



제품 소개서

<http://kyungwoo.com>

1993년부터 굴삭기, 지게차, 휠로더 등 건설장비/산업차량에
ICT융합 기술을 적용한 전장품 개발 및 공급



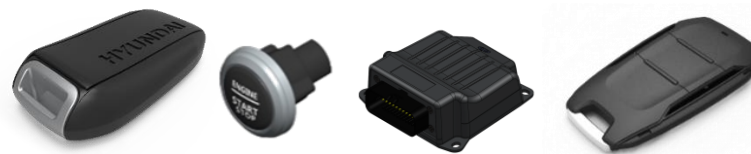
Digital Instrument Panel (Cluster)

for excavators and forklifts



Keyless Entry System

for excavators and loaders



Vehicle and Hydraulic Controllers

for excavators and forklifts



Fleet Management System

for forklifts



FORKLIFT ELECTRONIC UNITS



CLS-HF9

Instrumental cluster for a forklift

- Size(mm) 170 x 120 x 71
- 5.7-inch TFT LCD 800 cd/m²
- CAN bus interface
- Camera support
- Operating temperature -30 ~ 85 °C
- Operating voltage 9~16V(Front Side)
- Operating voltage 20~32V(Other Side)
- IP66 Enclosure(Front Side)
- IP65 Enclosure(Other Side)



MCU-HF9

Machine control unit (MCU) for a forklift Management

- Size(mm) 159 x 135 x 49
- CAN bus interface
- Functions
 - Mast Auto Leveling
 - Speed Limit & Warning
 - Hill Start Assist Control
 - Safety Functions (Parking Warning, etc.)
 - Temperature & Pressure monitoring
- Operating temperature -30 ~ 85 °C
- Operating voltage 9~32V
- IP67 Enclosure



FTC-HF9

Electronic-hydraulic value controller for a forklift

- Size(mm) 120 x 128 x 44
- Used for a finger-tip operation
- CAN bus interface
- Main and sub controller
- Operating temperature -30 ~ 85 °C
- Operating voltage 9~32V
- IP65 Enclosure



INV-KF1

AC Induction motor controller for an electric forklift

- Size(mm) 200 x 200 x 94
- Functions
 - Programmable for either traction or pump applications.
 - Meets or complies with relevant US and international regulations
- EMC: Designed to the requirements of EN12895.
- Safety: Designed to the requirements of: EN1175-1, EN(ISO) 13849-1
- UL503.
- Operating voltage 48V 450ARMS(3Min.)
- IP65 Enclosure



MAS-CF1

Tilt sensor for an industrial vehicle

- Size(mm) 120 x 75 x 48
- Various output support (CAN bus, digital, and analog)
- CAN bus interface
- Operating temperature -30 ~ 85 °C
- Operating voltage 9~32V
- IP67 Enclosure

EXCAVATOR ELECTRONIC UNITS



CLS-HXF

Instrumental cluster for an excavator

- Size(mm) 207 x 239 x 100
- 8-inch TFT LCD 800 cd/m² with capacitive touch screen
- Android OS
- Support Multimedia : MP3, Video Play, DMB (Digital Multimedia Broadcasting) Receiver
- Car Navigation
- Miracast with Android Smartphone/Tablet
- Connectivity : WIFI, GPS
- CAN bus interface
- Camera support
- Operating temperature -30 ~ 75 °C
- Operating voltage 20~32V



CLS-HX9

Instrumental cluster for an excavator

- Size(mm) 198 x 177 x 102
- 7-inch TFT LCD
- Easy operation with a rotary switch
- Support Multimedia : MP3, Video Play
- Camera support
- Operating temperature -30 ~ 75 °C
- Operating voltage 20~32V



Button-start Controller

Button-start controller for industrial vehicles

- Size(mm) 110 x 78 x 42
- Control battery, ignition, and auxiliary relays
- CAN bus interface
- Operating temperature -30 ~ 85 °C
- Operating voltage 9~32V



Smart-key Tag

Smart-key tag for an industrial vehicle

- Size(mm) 70 x 40 x 17
- Replaceable coin-cell battery(CR2032)
- Battery life time : 2 Years
- Operating temperature -30 ~ 85 °C
- Water resistant enclosure



Smart-key Reader

Smart-key reader for an industrial vehicle

- Size(mm) 117 x 71 x 32
- CAN bus interface
- Operating temperature -30 ~ 85 °C
- Operating voltage 9~32V



