What is claimed is:

1. A motion control method for an automatic conveying unit that moves within a field comprising a plurality of basic units, comprising:

determining that the automatic conveying unit is to make a turn;

configuring a basic unit where the automatic conveying unit is currently located as a first basic unit, configuring a second basic unit in front of the first basic unit to be a basic unit for making the turn, configuring a basic unit adjacent to the second basic unit in a direction of the turn as a third basic unit, and configuring a basic unit adjacent to the first basic unit in the direction of the turn as a fourth basic unit; and

when the automatic conveying unit reaches a center of the first basic unit and a drive wheel connecting shaft of the automatic conveying unit coincides with a center line in a left-right direction of the first basic unit, controlling the automatic conveying unit to move along an arc centered on a predetermined point and with a radius of a side length of one basic unit according to a differential for left and right wheels, and complete the turn when the drive wheel connecting shaft of the automatic conveying unit coincides with a center line in a forward and backward direction of the third basic unit;

wherein the predetermined point is a center of the fourth basic unit.

2. The motion control method of claim 1, wherein the determining that the automatic conveying unit is to make the turn comprises:

determining that the automatic conveying unit is to make a continuous turn comprising a plurality of turns;

wherein configuring the basic unit for making the turn of the automatic conveying unit comprises:

configuring a plurality of basic units in a direction of the continuous turn of the automatic conveying unit to be basic units for making the turn; and

controlling the automatic conveying unit to move along the arc centered on the predetermined

point so that the automatic conveying unit completes the continuous turn by passing through the plurality of basic units.

3. The motion control method of claim 1, wherein before the configuring the second basic unit to be the basic unit for making the turn, the method further comprises:

determining whether the second basic unit is requested by other automatic conveying units; and

in response to determining that the second basic unit is not requested by the other automatic conveying units, forbidding the other automatic conveying units from entering the second basic unit.

4. The motion control method of claim 1, wherein before the configuring the second basic unit to be the basic unit for making the turn, the method further comprises:

determining whether the second basic unit and the fourth basic unit are requested by other automatic conveying units; and

in response to determining that the second basic unit and the fourth basic unit are not requested by the other automatic conveying units, forbidding the other automatic conveying units from entering the second basic unit and the fourth basic unit.

5. The motion control method of claim 1, wherein the field comprises a high-speed motion region and a low-speed motion region; and

wherein the determining that the automatic conveying unit is to make the turn comprises:

determining whether the automatic conveying unit is to enter the low-speed motion region from the high-speed motion region; and

in response to determining that the automatic conveying unit is to enter the low-speed motion region from the high-speed motion region, determining that the automatic conveying unit is to make the turn.

6. The motion control method of claim 5, wherein the low-speed motion region is a delivery channel for dropping a to-be-sorted item in an automatic sorting system.

7. A motion control apparatus for an automatic conveying unit that moves within a field

comprising a plurality of basic units, comprising:

a turn determination unit, which is configured to determine that the automatic conveying unit is to make a turn;

a turn configuration unit, which is configured to configure a basic unit where the automatic conveying unit is currently located as a first basic unit, configure a second basic unit in front of the first basic unit to be a basic unit for making the turn, configure a basic unit adjacent to the second basic unit in a direction of the turn as a third basic unit, and configure a basic unit adjacent to the first basic unit in the direction of the turn as a fourth basic unit; and

a motion control unit, which is configured to, when the automatic conveying unit reaches a center of the first basic unit and a drive wheel connecting shaft of the automatic conveying unit coincides with a center line in a left-right direction of the first basic unit, control the automatic conveying unit to move along an arc centered on a predetermined point and with a radius of a side length of one basic unit according to a differential for left and right wheels, and complete the turn when the drive wheel connecting shaft of the automatic conveying unit coincides with a center line in a forward and backward direction of the third basic unit;

wherein the predetermined point is a center of the fourth basic unit.

8. The motion control apparatus of claim 7, wherein the turn determination unit is further configured to determine that the automatic conveying unit is to make a continuous turn comprising a plurality of turns;

wherein the turn configuration unit is further configured to configure a plurality of basic units in a direction of the continuous turn of the automatic conveying unit to be basic units for making the turn; and

wherein the motion control unit is configured to control the automatic conveying unit to move along the arc centered on the predetermined point so that the automatic conveying unit completes the continuous turn by passing through the plurality of basic units.

9. The motion control apparatus of claim 7, wherein the turn configuration unit is further configured to:

determine whether the second basic unit is requested by other automatic conveying units; and

in response to determining that the second basic unit is not requested by the other automatic conveying units, forbid the other automatic conveying units from entering the second basic unit.

10. The motion control apparatus of claim 7, wherein the turn configuration unit is further configured to:

determine whether the second basic unit and the fourth basic unit are requested by other automatic conveying units; and

in response to determining that the second basic unit and the fourth basic unit are not requested by the other automatic conveying units, forbid the other automatic conveying units from entering the second basic unit and the fourth basic unit.

11. The motion control apparatus of claim 7, wherein the field comprises a high-speed motion region and a low-speed motion region; and

wherein the turn determination unit is configured to:

determine whether the automatic conveying unit is to enter the low-speed motion region from the high-speed motion region; and

in response to determining that the automatic conveying unit is to enter the low-speed motion region from the high-speed motion region, determine that the automatic conveying unit is to make the turn.

12. The motion control apparatus of claim 11, wherein the low-speed motion region is a delivery channel for dropping a to-be-sorted item in an automatic sorting system.

13. An automatic conveying unit, configured to move within a field having a plurality of basic units, comprising:

the motion control apparatus of any one of claims 7 to 12.

14. An automatic sorting system, comprising:

an automatic conveying unit, which is configured to convey a to-be-sorted item;

a sorting region, in which the automatic conveying unit operates to sort the to-be-sorted item; and

a control system, which is configured to control sorting of the to-be-sorted item and to control the automatic conveying unit to move in the sorting region, wherein

the control system further comprises the motion control apparatus of any one of claims 7 to 12.