PUMATRONIX

ITSDETECTOR 24N-4 (TSC224)

REAL-TIME SPEED AND DISTANCE MEASUREMENT

Integration

Pumatronix Equipamentos Eletrônicos Ltda.

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Change History

Date	Revision	Content updated
03/24/2025	1.0	Initial Edition
04/29/2025	1.0.1	Updating product nomenclature

Table of Contents

1. RS485 parameters

Baud rate, bits/second	115200
Data bits	8
Stop bit	1
Parity check	No parity
Data content	Output target information / protocol

2. TCP parameters

TCP port number (default)	Communication port: 50000 ADC raw data acquisition port: 8089
TCP Server IP Address (default)	192.168.10.123
Maximum number of connections supported	This is currently 1
Data content	Output target information / protocol configuration acquisition / ADC raw data

3. UPD parameters

UDP port number	9000
Data content	Broadcast heartbeat packets, for network device discovery only

4. Wi-Fi parameters

WIFI port number (default)	50520
WIFI IP address (default)	192.168.20.2
WIFI Name (default)	With prefix "NLXXXXXX"
WIFI password (default)	12345678
Maximum number of supported connections	1
Data content	Output target information / protocol configuration

5. Frame Format

There are 80 frame formats in the communication between the radar and the host computer. The frame types sent by the radar include data frame, radar parameter binding return frame, radar parameter query return frame, the frame types sent by the host computer include radar parameter binding frame, radar parameter query frame.

The specific frame format of different frame types is described below.

(D: decimal, H: hexadecimal)

6. Protocol

1) Data Frame 01(H) (radar send)

DB (H)	
01 (H)	
High byte length in frame	
Low in-frame byte length (including DB, 01, DC, checksum)	
Frame number: 0 ~ 255 (D)	
Target 1	High byte for speed
	Low speed bytes (Unit 0.1km/h, short short integer, positive value represents coming, negative value represents going)
	Horizontal distance high byte
	Horizontal distance low bytes (Unit 0.1m, short short integer, negative value represents left of radar center line, positive value represents right of radar center line)
	Vertical distance high byte
	Vertical distance low bytes (Unit 0.1m, unsigned integer)
	Echo energy high byte
	Echo energy low byte
	Target 1 ID high byte
	Target 1 ID Low byte
Target 2	High speed byte
	Low speed bytes (Unit 0.1km/h, short short integer, positive value represents coming, negative value represents going)
	Horizontal distance high byte
	Horizontal distance low bytes (Unit 0.1m, short short integer, negative value represents left of radar center line, positive value represents right of radar center line)
	Vertical distance high byte
	Vertical distance low bytes (Unit 0.1m, unsigned integer)
	Echo energy high byte
	Echo energy low byte
	Target 2 ID high byte
	Target 2 ID Low byte
	.....
Goal n	High byte for speed
	Low speed byte (Unit 0.1km/h, short short integer, positive value represents coming, negative value represents going)
	Horizontal distance high byte
	Horizontal distance low bytes (Unit 0.1m, short short integer, negative value represents left of radar center line, positive value represents right of radar center line)
	Vertical distance high byte
	Vertical distance low bytes (Unit 0.1m, unsigned integer)
	Echo energy high byte
	Echo energy low byte
	Target n ID high byte
	Target n ID Low bytes
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.	
DC (H)	

The above frame format is sent when the radar detects the target, where the number of targets n is up to 32. When the radar detects no targets, it will send:

DB (H)
01 (H)
High byte length in frame
Low in-frame byte length (including DB, 01, DC), fixed at 07 (D)
Frame number: 0~255 (D)
Checksum byte A The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
0xDC

2) Radar Parameter Binding Frame 02(H) (sent by upper computer)

DB (H)
02 (H)
High byte length in frame
Low in-frame byte length (including DB, 02, DC), fixed at 12 (D)
High byte relative horizontal Angle between radar and lane line (left negative and right positive, unit 0.1°)
Low byte relative horizontal Angle of radar to lane line (left negative right positive, unit 0.1°)
The height of the radar installation from the ground in bytes (unit 0.1m)
Radar installation below ground height in bytes (unit 0.1m)
Energy threshold height in bytes
The energy threshold is low byte
Checksum The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC

3) Radar Parameter Binding Return Frame 03(H) (Radar send)

DB (H)
03 (H)
High byte length in frame
Low in-frame byte length (including DB, 03, DC), fixed at 12 (D)
High byte relative horizontal Angle between radar and lane line (left negative and right positive, unit 0.1°)
Low byte relative horizontal Angle of radar to lane line (left negative right positive, unit 0.1°)
The height of the radar installation from the ground in bytes (unit 0.1m)
Radar installation height from the ground in bytes (unit 0.1m)
Energy threshold height in bytes
The energy threshold is low
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

4) Radar parameter Query Frame 04(H) (sent by host computer)

DB (H)

04 (H)
High byte length in frame
Low in-frame byte length (including DB, 04, DC), fixed at 06 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

5) Radar parameter Query returns Frame 05(H) (radar send)

DB (H)
05 (H)
High byte length in frame
The length of bytes in the frame is low (including DB, 05, DC), fixed to 12 (D).
High byte relative horizontal Angle between radar and lane line (left negative and right positive, unit 0.1°)
Low byte relative horizontal Angle of radar to lane line (left negative right positive, unit 0.1°)
The height of the radar installation from the ground in bytes (unit 0.1m)
Radar installation height from the ground in bytes (unit 0.1m)
Energy threshold height in bytes
The energy threshold is low byte
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

6) Radar Static target Detection Command Frame 08(H) (sent by host computer)

DB (H)
08 (H)
Low in-frame byte length (including DB, 08, DC), fixed at 6 (D)
Checksum bytes The checksum is the result of all bytes except DB and
DC and the remainder of 256.
DC (H)

7) Radar Static Target Detection Return Frame 09(H) (Radar send)

