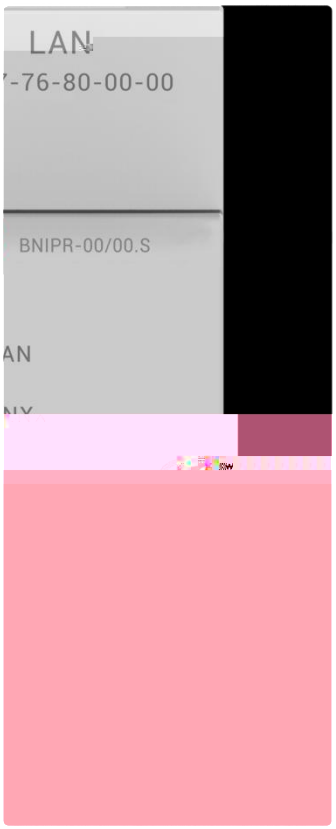
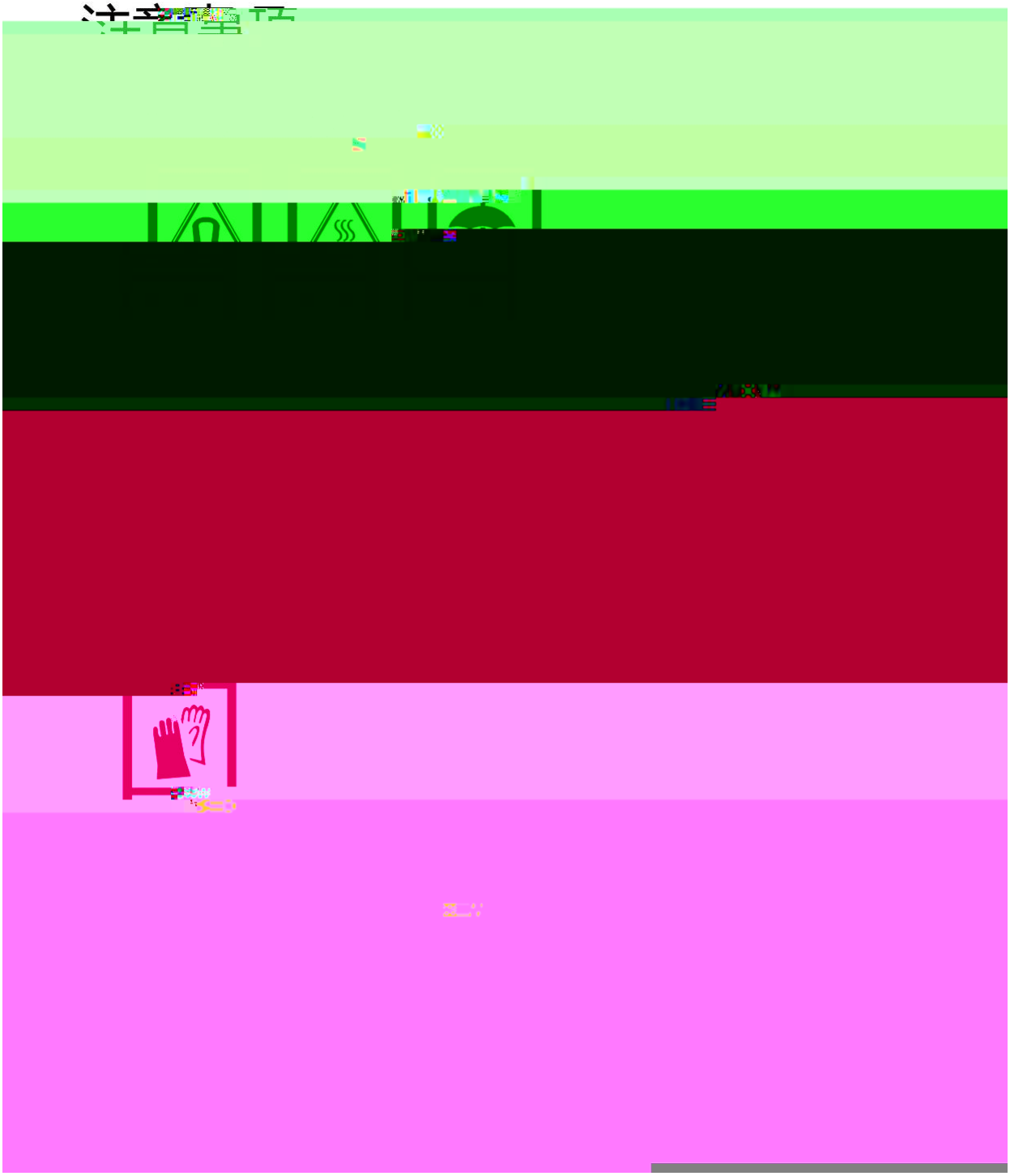
K-BUS KNX IP