Instrumental cluster for an excavator

- 8 inch TFT LCD 800 cd/m² with capacitive touch screen
- Android OS
- Support Multimedia : MP3, Video Play, DMB (Digital Multimedia Broadcasting) Receiver
- Car Navigation
- Miracast with Android Smartphone/Tablet
- Connectivity : WIFI, GPS
- Gage Indicator (Fuel, Coolant Temperature, Accel Dial etc.)
- Digital Clock, Trip Meter
- Maintenance Management
- Diagnostic Trouble Code List
- Air conditioning / Wiper / Light control
- Supporting Camera 3 Channels
- Supporting 15 Languages



Specifications

Electrical Characteristics	Operating Voltage (24V)	20~32Vdc
	Power Consumption	≤15W
	CONNECTOR	AMP 174661-2 (12pin) / AMP 174982-2 (8pin)
Interfaces	COMMUNICATION	CAN2.0B, J1939
	USB	USB2.0 HS, SD CARD
	Button Durability	1,000,000 Cycles
Operating Specifications	Operating Temperature	-30~85°C (-20~70°C for LCD)
	Storage Temperature	-40~85°C
	Enclosure	IP65
Mechanical	Dimension (mm)	207 x 239 x 100
	Case Material	ABS



CLS-HXF

Instrumental cluster for an excavator

- Size : 207 x 239 x 100mm
- 8 inch TFT LCD 800 cd/m² with capacitive touch screen
- Android OS
- Support Multimedia : MP3, Video Play, DMB (Digital Multimedia Broadcasting) Receiver
- Car Navigation
- Miracast with Android Smartphone/Tablet
- Connectivity : WIFI, GPS
- CAN bus interface
- Camera support
- Operating temperature -30 ~ 75°C
- Operating voltage 20 ~ 32V



CLS-HX9

Instrumental cluster for an excavator

- Size : 198 x 177 x 102mm
- 7 inch TFT LCD
- Easy operation with a rotary switch
- Support Multimedia : MP3, Video Play
- Camera support
- Operating temperature -30 ~ 75°C
- Operating voltage 20 ~ 32V

Smart-key System



Smart-key FOB

Smart-key FOB for an industrial vehicle

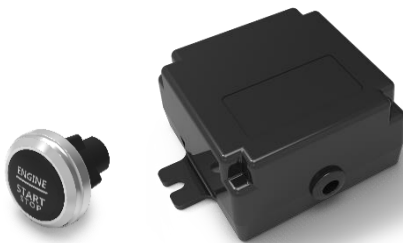
- Size : 70 x 40 x 17mm
- Replaceable coin-cell battery(CR2032)
- Battery life time : 2 Years
- Operating temperature -30 ~ 85°C
- Water resistant enclosure



Smart-key Reader

Smart-key reader for an industrial vehicle

- Size : 117 x 71 x 32mm
- CAN bus interface
- Operating temperature -30 ~ 85°C
- Operating voltage 9 ~ 32V



Button-Start Controller

Button-start controller for industrial vehicles

- Size : 110 x 78 x 42mm
- Control battery, ignition, and auxiliary relays
- CAN bus interface
- Operating temperature -30 ~ 85°C
- Operating voltage 9 ~ 32V



CLS-HF9

Instrumental cluster for a forklift

- Size : 170 x 120 x 71mm
- 5.7 inch TFT LCD 800 cd/m²
- CAN bus interface
- Camera support
- Operating temperature -30 ~ 85°C
- Operating voltage 9 ~ 16V(Front Side)
- Operating voltage 20 ~ 32V(Other Side)
- IP66 Enclosure(Front Side)
- IP65 Enclosure(Other Side)



MCU-HF9

Machine control unit (MCU) for a forklift Management

- Size : 159 x 135 x 49mm
- CAN bus interface
- Functions
 - └ Mast Auto Leveling
 - └ Speed Limit & Warning
 - └ Hill Start Assist Control
 - └ Safety Functions (Parking Warning, etc..)
 - └ Temperature & Pressure monitoring
- Operating temperature -30 ~ 85°C
- Operating voltage 9 ~ 32V
- IP67 Enclosure



FTC-HF9

Electronic-hydraulic value controller for a forklift

- Size : 120 x 128 x 44mm
- Used for a finger-tip operation
- CAN bus interface
- Main and sub controller
- Operating temperature -30 ~ 85°C
- Operating voltage 9 ~ 32V
- IP65 Enclosure



TCU-MF1

Transmission Control Unit for Forklift

- Size (mm) 119 x 115 x 58
- Functions
 - Creeping Speed Control
 - Anti-roll back
 - Shifting shock Relief
- Operating Voltage : 9~32V (12/24V)
- Operating Temperature: -30°C ~ 85°C
- IP67 Enclosure



