FIG.1

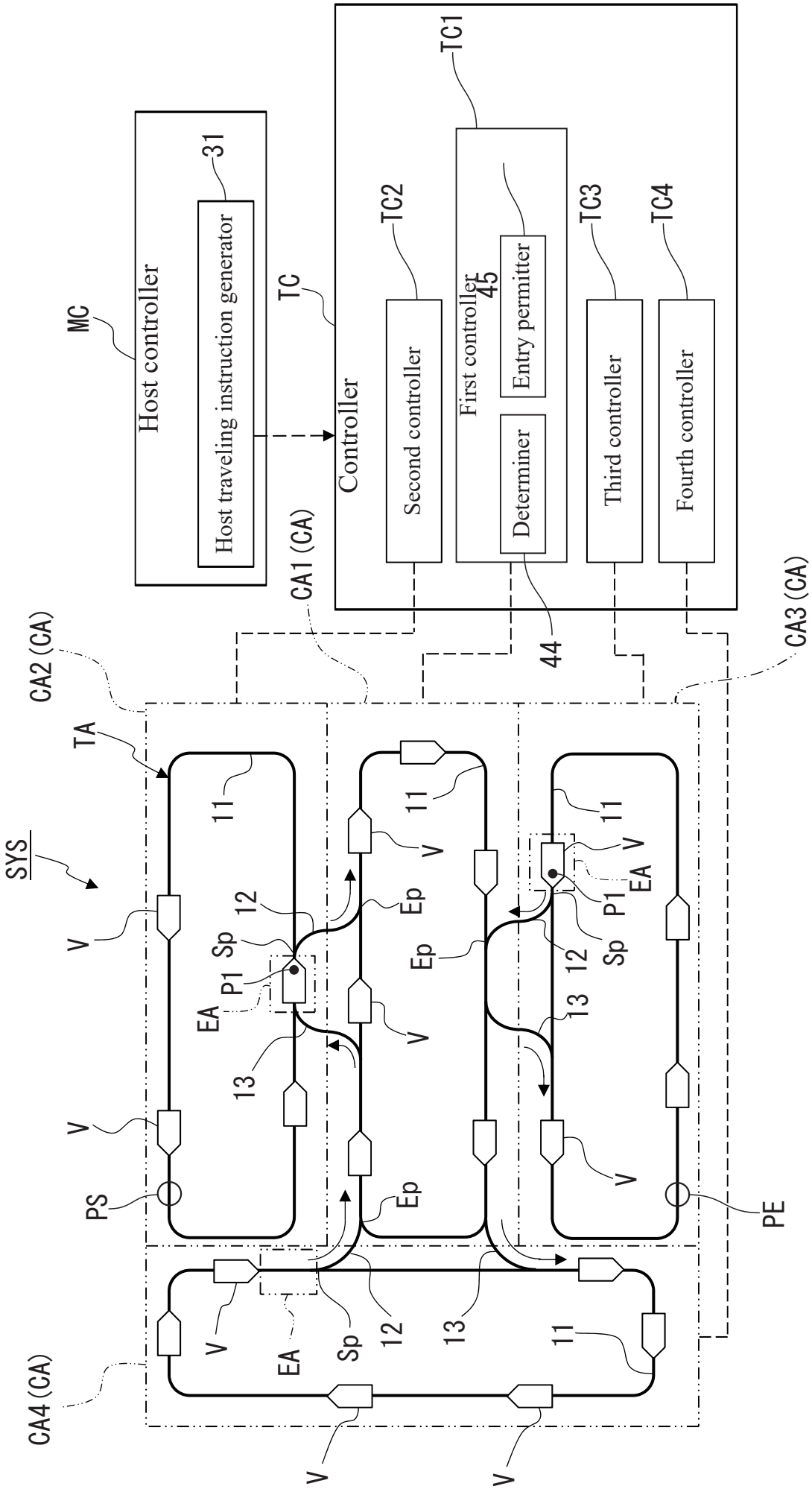

MC
Host controller
31
Host traveling instruction generator
TC
Controller
TC1
First controller
45
Entry permitter
Determiner
44
TC2
Second controller
TC3
Third controller
TC4
Fourth controller
CA1 (CA)
CA2 (CA)
CA3 (CA)
CA4 (CA)
SYS
TA
11
12
13
V
PS
PE
Sp
Ep
P1
EA

