4.4.3.3 Relay output interface card (OPC-RY2)

The relay output interface card OPC-RY2 adds seven independent transfer contacts (1A contact) to the inverter. Using this card under cascade control enables the inverter to control seven motors. (Using also two transfer contacts on the inverter unit makes it possible to control a maximum of eight motors plus one (auxiliary pump) under cascade control.)

Ports available for the interface card

This interface card can be connected to either one of the B- and C-ports, out of three option connection ports (A-, B-, and C-ports) provided on the FRENIC-HVAC. Two or more relay output interface cards cannot be connected at a time.

Terminal functions

Symbol	Name	Descriptions
[6A/6C]	Relay contact output 6	These relay contacts output various signals ("Inverter running," "Frequency arrival signal," "Motor overload early warning," etc.) selected with Function codes o01 to o07. When [*n*A-*n*C] is short-circuited (active ON), the output signal is Active. Where, *n* = one of 6 to 12.
[7A/7C]	Relay contact output 7	
[8A/8C]	Relay contact output 8	
[9A/9C]	Relay contact output 9	
[10A/10C]	Relay contact output 10	
[11A/11C]	Relay contact output 11	
[12A/12C]	Relay contact output 12	

Electrical requirements

Item	Specifications
Contact capacity	250 VAC, 0.3A, cosΦ = 0.3, or 48 VDC, 0.5A (resistor load)
Contact life	200,000 times (ON/OFF every 1 second) at 250 VAC, 0.3A 200,000 times (ON/OFF every 1 second) at 48 VDC, 0.5A **Note:** When frequent ON/OFF switching is anticipated (for example, when using the current limit function with the inverter output limiting signal), use the terminals [Y1] to [Y4] (transistor outputs) instead.
Safety Standards/Directives	EN61800-5-1:2003, Overvoltage Category II (Reinforced Insulation) 250 VAC class

Internal circuits

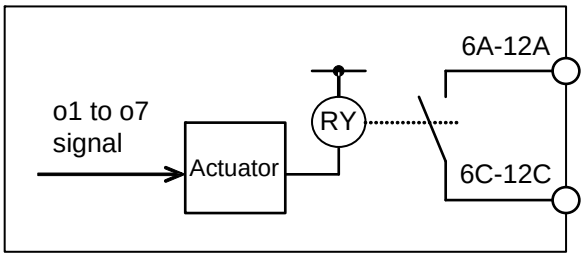

Figure 4.12 Internal Circuits

The relationship between function codes and relay output functions is as follows.

Function code	Functions	Setting range
o01	Relay contact output 6 (Function selection)	0 to 235, 1000 to 1235 (For negative logic)
o02	Relay contact output 7 (Function selection)	
o03	Relay contact output 8 (Function selection)	
o04	Relay contact output 9 (Function selection)	
o05	Relay contact output 10 (Function selection)	
o06	Relay contact output 11 (Function selection)	
o07	Relay contact output 12 (Function selection)	

o01 through o07 assign output signals to general-purpose, programmable relay outputs 6 through 12. These function codes can also switch the logic system between normal and negative to define the property of those relay outputs so that the inverter logic can interpret either the ON or OFF status of each relay output as active.

When a negative logic is employed, all output signals are active (e.g., an alarm would be recognized) while the inverter is powered OFF. To avoid causing system malfunctions by this, interlock these signals to keep them ON using an external power ON signal. Furthermore, the validity of these output signals is not guaranteed for approximately 2 seconds after power ON, so introduce such a mechanism that masks them during the transient period.