FSC Series

Single-Phase AC Fan Speed Controller (Phase-Cut Control) **20260310R1**

Technical Catalogue

Havkon FSC Series Analog Fan Speed Controllers are designed for manual and stepless speed control of single-phase AC fan motors supplied with 230 VAC. By using phase-cut control technology, the controller regulates the effective voltage applied to the motor, enabling smooth and precise fan speed adjustment.

The FSC Series is suitable for ventilation applications such as duct fans, kitchen hoods, heat recovery units, exhaust systems, and other equipment requiring manual speed control of resistive and inductive loads.

Havkon FSC.100A models provide up to **10 A load capacity** and can be controlled via the **ACP.220 wall-mounted control panel** or alternatively by a **3-speed selector switch.** The compact design allows installation on **DIN rail or wall mounting**, ensuring easy integration into electrical systems.

The FSC Series offers a practical and reliable solution for residential and commercial ventilation control applications.

Features

- Phase-cut AC fan speed control
- 230 VAC single-phase supply
- Stepless manual speed adjustment
- Compatible with resistive and inductive loads
- Control via **ACP.220K wall control panel or 3-speed selector switch**
- Screw terminal connection
- DIN rail or wall mounting
- IP20 protection class / Optional IP65 enclosure for outdoor installations
- Proportional control via external potentiometer (0–220 kΩ)

Order Codes

FSC.100A	Maximum Output Current: 10 A

Warnings

Before starting the installation of the device, carefully read the user manual and the warnings below.
The user is responsible for any damage, loss, or personal injury resulting from failure to comply with the warnings in this manual. Do not modify or attempt to repair the device. Any intervention on the device may cause malfunction, damage to the device or the system.
In such cases, the device will be excluded from the warranty coverage.

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Technical Specifications

Electrical Data	Power Supply	230 VAC ±10% , 50/60 Hz
	Power Consumption	3 VA
	Output Type	Phase-cut AC output
	Maximum Output Current	10 A
	Connection	Screw terminal block, 1.5 mm²
Environmental Conditions	Operating Temperature	0 … +50°C
	Storage Temperature	-25 … +70°C (without icing and condensation)
	Relative Humidity	Max. 80% RH at 31 °C, decreasing linearly to 50% at 40 °C
	Maximum Altitude	2000 m
Functions	Control Method	External potentiometer control / 3 Stage Switch
	Speed Adjustment	Stepless
	Potentiometer Input	0–220 kΩ
	Control Output	Phase-cut voltage output
	Load Compatibility	Resistive and inductive loads
Protection & Standards	Protection Degree	IP 20
	Standard	EN 60529

Enclosure Specifications

Mounting	DIN rail or wall mounting
Dimensions	W126xH91xD58mm (*Width x Height x Depth*)
Weight	125 g

Self-extinguishing plastics used in the production of box materials.
The Device should not be cleaned with corrosive cleaning materials and Solvents (thinner, benzine, acid etc.).

Fuse Ratings

FSC.100A	5x20 mm 15 A 250 V Time-lag Glass Fuse

Connections

Havkon **FSC.100A** is a fan speed controller designed for ventilation applications. The device must be installed and operated in accordance with the installation instructions. During installation, ensure that no voltage is present on the connection cables. The device must be protected from moisture, vibration and mechanical damage. Installation and electrical connections must be carried out by qualified personnel in accordance with the instructions provided in the user manual. Observe the specified operating temperature limits. Signal or communication cables that are not connected to the mains must not be routed together with power cables in the same conduit. High-current lines must not pass over or near the device.
Fuse rating and cable cross-section must be selected according to the load current and operating voltage.

1. Supply cables must comply with the requirements of **IEC 60227 or IEC 60245**.
2. In accordance with safety regulations, the mains switch must be easily accessible to the operator and clearly marked to indicate its association with the device.

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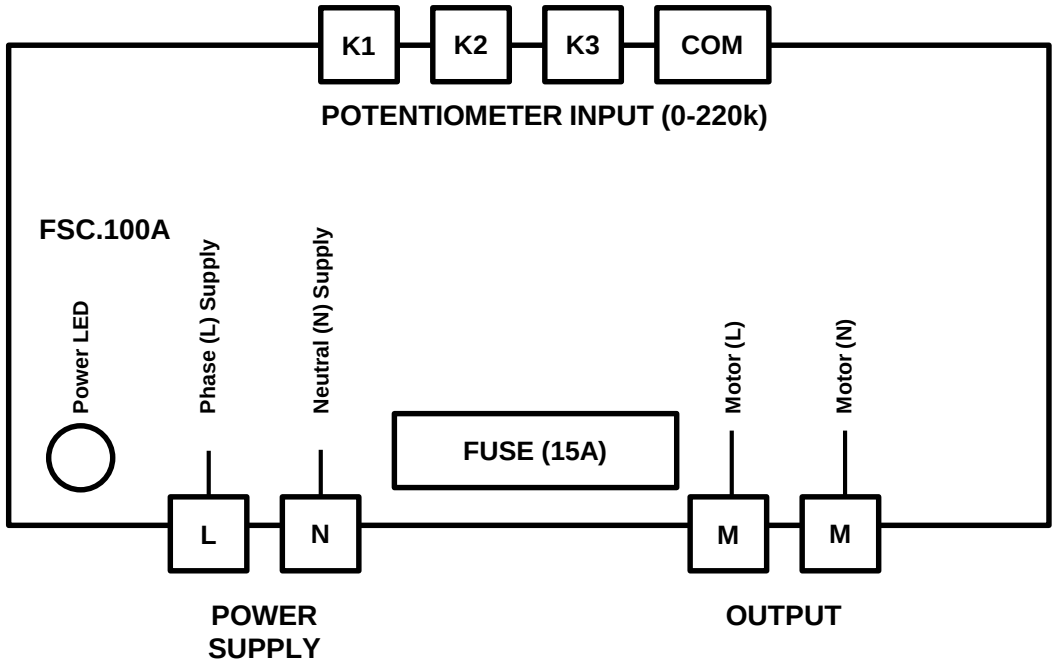
Wiring Diagram

HAVKON series fan speed controller provides phase-cut voltage control for single-phase AC fan motors. The device must be connected according to the terminal designations shown below.



