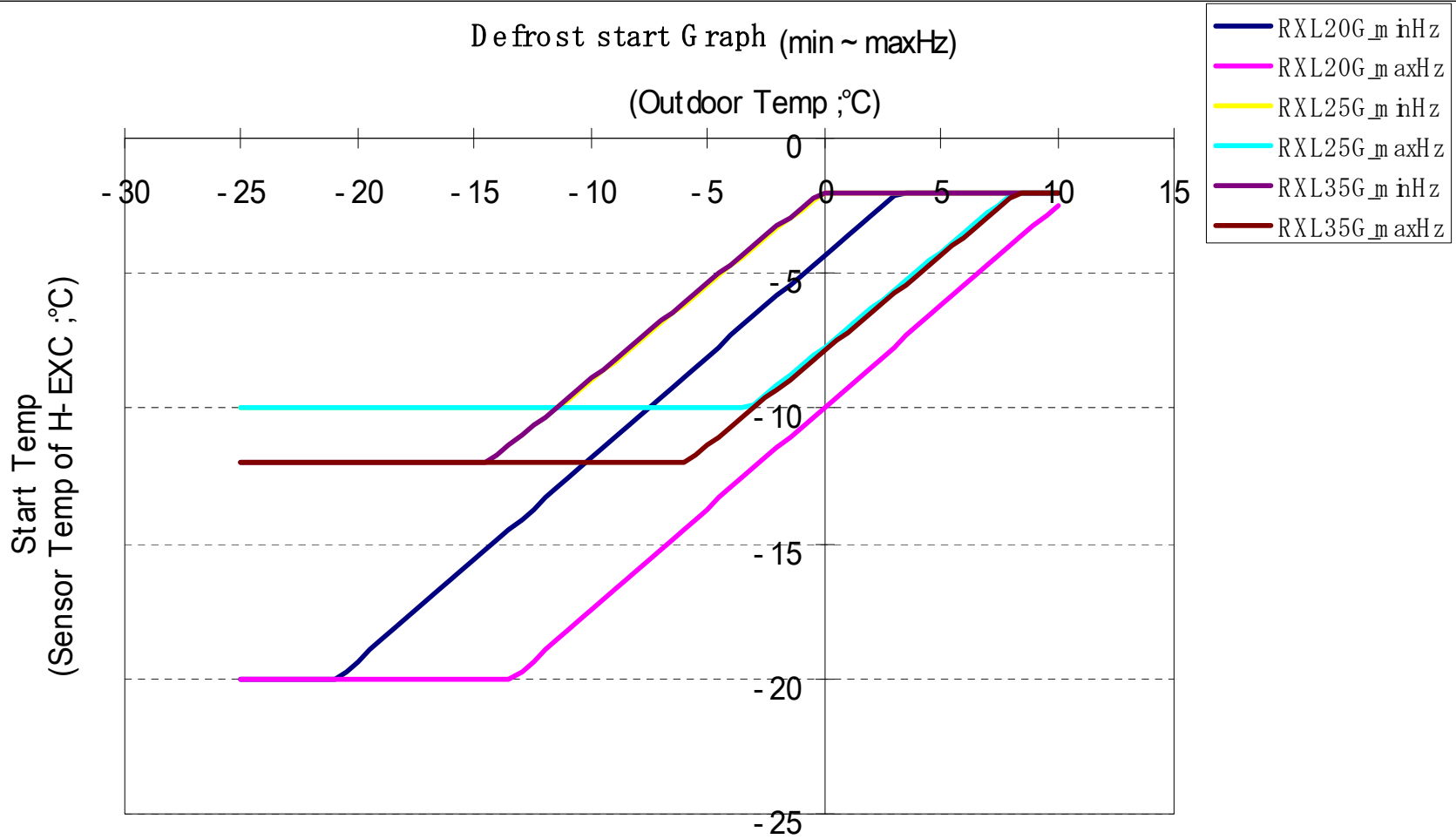
System of the Defrost cycle for a RA –Nordic models.