DB (H)
09 (H)
High byte length in frame
Low in-frame byte length (including DB, 09, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

8) Radar soft restart Command Frame 0A(H) (sent by host computer)

DB (H)
0A (H)
High byte length in frame
Low in-frame byte length (including DB, 0A, DC), fixed at 6 (D)
Checksum bytes The checksum is the result of all bytes except DB and DC and the remainder of 256.
DC (H)

9) Radar soft restart returns Frame 0B(H) (radar send)

DB (H)
0B (H)
High byte length in frame
Low in-frame byte length (including DB, 0B, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

10) Query firmware information 64(H) (sent by host computer)

DB (H)
64 (H)
64 (h) High byte length in frame
Low in-frame byte length (including DC, 64, DC), fixed at 6 (D)
Checksum bytes The checksum is the result of all bytes except DB and DC and the remainder of 256.
DC (H)

11) Return firmware info 65(H) (radar send)

DB (H)
65 (H)
Low in-frame byte length (including DB, 65, DC), fixed at 20 (D)
Version number integer part such as 1.02 integer part is 1
Version number decimal part such as 1.02 decimal part is 2
Hardware ID[0]-ID[19]
Software compile time - year -2000 As in 2017, is 12
Software compile time - month
Software compile time - Day
Software compile time - hour
Software compile time - minutes
Software compile time - seconds
Beam calibration DATA -DATA[0]
Beam Calibration DATA -DATA[1]
Beam Calibration DATA -DATA[2]
Beam Calibration DATA -DATA[3]
Beam Calibration DATA -DATA[4]
Checksum byte

The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

12)Lane Setting Binding Frame 6A(H) (sent by host computer)

DB (H)
6A (H)
High byte length in frame
Low in-frame byte length (including DB, 6A, DC), 15 (D)
First lane start coordinate value (left negative right positive, unit 0.1m)
Width of lane 1 (in 0.1m)
Lane 2 width (in 0.1m)
Lane 3 width (unit 0.1m)
Lane 4 width (unit 0.1m) (6 lane radar)
Lane 5 Width (unit 0.1m) (6 lane radar)
Lane 6 width (unit 0.1m) (6 lane radar)
1 to 4 lanes each lane direction set bytes (set via bit0 to bit7) bit0-bit1: Indicates lane 1 direction setting bits, 01 (1) indicates bidirectional, 10 (2) indicates destination, and 11 (3) indicates coming. Bit2-bit3: indicates the direction setting bit of lane 1, 01 (1) indicates two-way, 10 (2) indicates destination, 11 (3) indicates coming. Bit4-bit5: indicates the direction setting bit of lane 1, 01 (1) indicates two-way, 10 (2) indicates destination, 11 (3) indicates coming. Bit6-bit7: indicates lane 1 direction setting bit, 01 (1) indicates bidirectional, 10 (2) indicates destination, 11 (3) indicates coming. Note: After setting the direction for each lane, the radar will only output targets in that direction; For example: If you set 1 to 2 lanes to come and 3 to 4 lanes to go, the byte will be set to: 10101111-0xAF
5~6 lanes Each lane direction set bytes (set by bit0~bit3, reserved by bit4~bit7) bit0-bit1: indicates lane 5 direction setting bits, 01 (1) indicates bidirectional, 10 (2) indicates destination, 11 (3) indicates coming. Bit2-bit3: indicates the setting bits in the direction of lane 6, 01 (1) indicates both directions, 10 (2) indicates the direction, and 11 (3) indicates the coming. Note: After setting the direction for each lane, the radar will only output targets in that direction; For example: If you set 5 lanes to come and 6 lanes to go, the byte will be set to: 00001011-0x0B
Checksum The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

13) Lane Set Binding Return Frame 6B(H) (radar send)

DB (H)
6B (H)
High byte length in frame
Low in-frame byte length (including DB, 6B, DC), 15 (D) (6-lane radar)
First lane start coordinate value (left negative right positive, unit 0.1m)
Width of lane 1 (in 0.1m)
Lane 2 width (in 0.1m)
Lane 3 width (in 0.1m)
Lane 4 width (unit 0.1m) (6-lane radar)
Lane 5 Width (unit 0.1m) (6 lane radar)
Lane 6 width (unit 0.1m) (6 lane radar)
1 to 4 lanes each lane direction set bytes (set via bit0 to bit7) bit0-bit1: Indicates lane 1 direction setting bits, 01 (1) indicates bidirectional, 10 (2) indicates destination, and 11 (3) indicates coming. Bit2-bit3: indicates the direction setting bit of lane 1, 01 (1) indicates two-way, 10 (2) indicates destination, 11 (3) indicates coming. Bit4-bit5: indicates the direction setting bit of lane 1, 01 (1) indicates two-way, 10 (2) indicates destination, 11 (3) indicates coming. Bit6-bit7: indicates lane 1 direction setting bit, 01 (1) indicates bidirectional, 10 (2) indicates destination, 11 (3) indicates coming. Note: After setting the direction for each lane, the radar will only output targets in that direction; For example: If you set 1 to 2 lanes to come and 3 to 4 lanes to go, the byte will be set to: 10101111-0xAF
5~6 lanes Each lane direction set bytes (set by bit0~bit3, reserved by bit4~bit7) bit0-bit1: indicates lane 5 direction setting bits, 01 (1) indicates bidirectional, 10 (2) indicates destination, 11 (3) indicates coming. Bit2-bit3: indicates the setting bits in the direction of lane 6, 01 (1) indicates both directions, 10 (2) indicates the direction, and 11 (3) indicates the coming. Note: After setting the direction of each lane, the radar will only output the target in that direction; For example: If you set 5 lanes to come and 6 lanes to go, the byte will be set to: 00001011-0x0B
Checksum The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

14) Lane Setting Binding Query Frame 6C(H) (sent by host computer)

DB (H)
6C (H)
Length of bytes within the frame

In-frame byte length Low bytes (including DB, 6C, DC), fixed at 06 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