FIG.2

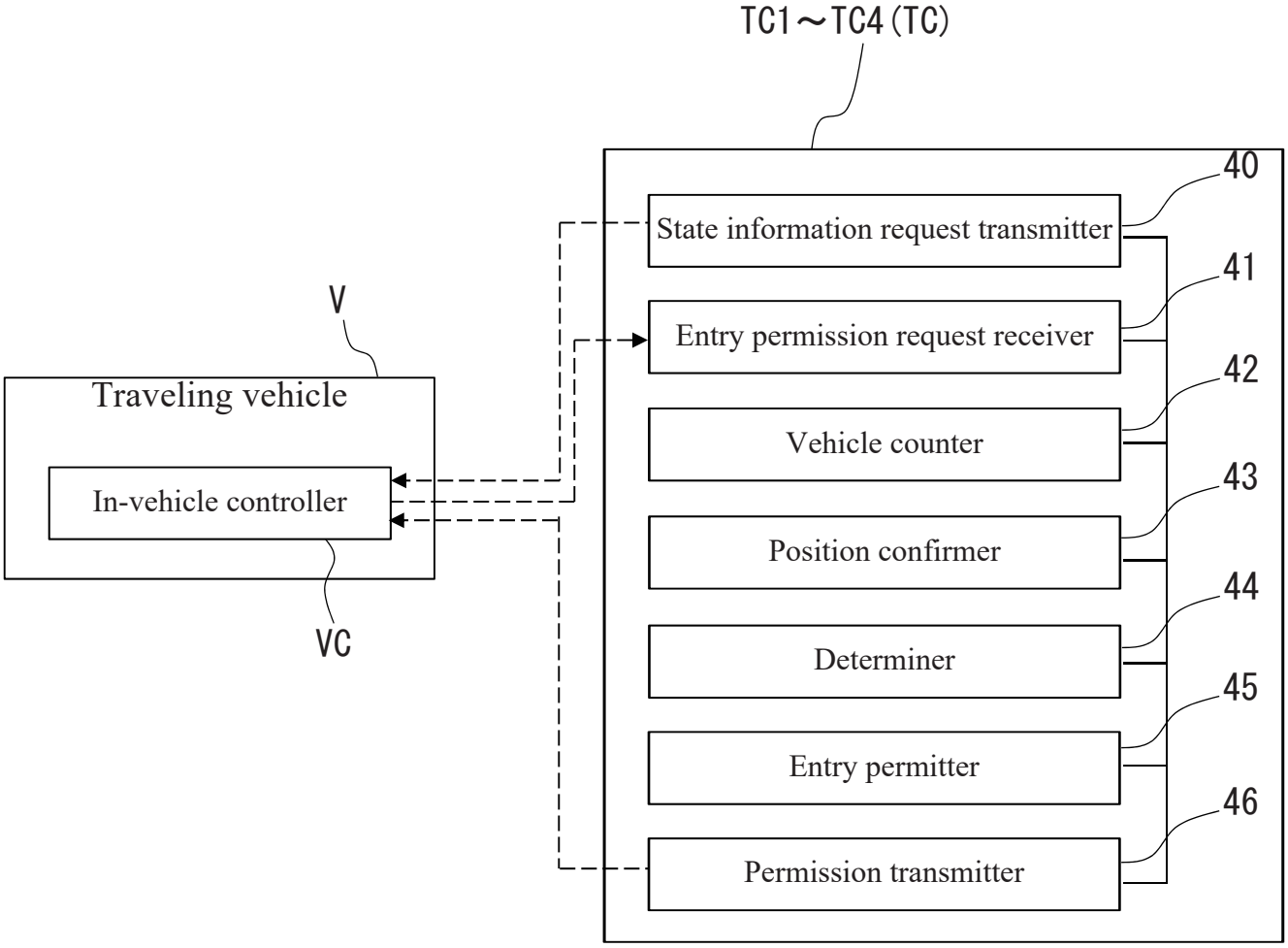

TC1～TC4(TC)
40
State information request transmitter
41
Entry permission request receiver
42
Vehicle counter
43
Position confirmer
44
Determiner
45
Entry permitter
46
Permission transmitter
V
Traveling vehicle
In-vehicle controller
VC

