VS1ST-HVAC

HVAC RELAY OUTPUT CARD

User Guide

Installation and Operating Instructions

SAFETY NOTICES

WARNING is given where there is a hazard that could lead to injury or death of personnel.

CAUTION is given where there is a hazard that could lead to damage to equipment.

It is the responsibility of the installer to ensure that the equipment or system into which the product is incorporated complies with the EMC legislation of the country of use. Within the European Union, equipment into which this product is incorporated must comply with 89/336/EEC, Electromagnetic Compatibility.

WARNING
Within the European Union, all machinery in which this product is used must comply with the Directive 89/392/EEC, Safety of Machinery. In particular, the equipment should comply with EN60204-1.

WARRANTY

Complete Warranty Terms and Conditions are available upon request from your Authorized Distributor.

CAUTION

- Store the Option in its box until required. It should be stored in a clean and dry environment. Temperature range –40°C to +60°C.
- Install the Option onto the VS1ST or VS1MX drive by inserting the row of 11 pins into the terminal connector of the drive, ensuring that the terminals are tightened.
- If the Option is being used with Frame A drives, care should be taken to support the Option when the terminal screws of the Option are being tightened or loosened.

WARNING

- VS1 drives and the Options should be installed only by qualified electrical persons and in accordance with local and national regulations and codes of practice.
- ***Electric shock hazard!*** Disconnect and **ISOLATE** the VS1 drive before attempting any work on it. High voltages are present at the terminals and within the drive for up to 10 minutes after disconnection of the electrical supply.
- Where the electrical supply to the drive is through a plug and socket connector, do not disconnect until 10 minutes have elapsed after turning off the supply.

User Guide

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The manufacturer accepts no liability for any consequences resulting from inappropriate, negligent or incorrect installation.

The contents of this User Guide are believed to be correct at the time of printing. In the interests of a commitment to a policy of continuous improvement, the manufacturer reserves the right to change the specification of the product or its performance or the contents of the User Guide without notice.

SAFETY

This option is specifically designed to be used with the VS1ST and VS1MX variable speed drive product and is intended for professional incorporation into complete equipment or systems. If installed incorrectly it may present a safety hazard. The VS1 product line uses high voltages and currents, carries a high level of stored electrical energy, and is used to control mechanical plant that may cause injury. Close attention is required to system design and electrical installation to avoid hazards in either normal operation or in the event of equipment malfunction.

System design, installation, commissioning and maintenance must be carried out only by personnel who have the necessary training and experience. They must read carefully this safety information and the instructions in this Guide and follow all information regarding transport, storage, installation and use of the Option module, including the specified environmental limitations.

Please read the IMPORTANT SAFETY INFORMATION below, and all Warning and Caution boxes elsewhere.

STANDARDS AND CONFORMITY

A VS1ST or VS1MX fitted with this Option complies with the following standards:

- CE-marked for Low Voltage Directive.
- IEC 664-1 Insulation Coordination within Low Voltage Systems.
- UL 840 Insulation Coordination for electrical equipment.
- EN50081-2 EMC Generic Emissions Standard, Industrial Level.
- EN50082-2 EMC Generic Immunity Standard, Industrial Level.
- Enclosure ingress protection, EN60529 IP00, NEMA 250.
- Flammability rating according to UL 94.

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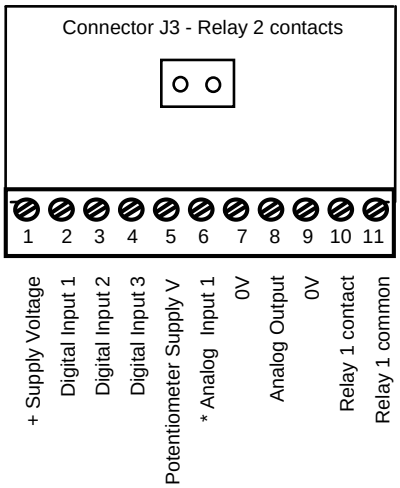
EXPLANATION

The HVAC Relay Option Module can be used in applications where two indicators are required showing “drive running” and “drive tripped”.

OPTION MODULE CONTROL TERMINALS Common to all Drives)



Note: Analog inputs should be connected to terminals 6 & 7.

OPERATION

Programming the first relay output

Use the following information to set P-22 for other Relay outputs:

Since the first relay output (fitted within the drive) is programmed using P-22, two completely independent relay outputs are available. The following options are supported for Relay 1:

P-22	Relay 2 output function select
0 : Drive enabled 1 : Drive healthy 2 : Motor at target speed 3 : Drive tripped 4 : Motor speed >= limit 5 : Motor current >= limit 6 : Motor speed < limit 7 : Motor current < limit	Defines the function of the user relay 2, when the operating conditions are met. Disabled : Contacts open Enabled : Contacts closed Options 4 to 7 : the Digital output is enabled using the level set in P-25

Programming the second relay output

The second relay output has only one setting, to indicate a run condition in the drive. This is enabled when P-22 = 1.

Relay 2 is closed when the drive is running.

Typical Drive Running Drive Tripped Settings

For typical operation set P-22 = 1,

Relay 2 (J3) closed on enable (Green Light - Drive running)

Relay 1 (J1) closed when drive tripped (Red Light)

SPECIFICATIONS

Max Relay switching voltage:	250V AC / 220V DC
Max Relay switching current:	1A
Max input voltage:	+/- 50V DC
Environmental:	-10ºC … +50ºC
Conformity:	IP00, UL94V-0

NOTES