15) Lane Setting Binding Query Return Frame 6D(H) (radar send)

DB (H)
6D (H)
High byte length in frame
Low in-frame byte length (including DB, 6D, DC), 15 (D) (6-lane radar)
First lane start coordinate value (left negative right positive, unit 0.1m)
Width of lane 1 (in 0.1m)
Lane 2 width (in 0.1m)
Lane 3 width (in 0.1m)
Lane 4 width (unit 0.1m) (6 lane radar)
Lane 5 Width (unit 0.1m) (6 lane radar)
Lane 6 width (unit 0.1m) (6 lane radar)
1 to 4 lanes each lane direction set bytes (set via bit0 to bit7) bit0-bit1: Indicates lane 1 direction setting bits, 01 (1) indicates bidirectional, 10 (2) indicates destination, and 11 (3) indicates coming. Bit2-bit3: indicates the direction setting bit of lane 1, 01 (1) indicates two-way, 10 (2) indicates destination, 11 (3) indicates coming. Bit4-bit5: indicates the setting bit in the direction of lane 1, 01 (1) indicates both directions, 10 (2) indicates the direction, and 11 (3) indicates the direction. Bit6-bit7: indicates lane 1 direction setting bit, 01 (1) indicates bidirectional, 10 (2) indicates destination, 11 (3) indicates coming. Note: After setting the direction for each lane, the radar will only output targets in that direction; For example: If you set 1 to 2 lanes to come and 3 to 4 lanes to go, the byte will be set to: 10101111-0xAF
5~6 lanes Each lane direction set bytes (set by bit0~bit3, reserved by bit4~bit7) bit0-bit1: indicates lane 5 direction setting bits, 01 (1) indicates bidirectional, 10 (2) indicates destination, 11 (3) indicates coming. Bit2-bit3: indicates the setting bits in the direction of lane 6, 01 (1) indicates both directions, 10 (2) indicates the direction, and 11 (3) indicates the coming. Note: After setting the direction for each lane, the radar will only output targets in that direction; For example: If you set 5 lanes to come and 6 lanes to go, the byte will be set to: 00001011-0x0B
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.

DC (H)

16) Vehicle identification threshold Setting Frame 72(H) (sent by host computer)

DB (H)
72 (H)
High byte length in frame
Low in-frame byte length (including DB, 72, DC), fixed at 13 (D)
Large car recognition energy threshold high byte
Large car recognizes low energy threshold bytes
The number of times the cart crosses the threshold
Motor vehicle identification energy threshold high byte
Motor vehicle identification energy threshold is low byte
The number of times the motor vehicle recognition threshold has passed
1: Filter unless the motor vehicle; 0: Keep non-motor vehicles
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

17) Model identification Threshold Return Frame 73(H) (radar send)

DB (H)
73 (H)
High byte length in frame
Low in-frame byte length (including DB, 73, DC), fixed at 13 (D)
Large car recognition energy threshold high byte
Large car recognizes low energy threshold bytes
The number of times the cart crosses the threshold
Motor vehicle identification energy threshold high byte
Motor vehicle identification energy threshold is low byte
The number of times the motor vehicle recognition threshold has passed
1: Filter unless the motor vehicle; 0: Keep non-motor vehicles
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

18) Model identification Threshold Query Frame 74(H) (sent by host computer)

DB (H)
74 (H)
High byte length in frame
Low in-frame byte length (including DB, 74, DC), fixed at 06 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

19) Model identification Threshold query returns Frame 75(H) (radar send)

DB (H)
75 (H)

High byte length in frame
Low in-frame byte length (including DB, 75, DC), fixed at 013 (D)
Large car recognition energy threshold high byte
Large car recognizes low energy threshold bytes
The number of times the cart crosses the threshold
Motor vehicle identification energy threshold high byte
Motor vehicle identification energy threshold is low byte
The number of motor vehicle identification thresholds
1: Filter unless the motor vehicle; 0: Keep non-motor vehicles
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

20) Radar setting sensitivity/speed limit/speed limit parameter 76(H) (sent by host computer)

DB (H)
76 (H)
High byte length in frame
Low in-frame byte length (including DB, 76, DC), fixed at 11 (D)
Radar sensitivity
Radar speed limit high byte (unit 0.1m)
Lower limit of radar speed in bytes (unit 0.1m)
Radar speed limit high byte (unit 0.1m)
Radar speed limit low byte (unit 0.1m)
Checksum bytes The checksum is the result of all bytes except DB and DC and the remainder of 256.
DC (H)

21) Radar Set Sensitivity/Speed Limit/Speed limit parameter Return Frame 77(H) (radar send)

DB (H)
77 (H)
High byte length in frame
Low in-frame byte length (including DB, 77, DC), fixed at 11 (D)
Radar sensitivity
Radar speed limit high byte (unit 0.1m)
Lower limit of radar speed in bytes (unit 0.1m)
Radar speed limit high byte (unit 0.1m)
Radar speed limit low byte (unit 0.1m)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

22) Query radar sensitivity/speed limit/speed limit parameter 1C(H) (sent by host computer)

DB (H)
1C (H)
High byte length in frame

Low in-frame byte length (including DB, 1C, DC), fixed at 06 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

23) Query radar sensitivity/Speed limit/speed limit parameter Return Frame 1D(H) (radar send)

DB (H)
1D (H)
High byte length in frame
Low in-frame byte length (including DB, 1D, DC), fixed at 11 (D)
Radar sensitivity
Radar speed limit high byte (unit 0.1m)
Lower limit of radar speed in bytes (unit 0.1m)
Radar speed limit high byte (unit 0.1m)
Radar speed limit low byte (unit 0.1m)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

24) Get radar algorithm version 78(H) (sent by host computer)

DB (H)
78 (H)
High byte length in frame
Low in-frame byte length (including DB, 78, DC), fixed at 06 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

25) Get radar algorithm version number Return Frame 79(H) (radar send)

DB (H)
79 (H)
High byte length in frame
The length of bytes in the frame is low (including DB, 79, DC), fixed to 08 (D).
Version number integer part such as 1.02 integer part is 1
Version number decimal part such as 1.02 decimal part is 2
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

26) Set the radar into Firmware upgrade mode Instruction 7A(H) (sent by host computer)

Send the radar upgrade command first, and then call the radar upgrade protocol to upgrade the radar firmware after the radar enters the upgrade mode and returns the command.

