Application Note
A 107

FEIG

MWD SBP (R-Loop) Functions and applications of output 3

Device family: Radar scanners

Topic:

The MWD SBP has 3 outputs.

> Output 1 for the safety area
> Output 2 for the opening/presence area and
> Output 3 with configurable functions

The following functions for output 3 can be set in the app under "Advanced configurations":

- Drive-through detection
- Safety area - vehicles only
- Reverse out
- Closing impulse

The following explains the functions in more detail and provides examples of their usage.

Drive-through detection

Functionality

Drive-through detection sends an impulse when an object that has previously triggered the opening/presence area passes through the safety area in the direction of travel. If it is set in the opening/presence area that only vehicles are detected (default setting), this also applies to drive-through detection. There is no impulse if a vehicle triggers the security area but then leaves it again in reverse against the direction of travel.

Application for ticket validation

In a parking garage, drive-through detection can be used to validate that a vehicle has actually entered. If the previously drawn ticket only becomes valid after the impulse from exit 3 has been received, parking scams can be prevented.

The drive-through detection replaces the third induction loop behind the barrier, which is often used for ticket validation when using induction loops.

Application for counting entering/exiting vehicles

The number of vehicles entering or exiting in the direction of travel can be counted with the aid of an external control unit, which counts the impulses of the drive-through detection.

Vehicles driving against the direction of travel as well as people or vehicles reversing out are not counted, only the vehicles that have actually entered or exited are counted.

Troubleshooting: Barrier closes due to pedestrians

Problem case:

A car pulls a ticket and stands in front of the barrier. A pedestrian walks through the barrier in front of the standing car and it closes again before the car has driven through, as the pedestrian has triggered the safety area.

Solution:

The barrier should only close when a drive-through detection pulse has been detected (and of course the safety area is free), as a pedestrian does not trigger it (if only vehicles are detected in the opening area).

Safety area - vehicles only

Functionality

The output is active when a vehicle is detected in the safety zone. Although this can also be parameterized in the same way for the safety area, both signals are available in this way so that output 1 can be used instead of a light barrier and output 3 instead of an additional induction loop under the barrier.

Application: Close command on a fall of output 3

The falling flank of output 3 can be used as a closing command for the barrier control. As only vehicles are detected here, the barrier only closes after the vehicle has passed through and not when a pedestrian passes through. In addition, output 1 should be used for protection so that personal safety (at power-limited barriers) is guaranteed.

The function here is therefore similar to that described in the section "Troubleshooting: Barrier closes due to pedestrian" of the drive-through detection, but here it also works in the opposite direction of travel and can therefore be used as a closing command in both directions.

Reverse travel

Functionality

The output is set for the set impulse duration as soon as the object leaves the previously activated opening area backwards.

Closing impuls

Functionality

The output is triggered for the set impulse duration when the barrier is passed through in any direction or the previously activated opening area is left in backwards.