IP Router with Secure_V1.3

BNIPR-00/00.S



KNX/EIB



1

1.1. 2

1.2. Tunneling 2

1.3. 3

1.4. KNX IP 3

4

5

3.1. 5

3.2. 5

6

4.1. IP KNX 6

4.2. KNX IP 6

4.3. KNX IP 6

4.4. KNX IP 7

4.5. KNX IP 8

ETS 9

5.1. “General” 9

5.2. “Routing (KNX->LAN)” 12

5.3. “Routing (LAN->KNX)” 14

5.4. (tunneling) 17

5.5. KNX 19

5.6. 22

25

KNX IP k KNX / IP

TP KNX k KNX IP KNX-TP

k KNX IP KNX-TP k KNX IP

KNX TP k

TP TP k

KNX (KNX /IP S) k

KNX IP KNX IP

k

ETS KNX KNX IP k

5 IP IP k KNX IP

KNX k

. ETS (ETS5

k

KNX IP EN 60 715

35 k

KNX IP

k

k

KNX IP :

- **KNX IP APDU 55**
- **KNX IP k LAN /**

k

- **KNX IP k**
- **ETS k**

k

- **ETS ACK k**
- **ACK KNX IP k**

ETS k ACK k

- **KNX IP**
- **KNX IP KNXnet/IP ! ARP ! ICMP ! IGMP ! HTTP ! UDP/IP ! TCP/IP DHCP k**

Tunneling

IP KNX / IP k KNX / IP

KNX / IP T ETS / KNX k

KNX / IP KNX KNX / IP k

k

KNX / IP IP KNX k IP KNX / IP

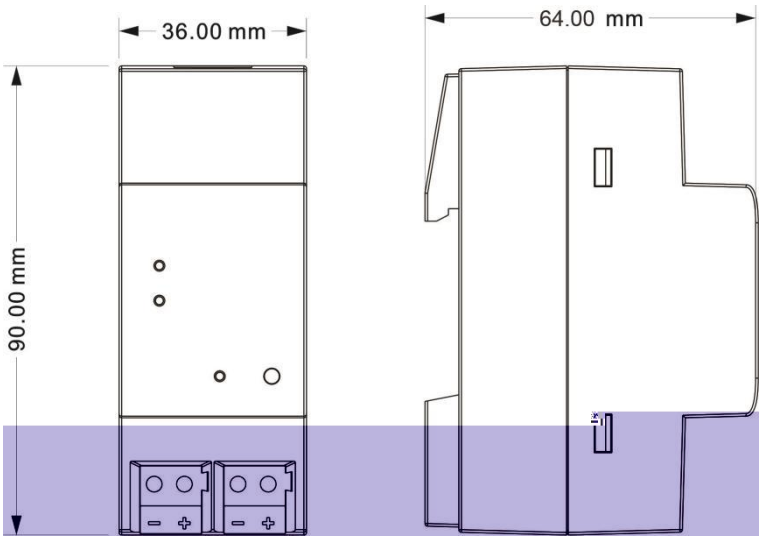
KNX / IP k

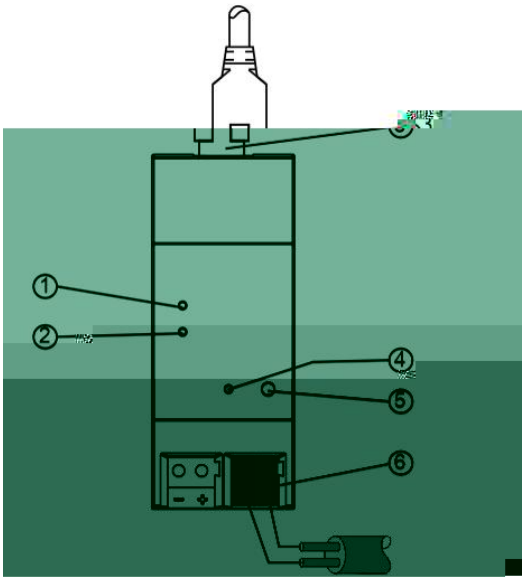
KNX IP

KNX IP TP k

k IP KNX KNX k

	21-30V DC, KNX
	<19.5 A 24V <15.5 A 30V <470 W
KNX	/ 0.8
LAN	RJ45 10/100 Ba -T
LED	
LED LAN LED LAN LED KNX LED KNX	KNX
	5 C ... + 45 C
	25 C ... + 55 C 25 C ... + 70 C
	<93%
90 36 64	
0.1KG	
	35