DB (H)
7A (H)
High byte length in frame
Low in-frame byte length (including DB, 7A, DC), fixed at 06 (D)

Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

27) Radar enters Firmware upgrade mode Return Frame 7B(H) (radar send)

DB (H)
7B (H)
High byte length in frame
Low in-frame byte length (including DB, 7B, DC), fixed at 06 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

28) Radar Parameters Save Settings Frame 7C(H) (sent by host computer)

DB (H)
7C (H)
High byte length in frame
Low in-frame byte length (including DB, 7C, DC), fixed at 06 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

29) Radar Parameters Save Settings Return Frame 7D(H) (radar send)

DB (H)
7D (H)
Low in-frame byte length (including DB, 7D, DC), fixed at 07 (D)
0: Radar parameters were saved successfully, 1: radar parameters failed to be saved
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
Low in-frame byte length (including DB, 7D, DC), fixed at 07 (D)
DC (H)

30) Sampling enable switch command Frame 82(H) (sent by host computer)

DB (H)
82 (H)
High byte length in frame
Low in-frame byte length (including DB, 82, DC), fixed at 07 (D)
Mining switch (0: off mining output, 1: hit mining output)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

31) Sampling enable switch returns Frame 83(H) (radar return)

DB (H)
83 (H)
High byte length in frame
Low in-frame byte length (including DB, 83, DC), fixed at 07 (D)

Mining switch (0: off mining output, 1: hit mining output)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

32) Set TCP server parameters Command Frame 84(H) (sent by host computer)

The factory default TCP server IP address is: 192.168.10.123
Communication port number: 50000
ADC raw data acquisition port number: 8089
Subnet mask: 255.255.255.0
Gateway: 192.168.10.1.
MAC: 00:80:e1:00:00:00

DB (H)
84 (H)
High byte length in frame
Low in-frame byte length (including DB, 84, DC), fixed at 28 (D)
TCP server IP address, byte 1
TCP server IP address, byte 2
TCP server IP address, bytes 3
TCP server IP address, bytes 4
TCP service terminal net mask, byte 1
TCP Service terminal Net mask, byte 2
TCP Service terminal Net mask, byte 3
TCP Service terminal Net mask, byte 4
TCP server Gateway, byte 1
TCP Server Gateway, byte 2
TCP Server Gateway, byte 3
TCP server gateway, bytes 4
TCP server communication port number, high bytes
TCP server communication port number, low byte
TCP server ADC raw data collection port number, high byte
TCP server ADC Raw data acquisition port number, low byte
MAC address, byte 1
MAC address, byte 2
MAC address, byte 3
MAC address, bytes 4
MAC address, bytes 5
MAC address, bytes 6
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

33) Set TCP server parameters Return Frame 85(H) (radar return)

DB (H)
85 (H)

High byte length in frame
Low in-frame byte length (including DB, 85, DC), fixed at 28 (D)
TCP server IP address, byte 1
TCP server IP address, byte 2
TCP server IP address, bytes 3
TCP server IP address, bytes 4
TCP service terminal net mask, byte 1
TCP Service terminal Net mask, byte 2
TCP Service terminal Net mask, byte 3
TCP Service terminal Net mask, byte 4
TCP server Gateway, byte 1
TCP Server Gateway, byte 2
TCP Server Gateway, byte 3
TCP Server Gateway, byte 4
TCP server communication port number, high bytes
TCP server communication port number, low byte
TCP server ADC raw data collection port number, high byte
TCP server ADC Raw data acquisition port number, high byte
MAC address, byte 1
MAC address, byte 2
MAC address, byte 3
MAC address, bytes 4
MAC address, bytes 5
MAC address, bytes 6
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

34) Get TCP server parameters Command Frame 86(H) (sent by host computer)

DB (H)
86 (H)
High byte length in frame
The length of bytes in the frame is low (including DB, 86, DC), fixed to 6 (D).
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

35) Get TCP server parameters Return Frame 87(H) (Radar return)

DB (H)
87 (H)
High byte length in frame
Low in-frame byte length (including DB, 87, DC), fixed at 28 (D)
TCP server IP address, byte 1
TCP server IP address, byte 2
TCP server IP address, bytes 3

TCP server IP address, bytes 4
TCP service terminal net mask, byte 1
TCP Service terminal Net mask, byte 2
TCP Service terminal Net mask, byte 3
TCP service terminal network mask, byte 4
TCP server Gateway, byte 1
TCP Server Gateway, byte 2
TCP Server Gateway, byte 3
TCP Server Gateway, byte 4
TCP server communication port number, high bytes
TCP server communication port number, low byte
TCP server ADC raw data collection port number, high byte
TCP server ADC Raw data acquisition port number, high byte
MAC address, byte 1
MAC address, byte 2
MAC address, byte 3
MAC address, bytes 4
MAC address, bytes 5
MAC address, bytes 6
Checksum bytes The checksum is the result of all bytes except DB and DC and the remainder of 256.
DC (H)

36)Set WIFI TCP server parameters Command Frame 8C(H) (sent by host computer)

The factory default WIFI TCP server IP address is 192.168.20.1
Port number: 50520
Subnet mask: 250.250.250.0
Gateway: 192.168.10.1

