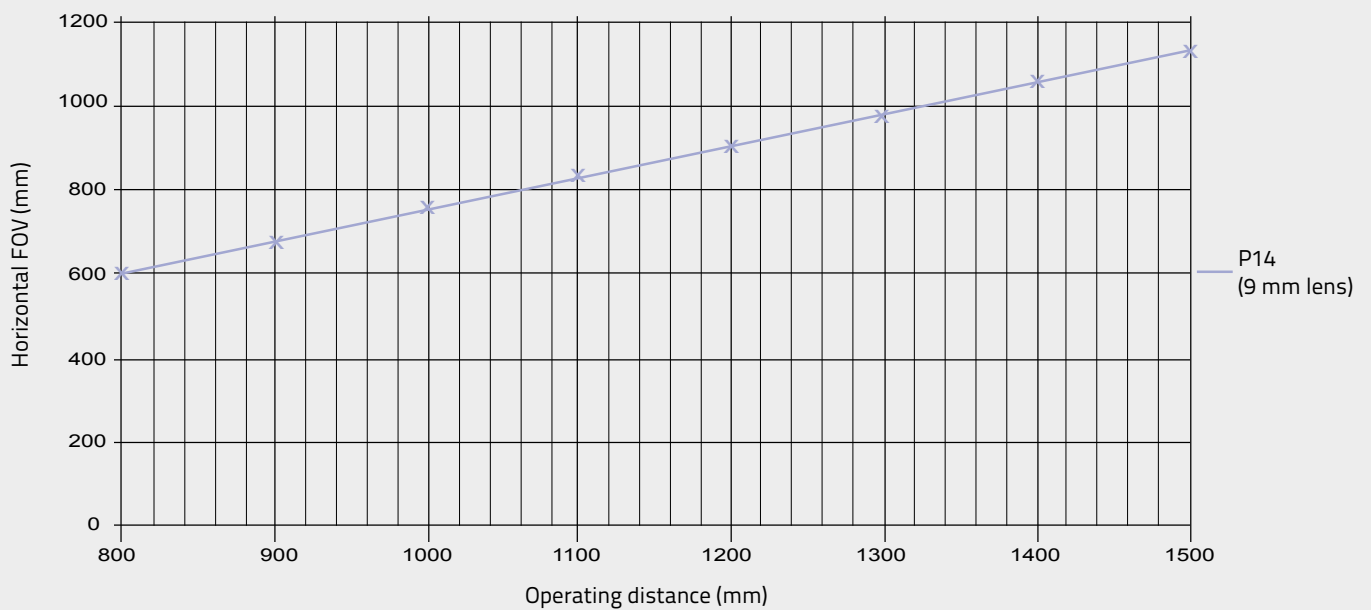
CROSS-BELT CONFIGURATION



TILT-TRAY CONFIGURATION



OPERATING DISTANCE VS FIELD OF VIEW (H)



SOFTWARE INTERFACE

IMPACT+ OBJECT DETECTOR features an easy-to-use dedicated software interface for object detection on conveyor. Intuitive control panels lead users throughout the development of object inspection recipes.

Image Setup

A quick way of choosing the best image acquisition settings.



Noise Reduction

Image noise can be reduced by setting a proper number of image pre-filtering iterations.



Object Detection

Objects are quickly detected on conveyors by easily placing ROI grids on the image. Full/empty inspection result is calculated according to an adjustable contrast threshold.



Input/Output

TCP/IP, RS232, PROFINET and EtherNet/IP input commands can be defined for Auto-Train and Recipe Loading. Messages containing inspection results and digital outputs can be sent quickly to other devices.



Monitor

A monitor displays information on output messages, object detection results and statistics, allowing users to keep under control the inspection process.



MODEL SELECTION AND ORDER INFORMATION

ORDER NUMBER	DESCRIPTION	QUANTITY	
		Cross-belt configuration	Tilt-tray configuration
937700011	P14 Camera, 1280x1024,1/1.8" CMOS OIT	1	2
95A901740	Micro Video Lens, P-Series, 9mm *	1	2
95A901850	Filter, P-Series, IR Bandpass filter	1	2
93A050060	Cable, PWR & I/O, CAB-DS05-S, P-Series to CBX (DB25), 5m	1	2
93A051348	Cable, Ethernet, CAB-ETH-M05 M12-IP67 to RJ45, 5m	1	2
95A906871	SmartVision LE Series LE600-850-W **	1	-
95A906872	SmartVision LE Series LE900-850-W **	-	2
941-5PM12-05	Cable, SmartVision LE Series, 5m	1	2
93A301068	I/O Board, P/A/T-Series, CBX500 CONNECTION BOX MODULAR	1	2

*If required a 12 mm lens can be provided instead of the 9mm for both cross-belt and tilt-tray custom configurations; below its order number and product description:
95A901750 Micro Video Lens, P-Series, 12mm.

**Larger conveyors may require bigger illuminators.