1	LAN LED	: :	4	LED	
2	KNX LED	: KNX :	5		4 4 3 6
3	LAN		6	KNX /	

IP KNX

KNX /IP KNX IP KNX IP IP KNX k

IP 224.0.23.12 3671 k IP 224.0.23.12

KNX IANA KNX /IP k

- **KNX IP IP IP**
- **IGMP ( ) IP**
- **IP IP ETS**

  Tunneling IP TP IP
- **IP**
- **Tunneling k IP**

- **KNX/USB KNX/IP KNX IP**

KNX IP

KNX IP KNX KNX k

KNX IP

KNX KNX IP X.0.0,

1 X 15 ETS 15 k

KNX IP

KNX IP IP

k

k

IP k 1.0.0 IP

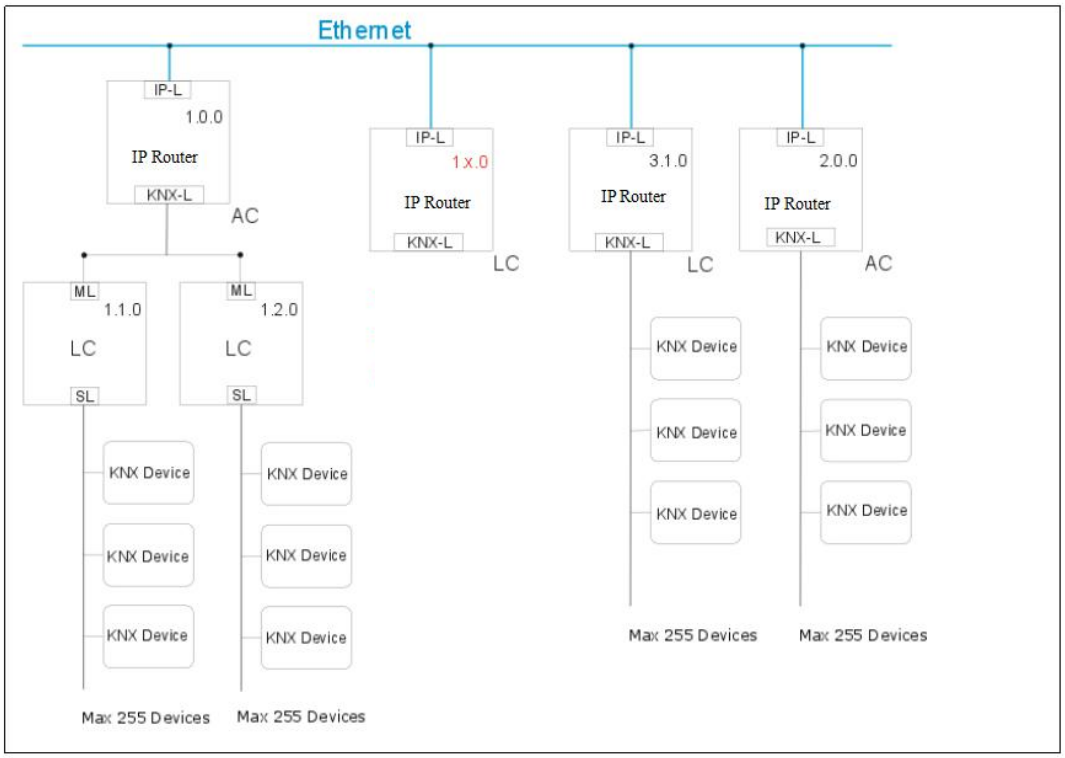
IP 1.X.0, 1 X 15

1.1.0 IP IP

1.0.0 k

IP k IP IP IP

2 IP k



KNX IP

KNX IP

X.Y.0 1 X&Y 15 k ETS 225 1.1.0 15.15.0 k

k

k

k

3 ETS k R ...a

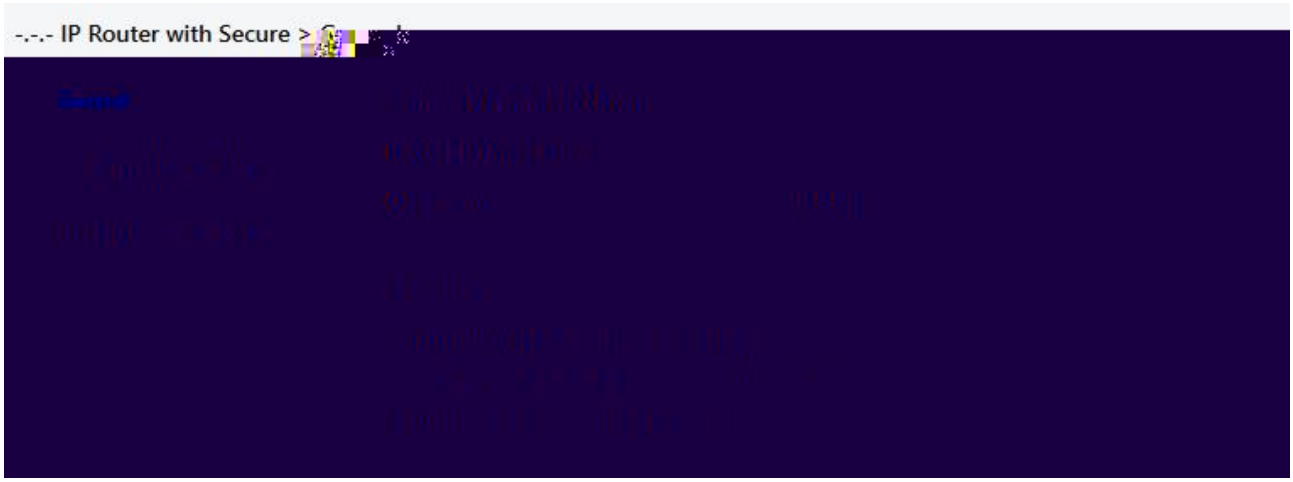
k

ETS

“General”

G a 5.1 k DNS

