



PWM CONVERTER

High power factor PWM converter with power regenerative function

Additional Instruction Manual

· Connection method with each inverter type

Related inverter series

FRENIC-VG Series
FRENIC-MEGA Series
FRENIC-Eco(VP) Series
FRENIC-HF Series
FRENIC-Ace Series

■ Refer to the RHC-C CONVERTER instruction manual for all matters not contained herein.
· PWM CONVERTER RHC-C instruction manual INR-HF51746□-E

■ The information and specifications contained in this instruction manual are subject to change for product improvements.

Preface

Thank you very much for purchasing our "PWM converter RHC" series with power regenerative function. This manual is intended to run 3-phase induction motors at variable speeds.

This manual supplement the RHC-C CONVERTER instruction manual about combination with the inverter FRENIC series.

The chapter number written in this manual follows a RHC-C CONVERTER instruction manual.

Related inverter series

The basic type of the following series is an object.

The type with a built-in EMC filter cannot do combination with RHC-C series.

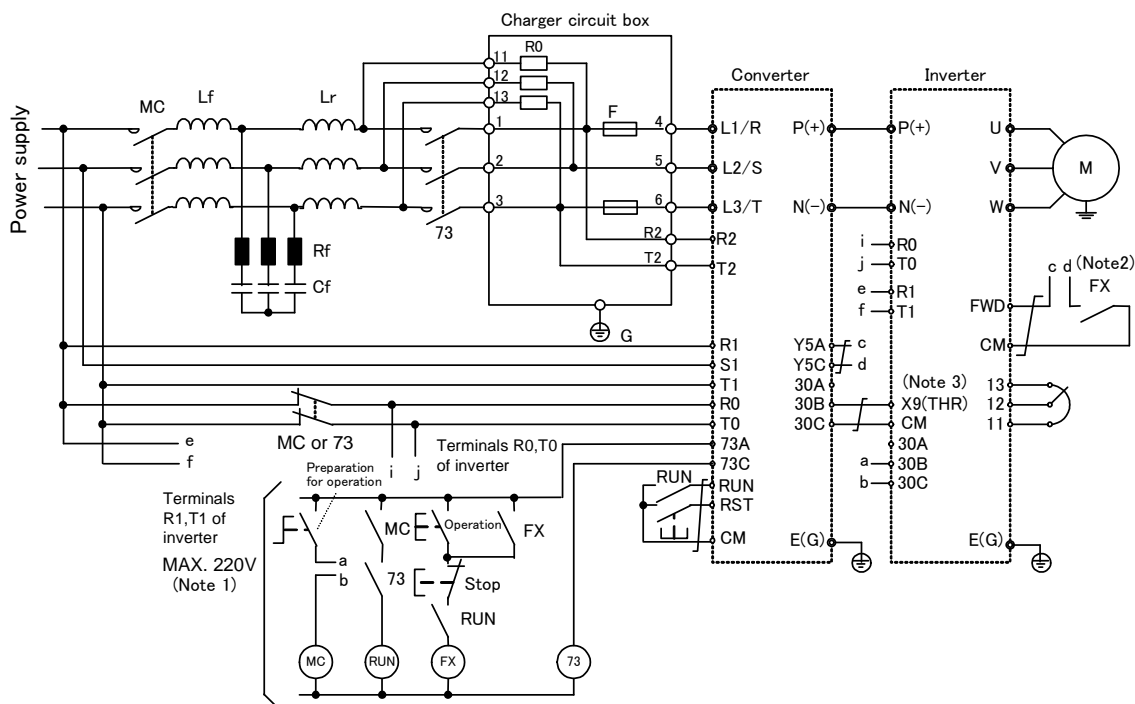
- FRENIC-VG series
- FRENIC-MEGA series
- FRENIC-Eco(VP) series
- FRENIC-HF series
- FRENIC-Ace series

3.3.4 Basic Connection Diagram

In combination with an object inverter, the auxiliary control power supply input terminals "R0, T0" and "R1, T1" of an inverter and the connection should wire according to converter capacity.

