



ORIGINAL INSTRUCTIONS

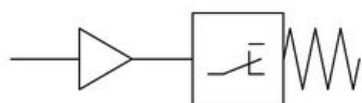
Refer to Declaration of Conformity for relevant Directives



Instruction Manual
Pneumatic/Electric relay
VR32 Series



Symbol



This product is designed for use in an industrial environment and its intended use is to provide an electrical output signal from a pneumatic input signal.

1 Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "Caution," "Warning" or "Danger." They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC^{*)}, and other safety regulations.

^{*)} ISO 4414: Pneumatic fluid power - - General rules relating to systems.
ISO 4413: Hydraulic fluid power - - General rules relating to systems.
IEC 60204-1: Safety of machinery - -Electrical equipment of machines. (Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots -Safety.etc.

This manual contains essential information for the protection of users and others from possible injury and/or equipment damage.

- Read this manual before using the product, to ensure correct handling, and read the manuals of related apparatus before use.
- Keep this manual in a safe place for future reference.
- To ensure safety of personnel and equipment the safety instructions in this manual must be observed, along with other relevant safety practices.

	Caution Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
	Warning Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
	Danger Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

1 Safety Instructions (continued)

Warning

- **The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.**
- Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.
- **Only personnel with appropriate training should operate machinery and equipment.**
The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.
- **Do not service or attempt to remove product and machinery/equipment until safety is confirmed.**
1) The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
2) When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
3) Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- **Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.**

1) Conditions and environments outside of the given specifications, or

use outdoors or in a place exposed to direct sunlight.

2) Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustions and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specification described in the product catalogue.

3) An application which could have negative effects on people, property, or animals requiring special safety analysis.

4) Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

- **Always ensure compliance with relevant safety laws and standards.**

All electrical work must be carried out in a safe manner by a qualified person in compliance with applicable national regulations.

Caution

- **The product is provided for use in manufacturing industries.**
The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

2 Specifications

2.1 Model / Specifications

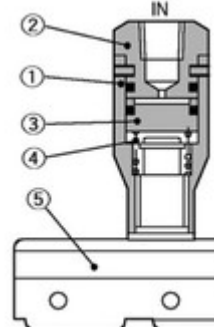
Model	VR3200-□01	VR3201-□01	VR3202-□01
Construction	Open type	Splashproof (IP44) Conduit: G1/2	Splashproof/Conduit with ground terminal: Pg13.5
Weight	130 g	260 g	260 g
Operating pressure	0.1 to 1.0 MPa		
Ambient and fluid temperature	-5 to 60°C (No freezing)		
Contacts	1ab		
Port size	1/8		
Standard	—		CE

Note 1) Filter the air supply system to 5 micron.

2.2 Microswitch Rating

Voltage	Non-inductive load (A)				Inductive load (A)			
	Resistance load		Light load		Inductive load		Electric motor load	
	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.	N.C.	N.O.
125 VAC	15	15	3	1.5	15	15	5	2.5
250 VAC	15	15	2.5	1.25	15	15	3	1.5
8 VDC	15	15	3	1.5	15	15	5	2.5
14 VDC	15	15	3	1.5	10	10	5	2.5
30 VDC	6	6	3	1.5	5	5	5	2.5
125 VDC	0.5	0.5	0.5	0.5	0.05	0.05	0.05	0.05
250 VDC	0.25	0.25	0.25	0.25	0.03	0.03	0.03	0.03

2.3 Construction



Component parts

No.	Description	Material
1	Body	Brass
2	Cap	Brass
3	Piston	POM
4	Spring	SUS
5	Microswitch	-