k



5.1 "G a

“Company Name (30 char.)”

30 k

“Project Name (30 char.)”

30 k

“DNS server”

DNS k

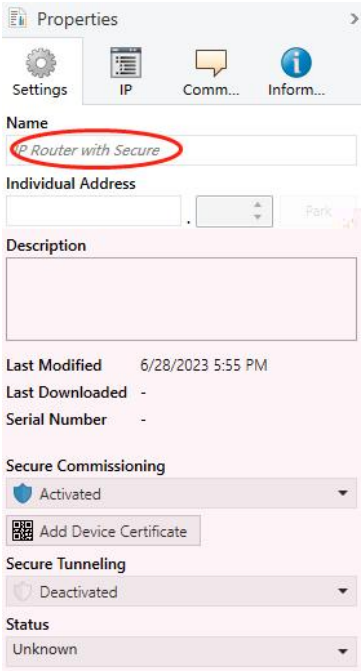
IP settings

Configuration in ETS windows-->Properties

ETS IP IP

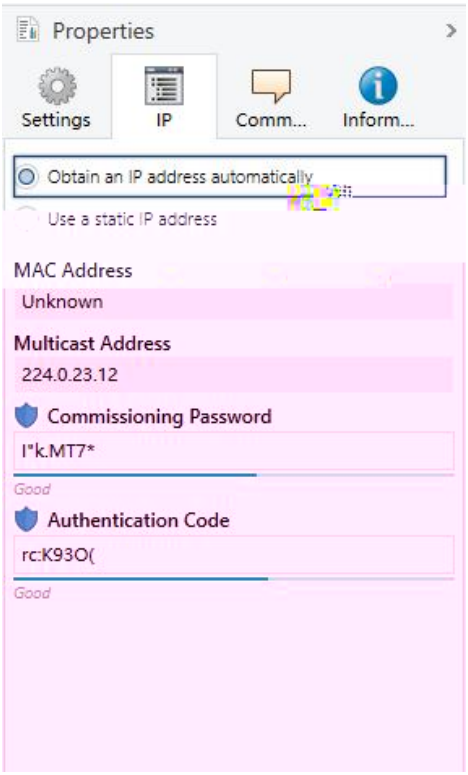
Device name: Device-->Properties-->Settings-->Name

ETS k



IP addresses: Device-->Properties-->IP

IP □ □ □ □ □ □ □



Obtain an IP address automatically IP k KNX IP DHCP

IP k IP k DHCP

k

Use a static IP address IP k DHCP IP

k IP IP

k

MAC k

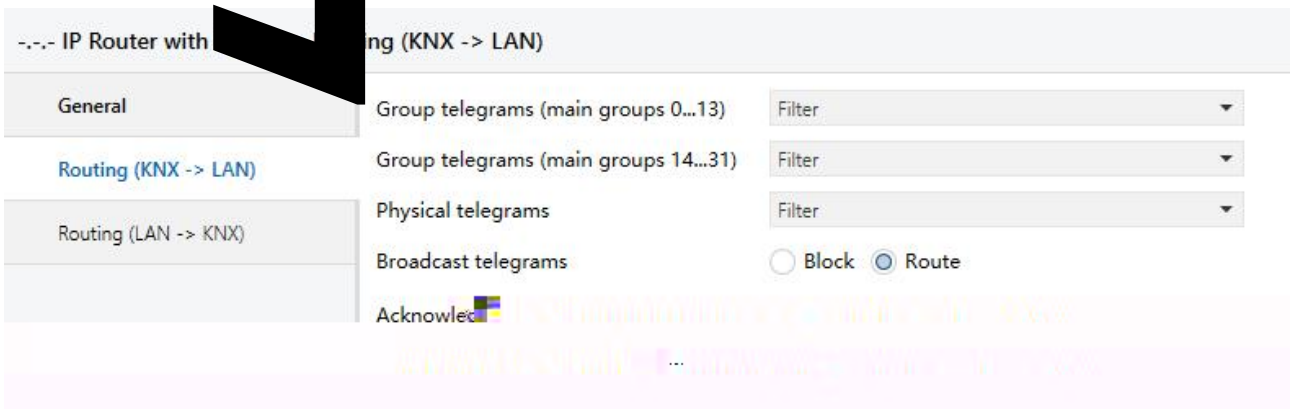
(Multicast Address) 224.0.23.12 k

(Commissioning Password) **(Authentication Code)** KNX (S

C) IP (IP) k

10... 3) B :

