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BSMART ADVANCED SURVEILLANCE SYSTEM



**BSMART  
Mobile Digital  
Video Recorder  
(MDVR)**

*Green Telematics*

# BSMART Mobile Digital Video Recorder (b'MDVR)



Dimension : 186mm\*178mm\*50mm (H x W x L)

Weight: 1.46kg with battery

Environment Limits: -0C to 65C @ 10% to 85% non-condensing (operating), -20C to 85C @ 0 to 95% non-condensing (storage)

Explosion Protection : ATEX Compliance II 2G Ex ib IIB T4 Gb

**BSMART b'MDVR** is a state of art integrated advanced mobile video surveillance system that empowered by Front End Intelligent (FEI) Technology, a comprehensive embedded technology with necessary artificial intelligence to mimic human intelligence in decision- making for quicker response, better accuracy and less dependence on a backend server.

<b>Processor</b>	Processor Type	ARM Cortex A7 Dual Core @ Max 1.3 GHz
<b>Charging Voltage</b>	Vin	8-36V @ 3000mA (max)
<b>Internal Battery Capacity</b>	Li-Ion Polymer Battery Capacity	900mA (up to 12hours continue 5 mins tracking & 24 hours standby)
<b>Memory</b>	Mass Storage	4TB + 2x128GB (Optional SD; Backup)
	Working Storage	DDR3 4G(256Mx16) 800MHZ

