Intelligent Camera

UC-SCA

The new generation of intelligent cameras by CAMEA changes the way this device is applied and brings better results thanks to embedded artificial intelligence and compact design. By utilizing 25+ years of camera and image processing design experience it is optimized for ANPR and MMR for Weigh-In-Motion, Spot and Section Speed Enforcement, Red Light Enforcement and other Intelligent Transportation Systems. The all-in-one camera includes, along with computer technology, a programmable logic accelerating the most important parts of the embedded digital signal processing and machine learning algorithms, including image classifiers and convolutional neural networks.

Developed in cooperation with internationally recognized experts in artificial intelligence from the Brno University of Technology and company Cognitechna.

Features

- Edge computing with artificial intelligence.
- Deep learning using convolution neural networks (CNN)
- All video detection, recognition and evaluation algorithms are on board.
- Enabled for "training" according to user needs to reach superb accuracy.
- The state-of-the-art technology based on an in-house developed low-power hardware.

Version: EN20200427

1   Parameters

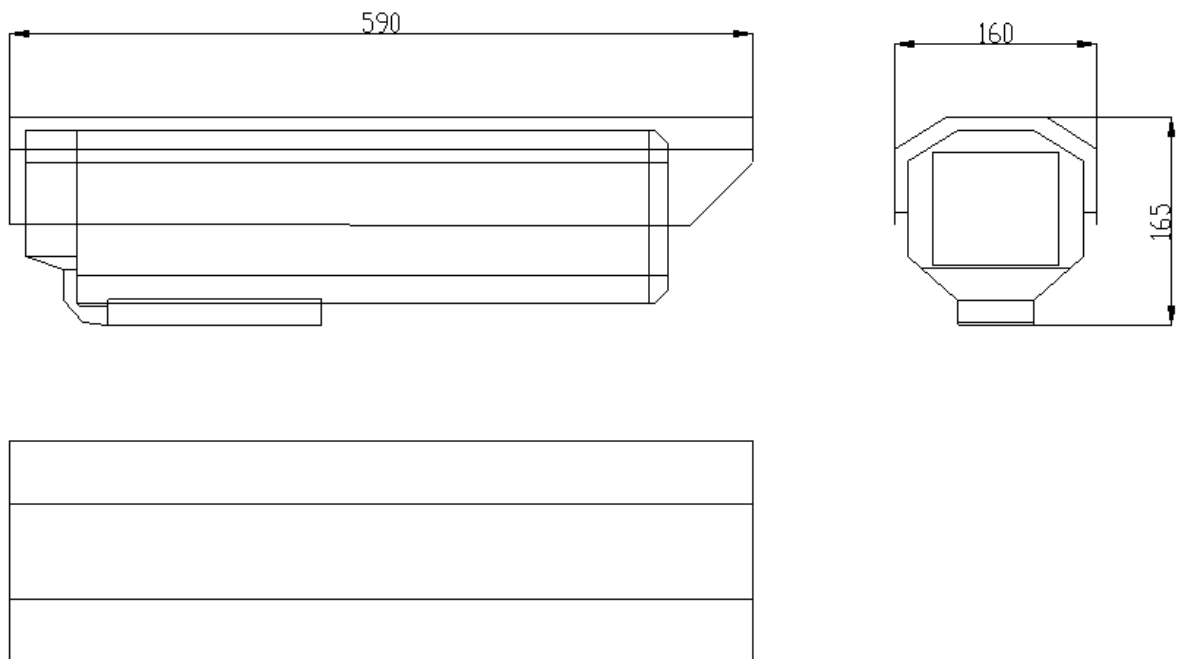| Imaging		
	Resolution	up to 12 Mpx
	Framerate	up to 60 fps
	Sensor	B/W, color, polarized
Environmental		
	Operating Temperature	-40 to +60 °C (+70 °C on request)
	Storage Temperature	-40 to +80 °C
	Protection Degree	IP 65
Mechanical (without holder)		
	Length	590 mm (680 mm with anti-dust tube)
	Width	175 mm
	Height	172 mm
	Weight	5.5 kg
Electrical		
	Power Standard	20 to 58 V DC or PoE+ IEEE 802.3 at
	Power Consumption	25 W
General		
	Range	15 to 25 m
	Lens	IR corrected, varifocal or fix focal length (depending on application)
	Infrared Illumination	790 or 850 nm
	Road Width Covered	up to 13 m @ 23 m (3,5 road lanes)
	Vehicle Speed	up to 300 km/h
	Compression	JPEG, PNG
	Storage	up to 1 TB, SSD
Accuracy		
	Video-Detection	99+%
	ANPR/LPR	98+%
	ADR	98+%
	Vehicle Class	98+%
	Vehicle Color	80+% (with color sensor only)
Communication		
	Protocols	ARP, DHCP, TCP/IP, HTTP, FTP, SNMP, NTP, RTP, XML, JSON (other on request)
	LTE	optional
Time		
	NTP	client
	RTC	optional
	GNSS	optional GPS, GLONASS, Galileo
Processing		
	CPU	Intel
	FPGA	Xilinx
Connectivity		
	GPIO/Trigger	4 x
	Synchronization between cameras	yes
	Ethernet	1 GBps

2　Drawings

Fig. 1: UC-SCA dimensions

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