" uting (KNX->LAN)"



5.2 R (KNX->LAN)

"Group telegrams (main groups 0...13)"

0 13 ! k

Block

Route

Filter

B : (0...13) k

R : (0...13) k

F : (0...13) k

"Group telegrams (main groups 14 ...31)"

11 1

"Physical telegrams"

! k

Block

Route

Filter

B :

k

R :

k

F :

k

: **"Route"** k

"Broadcast telegrams"

k

Block

Route

B : KNX IP

k

k

R :

k

"Acknowledge(ACK) of group telegrams"

KNX IP

k

Only if routed

Always

O :

KNX LAN ACK k

A a :

KNX k

"Acknowledge(ACK) of physical telegrams"

KNX IP k

Only if routed

Always

O : KNX LAN ACK k

A a : KNX k

"Routing (LAN->KNX)"

5.3 R (LAN->KNX)

"Group telegrams (main groups 0...13)"

0 13 ! k

Block

Route

Filter

B : (0...13) k

R : (0...13) k

F : (0...13) k

"Group telegrams (main groups 14 ...31)"

14 31 ! k

Block

Route

Filter

B : (14...31) k

R : (14...31) k

F : (14...31) k

"Physical telegrams"

! k

Block

Route

Filter

B : k

R : k

F : k

: **"Route"** k

"Broadcast telegrams"

k

Block

Route

B : KNX IP k

k

R : k

"Repetition of group telegrams"

Disable

Enable

KNX TP

D a :

k

E a :

k

"Repetition of physical telegrams"

Disable

Enable

KNX TP

D a :

k

E a :

k

"Repetition of broadcast telegrams"

Disable

Enable

KNX TP

D a :

k

E a :

k

(tunneling)

