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Forklift Risk Detection & Accident Prevention System

Forklift operation monitoring and collision warning system

Step-by-step collision alarm distance setting

170° Wide angle

2 Step — 1 Step — 2 Step — 1 Step
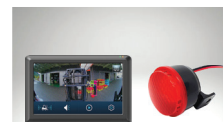
Recognition angle and distance

Dynamic obstacles recognition and danger notification

- AI-based moving object detection(human, forlift) through front/rear camera
  - Step-by-step collision alarm distance setting
- AI console-based front and rear danger situation notification
- Additional notification using warning lights/alarm tones

Real-time recording and post-analysis of camera video

- Forklift operation video, collision video, human approach detection video recording and viewing function (AI console)
  - Forklift operation video recorded video playback
  - View the time of occurrence of safety-related events (prohibited access, collision) and play recorded video

AI console/warning light

- Built-in AI dedicated controller
- 10 inch touch screen
- Human, forklift recognition module
- Warning light/alarm notification

Front/Rear/Fork camera

- 170 degree ultra wide camera
- Minimize blind spots

AI server

- Remote control server(Opion)

AI Console
- 10 inch touch screen
- AI(Deep Learning) Controller
- Large-capacity video storage
- LED flashing/warning light

Camera 2ch
- AHD high resolution camera
- 170 degree ultra wide camera
- Temperature/Humidity/Shock/Waterproof/Dustproof

AI Server(Opt)
- Remote control server
- Large DB
- Video storage/playback

Camera 1ch
- Fork position check
- Goods loading/unloading video assistance

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Specification

Product composition		Product Features

AI Console

- Application of AI platform
  - Simultaneous detection of forklifts and workers (work clothes, plain clothes)- AI-based moving object detection(human, forlift) through front/rear camera
- Function expansion and easy maintenance through modularization
  - Modularization of major parts
  - Mechanical design and cable considering forklift structure/vibration
- Built-in large-capacity memory card for recording/playing driving videos and dangerous situations (default 128GB)
- Power supply stabilization function
  - PMS(Power Management System) application
  - Console/camera stable power supply and data backup

- LCD monitor-based forklift black box function
  - Check actions when safety-related events (approach detection, collision) occur
  - Recording/playing driving video and safety event video

- Warning light/alarm sound for driver alarm notification

Ultra wide angle camera

- 170 degree ultra-wide-angle camera (minimize blind spots by applying front/rear camera)
- Camera protection cap for waterproof/dustproof
  - Camera lens dust management and waterproof function
- Bracket/harness considering moving front/rear/fork camera

AI Server (Opt)

- Network and control server
  - Forklift related event storage/playback and information control
  - Use of follow-up safety management

Main Function

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Main Function	
Composition	AI Console(Deep Learning Algorithm) + Camera + Alarm device
AI Engine	TPU
Detection Object	Human + Forklift + Moving Object
Detection Distance	1m ~ 10m (Variable)
Video Recording Memory	128GB (Max. 512GB)
Camera	170 degree ultra-wide-angle (Resolution 1,280×720)
Display	10 inch touch screen LCD
Alarm Device	LCD flashing/warning light/alarm sound
Scalability	- Network and control SW - Forklift dangerous situation information control

* Changing the camera installation location according to customer request

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