FIG.3

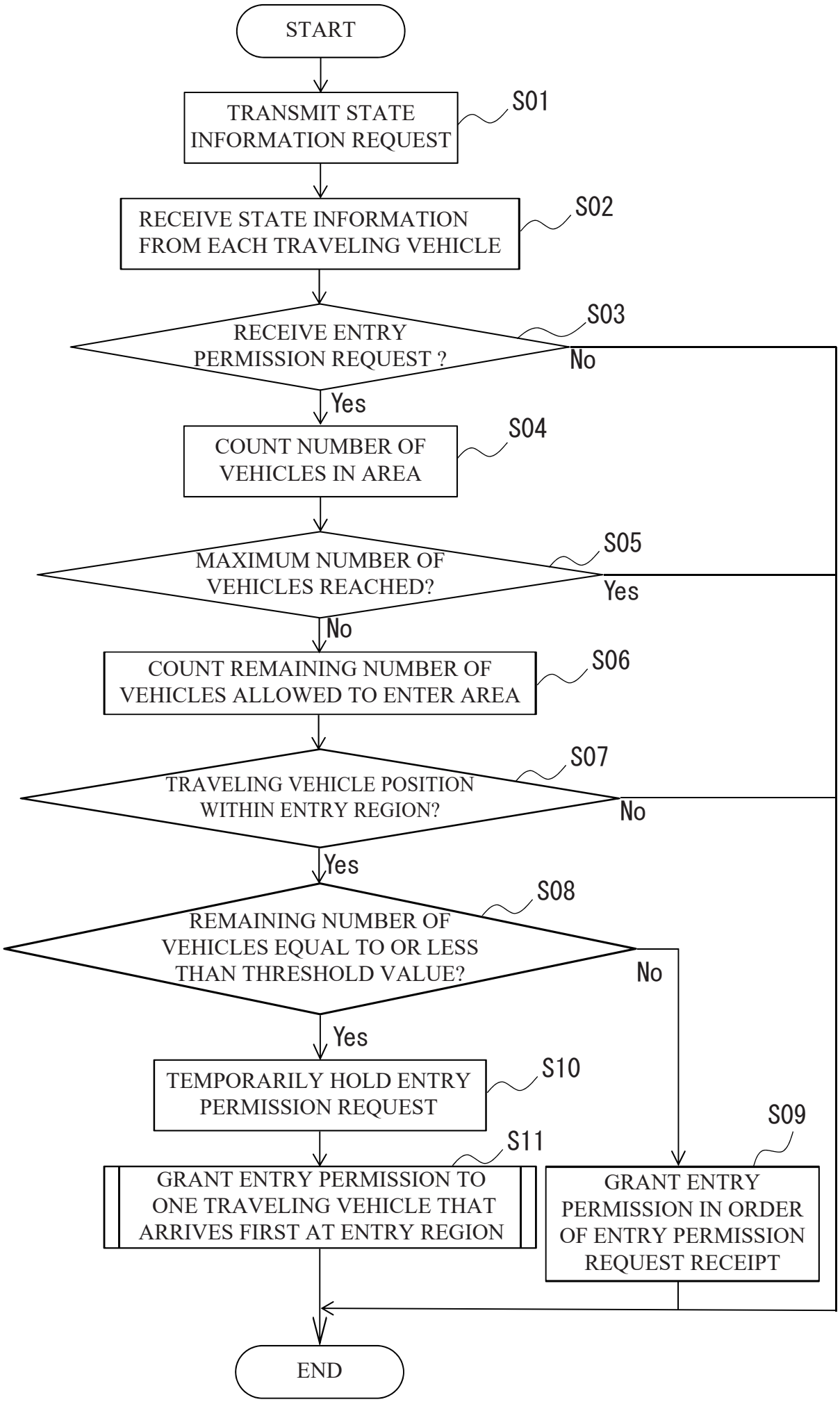

START
TRANSMIT STATE INFORMATION REQUEST
S01
RECEIVE STATE INFORMATION FROM EACH TRAVELING VEHICLE
S02
RECEIVE ENTRY PERMISSION REQUEST ?
S03
No
Yes
COUNT NUMBER OF VEHICLES IN AREA
S04
MAXIMUM NUMBER OF VEHICLES REACHED?
S05
Yes
No
COUNT REMAINING NUMBER OF VEHICLES ALLOWED TO ENTER AREA
S06
TRAVELING VEHICLE POSITION WITHIN ENTRY REGION?
S07
No
Yes
REMAINING NUMBER OF VEHICLES EQUAL TO OR LESS THAN THRESHOLD VALUE?
S08
No
Yes
TEMPORARILY HOLD ENTRY PERMISSION REQUEST
S10
S11
GRANT ENTRY PERMISSION TO ONE TRAVELING VEHICLE THAT ARRIVES FIRST AT ENTRY REGION
S09
GRANT ENTRY PERMISSION IN ORDER OF ENTRY PERMISSION REQUEST RECEIPT
END

FIG.4

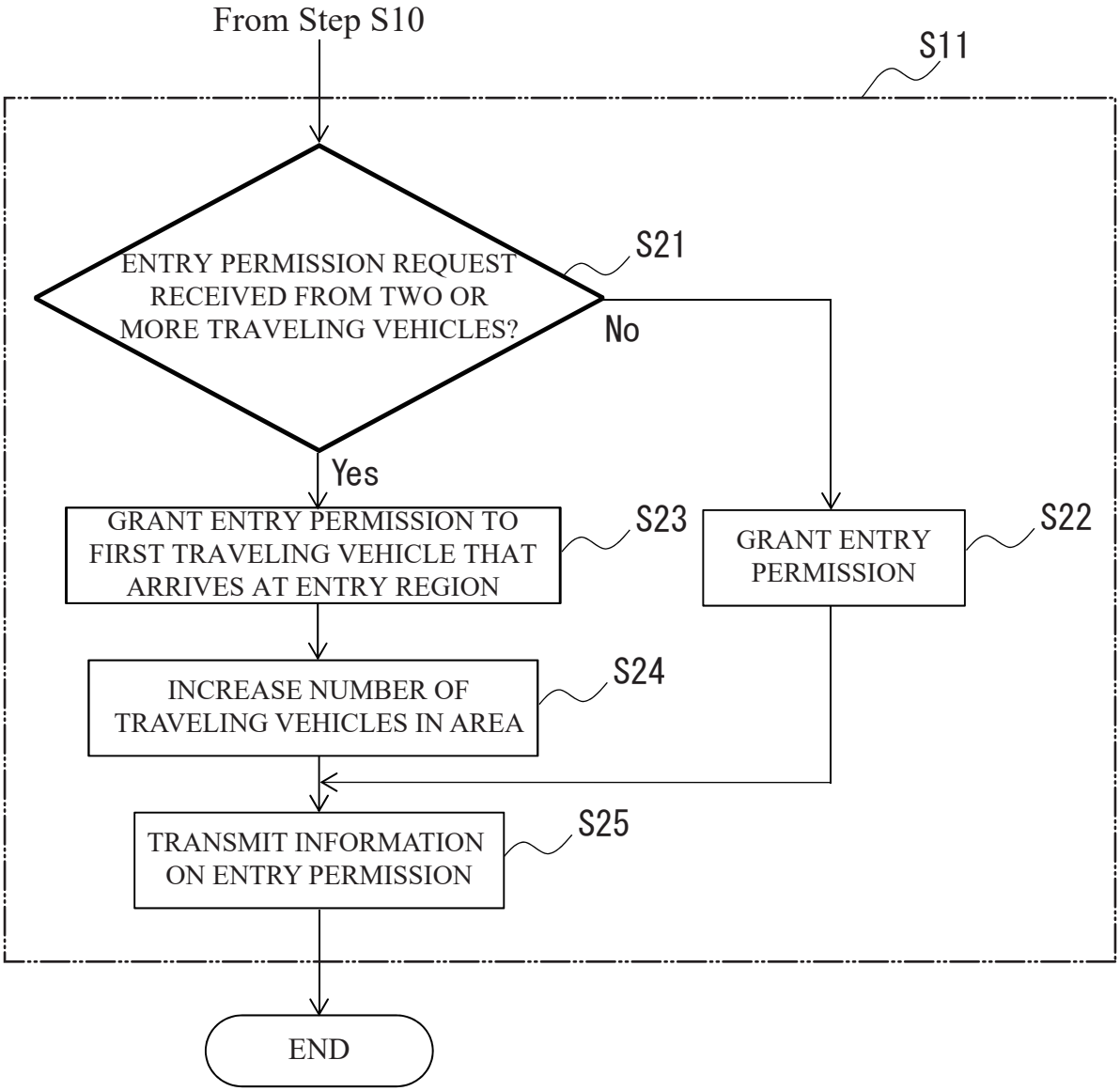

From Step S10
S11
ENTRY PERMISSION REQUEST RECEIVED FROM TWO OR MORE TRAVELING VEHICLES?
S21
No
Yes
GRANT ENTRY PERMISSION TO FIRST TRAVELING VEHICLE THAT ARRIVES AT ENTRY REGION
S23
GRANT ENTRY PERMISSION
S22
INCREASE NUMBER OF TRAVELING VEHICLES IN AREA
S24
TRANSMIT INFORMATION ON ENTRY PERMISSION
S25
END