INV-KF1

AC Induction motor controller for an electric forklift

- Size : 200 x 200 x 94mm
- Functions
 - ↳ Programmable for either traction or pump applications.
 - ↳ Meets or complies with relevant US and international regulations
- EMC : Designed to the requirements of EN12895.
- Safety : Designed to the requirements of: EN1175-1, EN(ISO) 13849-1
- UL583.
- Operating voltage 48V 450ARMS(3Min.)
- IP65 Enclosure



MAS-CF1

Tilt sensor for an industrial vehicle

- Size : 120 x 75 x 48mm
- Various output support(CAN bus, digital, and analog)
- CAN bus interface
- Operating temperature -30 ~ 85°C
- Operating voltage 9 ~ 32V
- IP67 Enclosure



FMS-HF1

Remote Management Control Unit for Forklift Fleet Management System

- Size (mm) 132 x 130.5 x 66
- 3.5 inch TFT LCD with Capacitive touch screen
- Functions
 - Driver Access Control by RFID or Password
 - Pre-Operational Check
 - Gathering Vehicle information from MCU, Sensors
 - Wireless Communication by WCDMA/GSM
 - Vehicle Tracking with GPS
- Operating Voltage : 9~32V (12/24V)
- Operating Temperature: -30°C ~ 85°C (Except LCD)
- IP67 Enclosure



UPD-DF1

Rear Detection System for Forklift

- Size (mm) 118 x 79 x 91(Ultrasonic Sensor), 160 x 95.5 x 41.5 (Ultrasonic Sensor Controller)
- Functions
 - Warning Alarm for Driver (Sound / Voice / LED)
 - Alarm range Setting / Volume Control
 - Different Alarm by distance
 - 2W internal Speaker
 - * Amplifier for 20W External Speaker(Optional)
 - Detection Obstacle on Vehicle Rear / Side
 - Detection up to 3m
 - Detection Angle (each Sensor): 65°
- Operating Voltage : 9~32V (12/24V)
- Operating Temperature: -30°C ~ 85°C
- IP67 Enclosure (Sensor), IP65 (Controller)



Machine Control Unit for Skid Loader

- Hyundai Construction Equipment 9 Series Skid-Loader
- Safety Function
 - Safety Lever Detection
 - Door Open Detection
 - Parking Warning
 - Attachment Enable/Disable
 - Anti Restart
 - Self Diagnosis
- Convenience Function
 - Anti-Theft
 - Fule Warmer Control
 - Cooling Fan Control (EPPR Valve)
 - Roll Brush Attachment Control (EPPR Valve)

Specifications

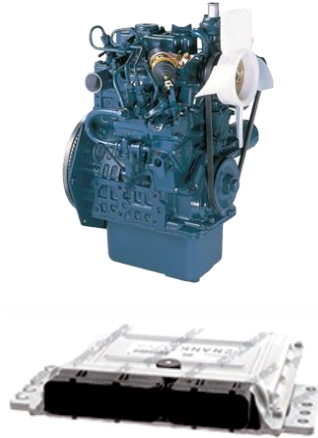
Electrical Characteristics	Rated Voltage	12Vdc / 24Vdc
	Operating Voltage	9~32Vdc
	Power Consumption	Max. 5W
	CONNECTOR (Main/Sub)	AMP 6437288-1 (34pin) / AMP 6437288-2 (34pin)
Interfaces	COMMUNICATION	CAN2.0B, J1939 (2 Port)
Operating Specifications	Operating Temperature	-30~85°
	Storage Temperature	-40~85°C
	Enclosure	IP67
Mechanical	Dimension (mm)	159 x 135x 48.5
	Case Material	PA6+GF15%



Forklift Electronics Overview



HYUNDAI
CONSTRUCTION EQUIPMENT
9-Series Forklift



Camera



Cluster Panel



Remote Management Control Unit



CAN Bus Interface



Fingertip Control Unit



Transmission Control Unit



Machine Control Unit



Mast Angle Sensor

Kyungwoo Products



Machine Control Unit for Forklift

- Hyundai Construction Equipment 9 Series Forklift
- Safety Function
 - Driver Seated Detection
 - Parking Warning
 - Speed Limit & Warning
 - Hill Assistant Control
 - Direction Change Shock Relief
 - Zero Start
- Convenience Function
 - Engine Protection
 - Automatic Transmission
 - Anti-Theft
 - Mast Auto Leveling
 - Load Weight Measurement
 - Clutch Protection

pecifications

Electrical Characteristics	Rated Voltage	12Vdc / 24Vdc
	Operating Voltage	9~32Vdc
	Power Consumption	Max. 5W
	CONNECTOR (Main/Sub)	AMP 6437288-1 (34pin) / AMP 6437288-2 (34pin)
Interfaces	CAN	CAN2.0B (2 Port)
Operating Specifications	Operating Temperature	-30~85°
	Storage Temperature	-40~85°C
	Enclosure	IP67
Mechanical	Dimension (mm)	159 x 135x 48.5
	Case Material	PA6+GF15%