2.3 Batch codes and construction month:

3 Installation

Year	2012	2013	2014	....	2021	2022	2033	....
Month	Q	R	S	....	Z	A	B	....
Jan	O	Qo	Ro	So	....	Zo	Ao	Bo
Feb	P	QP	RP	SP	....	ZP	AP	BP
Mar	Q	QQ	RQ	SQ	....	ZQ	AQ	BQ
Apr	R	QR	RR	SR	....	ZR	AR	BR
May	S	QS	RS	SS	....	ZS	AS	BS
Jun	T	QT	RT	ST	....	ZT	AT	BT
Jul	U	QU	RU	SU	....	ZU	AU	BU
Aug	V	QV	RV	SV	....	ZV	AV	BV
Sep	W	QW	RW	SW	....	ZW	AW	BW
Oct	X	QX	RX	SX	....	ZX	AX	BX
Nov	Y	Qy	RQy	Sy	....	Zy	Ay	By
Dec	Z	QZ	RZ	SZ	....	ZZ	AZ	BZ

3.1 Installation

Warning

- Do not install the product unless the safety instructions have been read and understood.
- If air leakage increases or the equipment does not operate properly, stop operation. Unexpected motion can cause injury and equipment damage.
- Confirm proper mounting. Check that the piping is not disconnected or crushed. Connect the compressed air supply to the product and perform appropriate functional and leakage inspections to check it is mounted properly.
- Information or specifications printed or marked on the product should not be erased, removed or covered up. Contact SMC if paint is to be applied to resin parts, as this may have an adverse effect due to the paint solvent.

3 Installation (continued)

3.2 Environment

Warning

- Do not use in an environment where corrosive gases, chemicals, salt water or steam are present.
- Do not use in an explosive atmosphere.
- Do not expose to direct sunlight. Use a suitable protective cover.
- Do not install in a location subject to vibration or impact. Check the product specifications.
- Do not mount in a location exposed to radiant heat.
- Employ suitable protective measures in a location where there is contact with oil or welding spatter etc.
- The VR3202 must be earthed using the integral Protective Earth terminal in the housing cover.

Caution

- Avoid using in a location where it could be splashed by liquids such as oils, coolant and water.

3.3 Piping

Caution

- Before piping make sure to clean up chips, cutting oil, dust etc.
- When installing piping or fittings, ensure sealant material does not enter inside the port. When using seal tape, leave 1.5 to 2 threads exposed on the end of the pipe/fitting.
- When connecting a pipe fitting to the IN port, place the wrench over the hexagon portion of the cap. If the wrench is placed over the microswitch body, the neck of the microswitch could break.
- Tighten fittings to the specified tightening torque.

Thread	Tightening torque (N.m)
Rc 1/8	7 to 9

3.4 Lubrication

Caution

- SMC products have been lubricated for life at manufacture, and do

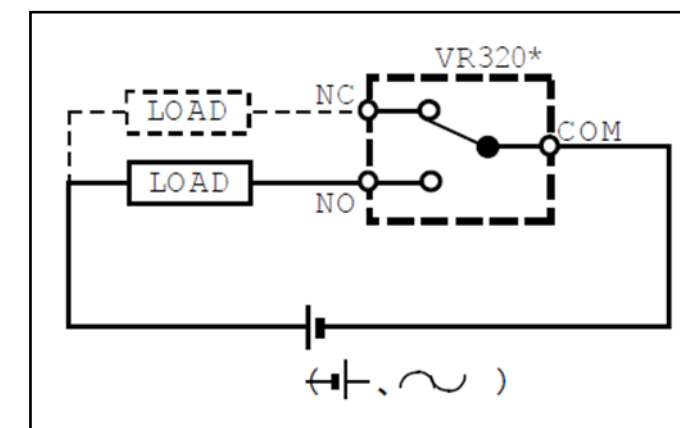
not require lubrication in service.

- If a lubricant is used in the system, use turbine oil Class 1 (no additive), ISO VG32. Once lubricant is used in the system, lubrication must be continued because the original lubricant applied during manufacturing will be washed away.

3.5 Wiring connection

Caution

- Wiring to be connected as shown below.