FIG.5

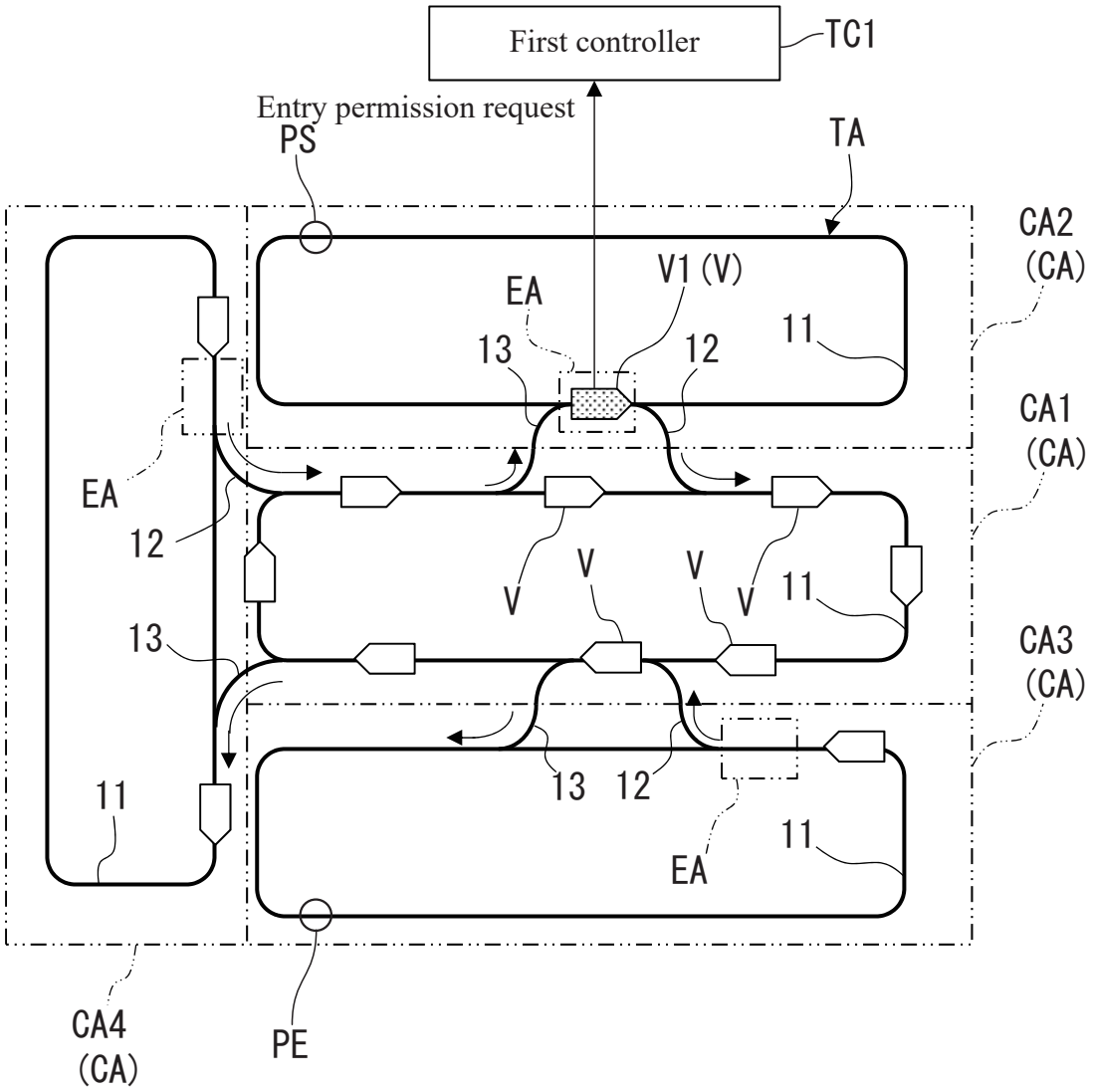

First controller
TC1
Entry permission request
PS
TA
CA2
(CA)
EA
V1 (V)
11
13
12
CA1
(CA)
EA
12
V
V
V
V
11
13
CA3
(CA)
13
12
11
EA
11
CA4
(CA)
PE