■RHC7.5-2C~RHC90-2C, ■RHC7.5-4C~RHC220-4C

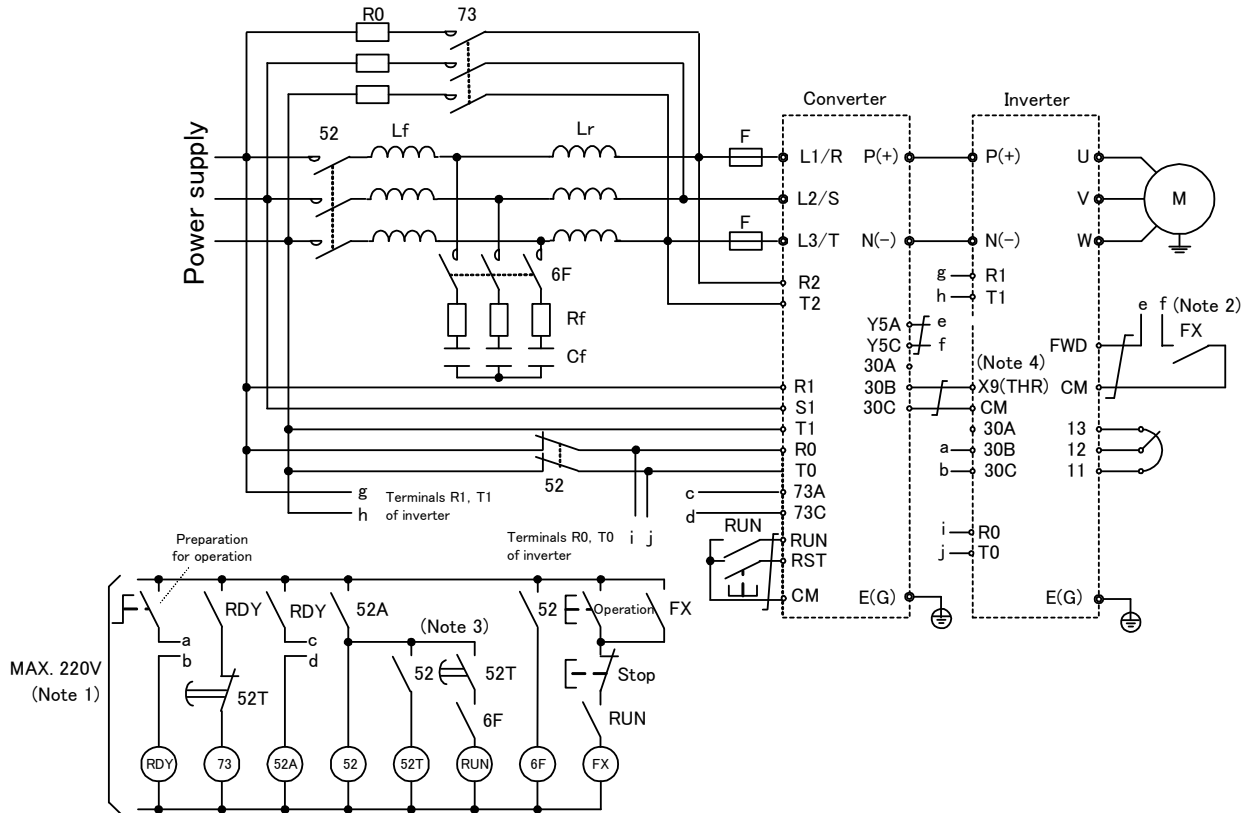
- 1) The auxiliary control power supply input terminals of an inverter "R0, T0"
Be sure to connect to the main power input lines via B contacts of magnetic contactors (73 or MC)
- 2) The auxiliary control power supply input terminals of the AC fan "R1, T1"
※Only capacity with R1 and T1 terminal
Be sure to connect to the main power input lines without going through the MC's B contacts or 73.



- (Note 1) For the 400 V class power supply, connect a stepdown transformer to limit the voltage of the sequence circuit to 220 V or below.
- (Note 2) Construct a sequence in which a run command is given to the inverter after the PWM converter becomes ready to run.
- (Note 3) Assign the external alarm THR to any of terminals [X1] to [X9] on the inverter.
- (Note 4) Wiring for terminals L1/R, L2/S, L3/T, R2, T2, R1, S1, and T1 should match with the phase sequence.

■RHC280-4C~RHC630-4C, ■RHC400-4C (VT specification)
 ■RHC500B~RHC800B-4C

- 1) The auxiliary control power supply input terminals of an inverter "R0, T0"
 Be sure to connect to the main power input lines via B contacts of magnetic contactors (52)
- 2) The auxiliary control power supply input terminals of the AC fan "R1, T1"
 ※Only capacity with R1 and T1 terminal
 Be sure to connect to the main power input lines without going through the 73's B contacts or 52.



- (Note 1) Connect a step-down transformer to reduce the voltage of the sequence circuit to within 220V.
 (Note 2) Configure a sequence where preparation for operation of the PWM converter is arranged first before operation signals are issued to the inverter.
 (Note 3) Set the timer of 52T at 1sec.
 (Note 4) Assign one of X1 to X9 terminals of the inverter to external alarm (THR).
 (Note 5) Connect cables to the L1/R, L2/S, L3/T, R2, T2 R1, S1 and T1 terminals in the correct phase order.

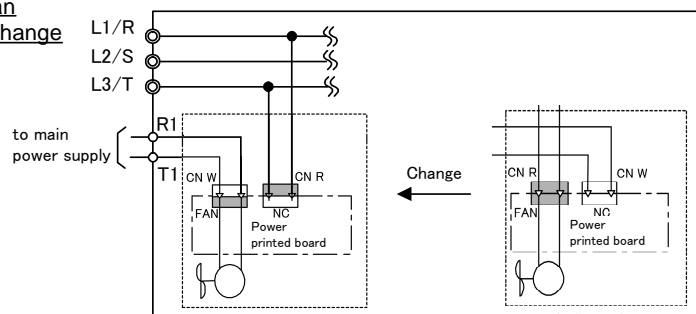
3.3.5 Details of Connection

(5) Auxiliary control power supply circuit

Some parts such as the AC fan inside inverter operate with AC power supply, connect the fan power supply switching connector (CN R) inside the inverter to [NC] side, (CN W) to [FAN] side to supply AC power across terminals R1 and T1. For detail switching procedure, refer to the instruction manual for each inverter type.