1. Starting condition of Defrost.

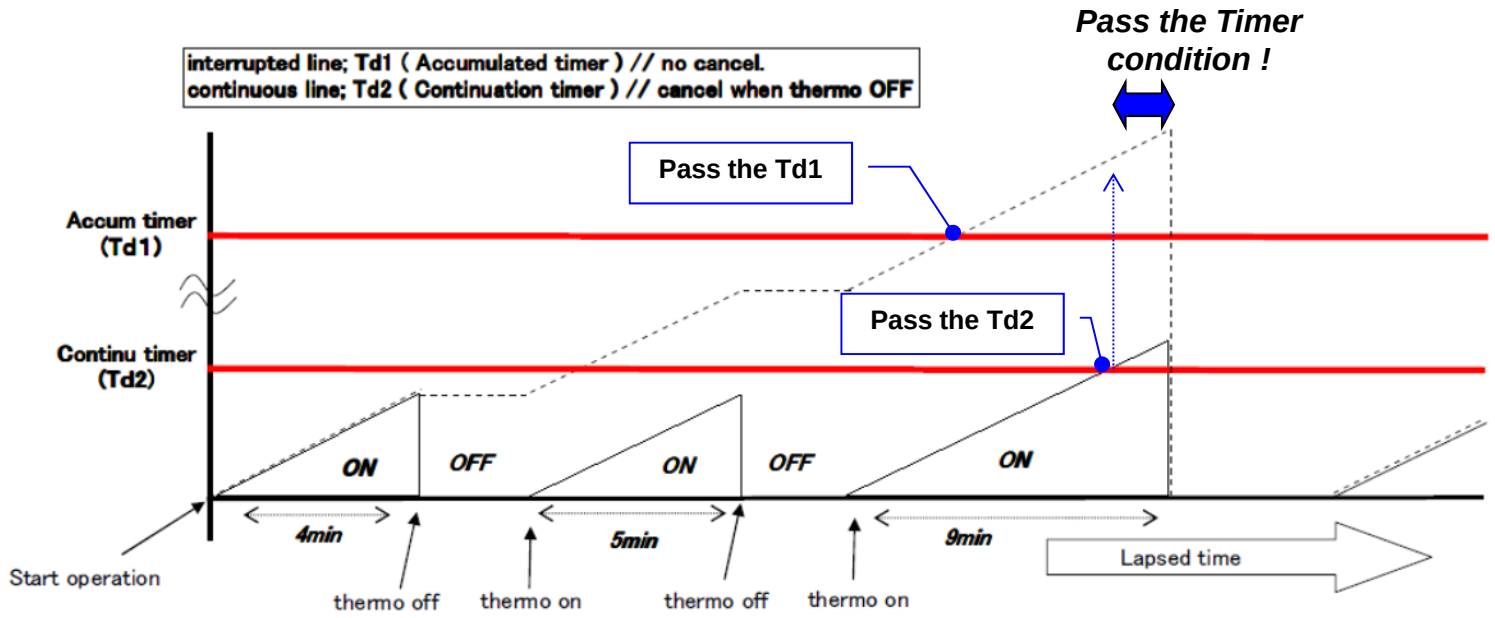
1-1. Combination (Outdoor Temp , Comp's rotational frequency and Heat EXC's Temp)



[Temp defrost on] = (-19/256) x compressor Hz + (45/64) x outdoor air temp.

1-2. Guard timer. (Accumulated timer and Continuation timer)

Guard timer Control figure (imagery)



Model name	Td1	Td2
RXL20G2V1B	28min	6min
RXL25G2V1B	30min	6min
RXL35G2V1B	44min	6min

The compellingly Defrost mode.
< Condition ; item 1 and item 2 => start the Defrost. >
1. Outdoor Temp < 0 ℃
2. Accumulated timer (operation time) > 4,0 hours

