

Claims

1. A method for transmitting information, comprising:

receiving, by a terminal device, downlink control information sent by a network device through control resource areas in a time domain scheduling unit, wherein the control resource areas comprises a plurality of types of control resource areas, different types of control resource areas are used for sending different types of downlink control information, and a first type of control resource area in the plurality of types of control resource areas comprises partial frequency domain resources pre-configured or semi-statically configured on each Orthogonal Frequency Division Multiplexing (OFDM) symbol in the time domain scheduling unit;

wherein when the terminal device is a first type of the terminal device, receiving, by the terminal device, the downlink control information sent by the network device through control resource areas in the time domain scheduling unit, comprises:

receiving, by the terminal device, a first type of downlink control information through the first type of control resource area; wherein the first type of the terminal device uses a low latency service;

the method further comprises:

receiving, by the terminal device, first downlink data according to the first type of downlink control information.

2. The method of claim 1, wherein when the terminal device is a second type of the terminal device, receiving, by the terminal device, the downlink control information sent by the network device through the control resource areas in the time domain scheduling unit, comprises:

receiving, by the terminal device, a second type of downlink control information through a second type of control resource area in the plurality of types of control resource areas, and the second type of control resource area comprises partial OFDM symbols in the time domain scheduling unit;

the method further comprises:

receiving, by the terminal device, a first type of downlink control information through the first type of control resource area.

3. The method of claim 1, wherein the first type of the terminal device uses a low latency service, and the first type of downlink control information corresponds to the low latency
5 service.

4. The method of claim 1 or 2, wherein the second type of the terminal device uses a common broadband service, and the second type of downlink control information corresponds to the common broadband service.

5. The method of claim 1, wherein the first type of downlink control information
10 comprises first control information used for transmitting the first downlink data.

6. The method of claim 5, wherein the first control information comprises at least one of the following information: physical resources occupied by the first downlink data, a transmission format of the first downlink data, and information of a target terminal device of the first downlink data.

7. The method of claims 5 or 6, wherein the first type of downlink control information
15 further comprises indication information, the indication information is used for indicating whether at least one of the first downlink data and the configuration information exists, and receiving, by the terminal device, the first downlink data according to the first type of downlink control information, comprises:

20 receiving, by the terminal device, the first downlink data according to the first type of downlink control information when determining that the indication information indicates existence of the first downlink data;

the method further comprises:

25 acquiring, by the terminal device, the configuration information according to the first type of downlink control information when determining that the indication information indicates existence of the configuration information.

8. The method of any one of claims 1 to 7, wherein at least two OFDM symbols in the

time domain scheduling unit use different basic parameter sets; a width of the partial frequency domain resources on each of the at least two OFDM symbols is the same, or

the partial frequency domain resources on each of the at least two OFDM symbols use a same number of subcarriers or a same number of resource blocks.

5 9. The method of any one of claims 1 to 8, wherein positions occupied by the partial frequency domain resources on at least two OFDM symbols in the time domain scheduling unit are different, or the partial frequency domain resources on a first OFDM symbol in the time domain scheduling unit are frequency domain resources which are distributed discontinuously.

10 10. The method of any one of claims 1 to 9, wherein the method further comprises:

10 determining, by the terminal device, whether the downlink control information comprises information of the terminal device; and

receiving, by the terminal device, downlink data of the terminal device according to the information of the terminal device when the downlink control information comprises the information of the terminal device.

15 11. The method of any one of claims 1 to 10, wherein the method further comprises:

receiving, by the terminal device, allocation information of the plurality of types of control resource areas sent by the network device.

20 12. The method of claim 11, wherein the allocation information of the plurality of types of control resource areas comprises at least one of the following information: positions of resources occupied by the plurality of types of control resource areas in the time domain scheduling unit, a basic parameter set adopted by each type of control resource area in the plurality of types of control resource areas, and a transmission mode of each type of control resource area.

25 13. The method of any one of claims 1 to 12, wherein the time domain scheduling unit comprises a subframe or a time slot, or a unit of the partial frequency domain resources is a physical resource block (PRB), a subcarrier, a subband, or a spectrum width.

14. The method of any one of claims 1-13, wherein the semi-static configuration is

configured by system information or radio resource control (RRC) signaling.

