

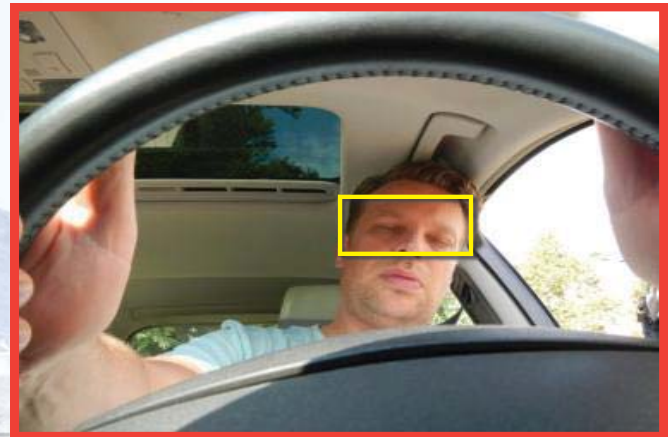


# DRIVER STATE MONITORING SYSTEM

Bus, truck, Heavy-Duty Machinery

This product is a safety driving ancillary equipment as detects and warns driver's drowsy driving and driver's negligence during driving. It is effective for long driving or safe driving on highway.

Model : **CDSM-1000**



- For commercial vehicles (Heavy Truck and Bus)
- Surge Protection Circuit
- DC 12/24V
- High-performance ARM CPU
- CMOS Image Sensor
- USD 2.0 / UART / Video-out Interface
- DIP Switch and Multi-connector
- Detection and Warning of sleepiness and carelessness during driving
- Detection at night and dark place with Infrared LEDs.
- Detection glasses and sun-glasses
- Removal of diffuse reflection from sunlight by fitting special filter
- Expansion of recognition distance (90~110cm)
- Easy installation with provided stand
- Adjustment of Mute and 4levels of volume control and 3levels of sensitivity control
- Support of diverse accessories



※ Design are subject to change without notice.

Category	Contents	Operation LED	Alarm and Sound Effects
Primary drowsiness Detection	It beeps when driver's eyes close for longer than approximately 1 second at left, right, top and bottom 30degrees in the recognition range of drowsiness.	● → ●	● — Beeeep~
Secondary drowsiness Detection	After primary alert, if driver's eyes still close for additional 1second, beep sounds continuously until eyes open again.	● → ●	● — ● — ● — Bee-O~ Bee-O~
Detection of negligence in looking ahead	In case of driver's eyes are positioned between 30 and 60degrees at left or right for longer than approximately 3 seconds	● → ●	● ● Ding-Ding~
Detection of face departure	In case of driver's eyes are deviated over 60degrees at left or right. (In case of camera can't find driver's eyes)	● → ● Blinking	● — — — Beep~ Beep~

Reaction Rate : 0.6 ~ 1sec.

## POINT



It is also warned drowsy driving with the vibration of seat belt. (Optional)



Available when wearing glasses and sunglasses (Except for some of special coating lenses)



Face monitoring which can be interlocked with DVR (Optional)

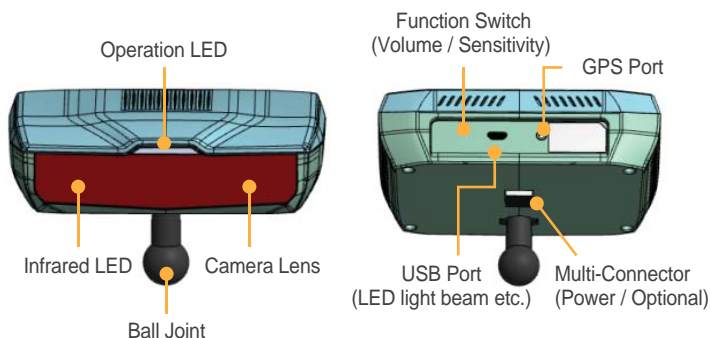
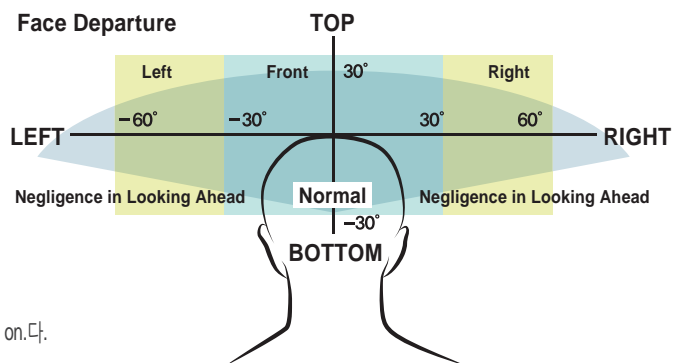
# INSTALLATION

Only use of CDSM-1000 or use of interlocking with DVR



## How to install

- Install the product at a location which is a little below the level of the driver's eyes looking ahead.
- Adjust the product on a level with the eyes of the driver.
- Adjust the product in a straight line from the eyes of the driver.
- Remove dust and water from your selected location and attach the cradle at an installation location.
- Use the provided supplementary pad (3M sticker pad) if you have any problem in attaching it.
- The gel pad of the cradle may lose its adhesion. Clean it with water and dry to use it. It restores its adhesive ability so it can be used semi-permanently
- Adjust the position so that the camera lens can face the driver's eyes.
- Tighten the side lever of the cradle after alignment by mounting-position support function when power is on. □.



Operation LED	Display of driver's status such as drowsiness, carelessness and etc. (in green/blue/red)
Camera Lens	Real-time detection of driver's driving status
Infrared LED	LED lighting for face reorganization in dark areas such as night and tunnel
Ball Joint	for connection of the dedicated cradle
Function Switch	Volume and Sensitivity Adjustment Switch Adjustment of volume with short touch(Mute/1~4 step) Adjustment of sensitivity with long touch(High: Level 3; Middle: Level 2; Low: Level 1)
USB Port	Diverse USB accessories connection(LED Light / Vibration Device / Etc..) and F/W Update
GPS Port	Interface for external GPS
Multi-Connector	Multi-cable connection

## SPECIFICATION

Emission	IR	4 x high power LED with optic condenser(lens)
Acquisition	Image sensor	D1 CMOS
	Pixel	720 x 480
Alarm	Buzzer	Beep (Min. 85dB)
	Speaker	Max. 1.5W (Audio)
Key Button	Volume / Sensitivity	Tact Switch - Short: Volume 0~4, Long: Sensitivity 1~3
	Function	Dip Switch(8in)
Operation voltage		DC 12/24V
GPS		○ External (Option)
Operating Temperature		-20°C ~ 70°C
Mountable position	Distance	90 ~ 110cm
	Roll	±15°
	Left/Right	±30°
	Up/Down	±30°