FIG.6

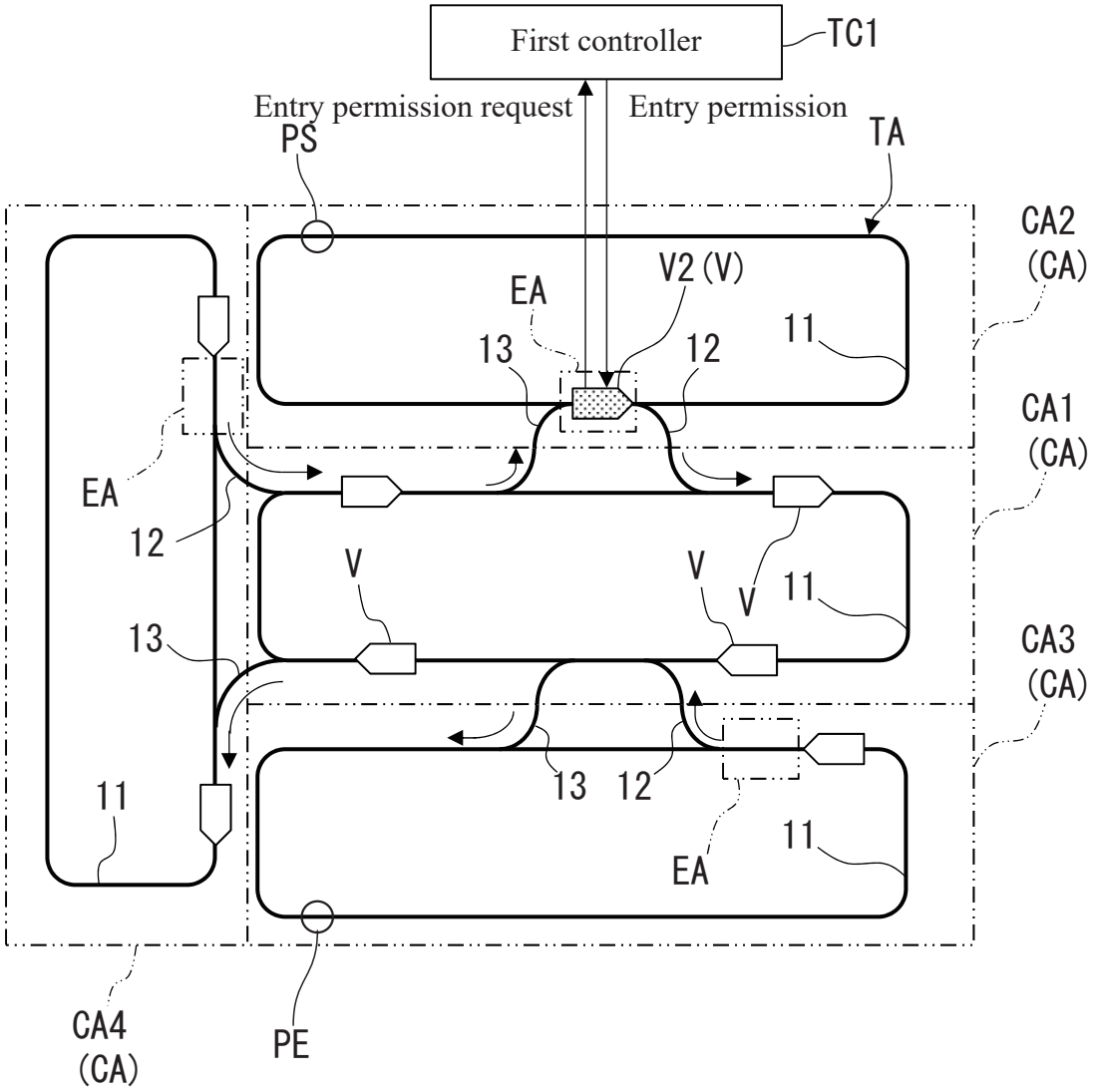

First controller
TC1
Entry permission request
Entry permission
PS
TA
CA2
(CA)
V2 (V)
EA
13
12
11
CA1
(CA)
EA
12
V
V
V
11
13
CA3
(CA)
11
13
12
11
EA
CA4
(CA)
PE

FIG.7

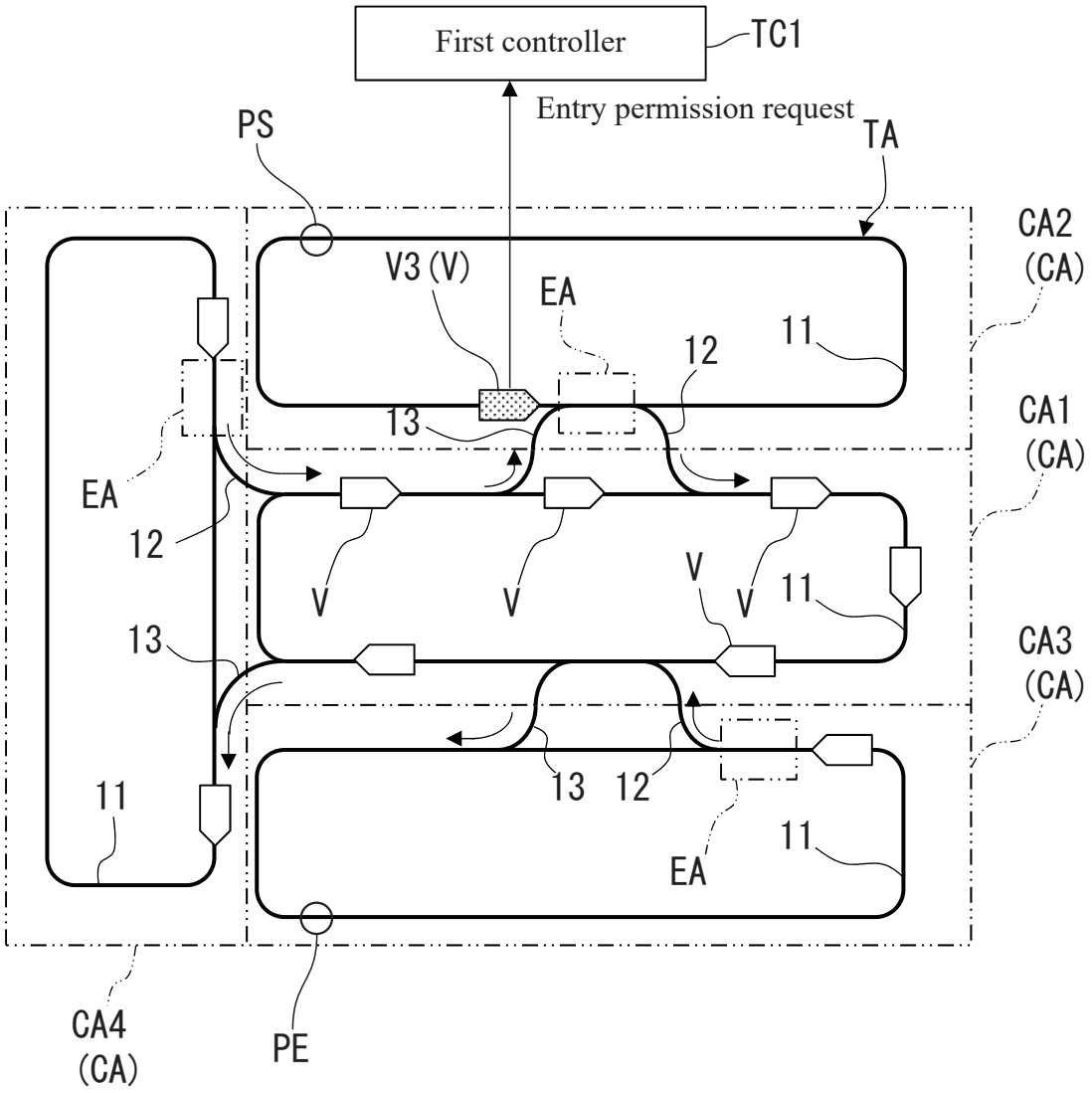

First controller
TC1
Entry permission request
PS
TA
CA2
(CA)
V3 (V)
EA
11
12
13
CA1
(CA)
EA
12
V
V
V
V
11
13
CA3
(CA)
11
13
12
11
EA
CA4
(CA)
PE