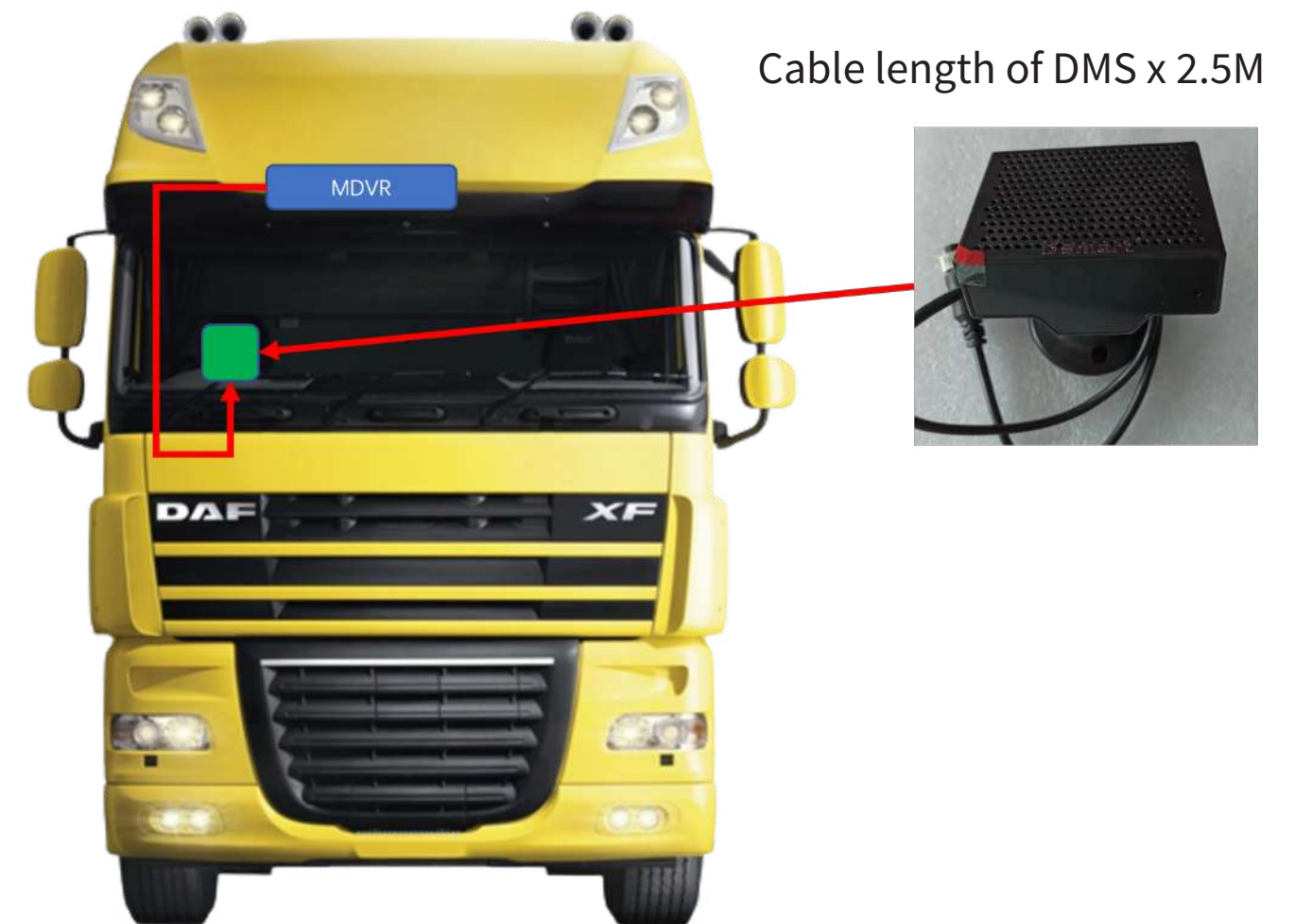
<b>Cameras</b>	DSM	AHD 1/2.9" CMOS; 4mm;720P; 0.01Lux (F1.2, AGC ON),0 Lux with IR; Fatigue Detection, Driver Recognition
	ADAS	AHD 1/2.9" CMOS; 6mm;720P; 0.001Lux/F1.2; Lane Departure, Forward Collision, Pedestrian Collision
	Indoor in Cabin	AHD 1/2.9" CMOS; 1.7mm;1080P; IP68; 0.005Lux Starlight full color
	Outdoor Waterproof Cabin Top	AHD 1/2.9" CMOS; 1.7mm;1080P; IP68; 0.005Lux Starlight full color
	Outdoor Waterproof Cabin Left	AHD 1/2.9" CMOS; 3.6mm;1080P; IP68; 0.01Lux (F1.2, AGC ON),0 Lux with IR
	Outdoor Waterproof Cabin Right	AHD 1/2.9" CMOS; 3.6mm;1080P; IP68; 0.01Lux (F1.2, AGC ON),0 Lux with IR
<b>Expansion Capabilities</b>	Audio	8 Channels In + 1xMicrophone in + 1 Channel Out; Synchronized A/V recording
	Image/Video Compression	H.265
	Digital I/O	8 Channels In + 2 Channels Out
	Communication Ports	USB/RS232/RS485/RJ45
	Digital Driver ID	Face Recognition
	Sensor	3 Axis Gyro/ 3 Axis Accelerometer (G-Sensor)
<b>Positioning Capabilities</b>	GPS Receiver	L1 frequency, C/A code
	GPS Channels	50
	Position Accuracy	2.5m (CEP)
	Solution Update Rate	1-5Hz
	Satellite Re-acquisition Time	100ms
	Cold/Warm/Hot/Snap Start	40s/40s/8s/3s
	Minimum Signal Acquisition and Tracking	-148dBm and -160dBm
	Maximum Velocity	<1,000knots
	Maximum Altitude	<50,000m
<b>Mobility Capabilities</b>	Cellular Technology	GSM/GPRS/EDGE + WCDMA/UTMS/HSPA + LTE TDD/FDD
	Frequency Band	Dual band EGSM900/GSM1800 + 2100 MHz (bands 1), 3GPP Release 7 Class 4 (2W@850/900MHz), Class 1 (1W@1800/1900MHz) Voice, Data, SMS, USSD
	LTE	LTE FDD: Max 150Mbps (DL)/Max 50Mbps (UL) LTE TDD: Max 130Mbps (DL)/Max 30Mbps (UL)
	UMTS	DC-HSDPA: Max 42Mbps (DL) HSUPA: Max 5.76Mbps (UL)
	WCDMA	Max 384Kbps (DL)/Max 384Kbps (UL)
	GSM:	EDGE: Max 296Kbps (DL)/Max 236.8Kbps (UL) GPRS: Max 107Kbps (DL)/Max 85.6Kbps (UL)