Remote Management Control Unit for Forklift

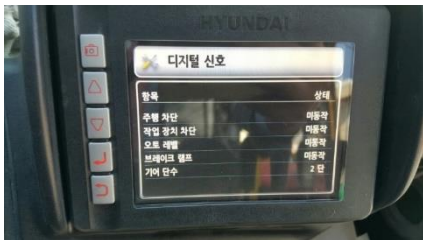
- Hyundai Construction Equipment 9 Series Forklift
- 3.5-inch WVGA(320x240) TFT LCD with capacitive touch screen
- WiFi Network / 3G Mobile Network Support
- 13.56 MHz RFID Support
- User Authentication Function (Pin / RF Card)
- Detect Equipment Collision (Internal Sensor)
- Customize General Input / Output Function
- 20 Languages Support



Specifications

Electrical Characteristics	Rated Voltage	12Vdc / 24Vdc
	Operating Voltage	9~32Vdc
	Power Consumption	Max. 5W
Interfaces	CAN	CAN2.0B, J1939
	MOBILE	WCDMA
	WIFI	IEEE802.11bgn
	LBS	GPS
	RFID	ISO 14443 Type A
Operating Specifications	Operating Temperature	-30~85°
	Storage Temperature	-40~85°C
	Enclosure	IP65
Mechanical	Dimension (mm)	132 x 130 x 70
	Case Material	PC-ABS





Digital Instrument Cluster Panel for Forklift

- Hyundai Construction Equipment 9 Series Forklift
- 5.7-inch VGA (640x480) TFT LCD, 800 cd/m²
- Gage Indicator (Speed, Fuel, Coolant Temperature, Urea Solution etc.)
- Angle Indicators (Vehicle, MAST)
- Hour, Hour Meter, Odometer Indicator
- Load Indicator
- Maintenance Management
- Supporting Camera up to 3 Channels
- Supporting 13 Languages



Specifications

Electrical Characteristics	Operating Voltage (12V)	9~16Vdc
	Operating Voltage (24V)	20~32Vdc
	Power Consumption	≤15W
	CONNECTOR	AMP 776262-1 (14pin)
Interfaces	CAN	2.0B
	USB	USB2.0 HS
	Button Durability	1,000,000 Cycles
Operating Specifications	Operating Temperature	-30~85°C (-30~70°C for LCD)
	Storage Temperature	-40~85°C
	Enclosure	IP65 (Front side : IP66)
Mechanical	Dimension (mm)	170 x 120 x 59
	Case Material	ABS



FTC-HF9

Finger Tip Controller

- Hyundai Construction Equipment 9 Series Forklift and Clark Gen2 Series Forklift
- Digital Control for Fork / Mast
- Pulse Width Modulation Output for Hydraulic Valve control
- Supporting Customized Sensitivity
- Fingertip Interface
- Supporting Emergency Stop

Specifications

예정가격: \$250~\$150

Electrical Characteristics	Operating Voltage	9~32Vdc
	Power Consumption	≤2W
	CONNECTOR (Main/Sub)	AMP 776163-1 (35pin) / AMP 6437288-2 (34pin)
Interfaces	CAN	2.0B
Operating Specifications	Operating Temperature	-30~70°C
	Storage Temperature	-40~85°C
	Enclosure	IP67
Mechanical	Dimension (mm)	128.2 x 120 x 44 (Main) / 116 x 104 x 43 (Sub)
	Case Material	ADC12 (Main) / ABS (Sub)





Transmission Control Unit

- Linde, Hyundai and Clark Forklift
- Forward, Reverse Shuttle Shifting
- Inching Control
- Electronic Parking
- Anti-rollback
- Hill Assistant Control
- Creeping Speed Control
- Brake Assist
- Auto Retardation
- Overheat protection

Specifications

Electrical Characteristics	Rated Voltage	12/24Vdc
	Operating Voltage	9~32Vdc
	Power Consumption	≤5W
	Connector	AMP 6437288-1 (34pin)
Interfaces	CAN	2.0B
Operating Specifications	Operating Temperature	-30~85°C
	Storage temperature	-40~85°C
	Enclosure	IP67
Mechanical	Dimension (mm)	118.9 x 115.4 x 57.4
	Case Material	PA6 +GF15%





Rear View Camera

- Doosan / Clark Forklift
- 1/3 inch CCD Image Sensor
- Resolution : 520K Pixels
- Night Vision : 9 IR LED with Ambient Light Sensor
- Video Output : Composite Video(CVBS, NTSC)
- View Angle : 120° / 90° / 65° (D/H/V)
- Frame Per Second : 30fps.



