4.7 BLAXTAIR MR390 - DATASHEET

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1 Introduction









Blaxtair saves lives. The most advanced pedestrian detection solution to prevent collisions with machinery, able at the same time to alert drivers to danger, to avoid unnecessary alarms and to helps HSE and site managers to control and reduce the risk of accidents. Compact, robust, connected, scalable, and easy to install, with unparalleled performance on the market, Blaxtair is the only AI camera capable of accurately detecting and locating pedestrians in real-time, in any posture (standing, crouching, or partially occulted) in all the most demanding work environments.
To go beyond the prevention of last-second accidents, the system integrates the Cloud-based IoT solution "Blaxtair Connect" which revolutionizes the safety of people around machines by dividing the coactivity between machines and pedestrians by 3.

- Improves safety, working conditions, and productivity
- Avoids unnecessary alerts that tire the driver
- Controls and reduces the risks of accidents thanks to the integrated Blaxtair Connect
- Future-proofed: online maintenance & remote software updates
- Scalable: ready for future additional features or cloud services

IP67	IoT	Compact

2 Certifications and Approvals

Standards	Type
Water/dust protection	
AI Camera	IP6X (Completely dust-tigh) according to NF EN 60529 IPX7 (Protection against temporary immersion in water under pressure) according to ISO 20653 IPX9K (Protection against **high-pressure, high-temperature water jets**) according to ISO 20653
Smart display	IEC 60529 - IP67
BXT Switch double camera	IEC 60529 - IP67
Connector of camera cable	IP65
Climatic test	
AI Camera	ISO 16750-4, IEC 60068-2-14, IEC 60068-2-1, IEC 60068-2-2
Smart display	ISO 16750-4, IEC 60068-2-14
BXT Switch double camera	ISO 16750-4, IEC 60068-2-14, IEC 60068-2-1, IEC 60068-2-2
Vibrations & Shocks	
AI Camera Smart Display BXT Switch double camera	ISO 16750-3, IEC 60068-2-64 - Random vibration, IEC 60068-2-27 - Shocks
Electromagnetic Compatibility	
AI Camera	Directive 2014/30/UE, ISO 10605, ISO 11452-2, ISO 11452- 4 EN 12895, ICES-003 Issue 05, FCC Title 47 Part 15
Smart display	Directive 2014/30/UE, EN 12895, ISO 13766-1, ISO 14982-1, ICES-003 Issue 05, FCC Title 47 Part 15
BXT Switch double camera	Directive 2014/30/UE, ISO 10605, ISO 11452-2, ISO 11452- 4, EN 12895 ICES-003 Issue 05, FCC Title 47 Part 15 (*)

Electrical loads	
AI Camera	ISO 7637-2, ISO 16750-2 (excluding 5a/ 5b load dump profiles)
Smart display	ISO 7637-2, ISO 16750-2
BXT Switch double camera	ISO 7637-2, ISO 16750-2 - excluding 5a/ 5b load dump profiles)
Radio frequency	RED - Radio Equipment Directive 2014/53/EU, UKSI 2017 N°2016
Object detection systems assistance Earth-moving machinery	ISO 16001
Environment	Reach, RoHS
Marks	CE (Europe), UKCA (Great Britain), FCC ID(USA), IC ID (Canada)
IOT - technology	LTE, CE RED, FCC ID, IC ID, UKCA, RMM, SAR
IOT - Approvals	
Europe	France, Germany, Austria, Spain, Poland, United Kingdom, Czech Republic, Italy, Belgium, Switzerland, Romania, Denmark, Portugal, Ireland, Indonesia, Ukraine, Slovak Republic, Hungary, Norway, Luxembourg, Sweden, Greece, Netherlands, Finland, Slovenia, Latvia, Estonia, Serbia, Monaco, Lituanie
Middle East & Africa	La Réunion
North America	United States of America, Canada,
Asia pacific	Australia, Nouvelle-Caledonie, Tahiti

