Cipia-FS10 Plus
Locally connected – Data Sheet

1.1. Industrial Design

- Functional Button
- Car Mount Cover
- Speaker
- External camera port
- Card Door
- Driver Indicator
- Brand Label
- System Led
- IR Lens
- Volume Button
- Camera
- Car Mount
- Road-facing Camera
- Mic

1.2. Dimensions

95 mm

120 mm

30 mm
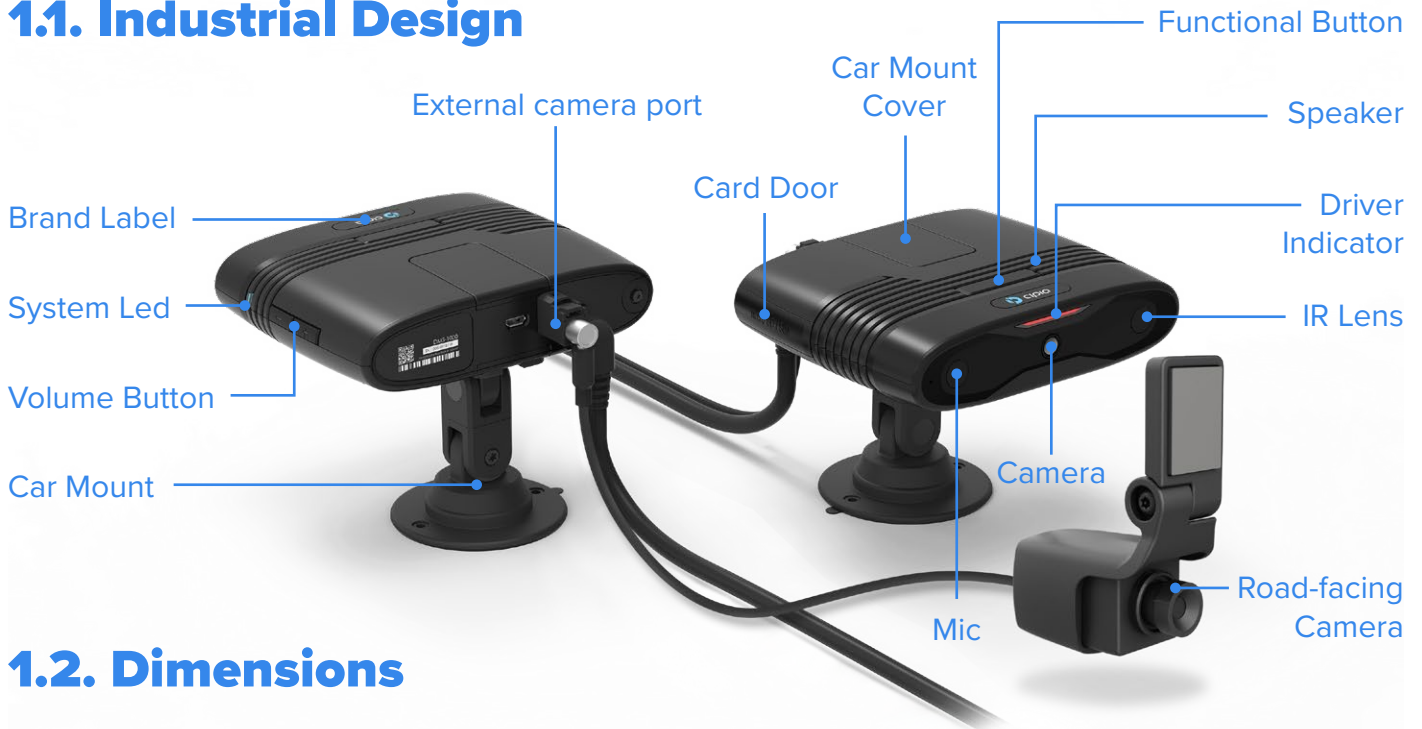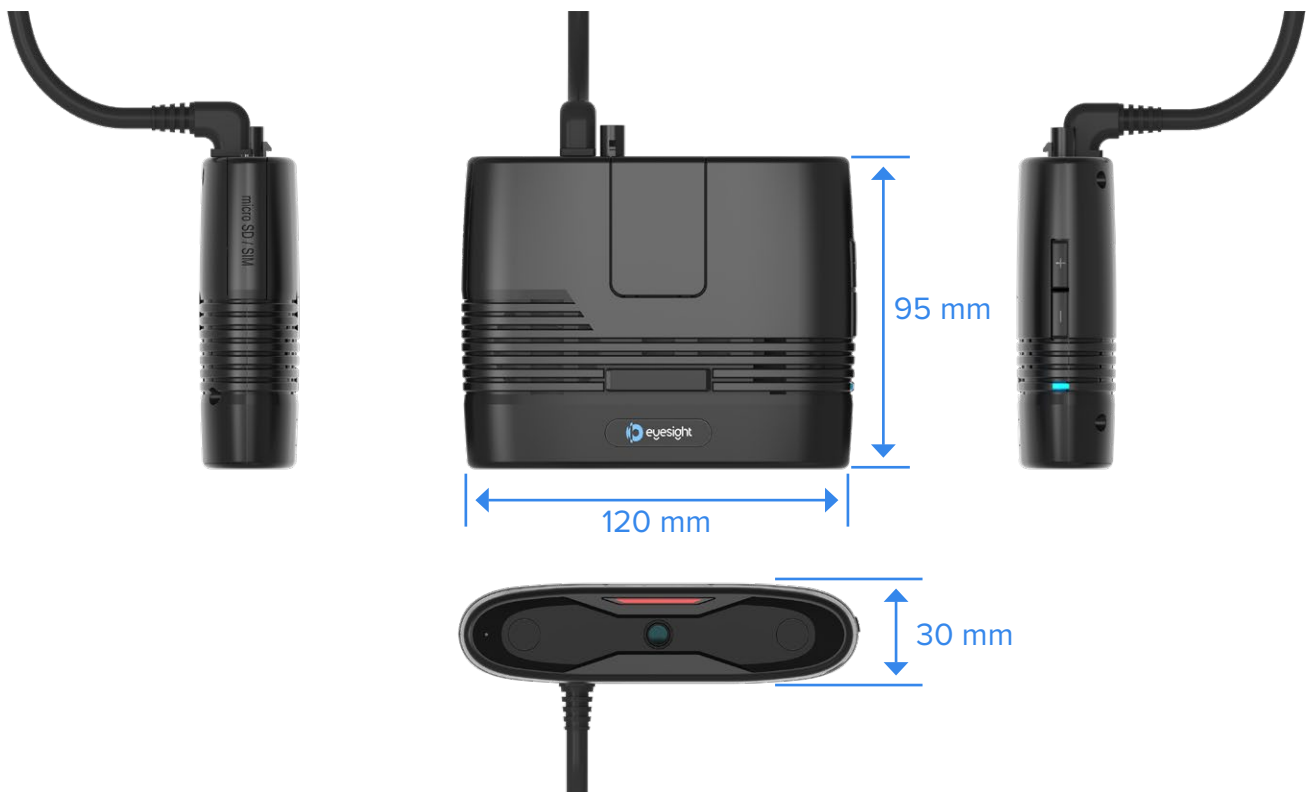
1.3. Technical Spec