Fork Camera

- Clark Forklift
- 1/4 inch CMOS Image Sensor
- Resolution: 350K Pixels
- Night Vision : IR LED
- Video Output : Composite Video(CVBS, NTSC)
- View Angle(H) : 50°
- Frame Per Second : 30fps.

Specifications

Items		Rear View Camera	Fork Camera
Electrical Characteristics	Rated Voltage	12/24Vdc	12Vdc
	Operating Voltage	7~36Vdc	7~16Vdc
	Power Consumption	1.5W	1.5W
Operating Specifications	Operating Temperature	-30~85°C	-30~85°C
	Storage temperature	-40~85°C	-40~85°C
	Enclosure	IP69K	IP69K
Mechanical	Dimension(mm)	79 x 44 x 44(Camera Body)	100 x 26.5 x 24.5
	Case Material	Aluminum	Stainless





INV-KF1

3-State Industrial Inverter

- Voltage/Frequency Control, Vector Control
- Under Voltage Detection : 11V
- Over Voltage Detection : 65V
- Open Wire Detection
- In/Output Short Circuit Detection
- Over Current Protection
- Over Temperature Protection
- Digital Output
- Digital Input
- Analog Input

Specifications



Electrical Characteristics	Nominal Voltage	11~65Vdc
	Rated Voltage	48Vdc
	Output Current	225A(60min) / 450A(3min)
	Output Frequency	200Hz
	Switching Frequency	4~8kHz
	Connector	AMP 776228-1 (23pin)
Interfaces	CAN	2.0B
Operating Specifications	Operating Temperature	-40~80°C
	Enclosure	IP65
Mechanical	Dimension (mm)	200 x 200 x 56 (with Heatsink)
	Case Material	PC(Case), Al(HeatSink)



UPD-DF1

Ultrasonic Proximity Detector

- Doosan / Clark Forklift
- Proximity Detection System for Industrial Vehicle
- Different Alert by Detected Distance
- Working at Reverse Direction
- 2W Internal Speaker
- Supporting 20W External Speaker(Optional)

Rear Detection Speed Limiter (Optional)

- Backward Speed Control by Detected Distance
- Auto Emergency Braking System
- Auto Shift Control to Neutral when Driver leaves the Seat
- Auto Emergency Braking System On / Off

Specifications

Electrical Characteristics	Operating Voltage (12/24V)	9~32Vdc
	Power Consumption	≤10W
	CONNECTOR	AMP 174657-2 (10pin)
Interfaces	CAN	2.0B
	LIN	2.1 Master (USS.1)
	Ultrasonic Sensor	<ul style="list-style-type: none"> • Detection Angle : 65 degree • Detecting Range : 0.25~3m • Dead Zone : 0.2m
Operating Specifications	Operating Temperature	-30~85°C
	Storage Temperature	-40~85°C
	Enclosure	IP65(Controller), IP67 (Sensor)
Mechanical	Dimension (mm)	Ultrasonic Sensor : 118 x 78 x 91(Bracket Included) Controller : 119 x 115 x 58
	Case Material	Ultrasonic Sensor : PC-ABS Controller : PC





Smart Key System

- Functions
 - ✓ Keyless Entry, Keyless Exit, Remote Door Open, Remote Call
 - ✓ Keyless Go, Secured Authentication
- Immobilizer function for FOB battery discharge status

Smart Key Controller / Start Stop Button(SSB)

- Relay Control base on SSB input status(ACC, Key On, Start)
- Door Lock/Unlock Actuator
- Recognition distance between Controller and FOB : UHF(20m), LF(2m)
- Control Lamp & Horn Relay for Remote Call
- Immobilizer function
- SSB Button durability : 1,000,000 cycles

Smart Key FOB

- 3 Buttons for Wheel loader(Door Lock, Door Unlock, Remote Call)
- Battery life time : 2 years
- Button durability : 1,000,000 cycles

Specifications

Items		Controller	FOB
Electrical Characteristics	Rated Voltage	12/24Vdc	3Vdc
	Operating Voltage	6~32Vdc	2.5~3.2Vdc
	CONNECTOR	175446-1	
	CAN Interface (CAN2.0/J1939)	CAN#1 : 250kbps CAN#2 : 500kbps	
Wireless	LF	125Khz	125Khz
	UHF	433Mhz	433Mhz
Operating Specifications	Operating Temperature	-30~85°C	-20~60°C
	Storage temperature	-40~85°C	-30~80°C
	Enclosure	IP65 (except for connector)	IP54
Mechanical	Dimension(mm)	200 x 134.5 x 42	70 x 42 x 15
	Case Material	PC-ABS	PC-ABS, Zn