15. The method of claim 7, wherein the indication information is represented by a sequence.

16. A terminal device for transmitting information, comprising:

5 a receiving unit used for receiving downlink control information sent by a network device through control resource areas in a time domain scheduling unit, wherein the control resource areas comprises a plurality of types of control resource areas, different types of control resource areas are used for sending different types of downlink control information, and a first type of control resource area in the plurality of types of control resource areas comprises partial
10 frequency domain resources pre-configured or semi-statically configured on each Orthogonal Frequency Division Multiplexing (OFDM) symbol in the time domain scheduling unit;

wherein when the terminal device is a first type of the terminal device, the receiving unit is specifically used for:

receiving a first type of downlink control information through the first type of control
15 resource area; wherein the first type of the terminal device uses a low latency service;

the receiving unit is further used for:

receiving first downlink data according to the first type of downlink control information.

17. The terminal device of claim 16, wherein when the terminal device is a second type of the terminal device, the receiving unit is specifically used for:

20 receiving a second type of downlink control information through a second type of control resource area in the plurality of types of control resource areas, and the second type of control resource area comprises partial OFDM symbols in the time domain scheduling unit;

the receiving unit is further used for:

receiving a first type of downlink control information through the first type of control
25 resource area.

18. The terminal device of claim 16, wherein the first type of the terminal device uses a low latency service, and the first type of downlink control information corresponds to the low

latency service.

19. The terminal device of claim 16 or 17, wherein the second type of the terminal device uses a common broadband service, and the second type of downlink control information corresponds to the common broadband service.

5 20. The terminal device of claim 16, wherein the first type of downlink control information comprises first control information used for transmitting the first downlink data.

21. The terminal device of claim 20, wherein the first control information comprises at least one of the following information: physical resources occupied by the first downlink data, a transmission format of the first downlink data, and information of a target terminal device of
10 the first downlink data.

22. The terminal device of claims 20 or 21, wherein the first type of downlink control information further comprises indication information, the indication information is used for indicating whether at least one of the first downlink data and the configuration information exists, and receiving, by the receiving unit, the first downlink data according to the first type of
15 downlink control information, comprises:

receiving the first downlink data according to the first type of downlink control information when determining that the indication information indicates existence of the first downlink data;

the receiving unit is further used for:

20 receiving the configuration information according to the first type of downlink control information when determining that the indication information indicates existence of the configuration information.

23. The terminal device of any one of claims 16 to 22, wherein at least two OFDM symbols in the time domain scheduling unit use different basic parameter sets; a width of the
25 partial frequency domain resources on each of the at least two OFDM symbols is the same, or

the partial frequency domain resources on each of the at least two OFDM symbols use a same number of subcarriers or a same number of resource blocks.

24. The terminal device of any one of claims 16 to 23, wherein positions occupied by the partial frequency domain resources on at least two OFDM symbols in the time domain scheduling unit are different, and/or the partial frequency domain resources on a first OFDM symbol in the time domain scheduling unit are frequency domain resources which are distributed discontinuously.

25. The terminal device of any one of claims 16 to 24, wherein the terminal device further comprises:

a determining unit used for determining whether the downlink control information comprises information of the terminal device;

the receiving unit is further used for:

receiving downlink data of the terminal device according to the information of the terminal device when the downlink control information comprises the information of the terminal device.

26. The terminal device of any one of claims 16 to 25, wherein the receiving unit is further used for:

receiving allocation information of the plurality of types of control resource areas sent by the network device.

27. The terminal device of claim 26, wherein the allocation information of the plurality of types of control resource areas comprises at least one of the following information: positions of resources occupied by the plurality of types of control resource areas in the time domain scheduling unit, a basic parameter set adopted by each type of control resource area in the plurality of types of control resource areas, and a transmission mode of each type of control resource area.

28. The terminal device of any one of claims 16 to 27, wherein the time domain scheduling unit comprises a subframe or a time slot, or a unit of the partial frequency domain resources is a physical resource block (PRB), a subcarrier, a subband, or a spectrum width.

29. The terminal device of any one of claims 16 to 28, wherein the semi-static

configuration is configured by system information or radio resource control (RRC) signaling.

30. The terminal device of claim 23, wherein the indication information is represented by a sequence.