KNX KNX IP 5 5.4.1

ETS V a a APP (S a) (Ta) (B

) k

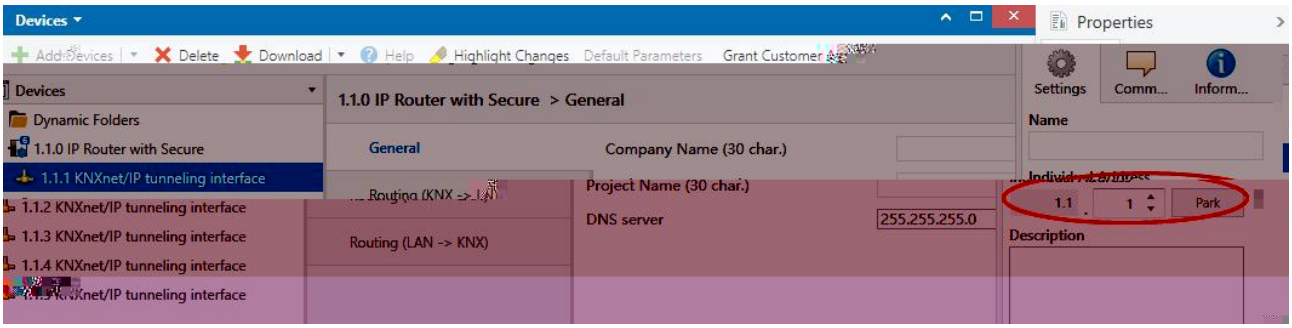
5.4.1

k ETS5 5

k

Pa 5.4.2

15.15.255 Pa 15.15.255 k 15.15.255

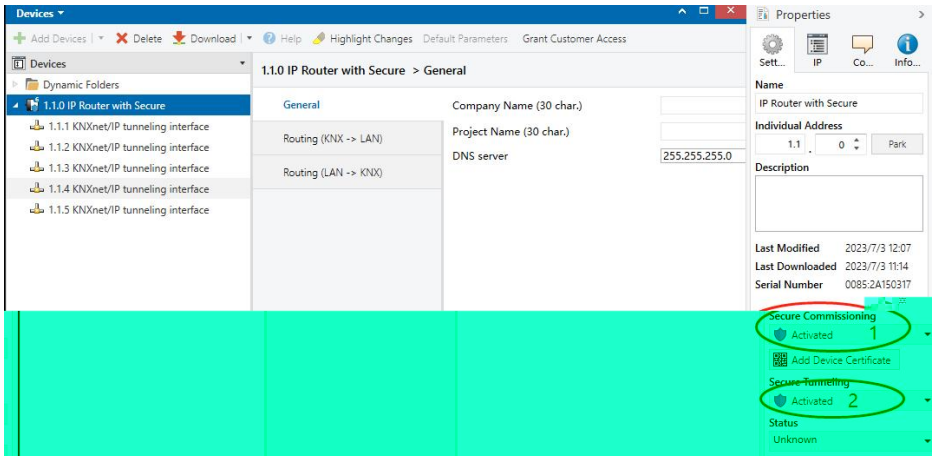


5.4.2

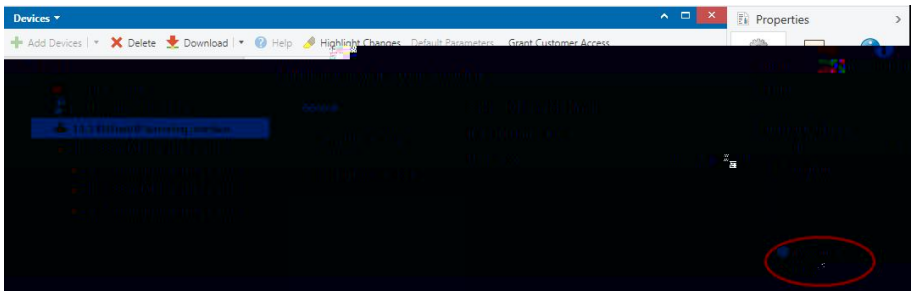
KNX S C S

T 5.4.3 k S T ETS 5.4.4

k



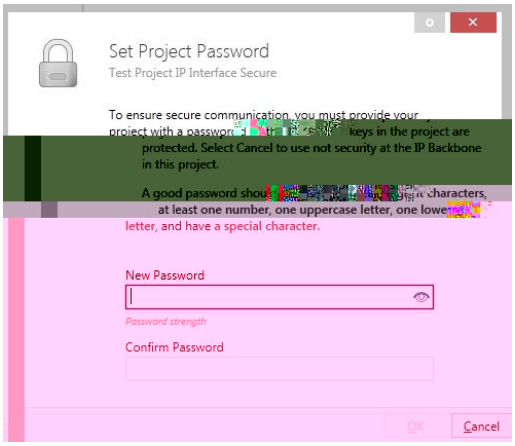
5.4.3



5.4.4

S C 5.4.5

S C k



5.4.5

KNX

KNX IP KNX KNX k

(T) k

❖ KNX k

—— KNX

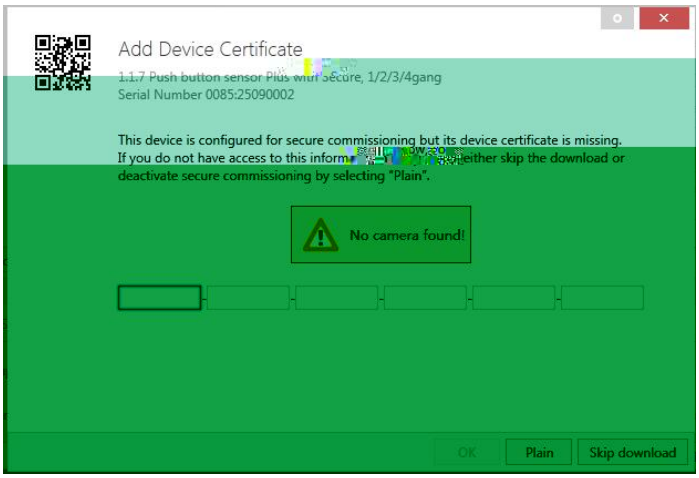
k

❖ KNX k FDSK =

ETS

✧ ETS 5.5.1 k

QR k

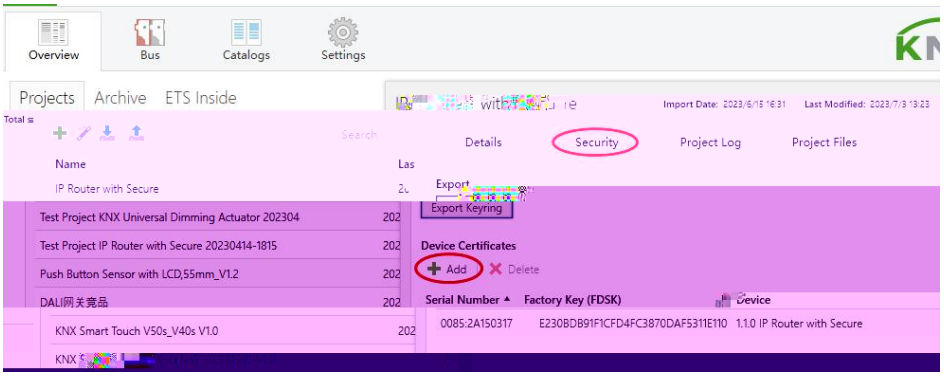


5.5.1 A D C a

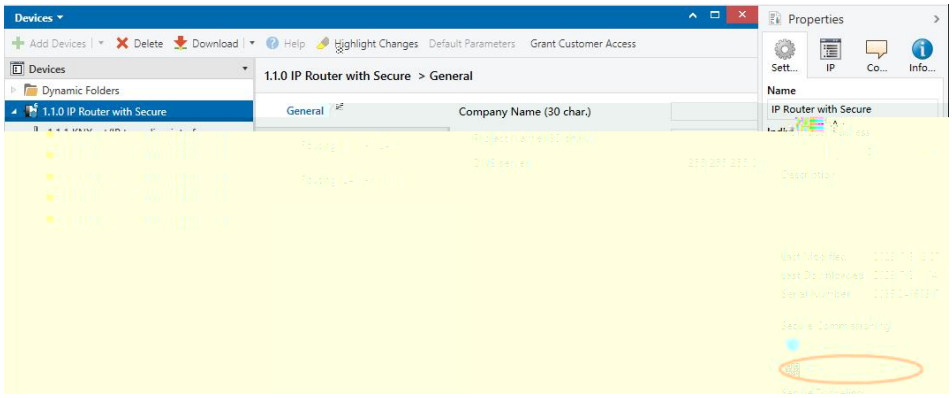
✧ ETS k

S 5.5.2 k