Control & Monitoring System



Construction
Equipment



Agricultural
Machinery



Industrial
Vehicle



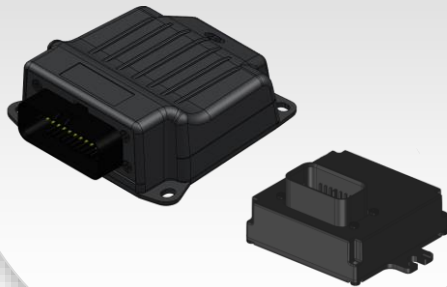
Electric
Vehicle

for Excavators



for Forklifts

Finger-tip
Controller



Cluster



MCU



Mast Angle
Sensor



for Wheel loaders



for Skid loaders

Cluster



MCU



for Micro-Mobility (Electric Vehicles)



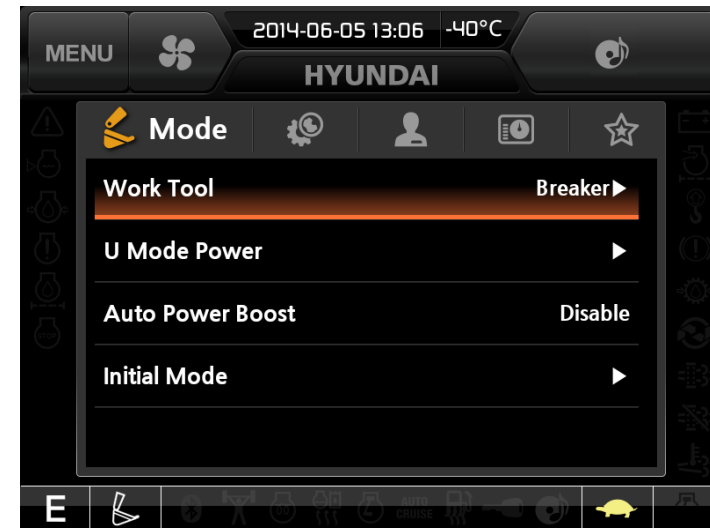
For Excavators

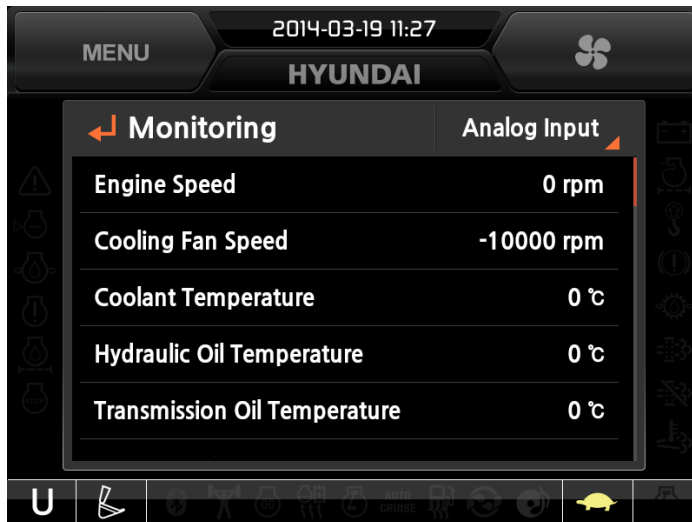
SMART CLUSTER



- SVGA/WVGA TFT-LCD
- Touch Screen
- Android O/S
- CAN Network(MCU&ECU)
- Full HD Audio/Video
- Multi-channel Camera
- GPS Navigator
- Bluetooth Audio/Hands-free
- WiFi **Miracast**