4 How to Order

VR320 0 -01
Port size

01	Rc 1/8
N01	NPT 1/8
F01	G 1/8

Construction

0	Open terminal type
1	Enclosed terminal type
2	Enclosed terminal type with ground terminal

Note: only the enclosed terminal type with ground terminal are CE marked (VR3202-##).

6 Maintenance

6.1 General Maintenance

Caution

- Not following proper maintenance procedures could cause the product to malfunction and lead to equipment damage.
- If handled improperly, compressed air can be dangerous. Maintenance of pneumatic systems should be performed only by qualified personnel.
- Before performing maintenance, turn off the power supply and be sure to cut off the supply pressure. Confirm that the air is released to atmosphere.
- After installation and maintenance, apply operating pressure and power to the equipment and perform appropriate functional and leakage tests to make sure the equipment is installed correctly.
- If any electrical connections are disturbed during maintenance, ensure they are reconnected correctly and safety checks are carried out as required to ensure continued compliance with applicable national regulations.
- Do not make any modification to the product.
- Do not disassemble the product, unless required by installation or maintenance instructions.
- Check regularly that there is no external damage.

7 Limitations of Use

7.1 Limited warranty and Disclaimer/Compliance Requirements

- **The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements". Read and accept them before using the product.**

- **Limited warranty and Disclaimer**

1) The warranty period of the product is 1 year in service or 1.5 years after the product is delivered, whichever is first⁽¹⁾. Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

2) For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.

This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.

3) Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.

⁽¹⁾ Vacuum pads are excluded from this 1 year warranty.

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered. Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

- **Compliance Requirements**

1) The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.

2) The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Caution

- **SMC products are not intended for use as instruments for legal metrology.**

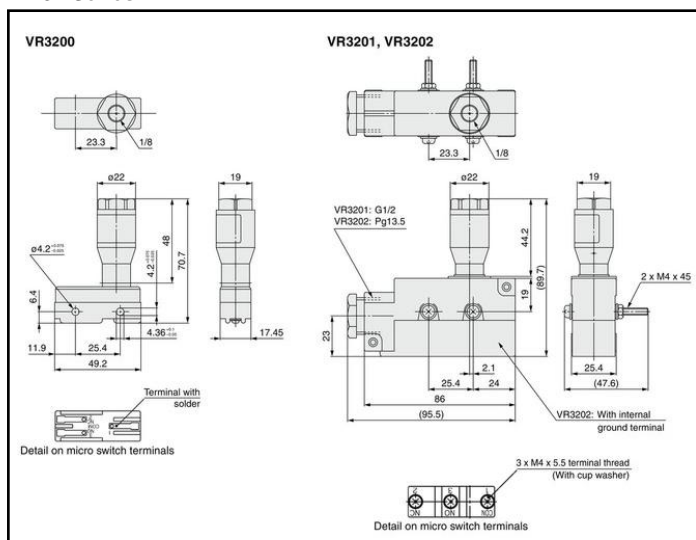
Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country.

Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

- To be used only within the specifications provided. See section 2 for product specifications and Microswitch ratings.

5 Outline Dimensions (mm)

VR32 Series



8 Contacts

AUSTRIA	SMC Pneumatik GmbH, Girakstrasse 8, AT-2100 Korneuburg, Austria
BELGIUM	SMC Pneumatics N.V./S.A. Nijverheidsstraat 20, B-2160 Wommelgem, Belgium
BULGARIA	SMC Industrial Automation Bulgaria EOOD, Business Park Sofia, Building 8-6th floor, BG-1715 Sofia, Bulgaria
CROATIA	SMC IndustrijskaAutomatikad.o.o. ZagrebačkaAvenija 104,10 000 Zagreb
CZECH REP.	SMC Industrial Automation CZ s.r.o. Hudcova 78a, CZ-61200 Brno, Czech Republic
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Specifications are subject to change without prior notice from the manufacturer.

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