DB (H)
8C (H)
High byte length in frame
Low in-frame byte length (including DB, 8C, DC), fixed at 20 (D)
Wifi TCP server IP address, byte 1
Wifi TCP server IP address, bytes 2
Wifi TCP server IP address, bytes 3
Wifi TCP server IP address, bytes 4
Wifi TCP service terminal net mask, byte 1
Wifi TCP Service terminal Net mask, byte 2
Wifi TCP service terminal network mask, byte 3
Wifi TCP Service terminal Net mask, bytes 4
Wifi TCP server Gateway, byte 1
Wifi TCP Server Gateway, byte 2
Wifi TCP Server Gateway, byte 3

Wifi TCP Server Gateway, byte 4
Wifi TCP server port number, high bytes
Wifi TCP server port number, low byte
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

37) Set WIFI TCP server parameters Return Frame 8D(H) (Radar return)

DB (H)
8D (H)
High byte length in frame
Low in-frame byte length (including DB, 8D, DC), fixed at 20 (D)
Wifi TCP server IP address, byte 1
Wifi TCP server IP address, bytes 2
Wifi TCP server IP address, bytes 3
Wifi TCP server IP address, bytes 4
Wifi TCP service terminal net mask, byte 1
Wifi TCP Service terminal Net mask, byte 2
Wifi TCP Service terminal Net mask, bytes 3
Wifi TCP Service terminal Net mask, bytes 4
Wifi TCP server Gateway, byte 1
Wifi TCP Server Gateway, byte 2
Wifi TCP Server Gateway, byte 3
Wifi TCP Server Gateway, byte 4
Wifi TCP server port number, high bytes
Wifi TCP server port number, low byte
Checksum bytes Note: Pre-translation checksum for the sending end and post-translation checksum for the receiving end. The checksum is the result of all bytes except DB and DC and the remainder of 256.
DC (H)

38) Get WIFI TCP server parameters Command Frame 8E(H) (sent by host computer)

DB (H)
8E (H)
High byte length in frame
Lowin-framebytelength (including DB, 8E, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

39) Get WIFI TCP server parameters Return Frame 8F(H) (Radar return)

DB (H)
8F (H)
High byte length in frame
Low in-frame byte length (including DB, 8F, DC), fixed at 20 (D)
Wifi TCP server IP address, byte 1

Wifi TCP server IP address, byte 2
Wifi TCP server IP address, bytes 3
Wifi TCP server IP address, bytes 4
Wifi TCP service terminal net mask, byte 1
Wifi TCP Service terminal Net mask, byte 2
Wifi TCP Service terminal Net mask, bytes 3
Wifi TCP Service terminal Net mask, bytes 4
Wifi TCP server Gateway, byte 1
Wifi TCP Server Gateway, byte 2
Wifi TCP Server Gateway, byte 3
Wifi TCP Server Gateway, byte 4
Wifi TCP server port number, high bytes
Wifi TCP server port number, low byte
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

40)Set WIFI name and password parameters Command Frame 90(H) (sent by host computer)

The factory default WIFI name is "NLXXXXXX" with prefix "NL", the default password is "12345678".

DB (H)
90 (H)
High byte length in frame
Low in-frame byte length (including DB, 90, DC), fixed at 22 (D)
Wifi name, byte 1 (character corresponding to ASKII value)
Wifi name, byte 2
Wifi name, byte 3
Wifi name, byte 4
Wifi name, bytes 5
Wifi name, bytes 6
Wifi name, byte 7
Wifi name, bytes 8
Wifi password, byte 1 (character corresponding to ASKII value)
Wifi password, byte 2
Wifi password, byte 3
Wifi password, bytes 4
Wifi password, bytes 5
Wifi password, bytes 6
Wifi password, byte 7
Wifi password, bytes 8
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

Example:
If the wifi name is set to NA940612 and the password is set to 12345678, the instruction (H) sent to the radar would be: DB 90 00 16 4E 41 39 34 30 30 36 31 32 31 32 32 33 34 35 36 37 38 0F DC.

41) Set WIFI Name and password parameters to return to Frame 91(H) (Radar return)

DB (H)
91 (H)
High byte length in frame
Low in-frame byte length (including DB, 91, DC), fixed at 22 (D)
Wifi name, byte 1 (character corresponding to ASKII value)
Wifi name, byte 2
Wifi name, byte 3
Wifi name, byte 4
Wifi name, bytes 5
Wifi name, bytes 6
Wifi name, byte 7
Wifi name, bytes 8
Wifi password, byte 1 (character corresponding to ASKII value)
Wifi password, byte 2
Wifi password, byte 3
Wifi password, bytes 4
Wifi password, bytes 5
Wifi password, bytes 6
Wifi password, byte 7
Wifi password, bytes 8
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

42) Get WIFI name and password parameter Command Frame 92(H) (sent by host computer)

DB (H)
92 (H)
High byte length in frame
Low in-frame byte length (including DB, 92, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

43) Get WIFI name and password parameters Return to Frame 93(H) (Radar return)

DB (H)
93 (H)
High byte length in frame
Low in-frame byte length (including DB, 93, DC), fixed at 22 (D)
Wifi name, byte 1 (character corresponding to ASKII value)
Wifi name, byte 2
Wifi name, byte 3

Wifi name, byte 4
Wifi name, bytes 5
Wifi name, bytes 6
Wifi name, byte 7
Wifi name, bytes 8
Wifi password, byte 1 (character corresponding to ASKII value)
Wifi password, byte 2
Wifi password, byte 3
Wifi password, bytes 4
Wifi password, bytes 5
Wifi password, bytes 6
Wifi password, byte 7
Wifi password, bytes 8
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

44) Object information output interface select command Frame 94(H) (sent by host computer)

Due to the large amount of data output of the target information and high frequency, in order to avoid unnecessary waste of processor resources and affect debugging considerations, the factory default only the network port output target information data, the other interfaces do not output, you can choose to open other interface output or multiple interfaces output at the same time through the following instructions.