A D C a 5.5.3 k



5.5.2 A D C a



5.5.3 A D C a

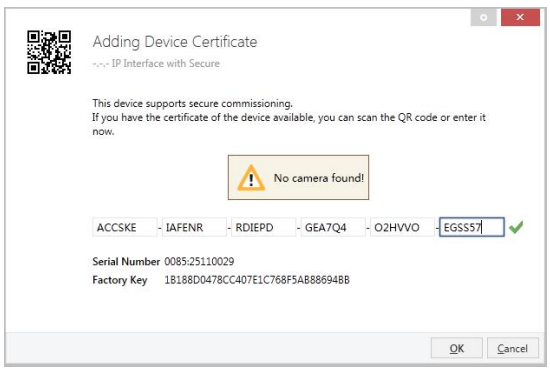
✧ FDSK k

FDSK **KNX** k

FDSK FDSK ETS 5.5.4 k

ETS

FDSK k

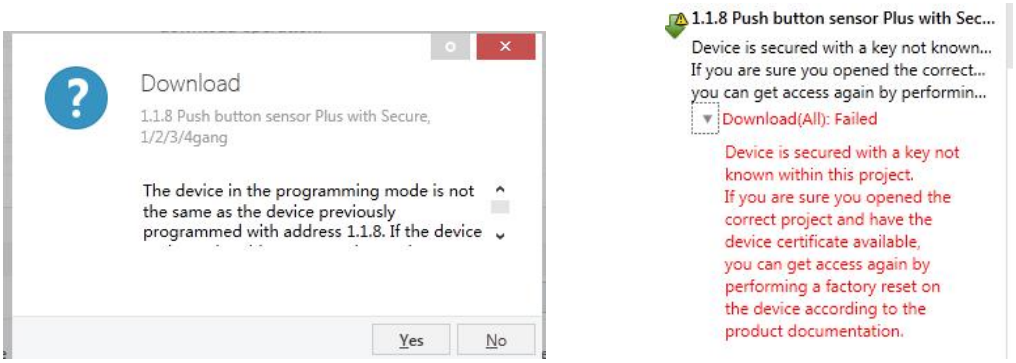


5.5.4

k

5.5.5 A D C a FDSK

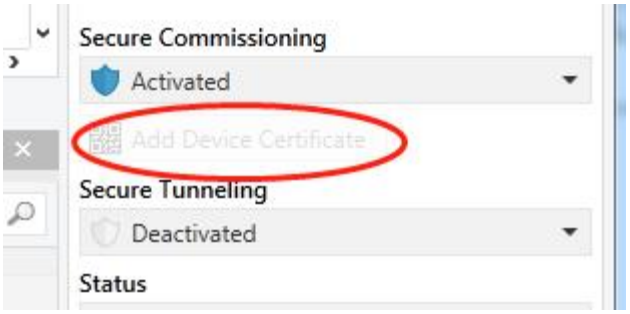
5.5.5 k



5.5.5

FDSK k

A D C a k

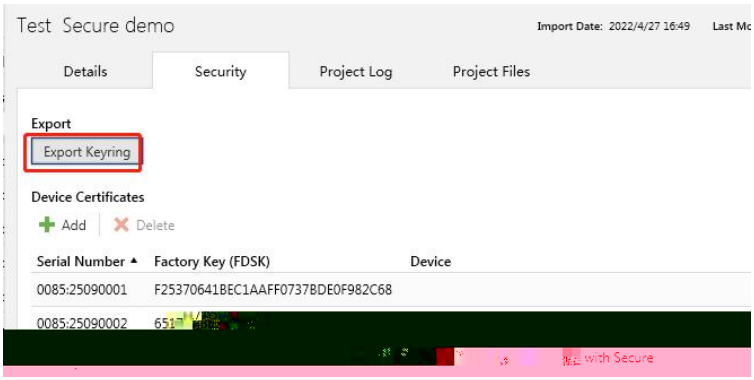


5.5.6

ETS

5.5.7

. k



5.5.7

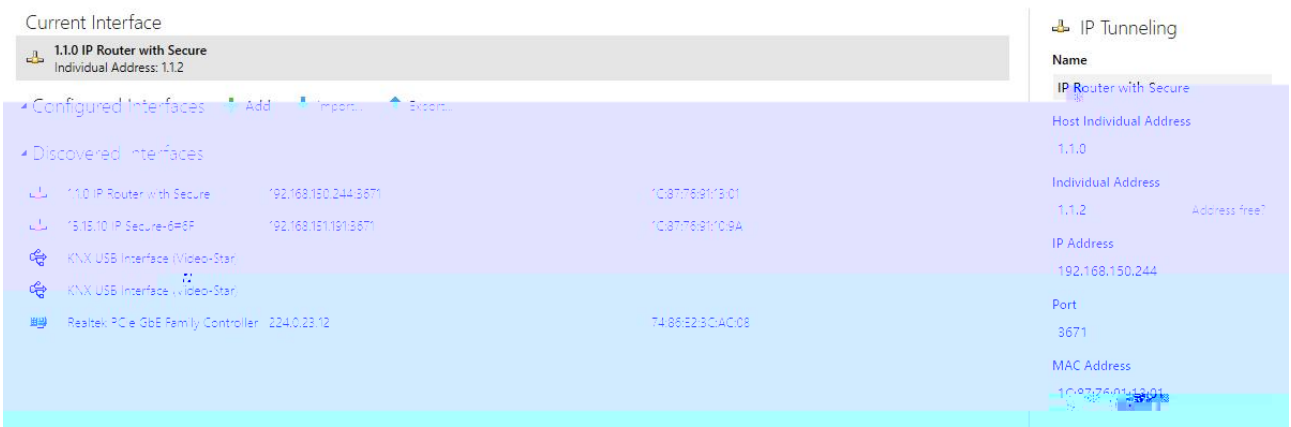
ETS

IP KNX k

k

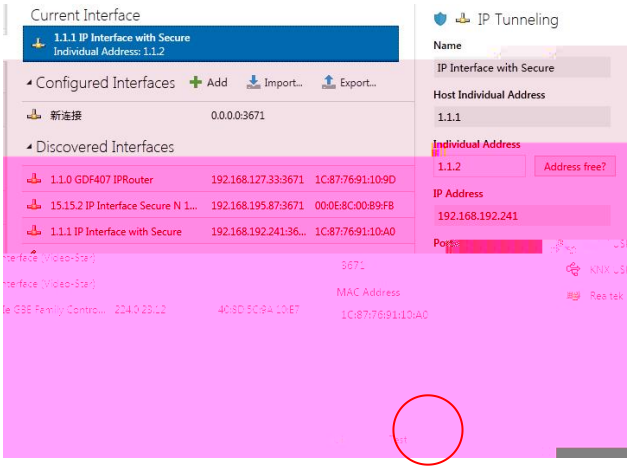
KNX IP ETS IP ! !

5.6.1 k



5.6.1 ETS

ãñcTä.ðTP.ð P S



5.6.2 IP

5.6.2 S T

S T ETS k

KNX IP 6 k

KNX USB “ ”, ETS k

KNX IP

	15.15.0
IP IP tunneling	15.15.241 15.15.242 15.15.243 15.15.244 15.15.245
IP	
IP address assignment	F 192.168.2.200
IP routing multicast address	224.0.23.12
Routing (KNX->LAN)	
Group telegrams (main group 0...13)	F (F a)
Group telegrams (main group 14...31)	F
Physical telegrams	F
Broadcast telegrams	R
Acknowledge(ACK) of group telegrams	O
Acknowledge(ACK) of physical telegrams	O
Routing (LAN->KNX)	
Group telegrams (main group 0...13)	F (F a)
Group telegrams (main group 14...31)	F
Physical telegrams	F
Broadcast telegrams	R
Repetition if group telegrams	E a
Repetition if physical telegrams	E a
Repetition if broadcast telegrams	E a

KNX IP : IP k