Claims

1. A device for detecting, monitoring and/or controlling racing vehicles (V1, V2, Vn) on a preferably multi-lane racetrack (1), having at least one sensor unit (20), which is arranged countersunk under the surface of a carriageway, characterized in that the sensor unit (20) is mounted on a guiding element (21), which can be pushed into a receiving space (24) under the carriageway (22) transversely in relation to the carriageway (22) from the lateral edge (23) of the carriageway.

2. The device as claimed in the preceding claim, the guiding element (21) and/or the receiving space (24) having sliding guiding means (25) for lateral guiding and/or positioning transversely to the pushing-in direction of the guiding element (21) into the receiving space (24), the guiding element (21) preferably being given the form of a guiding rail with at least one projecting guiding strip (26) and/or at least one groove-shaped guiding recess (27) and/or the receiving space (24) being formed as a guiding shaft with portions of the wall forming sliding guiding means.

3. The device as claimed in one of the preceding claims, the at least one sensor unit (20) being arranged free from contact with the carriageway (22) of the racetrack (1) and/or kept at a distance from the carriageway (22) under the mentioned carriageway (22).

4. The device as claimed in one of the preceding claims, the at least one sensor unit (20) being mounted on a circuit board (28), which forms at least part of the guiding element and/or is rigidly fastened to the guiding element (21).

5. The device as claimed in one of the preceding claims, a plurality of sensor units (20) being mounted on the guiding element (21) at a predetermined spacing from one another, the mentioned spacing of the sensor units (20) corresponding to the division of the carriageway (22) into lanes (L1, L2, Ln) and/or the spacing of sensor windows (29) provided in the carriageway (22).

6. The device as claimed in one of the preceding claims, the at least one sensor unit (20) having optical means of detection (30) and the carriageway (22) having a viewing and sensor window (29), which is closed by a light-transmissive element (31) and is arranged in the detecting axis (32) of the optical means of detection (30).

7. The device as claimed in the preceding claim, the sensor window being arranged in the carriageway (22) alongside lane contacts (33) for supplying the racing vehicles (V1, V2, Vn) with power.

8. The device as claimed in one of the preceding claims, the at least one sensor unit (20) having a signal input and/or output channel (36), which determines the detecting direction of the sensor unit (20), is preferably aligned perpendicularly to the surface (34) of the carriageway and in particular is approximately cylindrical.

9. The device as claimed in one of the preceding claims, the sensor unit (20) comprising a barcode reader (35).

10. The device as claimed in one of the preceding claims, the sensor unit (20) having a receiving/reading device, in particular in the form of an RFID reader, for reading a vehicle memory (S1, S2, Sn) provided on the racing vehicle (V1, V2, Vn).

11. The device as claimed in the preceding claim, the control device being provided for predefining a temporal receiving/reading window for the receiving/reading device (R1, R2, Rn) in dependence on a signal of further means of detection of the sensor unit (20), in particular the aforementioned optical means of detection (30).

Claims:

1. A device in combination with a multi-lane racetrack that includes a plurality of racing vehicles, the racetrack being provided with a carriageway, the device comprising:

a carriageway section having a lateral edge and a receiving space bounded by a wall that is arranged transversely in relationship to said lateral edge, the receiving space being defined in a countersunk portion under the carriageway section;

the carriageway section further comprising a sensor window being a delimited area in the carriageway section; each said vehicle being provided with a vehicle memory that can be detected by at least one sensor unit; said device including said at least one sensor unit for detecting, monitoring and/or controlling said plurality of racing vehicles on said multi-lane racetrack; the sensor unit being arranged on a guiding element, which is sized to fit into said receiving space under the carriageway section such that the at least one sensor unit is free from contact with the carriageway of the racetrack.

2. The device as claimed in claim 1, wherein the said at least one sensor unit is mounted on a circuit board that forms at least part of a guiding element or is rigidly fastened to the guiding element which is mounted within the carriageway receiving space.

3. The device as claimed in claim 1, a plurality of sensor units being mounted on the guiding element at a predetermined spacing from one another, the spacing of the sensor units corresponding to a division of the carriageway

section into lanes (L1, L2, Ln) and/or the spacing of sensor windows provided in the carriageway section.

4. The device as claimed in claim 1, the at least one sensor unit having optical means of detection and the sensor window forming a viewing window that is closed by a light-transmissive element and is arranged in a detecting axis of the optical means of detection.

5. The device as claimed in claim 4, the sensor window being arranged in the carriageway section alongside lane contacts for supplying the racing vehicles with power.

6. The device as claimed in claim 1, wherein the at least one sensor unit having a signal input and/or output channel, which determines a detecting direction of the sensor unit and which is aligned generally perpendicularly to the surface of the carriageway section and is approximately cylindrical.

7. The device as claimed in claim 1, the sensor unit comprises a barcode reader.

8. The device as claimed in claim 1, the sensor unit having a receiving/reading device, in the form of an RFID reader, for reading a vehicle memory provided on the racing vehicle.

9. The device as claimed in claim 8, a control device being provided for predefining a temporal receiving/reading window for the receiving/reading device in dependence on a signal from the sensor unit.

10. A device in combination with a multi-lane racetrack that includes a plurality of racing vehicles, the racetrack being provided with a carriageway having a lateral edge and a receiving space bounded by a wall that is arranged transversely in relationship to said lateral edge, the receiving space being defined in a countersunk portion under the carriageway; each said vehicle being provided with a vehicle memory that can be detected by at least one sensor unit;

said device including said at least one sensor unit for detecting, monitoring and/or controlling said plurality of racing vehicles on said multi-lane racetrack; the sensor unit being arranged on a guiding element that can be pushed into said receiving space under the carriageway; the guiding element and/or the receiving space having sliding guiding means for lateral guiding and/or positioning transversely to the pushing in direction of the guiding element into the receiving space; the guiding element structured as a guiding rail with at least one projecting guiding strip and/or at least one groove-shaped guiding recess and/or the receiving space being formed as a guiding shaft with portions of the wall forming said sliding guiding means;

said at least one sensor unit being arranged on said guiding element such that the at least one sensor unit is free from contact with the carriageway of the racetrack when the guiding element is pushed into the receiving space and the at least one sensor unit being kept at a distance from the carriageway in the countersunk; said at least one sensor unit being mounted on a circuit board that forms at least part of the guiding element and/or is rigidly fastened to the guiding element.