Intelligent Defrost

There will be 2 situations when ambient temperature is ≤ Parameter 31 (default -10).

Situation 1: when coil temperature ≤ Parameter 30 (default -7), ambient temperature - coil temperature is ≥ Parameter 32 (default 10) and compressor accumulative running time ≥ Parameter 29 (default 45), if all these 3 conditions are met at the same time when ambient temperature is ≤ Parameter 31 (default -10), the unit will start defrosting.

Situation 2: no matter what temperature is ambient temperature - coil temperature), once compressor accumulative running time ≥ Parameter 29 + Parameter 33 (default 45+45) and coil temperature ≤ Parameter 30 (default -7), then the unit will defrost.

That means, if △T keeps ＜Para.32 before compressor accumulative running time ＜Para.29+Para.33, the unit will not enter defrost mode.

So, when ambient temperature is -10, and the coil temperature is detected to be -20, at this time if the compressor accumulative running time already ≥ 45mins, it will enter defrost mode as all 4 conditions are met (①Ta≤-10, ②Tc≤-7, ③Tr≥45, ④Ta-Tc=10≥10).

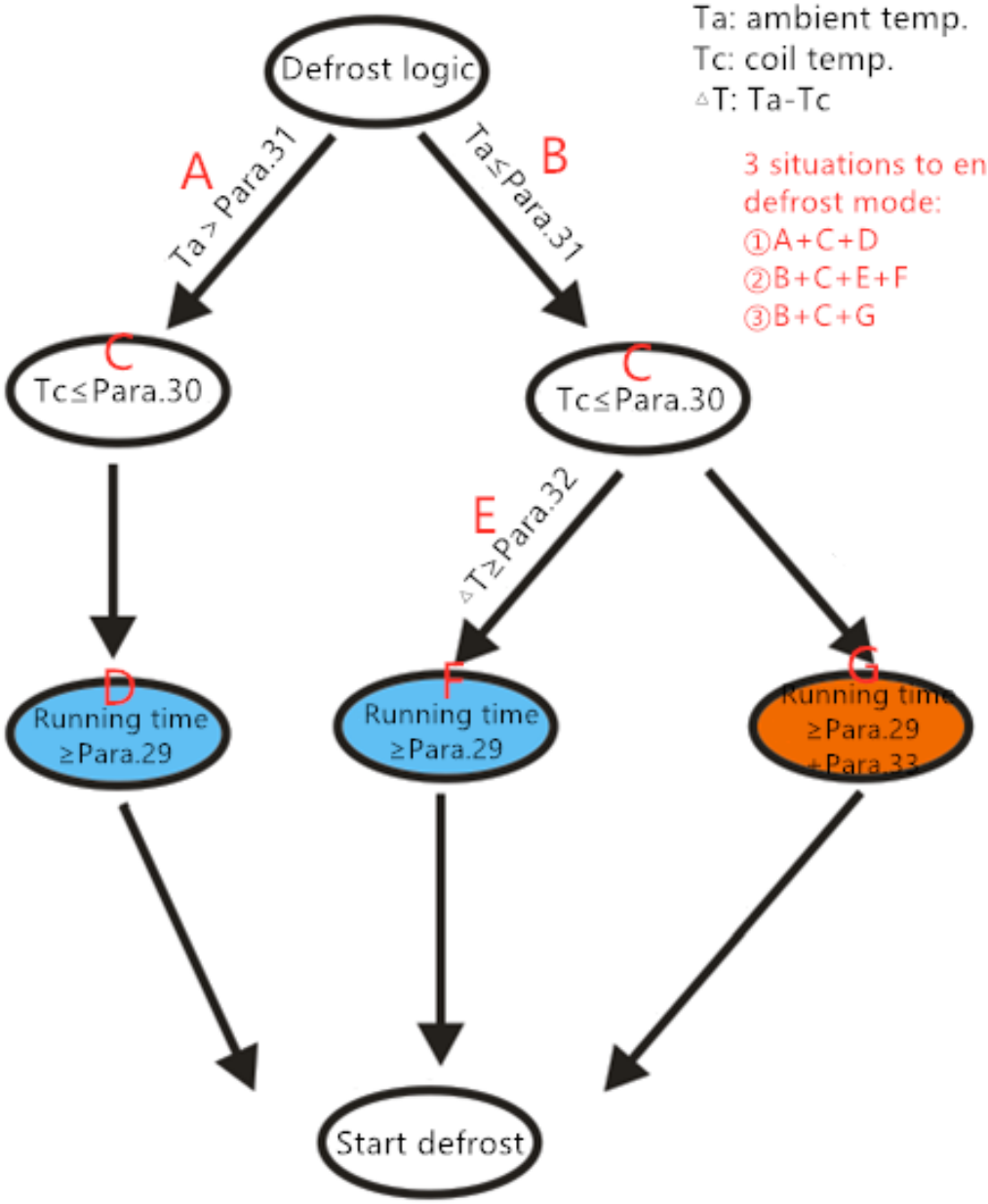
If the compressor accumulative running time is less than 45min when it is detected to be -20, it will keep working for heating.

If coil temperature is -19 when it reaches 45min and when compressor runs for 48min the coil temperature is detected to be -20, then it will start defrosting.

If you would like to shorten the defrost cycle time (defrost interval), you can lower Para.29 and Para.33.

If you would like to length the defrosting time, you can increase Para. 34. But according to our engineers' experience, normal defrost will be finished very fast in 1 or 2mins, very few to take more than 8mins.

Condition to exit defrost mode: when outdoor coil temperature reaches above 13 C (parameter 35) or when defrost time reaches 8 min setting (parameter 34).


Ta: ambient temp.
Tc: coil temp.
△T: Ta-Tc
3 situations to enter defrost mode:
①A+C+D
②B+C+E+F
③B+C+G
Defrost logic
A
Ta > Para.31
B
Ta≤Para.31
C
Tc≤Para.30
C
Tc≤Para.30
E
△T≥Para.32
D
Running time ≥Para.29
F
Running time ≥Para.29
G
Running time ≥Para.29 +Para.33
Start defrost