- Audio / Video Player



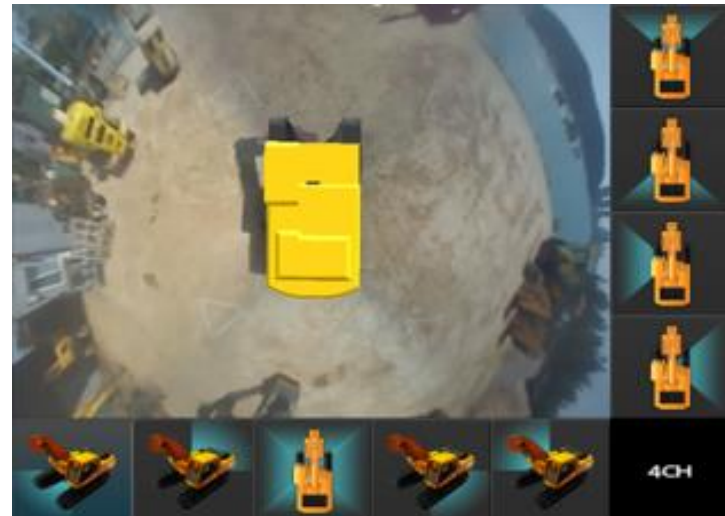
- WiFi Miracast



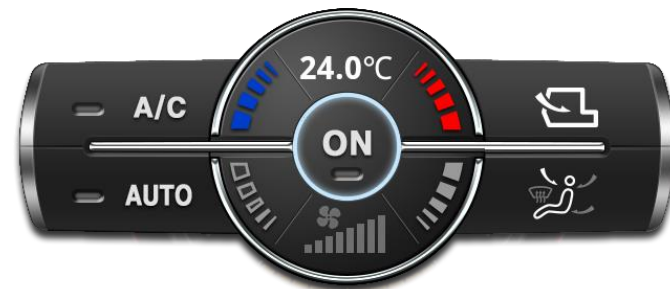
- Rear-view Camera



- Omni-view Monitor (option)



- Climate Control on the display
 - FATC On/Off
 - Air-conditioner On/Off
 - Intake mode selection
 - Auto mode selection
 - Temperature setting