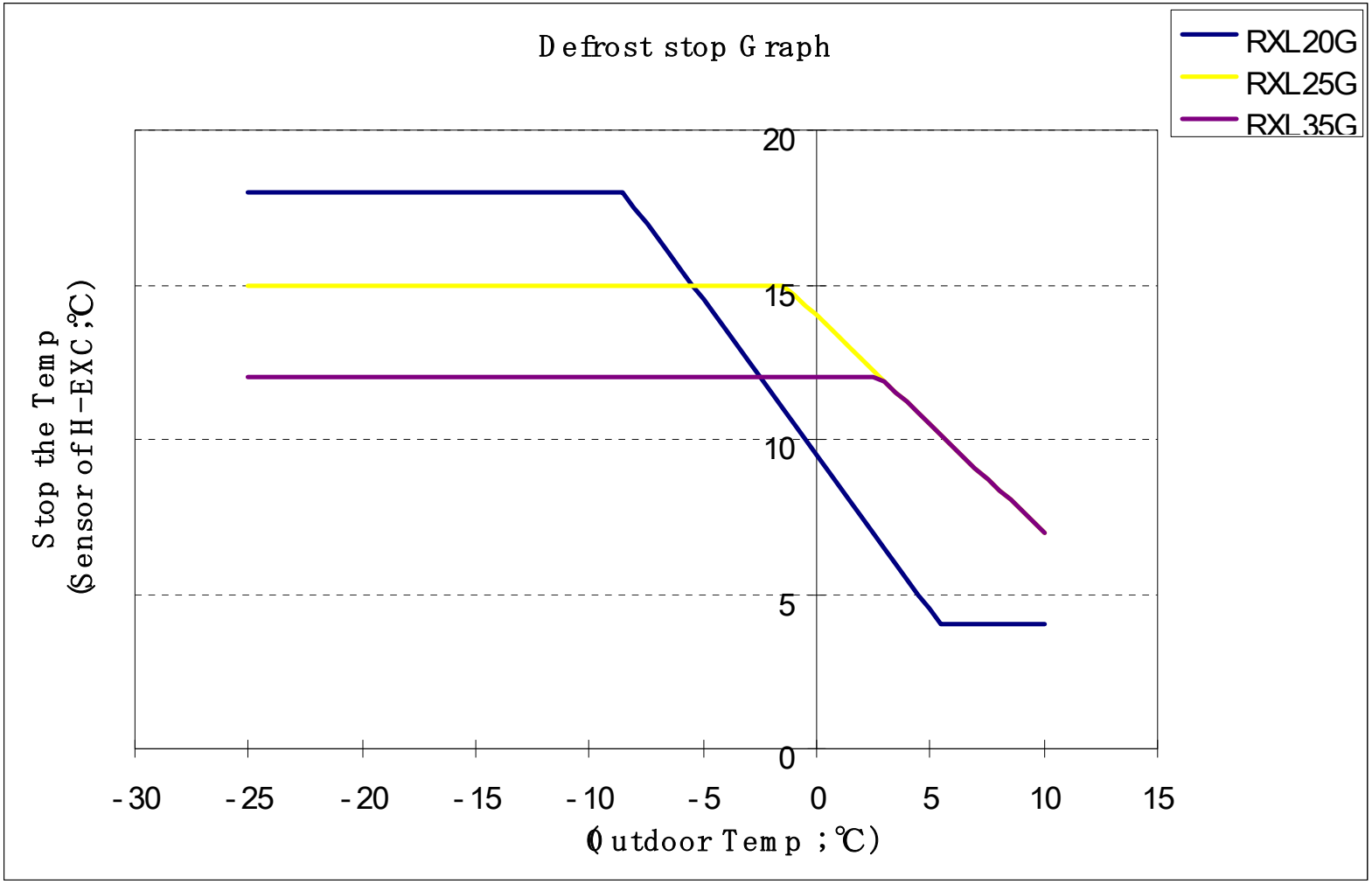
Conclusion !

<u>Temperature condition;1-1</u> . ∩ **<u>Timer condition;1-2</u>** . (AND)

When both of conditions are cleared, the outdoor unit performs the DEFROST.

2. Stopping condition of Defrost.

2-1. Combination (Outdoor Temp and Heat EXC's Temp)



2-2. Guard timer. (Minimum operation time and Maximum operation time)

Model name	Minimum time	Maximum time
RXL20G2V1B	2,0 min (120sec.)	10,7min (640sec.)
RXL25G2V1B	2,0 min (120sec.)	10,8min (650sec.)
RXL35G2V1B	2,0 min (120sec.)	7,7min (460sec.)

Conclusion !

Temperature condition;2-1 . ∪ **Timer condition;2-2** . (OR)

When one of conditions are cleared, the outdoor unit stops the DEFROST.

< Example. >

Cace 1; The Heat Exchanger Temp reaches , Defrost time < 2,0min — Defrost mode is continued.
Case 2; The Heat Exchanger Temp reaches , Defrost time > 2,0min — Defrost mode is stopped.
Case 3; The Heat Exchanger Temp un-reaches , Defrost time > 2,0min — Defrost mode is continued.
Case 4; The Heat Exchanger Temp un-reaches , Defrost time > Max min — Defrost mode is stopped.

The temperature of a heat exchanger will not rise easily, when outdoor temperature is very low (-25℃ ~ -15℃.)
The heat of a refrigerant will be taken by the wind when there is no enclosure for protection against wind in a unit.

When the ice of a heat exchanger does not melt completely, the time limit (Maximum time) passes.

=> ***A unit will start heating operation with the remained ice.*** ***(Accumulate the ICE.)***