DB (H)
94 (H)
High byte length in frame
Low in-frame byte length (including DB, 94, DC), fixed at 7 (D)
Target message output interface enable bytes (set by bit0~bit2) bit0: indicates that the output of target information of the network port is enabled. 0 indicates that the output of target information of the network port is disabled. 1 indicates that the output of target information of the network port is enabled. Bit1: indicates that the RS485 target information output is enabled, 0 indicates that the RS485 target information output is disabled, 1 indicates that the RS485 target information output is enabled. Bit2: indicates that WIFI target information output is enabled, 0 indicates that WIFI target information output is turned off, 1 indicates that WIFI target information output is turned on. If all interfaces turn on target output, the value of this byte can be configured as 07 (H).
Checksum byte Note: Pre-translation checksum for the sending end and post-translation checksum for the receiving end. The checksum is the result of all bytes except DB and DC and the remainder of 256.
DC (H)

45) Target Information output interface Select Return Frame 95(H) (Radar return)

DB (H)

95 (H)
High byte length in frame
Low in-frame byte length (including DB, 95, DC), fixed at 7 (D)
Target message output interface enable bytes (set by bit0~bit2) bit0: indicates that the output of target information of the network port is enabled. 0 indicates that the output of target information of the network port is disabled. 1 indicates that the output of target information of the network port is enabled. Bit1: indicates that the RS485 target information output is enabled, 0 indicates that the RS485 target information output is disabled, 1 indicates that the RS485 target information output is enabled. Bit2: indicates that WIFI target information output is enabled, 0 indicates that WIFI target information output is turned off, 1 indicates that WIFI target information output is turned on. If all interfaces turn on target output, the value of this byte can be configured as 07 (H).
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

46) Get target information Output interface Select Status Command Frame 96(H) (sent by host computer)

DB (H)
96 (H)
High byte length in frame
Low in-frame byte length (including DB, 96, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

47) Get target Information Output Interface Select Status Return Frame 97(H) (Radar return)

DB (H)
97 (H)
High byte length in frame
Low in-frame byte length (including DB, 97, DC), fixed at 7 (D)
Target message output interface enable bytes (set by bit0~bit2) bit0: indicates that the output of target information of the network port is enabled. 0 indicates that the output of target information of the network port is disabled. 1 indicates that the output of target information of the network port is enabled. Bit1: indicates that the RS485 target information output is enabled, 0 indicates that the RS485 target information output is disabled, 1 indicates that the RS485 target information output is enabled. Bit2: indicates that WIFI target information output is enabled, 0 indicates that WIFI target information output is turned off, 1 indicates that WIFI target information output is turned on. If all interfaces turn on the target message output, the value of this byte can be configured as 07 (H).
Checksum byte The checksum is the sum of all bytes except DB and DC, and
DC (H)

48) Cancelling function set parameter Frame 98(H) (sent by host computer)

For radar to carry out multi-target full load pressure test, the cancellation function is turned on by default on power-on.

DB (H)
98 (H)
High byte length in frame
Low in-frame byte length (including DB, 98, DC), fixed at 7 (D)
Cancel switch (0: cancel off, 1: Cancel on,)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

49) Cancellation Set Parameter Frame Return Frame 99(H) (Radar return)

DB (H)
99 (H)
High byte length in frame
Low in-frame byte length (including DB, 99, DC), fixed at 7 (D)
Cancel switch (0: cancel off, 1: Cancel on)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

50) Get cancellation function parameter Frame 9A(H) (sent by host computer)

For radar to carry out multi-target full load pressure test, the cancellation function is turned on by default on power-on.

DB (H)
9A (H)
High byte length in frame
Low in-frame byte length (including DB, 9A, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

51) Get cancellation parameters Frame Return Frame 9B(H) (Radar return)

DB (H)
9B (H)
High byte length in frame
Low in-frame byte length (including DB, 9B, DC), fixed at 7 (D)
Cancel switch (0: cancel off, 1: Cancel on,)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

52) Device Discovery 9C(H) (Radar broadcast transmit)

: In order to establish a network connection with the radar, the host computer or other devices connected to the radar need to know the network information such as the IP address of the radar in advance. Our practice is to broadcast a packet intermittently after the radar is turned on. The packet contains the network information. Unless otherwise specified, the radar will send the broadcast packet according to the format of the packet discovered by the device in this section. (Radar UDP broadcast port number is 9000, only send and do not receive).

DB (H)
9C (H)
High byte length in frame
Low in-frame byte length (including DB, 9C, DC), fixed at 31 (D)
Version number integer part such as 1.02 integer part is 1
Version number The decimal part is 1.02. The decimal part is 2
Frame number: 0 ~ 255 Cycle (D)
TCP server IP address, byte 1
TCP server IP address, byte 2
TCP server IP address, bytes 3
TCP server IP address, bytes 4
TCP service terminal net mask, byte 1
TCP Service terminal Net mask, byte 2
TCP Service terminal Net mask, byte 3
TCP Service terminal Net mask, byte 4
TCP server Gateway, byte 1
TCP Server Gateway, byte 2
TCP Server Gateway, byte 3
TCP Server Gateway, byte 4
TCP server port number, high bytes
TCP server port number, low byte
TCP Server ADC Raw data collection port number, high byte
TCP server ADC Raw data acquisition port number, low byte
MAC address, byte 1
MAC address, byte 2
MAC address, byte 3
MAC address, bytes 4
MAC address, bytes 5
MAC address, bytes 6
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

53) Set radar entry point frequency mode parameter Frame 9D(H) (sent by host computer)

Normal mode is the default for power-on.

DB (H)
9D (H)
High byte length in frame
The length of bytes in the frame is low (including DB, 9D, DC), fixed to 7 (D).
Radar operating mode (0: normal mode, 1: dot frequency mode,)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

54) Set Radar entry point Frequency mode parameter Return Frame 9E(H) (Radar return)

DB (H)
9E (H)
High byte length in frame
Low in-frame byte length (including DB, 9E, DC), fixed at 7 (D)
Radar operating mode (0: normal mode, 1: dot frequency mode,)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

55) Query set Radar entry point frequency mode parameter Frame 9F(H) (sent by host computer)

Normal mode is the default for power-on.