## Specifications

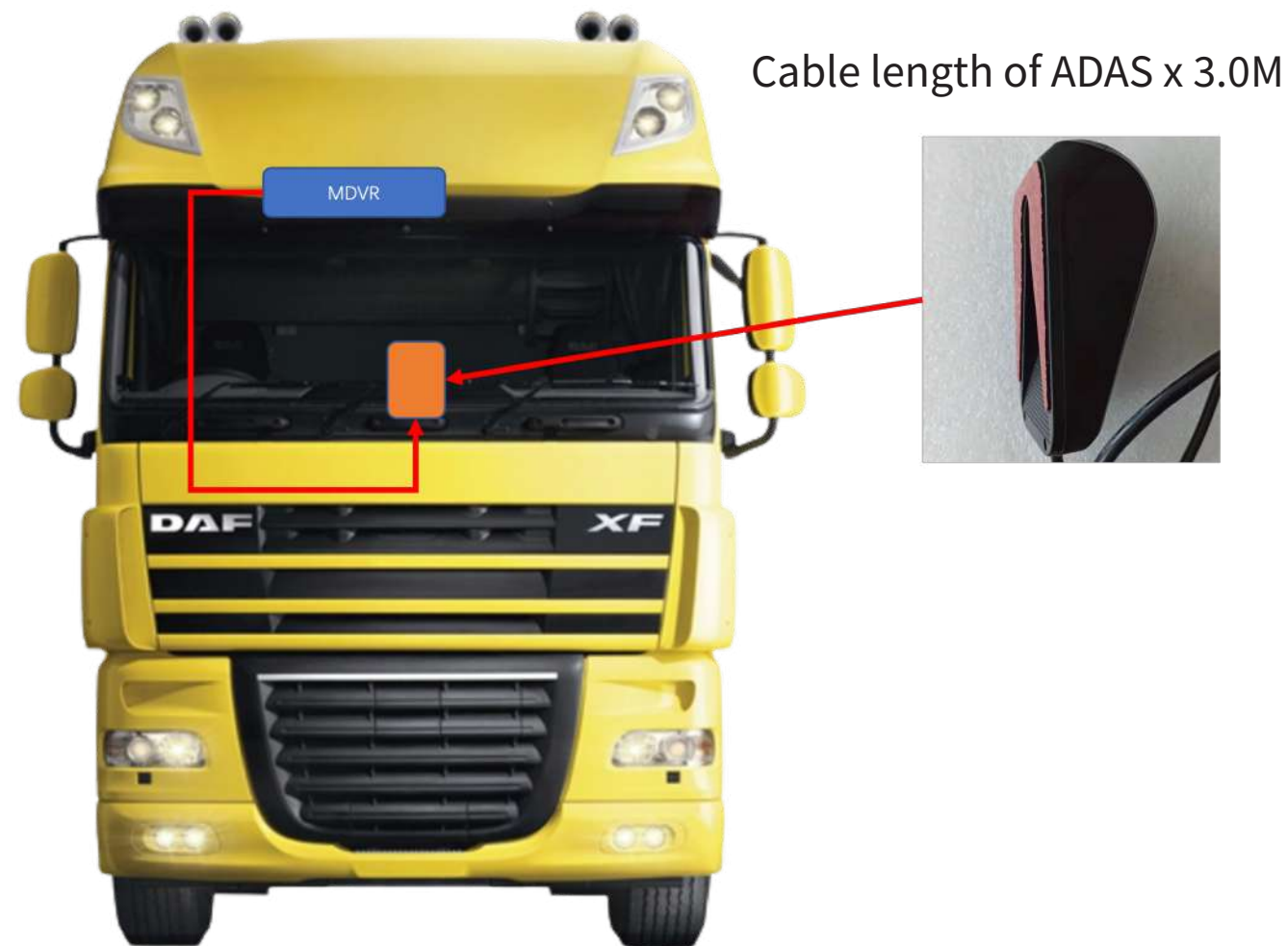
# DMS System

1. Driver's yawning, fatigue driving behaviours
2. Phoning behaviour while driving
3. Smoking while driving
4. Driving for a long time without looking ahead
5. Driver changes while driving
6. The camera is blocked

Driving Monitoring System	Item	Description
DSM Camera	Dimension	75×55×85mm
	Resolution	1280×720
	Lens	1/2.9inch 4mm
	Recording System	PAL
	Connector	Female head
	Power Supply	DC5V
	Cable Length	50cm
	Weight	500g



## ADAS System



1. Lane deviation warning when lane deviation occurs without turning on the turn signal
2. Calculate the collision time based on real-time speed, trigger an alarm when the vehicle ahead is too close
3. Estimated bumper collision warning, when driving at low speed, calculate collision time based on real-time speed, trigger an alarm when the vehicle in front is too close
4. Identify pedestrians within 5~8meters, calculate the collision time based on real-time speed, trigger an alarm when the pedestrian is too close to the front of the lane.



