



# Fusion Series (100-400)



One of the key elements for sustainable and successful road safety KPIs is the driver. To understand and assess the driver ability to drive in a trip is as essential as the vehicle itself. Fusion solution is the latest innovation in their Video-matics technology by FMS Tech. The product was designed to help companies with massive road transport and long driving hours requirements mitigate risks to reduce road accidents and fatalities by combining the power of telematics with the latest visual technologies. With advanced and powerful processing capabilities along with built-in Image Processing, this solution caters to multiple applications and verticals.

In addition to its advanced In-Vehicle Monitoring System (IVMS) capabilities to record and analyze vehicle parameters, location of the asset, trip details, and driver violations, the Fusion device variants also support dedicated Driver facing Camera for Driver Fatigue and Distraction Detection which captures the facial features, gaze, and face movements of the driver to detect distraction as well Fatigue events even with occlusions. The users can also connect IP surveillance cameras for operating the Fusion device as a Mobile Digital Video Recorder (MDVR) to provide a bird's-eye view of the on-ground operations.

## FEATURES

- Live and Historical Location tracking with smart telematics.
- Highly secure web-based software platform.
- Non-intrusive system.
- Optional Driver Facial features tracking for Drowsiness, fatigue & distraction detection.
- In-cabin audio or optional haptic feedback to alert the driver.
- Optional MDVR functionality with IP Cameras integration for Surveillance.

## BENEFITS

- Enhanced road safety.
- Reduced number of accidents.
- Improved driver's focus & attention with instant alert.
- Faster response with prompt event validation.
- Improved driver coaching and driving behavior.

## APPLICABLE INDUSTRIES



Oil & Gas



Public Bus Transport



Security & Customs



Municipality



Car Rental



Construction



Transport & Distribution



Waste Management



Taxi & Limousine



Education



Car Insurance



Smart City

FUSION 100-200 - PRODUCT CODE: FMS-07610-000

FUSION 300 - PRODUCT CODE: FMS-37610-001

FUSION 400 - PRODUCT CODE: FMS-37610-002



# Fusion Series (100-400) Technical Specifications

## VARIANTS

<b>Fusion 100</b>	Embedded In-Vehicle Monitoring System (IVMS)
<b>Fusion 200</b>	Mobile Digital Video Recorder (MDVR) with Embedded (IVMS)
<b>Fusion 300</b>	Driver Fatigue and Distraction Detection with Embedded (IVMS)
<b>Fusion 400</b>	Driver Fatigue and Distraction Detection with MDVR and Embedded (IVMS)

## PROCESSING UNIT

<b>Applications Processor</b>	<b>Fusion 100/200:</b> ARM Cortex-A7 (Quad-core) <b>Fusion 300/400:</b> ARM Cortex-A53 (Octa-core)
<b>GPU</b>	<b>Fusion 300/400:</b> Adreno 506
<b>Internal Storage</b>	<b>Fusion 100/200:</b> 8GB EMMC + 1GB LPDDR3 <b>Fusion 300/400:</b> 16GB eMMC + 2GB LPDDR3
<b>Video Analysis</b>	<b>Fusion 300/400:</b> Yes (On-board Digital Image Processing)
<b>SD Card</b>	Yes (64GB to 1TB)
<b>Operating System</b>	<b>Fusion 100/200:</b> Android OS 7 <b>Fusion 300/400:</b> Android OS 9

## COMMUNICATION

<b>GSM Frequency Bands</b>	<b>LTE-FDD:</b> B1/B2/B3/B4/B5/B7/B8/B20/B28A/B28B <b>LTE-TDD:</b> B38/B39/B40/B41 <b>WCDMA:</b> B1/B2/B4/B5/B8 <b>GSM:</b> 850/900/1800/1900 MHz
<b>Dual SIM</b>	Yes
<b>GNSS Features</b>	<b>GPS:</b> 1575.42 ± 1.023 MHz <b>GLONASS:</b> 1597.5–1605.8 MHz <b>BeiDou:</b> 1561.098 ± 2.046 MHz
<b>WLAN Features</b>	2.4GHz/5GHz, 802.11a/b/g/n/ac
<b>Bluetooth Features</b>	<b>BT 4.2 LE:</b> 2402–2480 MHz
<b>GSM &amp; GNSS Antennas</b>	Internal/External

## I/O INTERFACE

<b>USB Interface</b>	Yes (Compliant with USB 2.0)
<b>RFID Reader</b>	Yes (Optional external accessory)
<b>Audio</b>	Bluetooth Voice Kit (Optional external accessory) <b>Fusion 200:</b> 1 port can support external hub to connect up to 4 IP cameras <b>Fusion 300:</b> 1 port can support 1 Driver fatigue camera <b>Fusion 400:</b> 1 port can support external hub to connect up to 4 cameras including Driver Fatigue and IP cameras
<b>Ethernet Interface</b>	
<b>Accelerometer</b>	Supported
<b>Inputs / Outputs</b>	5 Analog/Digital inputs 2 Digital Outputs 1 Output for external ignition relay
<b>CAN BUS</b>	ISO15765-4 / J1939
<b>Speed</b>	Auto swap speed source: (CAN Bus/GPS) or (Line/GPS)
<b>Firmware Upgrade</b>	Over the Air (OTA)
<b>Control Room Alert</b>	SMS, Email and Web/Mobile Notification
<b>In-cabin Alert</b>	Buzzer, Voice Alert Messages (Optional) and Driver Seat Vibration (Optional)
<b>Immobilization</b>	External Ignition Relay

## POWER SUPPLY

<b>Supply Voltage</b>	<b>Range:</b> 9VDC to 36VDC <b>Rated Voltage:</b> 12VDC and 24VDC
<b>Spike Protection</b>	Yes (Up to 100V)
<b>Power Consumption (12VDC)</b>	Idle Mode: 30mA Active Mode: 280mA (Average)
<b>Backup Battery</b>	Optional Li-Po 1000mAh (up to 2 Hours Backup)

## ENCLOSURE

<b>IP Rating</b>	IP56
<b>Dimensions</b>	121 (L) X 132 (W) X 28 (H) mm
<b>Weight</b>	350gms
<b>Tamper Protection</b>	Yes (Opening of Enclosure)
<b>Temperature Range</b>	<b>Operating Temp. Range:</b> -35°C~+75 °C <b>Storage Temp. Range:</b> -40°C~+85 °C

## DRIVER FATIGUE & DISTRACTION MONITORING CAMERA

<b>Resolution</b>	1MP
<b>Sensor</b>	Monochrome, Progressive scan CCD 1/3"
<b>Max frame rate</b>	20 fps
<b>Media Output Format</b>	JPEG, MJPEG stream, H264
<b>IR Filter</b>	940 nm always on
<b>Lens</b>	F 6-8mm

## IP SURVEILLANCE CAMERA

<b>Resolution</b>	2MP
<b>Sensor</b>	Color, Progressive scan CCD 1/3"
<b>Max frame rate</b>	25 fps
<b>Media Output Format</b>	JPEG, MJPEG stream, H264
<b>Lens</b>	F 3.6mm
<b>Light Sensor</b>	(Auto) Configurable day/night mode switching

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