ISO 19206-4:2020 (E)

Road vehicles — Test devices for target vehicles, vulnerable road users and other objects, for assessment of active safety functions — Part 4: Requirements for bicyclist targets

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Abbreviated terms

5 Bicyclist target specifications

5.1 Bicyclist target size
5.2 Dimensions of the BT rider
5.3 Safety considerations
5.4 Repairability and robustness
5.5 Environmental conditions
5.6 Postures and articulation
5.6.1 General
5.6.2 Static posture

6 Bicyclist target response to sensing technologies

6.1 General
6.2 Optical requirements
6.2.1 General
6.2.2 Reference measurements
6.2.3 Colours and clothing
6.3 Radar requirements
6.3.1 General
6.3.2 Reference measurements
6.3.3 Radar cross section measurement of BT
6.3.4 Micro-Doppler effect for rotating wheels and pedalling of the BT
6.4 Thermal requirements for far IR vision systems
6.4.1 General
6.4.2 Reference measurements
6.4.3 Thermal characteristics
6.5 Calibration and verification

7 Motion and positioning during test for BT including target carrier system

7.1 General requirements
7.2 Longitudinal positioning
7.2.1 Speed range for operation
7.2.2 Accelerations
7.3 Lateral positioning
7.3.1 General
7.3.2 Heading angle
7.3.3 Lateral position
7.4 Vertical positioning
7.4.1 General
7.4.2 Pitch angle
7.4.3 Vertical motions

Annex A (normative) Adult and child bicyclist target dimensions and postures

- **A.1 Adult BT dimensions**
- **A.2 Child BT dimensions**
- **A.3 Adult BT rider dimensions**
- **A.4 Child BT rider dimensions**
- **A.5 BT rider posture**

Annex B (normative) Sensor-specific recognition properties

- **B.1 General**
- **B.2 Visual and near infrared properties**
- **B.2.1 Visual properties of BT rider**
- **B.2.2 Visual properties of BT bicycle**
- **B.2.3 Near infrared properties**
- **B.3 Radar properties**

Annex C (normative) Bicyclist target measurements and measurement equipment

- **C.1 Measurement of position, speed and acceleration of the bicyclist target**
- **C.2 Measurement of IR reflectivity**
- **C.2.1 Equipment and calibration**
- **C.2.2 Measurement setup**
- **C.3 Measurement of radar reflectivity**
- **C.3.1 General**
- **C.3.2 Measurement setup**
- **C.3.2.1 Radar sensor positioning**
- **C.3.2.2 Vehicle or moving measurement fixture**
- **C.3.2.3 Bicyclist target**
- **C.3.2.4 Test environment**
- **C.3.3 Measurement scenario**

Annex D (normative) Bicyclist target articulation properties

Annex E (informative) Verification of bicyclist target properties

Annex F (informative) Field verification of target properties

- **F.1 General**
- **F.2 Field verification procedure using collision warning feature**
- **F.3 Field verification procedure at lowest activation speed**

Annex G (informative) Example interface between target carrier and BT bicycle

Page count: 47