Driving Monitoring System	Item	Description
ADAS Camera	Dimension	65×45×115mm
	Resolution	1280×720
	Lens	1/2.9inch 6mm
	Connector	Female head
	Power Supply	DC5V
	Cable Length	50cm
	Weight	60g

## Specifications

### Top Outdoor Camera (CAM 3)

1. Zinc alloy housing , very sturdy, last a long time.
2. Starlight camera will be able to see up to 10~15m in complete darkness even without infrareds. Using the latest generation of the image sensor chip, come with 1920×1080 Pixels, excellent colour effect.
3. Camera can be adjusted up and down, maximize view angle.
4. Horizontal view angle 170°, wider visual angle, easy to back your car.
5. Waterproof, anti-shock, raining, rough road ... etc, camera work well.
6. High resolution, day or night, imaging very clear.
7. Suitable for models: buses, trucks, school buses, engineering vehicles, urban sanitation vehicles, etc.



Image Sensor	AHD CMOS 1/2.9"
Resolution	1920*1080(200W)
Illuminance	0.001Lux
CDS Night Version Change	Color image in the night
Lens	1.7mm
Viewing Angle	170 degree[H]
Image	Mirror or Non-mirror optional
Appearance and Application	outside hanging design; Suitable for bus, trucks and special vehicles
System	PAL/NTSC optional
Waterproof Level	IP68
Power Requirements	DC 12V
Power Consumption	<3W
Maximum Current	<250mA
Working Temperature	-10°C to 60°C
Storage Temperature	-20°C to 70°C

## Specifications

Image Sensor	AHD CMOS 1/2.9"
Horizontal Resolution	1920*1080(200W)
IR LED	12pcs $\Phi$ 5mm IR LED 850nm
IR Distance	10m-15m
Lens	3.6mm
Scanning System	PAL/NTSC Options
Minimum Illumination	0Lux/IR On
S/N Ratio	$\geq$ 48dB (AGC OFF)
Video Out	Composite Signal (1.0Vp-p, 75 $\Omega$ ), BNC
Electronic Shutter Time	Auto:PAL 1/50-1/100, 000Sec;NTSC 1/60-1/100, 000Sec
Operation Temperature	-10 $^{\circ}$ C~ +50 $^{\circ}$ CRH95% Max
Sync System	Internal Synchronization
White Balance	Auto
Power Supply	DC 12-24V
N.W	0.25kg

## Left-Side Outdoor Camera

1. Zinc alloy housing , very sturdy, last a long time.
2. 12pcs LED light, night vision distance 8~15m.
3. Camera can be adjusted up and down, maximize view angle.
4. Horizontal view angle 100 $^{\circ}$ , wider visual angle, easy to back your car.
5. Waterproof, anti-shock, raining, rough road ... etc, camera work well.
6. High resolution, day or night, imaging very clear
7. Suitable for models: buses, trucks, school buses, engineering vehicles, urban sanitation vehicles, etc



## Specifications

### Top Outdoor Camera (CAM 6)

1. Zinc alloy housing , very sturdy, last a long time.
2. Starlight camera will be able to see up to 10~15m in complete darkness even without infrareds. Using the latest generation of the image sensor chip, come with 1920×1080 Pixels, excellent colour effect.
3. Camera can be adjusted up and down, maximize view angle.
4. Horizontal view angle 170°, wider visual angle, easy to back your car.
5. Waterproof, anti-shock, raining, rough road ... etc, camera work well.
6. High resolution, day or night, imaging very clear.
7. Suitable for models: buses, trucks, school buses, engineering vehicles, urban sanitation vehicles, etc.



Cable length of top outdoor camera x 5.5M

Image Sensor	AHD CMOS 1/2.9"
Resolution	1920*1080(200W)
Illuminance	0.001Lux
CDS Night Version Change	Color image in the night
Len	1.7mm
Viewing Angle	170 degree[H]
Image	Mirror or Non-mirror optional
Appearance and Application	outside hanging design; Suitable for bus, trucks and special vehicles
System	PAL/NTSC optional
Waterproof Level	IP68
Power Requirements	DC 12V
Power Consumption	<3W
Maximum Current	<250mA
Working Temperature	-10°C to 60°C
Storage Temperature	-20°C to 70°C