DB (H)
9F (H)
High byte length in frame
Low in-frame byte length (including DB, 9F, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

56) Query Set Radar Entry point Frequency Mode parameter Return Frame A0(H) (radar return)

DB (H)
A0 (H)
Low in-frame byte length (including DB, A0, DC), fixed at 7 (D)
Radar operating mode (0: normal mode, 1: dot frequency mode,)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
Low in-frame byte length (including DB, A0, DC), fixed at 7 (D)
DC (H)

57) Set radar capture range parameter Frame A1(H) (sent by host computer)

DB (H)
A1 (H)
High byte length in frame
Low in-frame byte length (including DB, A1, DC), fixed at 8 (D)
(capture distance (unit 0.1m) high byte
(capture distance (unit 0.1m) low byte
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

58) Set Radar capture range Parameter Return Frame A2(H) (Radar return)

DB (H)
A2 (H)
High byte length in frame
Low in-frame byte length (including DB, A2, DC), fixed at 8 (D)
(capture distance (unit 0.1m)) high byte
(capture distance (unit 0.1m)) low byte
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

59) Query radar capture range parameter Frame A3(H) (sent by host computer)

DB (H)
A3 (H)
High byte length in frame
Low in-frame byte length (including DB, A3, DC), fixed at 6 (D)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

60) Query Radar capture distance Parameter Return Frame A4(H) (Radar return)

DB (H)
A4 (H)
High byte length in frame
Low in-frame byte length (including DB, A4, DC), fixed at 8 (D)
(capture distance (unit 0.1m)) high byte
(capture distance (unit 0.1m)) low byte
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

61) Set Radar Trigger/Continuous mode parameter Frame A5(H) (sent by host computer)

DB (H)
A5 (H)
The length of the byte in the frame is high
Low in-frame byte length (including DB, A5, DC), fixed at 7 (D)

0: continuous mode, 1: trigger mode
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

62) Set Radar Trigger/Continuous Mode parameter Return Frame A6(H) (Radar return)

DB (H)
A6 (H)
Intra-frame byte length high byte
Low in-frame byte length (including DB, A6, DC), fixed at 7 (D)
0: continuous mode, 1: trigger mode
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

63) Query radar trigger/continuous mode parameter Frame A7(H) (sent by host computer)

DB (H)
A7 (H)
Intra-frame byte length high byte
Low in-frame byte length (including DB, A7, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

64) Query Radar Trigger/Continuous mode parameters Return Frame A8(H) (Radar return)

DB (H)
A8 (H)
Intra-frame byte length high byte
Low in-frame byte length (including DB, A8, DC), fixed at 7 (D)
0: continuous mode, 1: trigger mode
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

65) Query radar pitch Angle and roll Angle parameters Frame A9(H) (sent by host computer)

DB (H)
A9 (H)
Intra-frame byte length high byte
Low in-frame byte length (including DB, A9, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

66) Query radar pitch and roll Angle parameters Return Frame AA(H) (radar return)

DB (H)
AA (H)
High byte length in frame
Low in-frame byte length (including DB, AA, DC), fixed at 14 (D)
Roll Angle (X-axis direction) bytes 1
Roll Angle (X-axis direction) bytes 2
Roll Angle (X-axis direction) bytes 3
Roll Angle (x axis direction) bytes 4, ranging from 0 to 0xFFFF, four bytes to float
Pitch Angle (Y-axis direction) bytes 1
Pitch Angle (Y-axis direction) bytes 2
Pitch Angle (Y-axis direction) bytes 3
Pitch Angle (Y-axis direction) bytes 4, range: 0 to 0xFFFF, four bytes to float type
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

67) Set radar transmit power mode parameter Frame AB(H) (sent by host computer)

DB (H)
AB (H)
The length of bytes inside the frame is high bytes
Low in-frame byte length (including DB, AB, DC), fixed at 7 (D)
0: normal transmit power mode, 1: FCC metered certified transmit power mode
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

68) Set Radar transmit power Mode Parameter Return Frame AC(H) (Radar return)

DB (H)
AC (H)
High byte length in frame
Low in-frame byte length (including DB, AC, DC), fixed at 7 (D)
0: normal transmit power mode, 1: FCC metered certified transmit power mode Note: The default transmitting power mode is normal when the device is powered on.
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

69) Read radar transmit power mode parameter frame AD(H) (sent by host computer)

DB (H)
AD (H)
High byte length in frame
Low in-frame byte length (including DB, AD, DC), fixed at 6 (D)
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

70) Read Radar transmit power mode parameters Return Frame AE(H) (Radar return)

DB (H)
AE (H)
Intra-frame byte length high byte
Low in-frame byte length (including DB, AE, DC), fixed at 7 (D)
0: normal transmit power mode, 1: FCC metered certified transmit power mode Note: The default transmitting power mode is normal when the device is powered on.
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

71) Set radar error ID parameter Frame AF(H) (sent by host computer)

DB (H)
AF (H)
The length of the byte in the frame is high
Low in-frame byte length (including DB, AF, DC), fixed at 7 (D)
Radar error frequency ID (Default 0, range 0 to 3) 0:24.05GHZ to 24.12GHZ (70us), 24.05GHZ to 24.134GHZ (84us); 1:24.15GHZ~24.08GHZ (70us), 24.15GHZ~24.066GHZ (84us); 2:24.15GHZ to 24.22GHZ (70us), 24.15GHZ to 24.234GHZ (84us); 3:24.25GHZ to 24.18GHZ (70us), 24.25GHZ to 24.166GHZ (84us);
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

72) Set the Radar Offset ID parameter to return frame B0(H) (radar return)