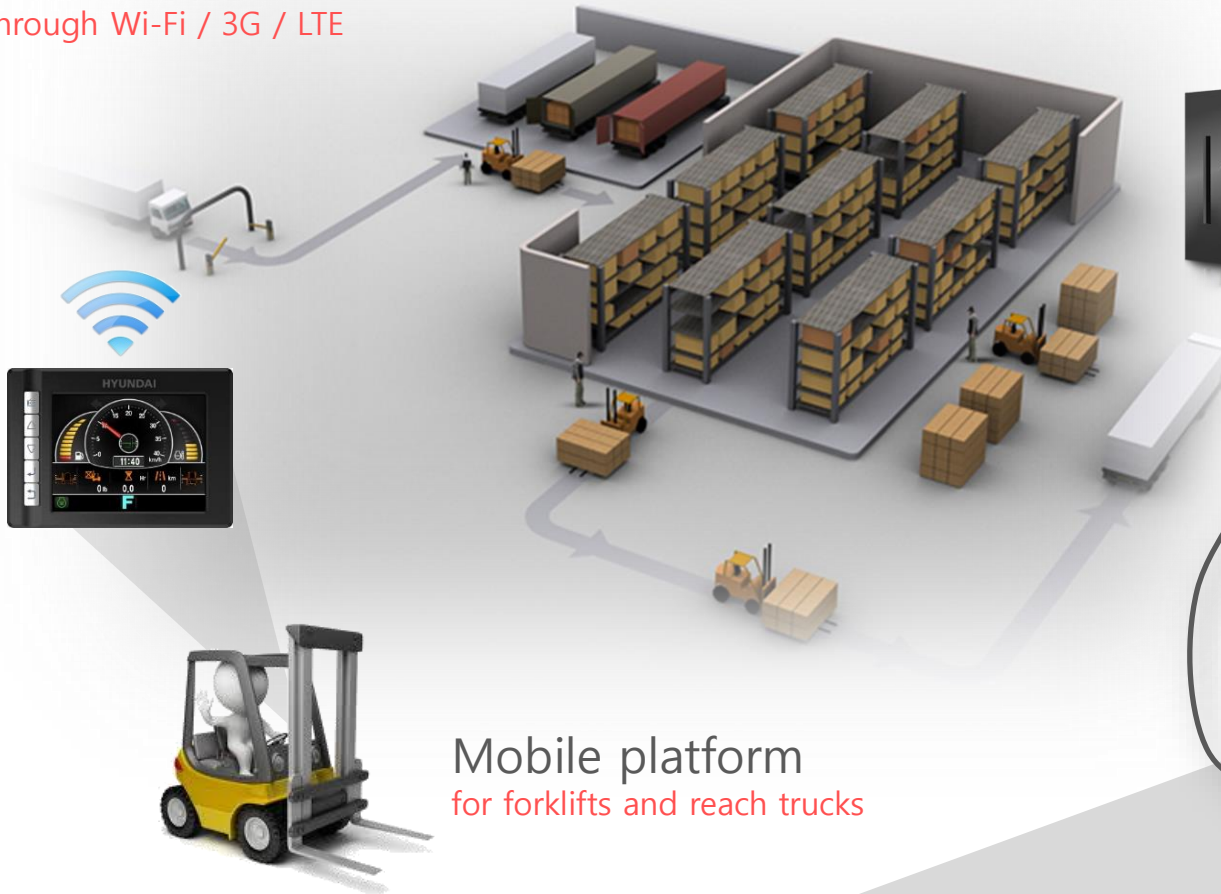


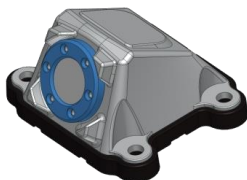
For Forklifts

FLEET MANAGEMENT SYSTEM



Wireless data transfer
through Wi-Fi / 3G / LTE





KYUNGWOO SYSTECH INC.

주요제품 소개



HHI Excavators

Button-Start Controller

Cluster

Smart-key



HHI Forklifts

Finger-tip Controller

Cluster

MCU

Mast Angle Sensor



HHI Wheel-loader

Button-Start Controller

Smart-key



HHI Skid-loader

Cluster

MCU



Clark Forklift

Mast Angle Sensor

Cluster

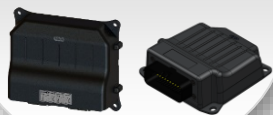
Finger-tip Controller





Micro Mobility

VCU / TCU

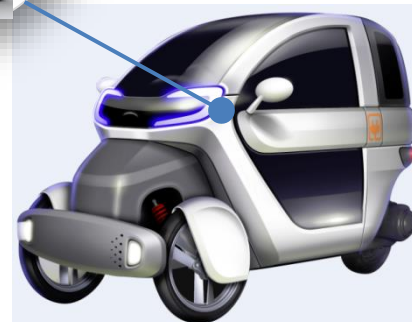


Cluster



U2 system EM3

Cluster



e-Scooter

Cluster



Smart-key



EV특장차



전기트럭

Cluster



VCU



Heavy Equipment and Industrial Vehicles

HHI Excavators

Button-Start Controller

Cluster

Smart-key



HHI Forklifts

Finger-tip Controller

Cluster

MCU

Mast Angle Sensor



HHI Wheel-loader

Button-Start Controller

Smart-key



HHI Skid-loader

Cluster

MCU



Clark Forklift

Mast Angle Sensor

Cluster

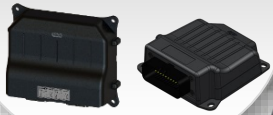
Finger-tip Controller





Micro Mobility

VCU / TCU

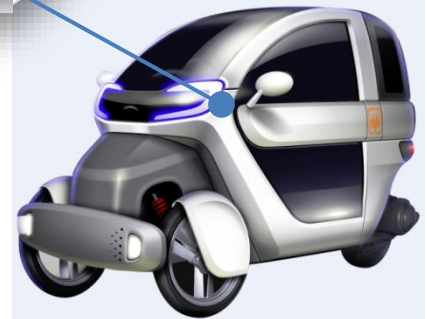


Cluster



U2 system EM3

Cluster



e-Scooter

Cluster



Smart-key



Utility vehicles



Electric Trucks

Cluster



VCU





Rear View Monitor Specification

Features

- Video System: NTSC/PAL (Auto Detection)
- Video Input: Composite Video (CVBS) 75Ω 1Vp-p
- Camera Input: Upto 3 Channel
- Camera mode on/off: Rear direction auto detection
- Auto Dimer: On/Off Selectable
- OSD Display: 2 Language (Korean / English)

Display

- Screen Size: 7-inch TFT 16:9 Wide
- Resolution: 800 x 3(RGB) x 480
- Color Depth: 16.8M (24bit True Color)
- Brightness: 400cd/m²

Specification

- Operating Voltage: 9~32Vdc
- Operating Temperature: -30 °C ~ 80 °C
- Waterproof: IP67
- Mount: VESA
- Buttons: 5 Button with LED Backlight
- Dimension: 209(W)x128(H)x35(D)mm
- Weight: 750g (Unit only)

Camera Specification

- Image Sensor Size: 1/3" Sony CCD II
- Picture Element: 39K Pixels (NTSC), 41K Pixels (PAL)
- Lens: F=2.0
- View Angle(D): 120.3°
- Frame Per Second: 30fps
- Night Vision: 9 IR-LED built in with Ambient Light Sensor
- Operating Voltage: DC 7V~34V
- Operating Temperature: Z
- Waterproof: IP69K
- Dimension (W*H*D): 79(W) X 44(H) X 44(D)mm
- Weight: 217g(Camera only)
- Case Material: Aluminum
- Video Out: NTSC



감사합니다



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