FIG.8

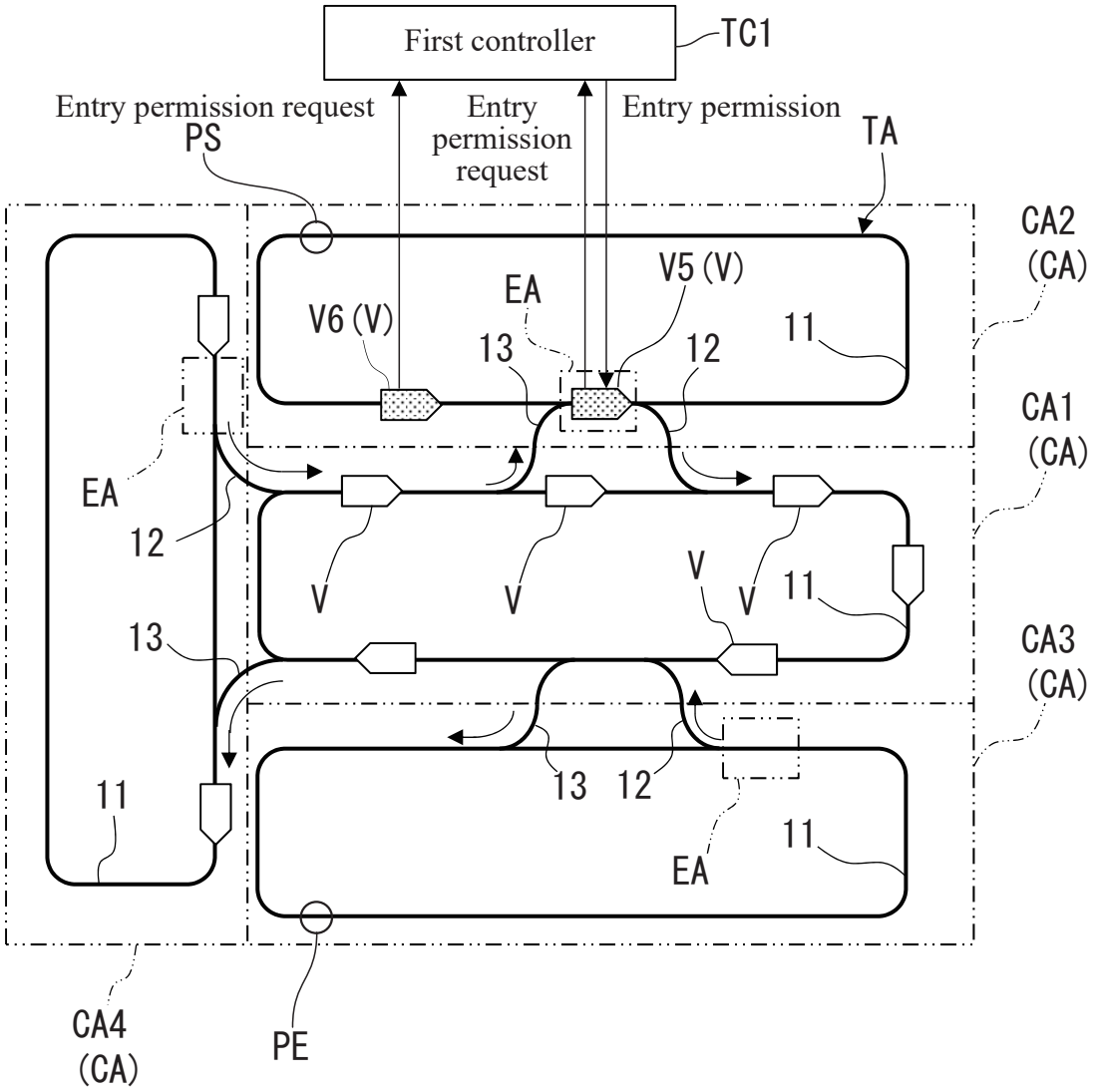

First controller
TC1
Entry permission request
Entry permission request
Entry permission
PS
TA
CA2 (CA)
V5 (V)
EA
V6 (V)
13
12
11
CA1 (CA)
EA
12
V
V
V
V
11
13
CA3 (CA)
13
12
11
EA
11
CA4 (CA)
PE