DB (H)
B0 (H)
High byte length in frame
Low in-frame byte length (including DB, B0, DC), fixed at 7 (D)
Radar error ID (Default 0, range 0 to 3) 0:24.05GHZ to 24.12GHZ (70us), 24.05GHZ to 24.134GHZ (84us); 1:24.15GHZ~24.08GHZ (70us), 24.15GHZ~24.066GHZ (84us); 2:24.15GHZ to 24.22GHZ (70us), 24.15GHZ to 24.234GHZ (84us); 3:24.25GHZ to 24.18GHZ (70us), 24.25GHZ to 24.166GHZ (84us);
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

73) Read radar offset ID parameter Frame B1(H) (sent by host computer)

DB (H)
B1 (H)
High byte length in frame
Low in-frame byte length (including DB, B1, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

74) Read misfrequency ID parameter Return Frame B2(H) (radar return)

DB (H)
B2 (H)
High byte length in frame
Low in-frame byte length (including DB, B2, DC), fixed at 7 (D)
Radar error frequency ID (Default 0, range 0 to 3) 0:24.05GHZ to 24.12GHZ (70us), 24.05GHZ to 24.134GHZ (84us); 1:24.15GHZ~24.08GHZ (70us), 24.15GHZ~24.066GHZ (84us); 2:24.15GHZ to 24.22GHZ (70us), 24.15GHZ to 24.234GHZ (84us); 3:24.25GHZ to 24.18GHZ (70us), 24.25GHZ to 24.166GHZ (84us);
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

75) Radar parameters Factory Reset Command Frame B3(H) (sent by host computer)

DB (H)
B3 (H)
Intra-frame byte length high byte
Low in-frame byte length (including DB, B3, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

76) Radar parameters Factory Reset Return Frame B4(H) (radar send)

DB (H)
B4 (H)
High byte length in frame
Low in-frame byte length (including DB, B4, DC), fixed at 6 (D)
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

77) Determine if the radar network is occupied by other unknown ports Frame B5(H) (radar send)

The radar TCP (port number (default) 50000) supports only one connection at most. The single connection mechanism may cause unknown ports to be occupied, and other applications cannot establish normal communication. According to the following determination mechanism, you can determine whether other unknown applications are currently connected to the radar, resulting in failure to connect. If there is no connection after receiving the data frame when connecting the radar, it indicates that there is an unknown application in the network that has long been connected to the radar, and the unknown application needs to be disconnected in order to connect to the radar.

DB (H)
B5 (H)
High byte length in frame
Low in-frame byte length (including DB, B4, DC), fixed at 12 (D)
Unknown application IP address, byte 1
Unknown Application IP address, byte 2
Unknown Application IP address, bytes 3

Unknown Application IP address, bytes 4
Unknown application port number, high bytes
Unknown application port number, low byte
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

78) Set Radar Network TCP Connection Reset Frame B6(H) (upper computer Settings)

Since the TCP server of the radar network supports only one client host connection, when the radar using the TCP client connection receives the data frame with the serial number "81" containing the "B5 (H)" command code, and then the connection is still unable to succeed, RS485/TTL/WIFI can be selected to use the following radar network TCP connection reset frame B6(H) to the radar TCP server for one-click reset, after the radar returns data, the radar TCP server can be successfully connected again.

DB (H)
B6 (H)
High byte length in frame
Low in-frame byte length (including DB, B6, DC), fixed at 10 (D)
Radar IP address, byte 1
Radar IP address, byte 2
Radar IP address, byte 3
Radar IP address, byte 4 Note: By serial number 56 device Discovery, 9C(H) command frame gets radar IP address
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

79) Set Radar Network TCP Connection Reset Frame B7(H) (Radar return)

DB (H)
B7 (H)
High byte length in frame
The length of bytes in the frame is low (including DB, B7, DC), fixed to 10 (D).
Radar IP address, byte 1
Radar IP address, byte 2
Radar IP address, byte 3
Radar IP address, byte 4 Note: If the TCP is successfully reset, the radar IP address is the same as the sent one. If the TCP is not successfully reset, the radar IP is the real IP of the radar. The IP sent by the upper computer does not match the radar IP.
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

80) Set radar debugging information output interface parameter frame B8(H) (upper computer Settings)

The default TTL printout of the radar is powered on. If there is a problem in the external field, you can select a convenient communication interface to print debugging information through this command, so as to facilitate troubleshooting. (Before printing debugging information, you can first close the output of relevant interface target information, so as not to interfere with the target information mixed in the debugging information).

DB (H)
B8 (H)
High byte length in frame
Low in-frame byte length (including DB, B8, DC), fixed at 7 (D)
0: TTL, 1: TCP, 2: RS485, 3: wifi
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

81) Set Radar debugging information output interface parameter Return Frame B9(H) (Radar return)

DB (H)
B9 (H)
High byte length in frame
Low in-frame byte length (including DB, B9, DC), fixed at 7 (D)
0: TTL, 1: TCP, 2: RS485, 3: wifi
Checksum byte The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

82) Query RF configuration parameter Frame BA(H) (upper computer Settings)

DB (H)
BA (H)
High byte length in frame
The length of bytes in the frame is low (including DB, BA, DC), fixed to 6 (D).
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

83) Query RF Configuration Parameters Return Frame BB(H) (Radar return)

DB (H)
BB (H)
The length of the byte in the frame is high
Low in-frame byte length (including DB, BB, DC), fixed 161 (D)
VCO_R1
…
VCO_R13
PLL_R0
…
PLL_R141
Checksum

The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)

84)Set radar "Speed Detection initialization SNR" parameter frame BC(H) (sent by host computer)

DB (H)
BC (H)
High byte length in frame
Low in-frame byte length (including DB, BC, DC), fixed at 8 (D)
Speed detection initializes high signal-to-noise ratio bytes
Speed detection initializes low SNR bytes in the range [320,1000] and defaults to 640, the greater the value, the fewer the number of targets. The more vice versa.
Checksum bytes The checksum is the sum of all bytes except DB and DC, and the result of taking the remainder of 256.
DC (H)


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