Platform Core	
Main Processor (SOC)	Ambarella CV25
RAM	1GB
ROM	8GB
Memory Card	Micro SD card slot – up to 128 GB (internal)
Watchdog	SW controlled – for application recovery HW controlled – for system recovery
Motion Sensor	3D Accelerometer / (±16g, 12bit, 100Hz or better)
Driver Interface	
HW Keys	1 X Configurable, Multi-purpose 2 +/- Volume keys
LEDs	1 X System status (3 colour) 1 X Driver feedback (Power LED, Red,)
Internal Microphone	High sensitivity, omnidirectional
Internal Speaker	87dB @ 1M, 1-2W, 600~20,000Hz
Wireless Communication	
GNSS module	50 Channel, NMEA 0183, AGPS support. Satellite Systems Support: GPS, GLONASS, Galileo.
Wireless LAN	WiFi – 802.11 b/g/n/ac, 2.4/5 GHz, STA/AP mode
Bluetooth	BLE V4.2
LTE (optional, supported by FS10-LTE-XXX models only)	• LTE CAT4 • FDD 1/2/3/4/5/7/8/12/13/17/20/28 (Territories/apps not supported: • Japan, FirstNet) • GSM 850/900/1800/1900 • WCDMA 1/2/4/5/8 (DC-HSPA+) • 3FF, Micro SIM (Internal)

Integrated Cameras	
Cabin Facing (DMS)	2MP, HD, landscape Fixed focus. Depth of view 40-111cm min IR 940nm global shutter 12bit monochrome raw output Min 30fps 48.5° H x 30.4°V or 49.6°H x 37.2°V F# 2.05 2 x IR LEDs
External camera port	FPD link interface
Communication Interfaces	
RS-232	1 X RS-232 (Tx, Rx, GND)
USB	1 X USB 2.0 Device/host (Micro-USB port)
Peripherals Control	
GPIO	1 X Ignition sense 1 X Input (0 – 32V). Digital or Analog. 1 X Open collector Output (maximum DC current: 1.0A) 1 X I/O – fully configurable by SW
Power	
Input Power	Direct vehicle battery connection (8-32V) ISO 7637 & 16750 Compliant
Internal Battery	Support for 1 minutes of full functionality and ordered shutdown upon power cutoff.