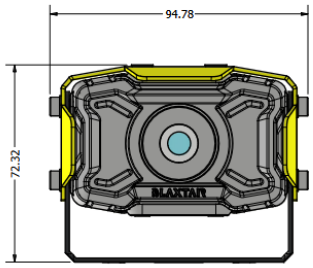
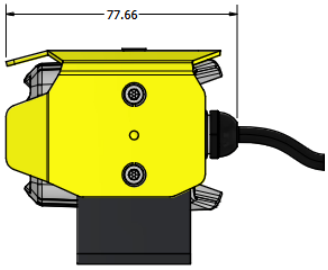
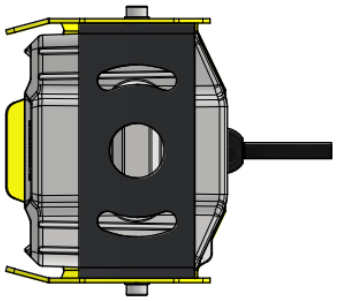
Sealing level is ensured under the following conditions

- Product housing shall not be opened during its overall life cycle
- All screws/connectors shall remain in factory delivery configuration
- Sealing caps shall remain on connectors if not connected

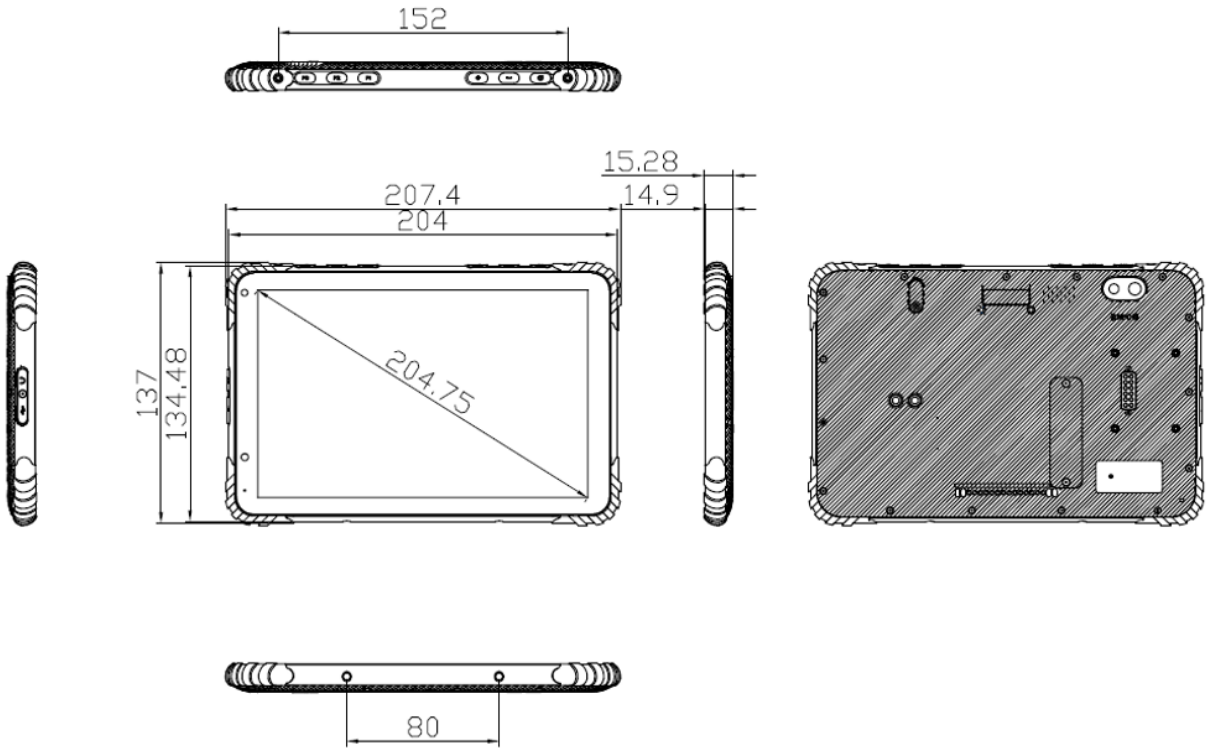
(*) Planned

3 Technical specifications

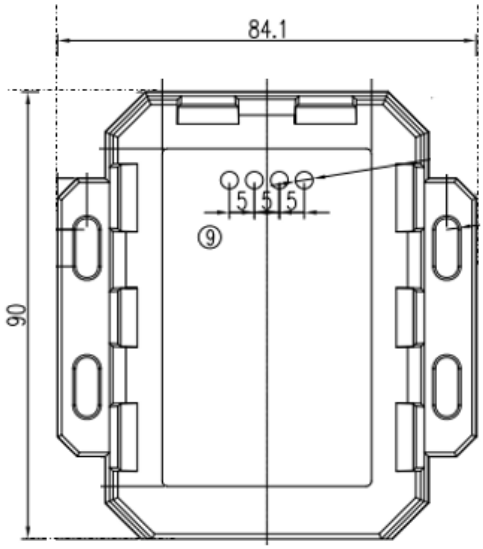
3.1 Dimensions and weight

AI Camera With Protective Hood		
Front view	**Side view**	**Bottom view**
		

Smart Display Without Metal Cradle



BXT Switch double camera



> The dimensions are intended solely for commercial use. The illustrations are not at scale.

	Dimensions L X W X D [Mm] (Inch)	Weight (G)
AI Camera (without protective hood)	80,4 x 53,4 x 71,5 mm (3.2 x 2.1 x 2.8 in)	425g (without protective hood)
Smart display	207 x 137 x 15 mm (8,1 x 5,4 x 0,6 in)	528 g
BXT Switch double camera	90 x 84,1 mm (3,5x3,3 in)	420 g

Housing - AI Camera	
Camera Housing	Aluminum alloy ADC12
Color	Yellow Ral 1003 for protective hood Grey Ral 9007 for camera casing

3.2 Electrical

Rated Voltage	12-24 VDC nominal 32 VDC maximum For vehicle voltage >24 VDC use a power converter.
Input voltage	~12-32 VDC