The inverter which is the target of fan power supply switching connector change

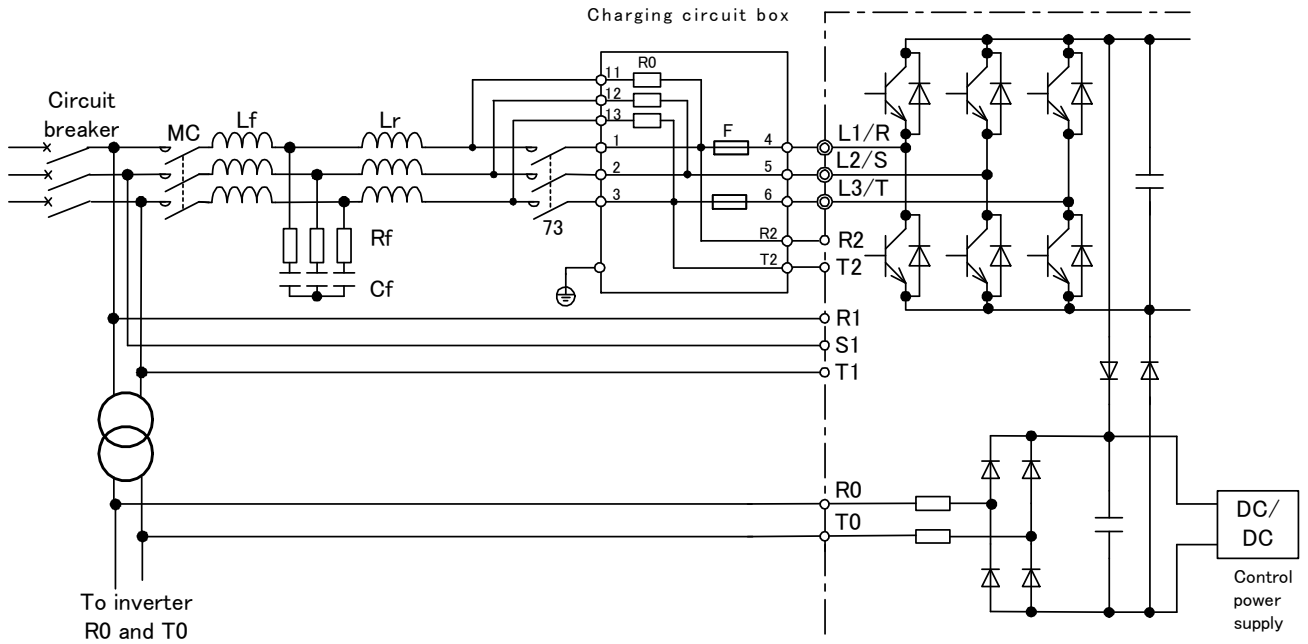
- VG(VG1S) : 200V 37kW or higher
400V 75kW or higher
- MEGA(G1S) : 200V 45kW or higher
400V 75kW or higher
- Eco(F1S) : 200V 45kW or higher
400V 55kW or higher
- Ace(E2S) : 400V 75kW



Note) If you mistake in setting of the fan power supply switching connector, the fan does not rotate and an overheated inverter (OH1) or a charging circuit error(PbF) could result.

d) Precautions for application to non-grounded power supply

If the converter is connected to a non-grounded power supply, the insulated transformer capacity applied in order to prevent inverter breakage should add and choose the capacity of the transformer according to the capacity requirements of the converter and inverter, based on the table below.



Transformer capacity requirement of converter

Series	Type	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	220	280	315	355	400	500	~
RHC	RHC□-2C	100VA												-									
	RHC□-4C	100VA												150VA					300VA				

Transformer capacity requirement of inverter

Series	Type	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	200	220	250	280	315	355	400	500	~
VG	FRN□VG1S-2J	150VA												200VA					-										
	FRN□VG1S-4J	-		150VA												200VA					-			300VA					
MEGA	FRN□G1S-2J	-		100VA												200VA													
	FRN□G1S-4J	-		100VA												200VA					-			300VA					
	FRN□GX1S-2JSI	-		100VA												-													
	FRN□GX1S-4JSI	-		100VA												-													
Eco (VP)	FRN□F1S-2J	100VA												200VA			400VA		-										
	FRN□F1S-4J	100VA												200VA					400VA		-			400VA					
HF	FRN□H1S-2J	-		100VA												-													
Ace	FRN□E2S-4J	-												100VA			200VA			-									