



Systems for mobile machines

# 3D collision warning system for mobile machines



Cameras for mobile applications



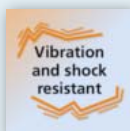
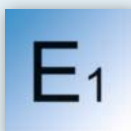
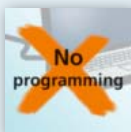
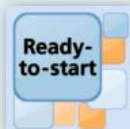
**Robust driver assistance system for the detection of obstacles in the path**

**Early detection of reflectors, e.g. persons with safety vests**

**Early warning of potentially dangerous situations to the driver**

**Ideal for new machines and for retrofitting to existing machines**

**Ready-to-start application package with easy set-up**



## Easy retrofitting

The 3D collision warning system is based on the established 3D sensors from ifm. It precisely detects obstacles and visualises them in a 2D image on a monitor. This keeps the driver informed about the trigger of the alarm and the area to be monitored at all times. Thanks to powerful algorithms, false tripping is virtually excluded. The system is set up easily via the supplied operating display, no PC is required.

## Ready-to-start application package

The set includes all components to set up a fully functioning collision warning system on a mobile machine, e.g. a fork lift, wheel loader, excavator, reach stacker or transport vehicle within a few minutes.



## Features and benefits

### Accident prevention

The driver can have poor visibility of some areas around the machine which can lead to dangerous situations. Further accident risks result from time pressure or fatigue of the machine operator. The ifm driver assistance system, which supports the daily work of the driver, provides the remedy.

### Active obstacle detection

The active obstacle detection developed by ifm monitors six danger zones around the vehicle and warns the driver of imminent collisions in good time. For this purpose, a tried-and-tested 3D time-of-flight system from ifm is used which reduces false alarms to a minimum thanks to a sophisticated algorithm. Warnings are provided visually, acoustically and in the form of icons via the supplied 7" monitor.

### Detection of reflective clothing

Thanks to a special classification of reflective materials, e.g. reflective vests or clothing, the collision warning for persons can be given priority over other objects. This increases the safety of persons.



### Retrofit set for mobile machines

The innovation: The driver assistance system is provided as a ready-to-start application package. It contains all necessary components including any cables and mounting accessories. This means it can be easily retrofitted on all mobile machines with 24 V on-board system voltage\*.

### Easy set-up

After mechanical installation of the system and plug & play wiring, set-up is carried out within a few minutes via the supplied colour display. Only a few parameters are required in the intuitive set-up process. Then the system is ready for operation.

\* Please contact our service centre if you have a different on-board system voltage.

## Products

| Description   | Order no.     |
|---|---------------|
| <b>Ready-to-start application package (complete set)</b>  |               |
| Area surveillance with collision warning  | <b>ZZ1103</b> |
| <b>Application package (individual components)</b>  |               |
| Mobile 3D smart camera with integrated 2D/3D overlay (The article is pre-programmed especially for the application package. If mobile camera is purchased on its own, there is no pre-programming.)                                       | <b>O3M261</b> |
| IR system illumination unit   | <b>O3M960</b> |
| U-shaped bracket, suitable for 3D camera or illumination unit, stainless steel, black (application package contains 2 pieces)   | <b>E3M102</b> |
| MCI cable, connection sensor / system illumination unit, 0.25 m   | <b>E3M120</b> |
| Voltage supply system illumination unit, socket, M12, 10 m PUR cable, 4 poles   | <b>E3M133</b> |
| BasicController, programmable controller with multi-functional input and output channels (The article is pre-programmed especially for the application package. If BasicController is purchased on its own, there is no pre-programming.) | <b>CR0403</b> |
| CAN adapter cable for the connection and voltage supply of O3M, CR0403 and CR0451, 10 m   | <b>E3M171</b> |
| Upper part of the housing for CR0403, suitable for installation of the CR0451 display   | <b>EC0402</b> |
| Adapter cable for the connection of the buzzer to CR0403 and use of the output channels   | <b>E3M172</b> |
| BasicDisplay, programmable graphic display with CAN connection (The article is pre-programmed especially for the application package. If BasicDisplay is purchased on its own, there is no pre-programming.)                              | <b>CR0451</b> |
| 7" TFT LCD monitor with LED backlight, 1 video input for display of the camera image  | <b>E2M231</b> |
| Bracket for monitor E2M231  | <b>E2M239</b> |
| Video extension cable, M16 connector / M16 socket, 5 m, black, PCV cable  | <b>E2M203</b> |
| Video adapter cable M12 connector / M16 connector for the connection of O3M261 to E2M231  | <b>E3M161</b> |
| Buzzer for connection to CR0403   |               |

### Extended functionality

For special requirements, expert settings are available during set-up. Pre-programmed inputs and outputs are available for an additional signal light, buzzers, standby operation or the ready status of the system.

### Suitable for robust applications

The 3D sensors are suitable for robust applications in indoor and outdoor areas. A high protecting rating and shock and vibration resistance as well as a wide temperature range meet all requirements for use in mobile machines.