Power Consumption	MR390 : 45W @12V (3.8A) Depends on system usage and configuration

3.3 Environmental

Operational and Storage Temperature	
AI Camera	-20°C to +70°C (-4 °F to 158 °F)
Smart display	-20°C to +60°C (-4 °F to 140 °F)
Smart display - cold start	-20°C (-4 °F)
BXT Switch double camera	-20°C to +70°C (-4 °F to 158 °F)

3.4 Detection performance

Detection Latency	Latency < 300 ms
Operational Illumination range	>300 Lux (recommended for best performance) From 100 Lux to 80000 Lux
Pedestrian detection - Field of view	Diagonal - 152° Horizontal - 130° Vertical - 70°
Pedestrian position detected	Standing, Crouched, Occluded/truncated, Lying Performance depends on the scene
Starting duration	~0s with Fix sleep mode relay option From sleep mode (i.e tablet's battery load>0%) : ~ 17s for alarms/ ~ 21s for video stream From low tablet's battery load (close to 0%), start time can take several minutes (depends on how long battery's been empty and battery's temperature)

3.5 Video - AI camera

Dynamic range	81 dB
Frame Rate	25 fps
Shutter type	Electronic rolling shutter
Resolution	720p
Sensor	CMOS

3.6 Recording

Duration of recording	7 hours* for version 217 Between 20 and 30 hours, depending on tablet use for version 224
Recorder data	Live stream of the Blaxtair
Download	Using Blaxtair App

