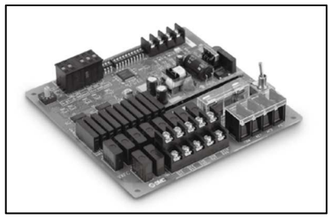
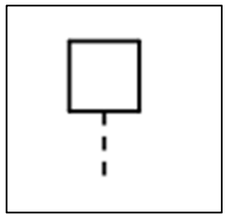
ORIGINAL INSTRUCTIONS

Instruction Manual

Dedicated Controller for Operation

VXFC##D Series





The intended use of VXFC is to act as a controller for Dust collector valves (VXF series).

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) [*1)], and other safety regulations.

[*1)] 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.

- Refer to product catalogue, Operation Manual and Handling Precautions for SMC Products for additional information.
- Keep this manual in a safe place for future reference.

⚠ 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.

⚠ Warning

- **Always ensure compliance with relevant safety laws and standards.**
- All work must be carried out in a safe manner by a qualified person in compliance with applicable national regulations.

2 Specifications

2.1 General Specifications

Model	VXFC(06,10)D	VXFC(06,10)D-6
Input Voltage	24 to 48 VDC ±5%	12 VDC ±5%
Output Voltage [1)]	Same as input Voltage	
Peak load current	0.5A / 1 Point	1A / 1 Point
Peak load reverse voltage [2)]	800V / 1 Point	
Output current leakage	1.5 mA or less	
Grounding	Grounding class 3 or more [3)]	
Operating ambient temp.	0 to 50°C (No condensation allowed)	
Operating ambient humidity	45 to 80% (No condensation allowed)	
Output current	0.5 A or less	
Power supply fuse	1 A	

Table 1.

Note:
1) Use within allowable voltage fluctuation range of connected load.
2) Surge voltage must not exceed this value.

2 Specifications - continued

3) The grounding resistance of the grounding work must be less than 100Ω, and the type of grounding wire used must be a metal wire with a tensile strength of 0.39 kN or more or a soft copper wire with a diameter of 1.6 mm or more.

2.2 Setting Specifications

Model		VXFC(06,10)D	VXFC(06,10)D-6
Number of Outputs		6 to 10 points	
ON Time	**Set range**	0.01 to 0.99 sec	
	Min. unit	0.01 sec	
	Set-up	Digital switch 2 digit	
OFF Time	**Set range**	0 to 299 sec	
	Min. unit	1 sec	
	Set-up	Digital switch 3 digit	
Time set accuracy		±2%	
Pulse repeating cycle		Possible to set 1 or 2 cycles.	
Op. Spec	**Single acting**	Continuous operation by 1 controller	
		Stop on-the-way / Start Operation	
	Interlocking	Cascade interlocking	

Table 2.

⚠ Warning

Special products might have specifications different from those shown in this section. Contact SMC for specific drawings.

3 Installation

3.1 Installation

⚠ Warning

- Do not install the product unless the safety instructions have been read and understood.
- Mount after power supply is turned off.
  Be sure to handle this product after power supply is turned off. Coming into contact with electrically connected parts (exposed live parts) of the valve controller may cause electric shock.
- Do not apply external force to board or element.
  Do not drop, hit the object or apply excessive impact when handling. Even if it does not damage the board body it may cause malfunction due to a damaged element.

⚠ Caution

- When installing ensure to leave room to perform maintenance.
- Ensure the screws are tightened to the proper torque values shown in Table 3 to prevent damage to the board.

Tightening torque

Nominal size	Appropriate tightening torque (Nm)
M3	0.2 to 0.3
M4	0.6 to 0.7

Table 3.

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 in excess of the product’s specifications.
- Do not mount in a location exposed to radiant heat that would result in temperatures in excess of the product’s specifications.
- Do not use in an environment where a strong magnetic field exists.
- Operate in an ambient temperature range between 0°C and 50°C.
- Operate in an ambient humidity range between 45% to 85% (with no condensation)

3 Installation - continued

3.3 Wiring

⚠ Warning

- The controller starts its output the moment the power switch is turned ON. Be aware that even if the power switch is turned OFF, power is connected to the terminal block.
- Check terminal no. when wiring, Incorrect wiring may cause breakage, failure and malfunction of controller.
- Do not apply force or repetitive bending stress to the lead wire.

⚠ Caution

- Check insulation of the wire. If insulation is not properly applied to the wire, overcurrent slows into controller and may break wire.
- Make sure that the power supply voltage to be input matches the voltage in the controller’s specifications. The power supply voltage that has been input becomes the voltage that is output to the solenoid valves.
- In order to protect the product and divert electromagnetic interference. Connect a ground potential that has a resistance of 100Ω or less to the FG terminal (In the power supply terminal block).
- If the power source is DC, use caution to its polarity. If the polarity is incorrect, it may result in a malfunction or damage.
- The solenoid valve mounted on the controller should be equipped with a surge voltage suppressor.

3.4 Storage

⚠ Warning

- Do not store in a place where product is exposed to the direct sunlight or ultraviolet light. This may result in damage to the resin parts.
- Do not store in a place where product is exposed to water, solvent, oil and chemicals. It may cause rust or corrosion on the metal parts and deteriorate resin parts.
- Do not store in a place where dust is accumulated as it may result in burnout of electrical parts such as short circuiting of the terminal block.
- Do not store in an atmosphere where a strong magnetic field exists. It may cause malfunction of electrical parts such as the transistors.

4 Settings

For detailed information regarding to the setup of the controller refer to the Operation Manual available on the SMC website.
(URL https://www.smcworld.com)

5 How to Order

Refer to product catalogue or SMC website
(URL https://www.smcworld.com) to obtain more detail information for ‘How to Order’.

6 Outline Dimensions (mm)

Refer to product catalogue or SMC website
(URL https://www.smcworld.com) to obtain more detail information.

7 Maintenance

7.1 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 power to the equipment and perform appropriate functional 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.
- Regularly check that product operates properly.

7 Maintenance - continued

- Check before maintenance, cut power supply when removing product to ensure safe operation.

8 Limitations of Use

8.1 Limited warranty and Disclaimer/Compliance Requirements

Refer to Handling Precautions for SMC Products.

8.2 Check the specifications

If the products are used in conditions where voltage, temperature, etc., are out of specification. Then damage, malfunction, electrical shock and/or fire may be caused. Do not use under these conditions.

8.3 Check the specification of the connected valve

Check that the rated voltage and current leakage etc. of valve is confirming to controller specifications. If valve is used out of specification, damage, malfunction, electric shock and / or fire may be caused.

9 Product disposal

This product should not be disposed of as municipal waste. Check your local regulations and guidelines to dispose this product correctly, in order to reduce the impact on human health and the environment.

10 Contacts

Refer to www.smcworld.com or www.smc.eu for contacts.

SMC Corporation

URL : http// www.smcworld.com (Global) http// www.smc.eu (Europe)
'SMC Corporation, Akihabara UDX15F, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101 0021

Template DKP50047-F-085J