FIG.9

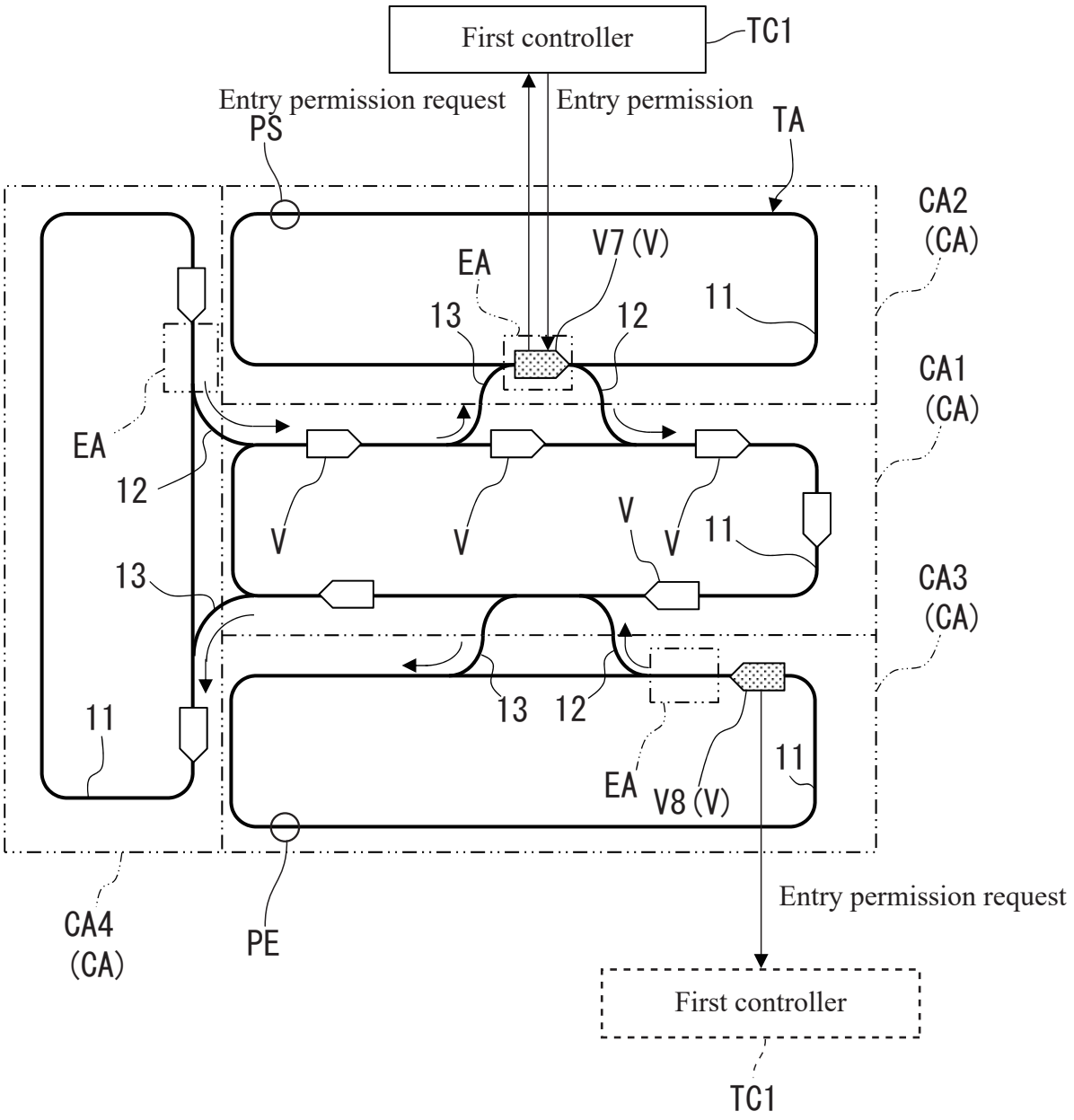

First controller
TC1
Entry permission request
Entry permission
PS
TA
CA2
(CA)
V7 (V)
EA
11
13
12
CA1
(CA)
EA
12
V
V
V
V
11
13
CA3
(CA)
11
13
12
EA
V8 (V)
11
Entry permission request
CA4
(CA)
PE
First controller
TC1

