Application Note

A106

R-Loop – Configuration of the R-loop for synchronised barrier operation

Device family: Radar scanners

Topic:

Some driveways must have an appropriate width so that particularly long vehicles, such as lorries or semi-trailer trucks, can enter without any problems. In this case, it is not possible to install a centre island, as this considerably restricts the manoeuvring possibilities of the vehicles. To make it easier for these types of vehicles with a large trailing curve to enter, it therefore makes sense to plan without a centre island and to arrange the two barriers opposite each other so that they work in synchronous operation. This optimises the flow of traffic and the manoeuvrability of the vehicles. It also prevents damage to system components that can be caused by unfavourable space conditions. This document describes special features that must be observed when configuring the R-Loop at two opposite barriers.

PLEASE NOTE:

EN 12453 prescribes that each power-operated system requires its own fuse for personal protection. This means that each barrier must be individually protected in synchronised operation, unless the two control units communicate with each other via a data bus. Optionally, the safety-relevant contacts can be duplicated and transmitted to the opposite barrier in each case.

Installation example:

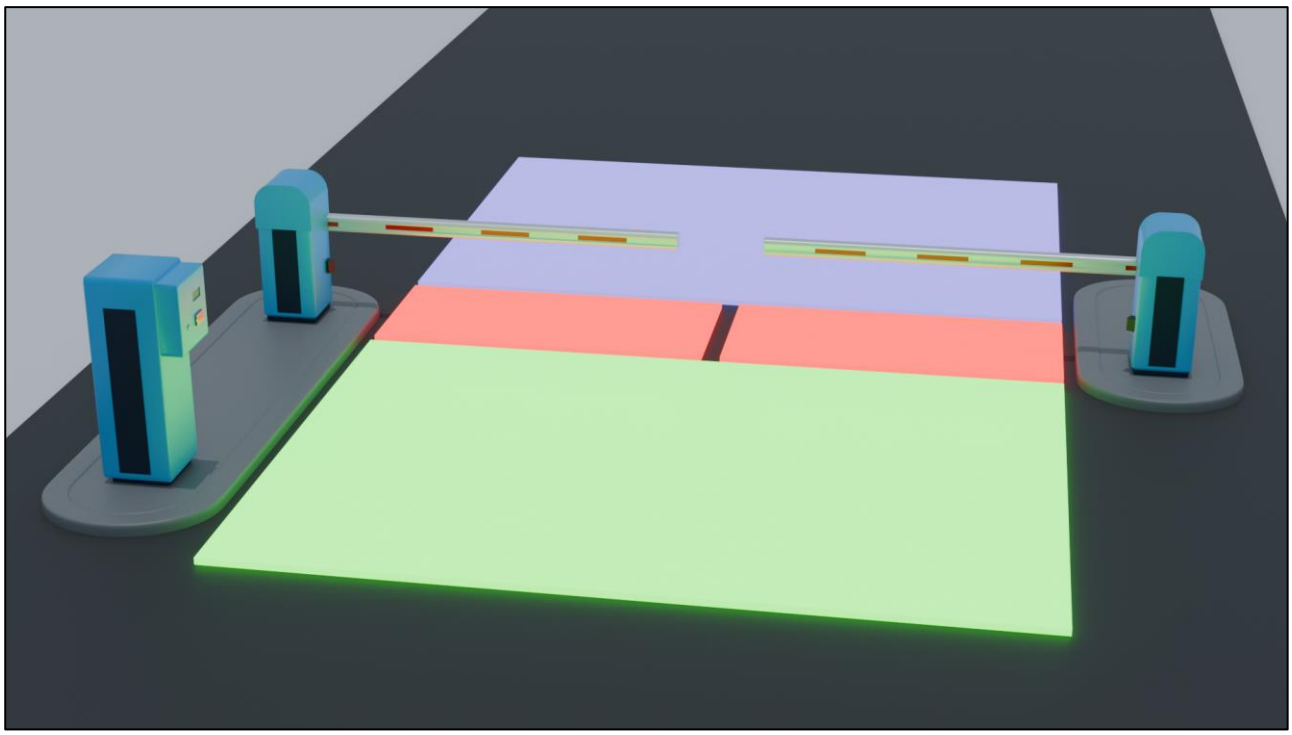

Illustration 1 - Synchronised barriers with presence check and automatic exit

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Configuration and installation instructions:

The installation example clearly shows which functions the R-loop can fulfil. The R-Loop of the main barrier (left), which controls the two synchronised barriers, covers its own **safety area** and the **presence area** in front of the control device. The R-loop on the synchronised barrier (right) covers its own **safety area** as well as the **automatic opening in the exit direction**. Both R-Loops must be configured individually.

PLEASE NOTE:

Please note that the contacts of the two R-Loops must be duplicated and transferred to the respective opposite barrier. The correct contact and signal type depends on the internal wiring of the host system.

With one R-Loop as a light barrier replacement, you can map a maximum safety area of 6m. If two opposing R-Loops are used, a maximum width of **approximately 11-12 m** can be covered. This value depends on the mounting position of the R-Loop, the actual barrier construction, and the gap between the two synchronised barrier booms.

Once you have recorded and configured the barrier boom data, it is important that you set the corresponding direction of travel for each R-Loop correctly. This setting determines the direction of travel from which a vehicle must approach so that the corresponding output of the R-Loop switches. Please refer to our **app notes A101 to A104** for the configuration of the safety area, the presence area, and the opening area.

PLEASE NOTE:

Motion detection can be customized for both areas in the presence and opening area settings.

In direction of travel = R-Loop switches the output when a vehicle is approaching

Against the direction of travel = R-Loop switches the output when a vehicle is moving away

If a barrier system is used for entry and exit, it is particularly important to select the correct setting so that the barriers do not open again when a vehicle enters.

If the barriers are equipped with a suspended grid / curtain, it is recommended that both barriers are moved either simultaneously or one after the other when the barrier movement is programmed. Otherwise, the other barrier may be recognised as an obstacle, which could lead to false detections.