(*) Value can be increased to more than 30 hours of recorded data on request

3.6.1 Image - smart display

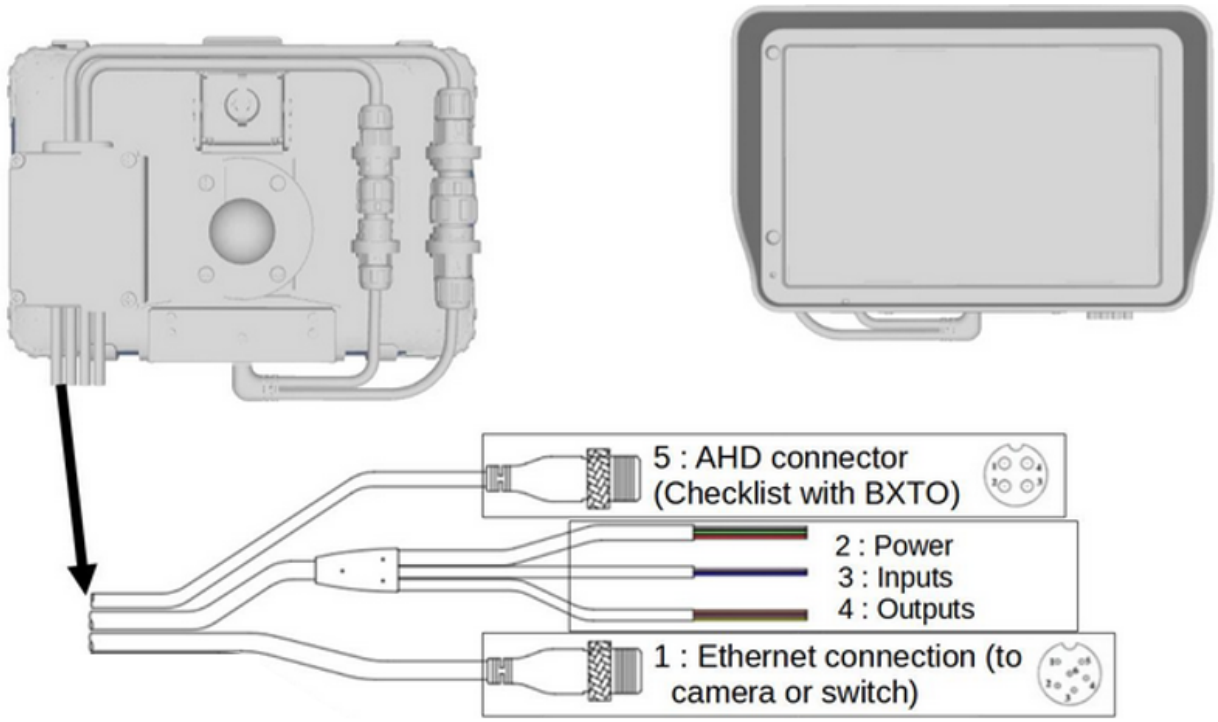
Resolution	1280 x 800 px

3.6.2 Miscellaneous

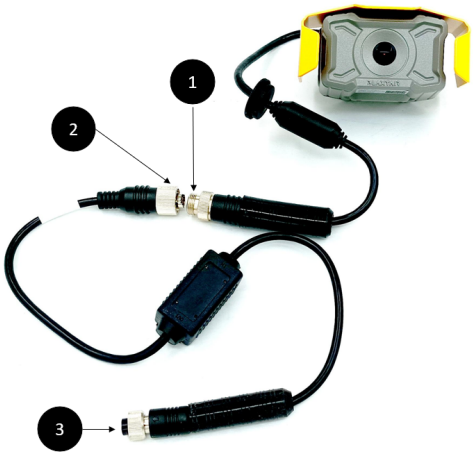
Supported Languages	English, French, German, Spanish
Diagnostics	Various status conditions are tracked in the internal diagnostic log. Critical fault conditions will also be displayed on the screen

4 User connections

8" Smart Display With Metal Craddle And Cables



Cable 1	GX12	1500 mm	Male GX12 6 Pin Ethernet and power supply of camera
Cable 2	no connector	4800 mm	System Power supply
Cable 3	no connector	4800 mm	Discrete inputs x2
Cable 4	no connector	4800 mm	Discrete outputs x2
Cable 5	GX12	1500 mm	AHD connector

AI Camera Connectors	
	(1) 8P Female camera connector (Data + Power) - Length: 400 mm (2) 8P Male connector (Data + Power) (3) 6P GX12 Female connector (ethernet + Power) - Length: 1600 mm The total length of the AI camera cable is 2 m (78,7 in).

BXT Switch Double Camera	
	• Red/ yellow wires : Power (both need to be connected) • Black wire : ground 8P Female camera connector (Data + Power) • RED 6P GX12 female connector (ethernet + Power) = connexion to display • BLACK 6P GX12 male connectors (ethernet + Power) = connexion to CAM REAR and CAM FRONT

5 Ordering information

Blaxtair - MR390 - Detection System		
105-950-007	HS code	8528.5900
3 x BXT AI camera with 2m cable with a 6 axis mount bracket & U-Bracket, 3 x 4m 6pins ethernet extension cable, 2 x 10m 6pins ethernet extension cable, 1 x BXT Smart Display 8" 1 x Metal Cradle with 2m cable with 6 axis mount bracket (Power : VDC 12-32V, 2 x Inputs, 2 x outputs & Ethernet camera connector) 2 x BXT Switch double camera 3 x Fuse kit 1 x Installation manual		

All information may change without notice.