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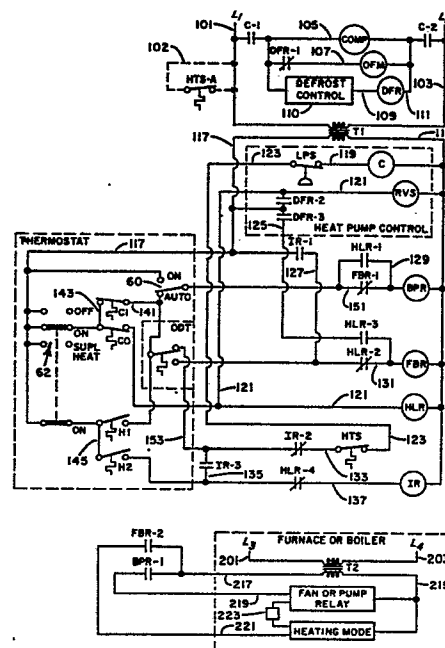
Applicant: **CARRIER CORPORATION**, Carrier
Tower 6304 Carrier Parkway P.O. Box 4800, Syracuse
New York 13221 (US)

Inventor: **Cann, Peter L.**, RD3, Quarry Road, Canastota
New York 13032 (US)
Inventor: **Drucker, Alan S.**, 313 Lansdowne Road, Dewitt
New York 13214 (US)
Inventor: **D'Aversa, Richard D.**, 7743 Treadmill Circle,
Liverpool New York 13088 (US)
Inventor: **Jeffers, Richard D.**, 5496 Bear Road, N.
Syracuse New York 13212 (US)

Representative: **Waxweiler, Jean et al**, OFFICE
DENNEMEYER S.à.r.l. 21-25 Allée Scheffer P.O.Box 41,
L-2010 Luxembourg (LU)

Method and apparatus for integrating operation of a heat pump and a separate heating source and preventing simultaneous operation of a heat pump and a separate heating source.

A method and apparatus for preventing simultaneous operation of a heat pump (21) and a separate heating source (20) are disclosed. A thermal sensing element (33) is mounted to the compressor discharge line adjacent the indoor coil of the heat pump when the heat pump is in the heating mode of operation to sense the refrigerant discharge temperature. Based upon the temperature sensed, simultaneous operation of the furnace and the heat pump may be prevented such that the heat pump is not cycled on a compressor overload designed to avoid compressor operation under abusive conditions. Additionally, by the selection of the location of the high temperature sensor, the sensor is not responsive to operation of the heat pump in the cooling mode since the operating temperatures in cooling are significantly below the setpoint to prevent simultaneous operation during heating. The combination of a heating lockout relay and an interlock relay are utilized to provide for fail safe integrated operation including providing for selected control functions and for isolating other functions to prevent a failed electrical component from operating the system in an undesirable manner.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
A	<u>GB - A - 2 008 240</u> (CARRIER CORP.) * Abstract * --	1,4,5, 6,9	F 24 D 5/00 F 24 D 19/10
A	<u>US - A - 4 228 846</u> (CARRIER CORP.) * Abstract * ----	1,4,5, 6,9	
			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
			F 24 D F 24 F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 11-04-1984	Examiner VAN GESTEL
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.



LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-12: Control, control circuit and method for detecting the simultaneous operation of a heat pump and a furnace.
2. Claims 13-17: Method for preventing the simultaneous operation of a heat pump and a furnace.

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims: 1-12