1.4. Certifications

- FCC
- IC
- CE (RED)
- RCM
- E-Mark (E13)
- IEC 62471
- PTCRB
  (relevant for FS10-CXX models only)

- GCF (relevant for FS10-CXX models only)
- SRRC
- VSCC
- Battery MSDS

1.5. Environmental standards

Environmental	
Temperature Range	Operating temp* (Boot / wakeup): -30°C to +70°C Steady state (continuous): -20°C to +40°C @ 80% CPU load and open communication socket. From Battery: -20°C to +60°C Storage: -30°C to +80°C
Humidity	95% ±5%RH @ +40°C, non-condensing
IP	IP40
Drop	IEC 60068-2-32
RoHS	RoHS II
REACH	REACH compliant (European Union)
Conflict Minerals	Compliant with conflict minerals law
Vibration	SAE J1455
Mechanical Shock	ISO16750
UV	UV resistant plastic material
Weight	~390g including harness and mounting arm.
Size	120mm (L) x 95mm (W) x 30mm (T) (excluding mounting accessories).

Road-facing camera (optional)

Road-facing camera (P/N: ACC-CAM-A) connects to Cipia-FS10 Plus models using FAKRA cable.

There are three use cases for the Road-facing camera:

- As Dashcam – to record full stream to internal SD-card of Cipia-FS10 Plus and upload short videos of DMS events to FMS (Fleet Management Server) along with in-cabin videos.

- As Dashcam with Mobileye integration - to record full stream to internal SD-card of Cipia-FS10 Plus and upload short videos of DMS and Mobileye events to FMS (Fleet Management Server) along with in-cabin videos.

Road-facing camera	
Resolution	2MP (1920x1280), 2.8µ image sensor
Dynamic range	120dB
Low light sensitivity	0.01Lux
Frame rate	30fps
Aperture	F# 2.9
Horizontal field of view	62°
Vertical field of view	34°
Physical Interface	FAKRA Connector
Interface type	FPD-LINK III
Power	12V, ±8%, 400Ma peak, <150mA AVG
Housing	Aluminum alloy

1.6. Features Highlights

- DMS Features:
  - o Distraction
  - o Drowsiness and Asleep
  - o Phone use
  - o Seatbelt
  - o Smoking
  - o Driver ID
  - o Camera status

- Road-facing features (optional, requires forward facing camera p/n ACC-CAM-A):
  - o Dascham
  - o Short videos of DMS and Mobileye events (optional, requires

- Mobileye integration (requires CAN-RS232 Converter, p/n ACC-CV-S or ACC-CVE-S)

  Supported Mobileye features:
  - o PCW – Pedestrians Collision warning
  - o UFC - WUrban Forward Collision warning
  - o FCW – Forward Collision warning
  - o HW – Headway warning (Tailgating)
  - o LDW – Lane departure warning

- Hybrid communications
- Visual alerts
- Audio alerts
- Over-the-Air updates
- Local video streaming recording
- Basic tracking
- Velocity dependent functionality
- GPIO connection enables receiving or sending triggers from/to external devices.
- Installers application (iOS and Android)
- Panic button
- Trigger based video recording
- Privacy mode
- Adjustable robust car mount for dashboard / windshield installation

1.7. Models

P/N	Model name	Description
FS10-LOC-ADS	Cipia-FS10 Plus – Locally connected	Cipia-FS10 Plus device for DMS and Dashcam(optional) applications. Designed for in-cabin connection using BLE or RS232 or Wi-Fi.
FS10-LTE-ADS	Cipia-FS10 Plus – LTE connected	Cipia-FS10 Plus device for DMS and Dascam(optional) applications. Designed for direct LTE connection to server.
ACC-CAM-A	Road-facing Camera kit	Special Road-facing camera which can be added to Cipia-FS10 Plus models to allow Dashcam features. Includes FAKRA cable. Compatible with FS10-LOC-ADS and FS10-LTE-ADS.
ACC-CV-S	CAN-RS232 Converter	Used for connecting a Mobileye device to Cipia-FS10 Plus.
ACC-CVE-S	CAN-RS232 Converter (ERM)	Used for connecting a Mobileye device to Cipia-FS10 Plus.
ACC-EC	Extension cable	Extension cable spare part – allows optimal installation of Cipia-FS10 Plus and maintenance flexibility.
ACC-CE-S	Fakra Cable	Extension cable spare part – allows optimal installation of ADAS camera and maintenance flexibility.
ACC-MA	Mount Arm	Mount arm spare part
EVK-PCK-03	Calibration Board	Calibration board for distraction calibration during installation
LIC-FOT-1M	FOTA License for 1 Month	License that enables Cipia-FS10 Plus Firmware update over the air for 1 months
LIC-FOT-4Y	FOTA License for 4 Years	License that enables Cipia-FS10 Plus Firmware update over the air for 4 years