FIG.10

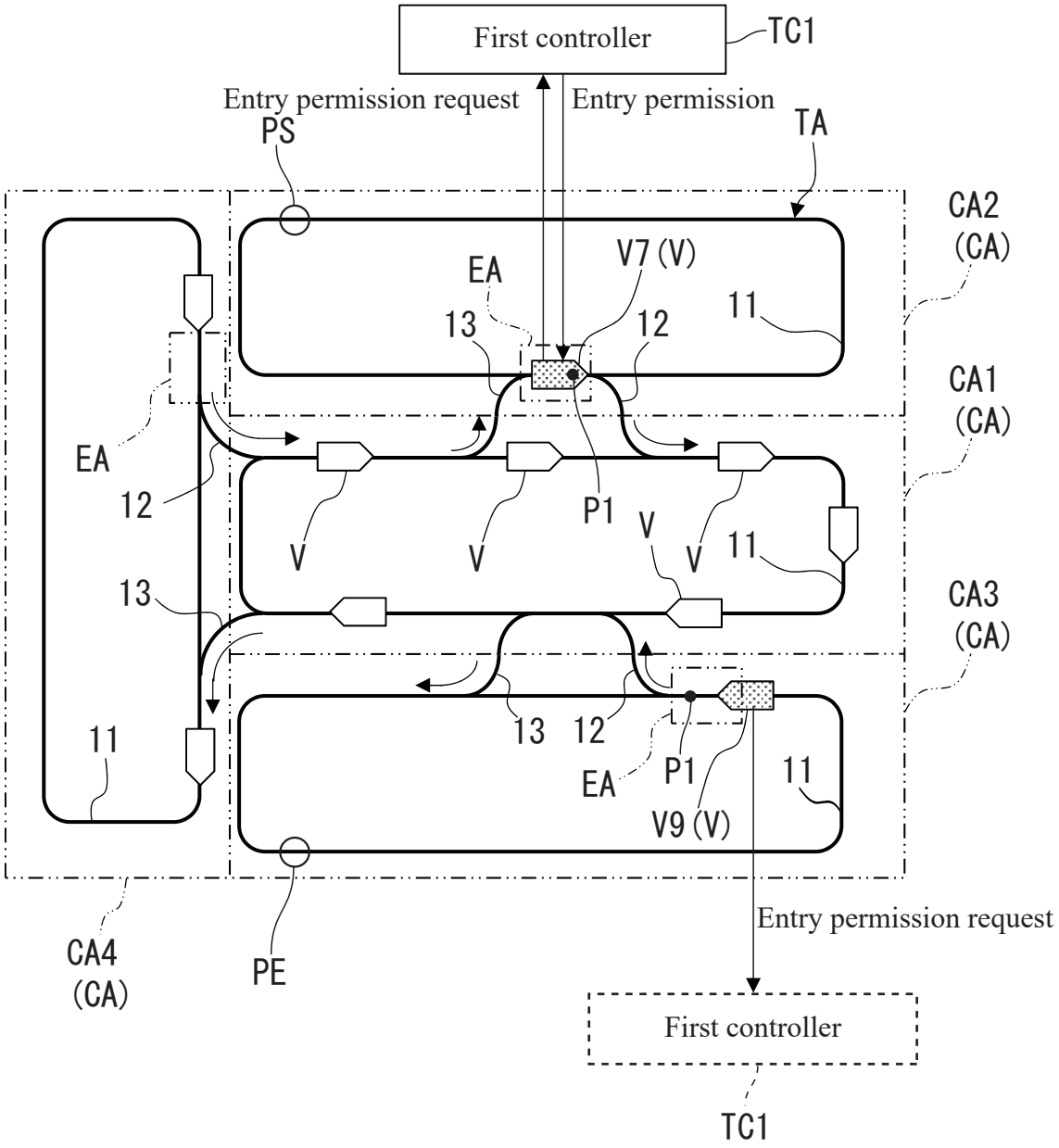
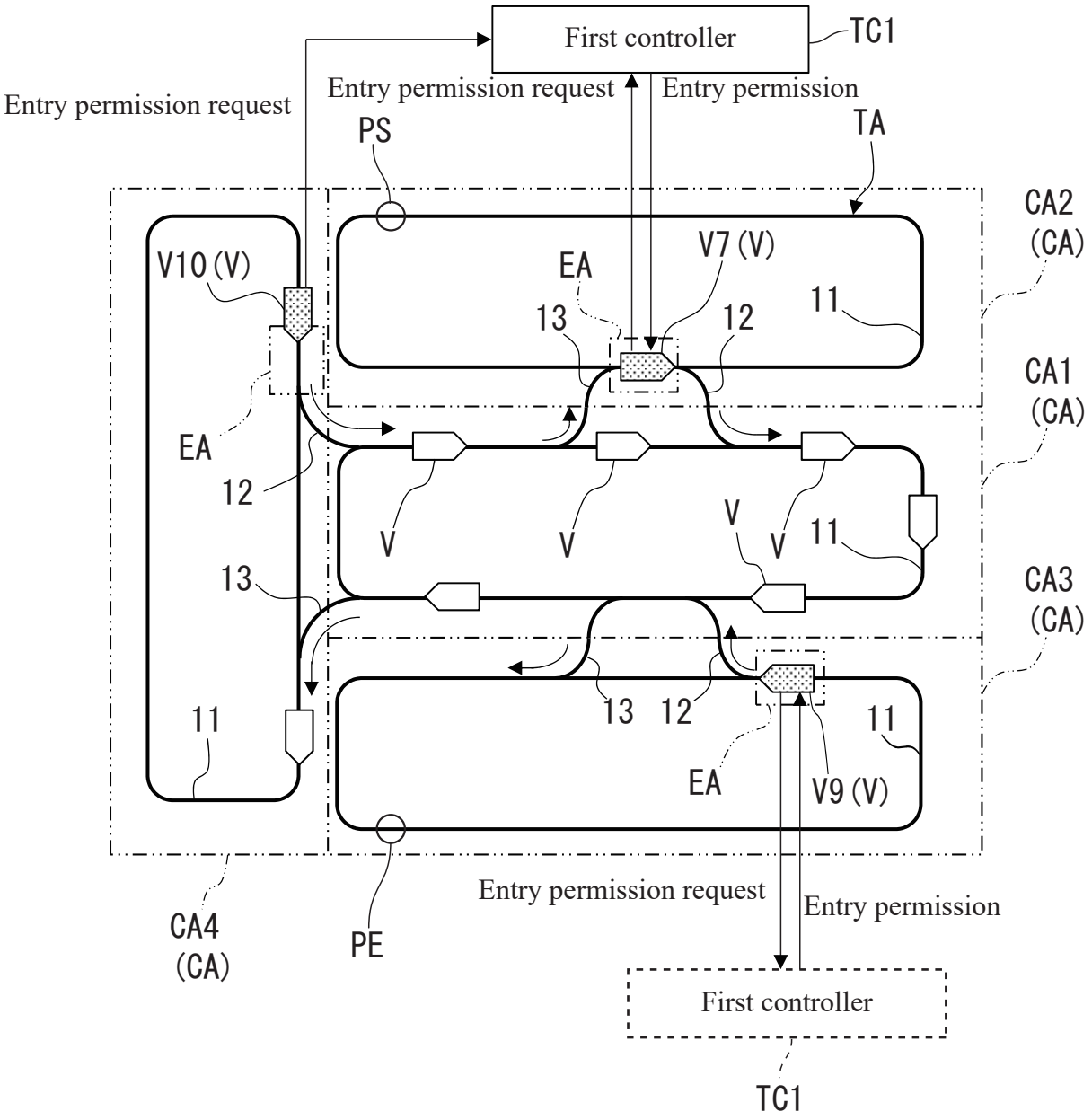

First controller
TC1
Entry permission request
Entry permission
PS
TA
CA2
(CA)
EA
V7 (V)
13
12
11
CA1
(CA)
EA
12
P1
V
V
V
V
11
13
CA3
(CA)
11
13
12
EA
P1
11
V9 (V)
CA4
(CA)
PE
Entry permission request
First controller
TC1

FIG.11


First controller
TC1
Entry permission request
Entry permission request
Entry permission
PS
TA
CA2
(CA)
V10 (V)
EA
V7 (V)
13
12
11
CA1
(CA)
EA
12
V
V
V
V
11
13
CA3
(CA)
11
13
12
11
EA
V9 (V)
CA4
(CA)
PE
Entry permission request
Entry permission
First controller
TC1