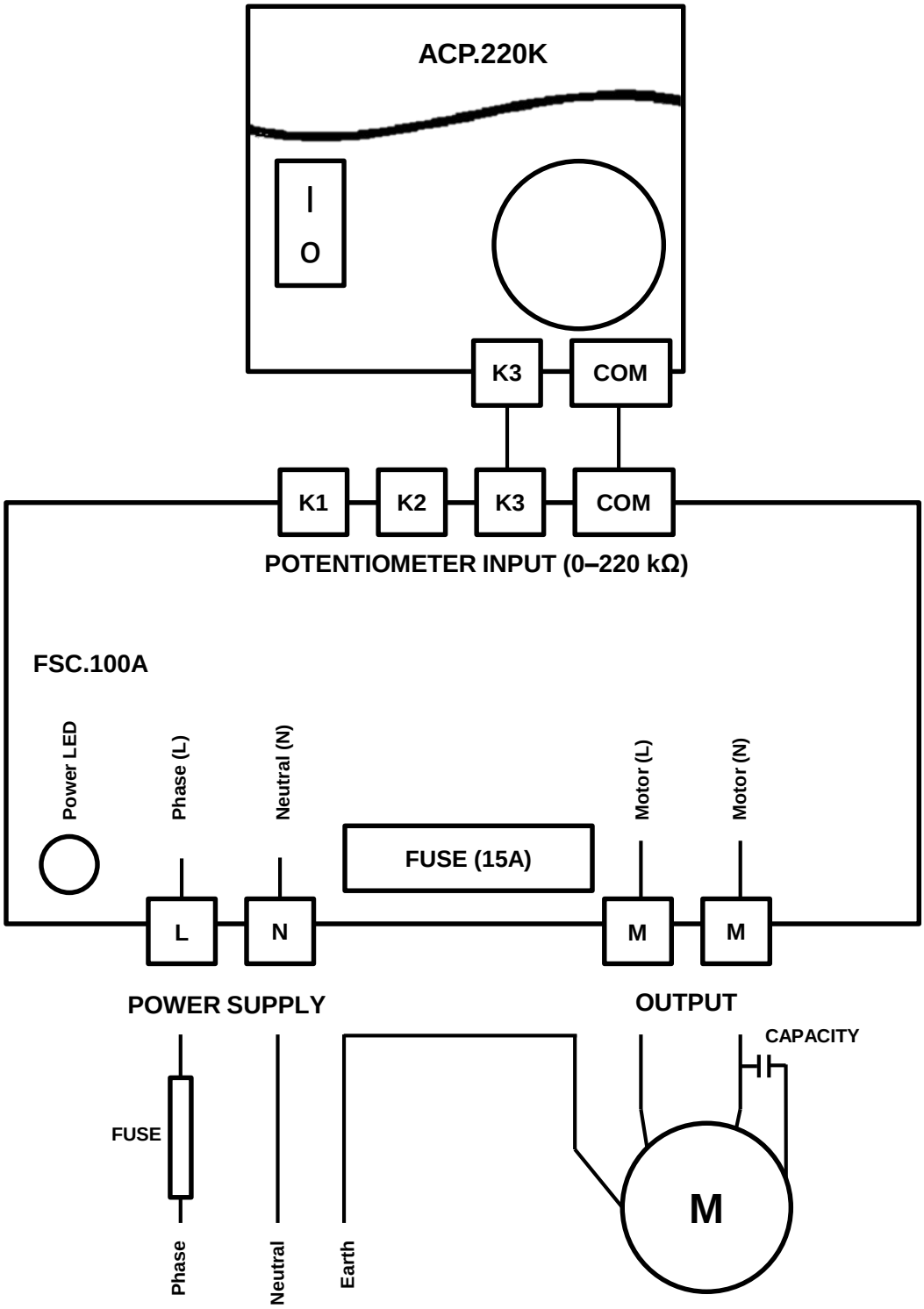
Power Supply	The device operates with a **230V / 50Hz AC power supply**.
	L (Line): Phase supply connection
	N (Neutral): Neutral supply connection
Warning: Incorrect supply connection may damage the device.	
Output	The device provides a **phase-cut controlled output** for fan speed control.
	M (Output): Motor (load) output connection
	Two **M terminals are internally connected (parallel output)**
Warning: Do not connect direct phase (L) or neutral (N) to the output terminals. Incorrect wiring may cause permanent damage to the controller.	
Control Input	The device supports a **0–220kΩ potentiometer input** for manual speed control.
	COM: Common terminal
	K1 – K2 – K3: Speed step selection inputs (low / medium / high)
Warning: Use only passive potentiometer connections. Do not apply external voltage to these terminals.	
Protection	
	Fuse (15A): Internal protection against overcurrent
Warning: Replace the fuse only with the same type and rating (15A).	
LED Indicator	
	Power LED: Indicates that the device is energized

If the motor is equipped with a **run capacitor**, it must be connected according to the motor manufacturer's wiring diagram.

⚠ Do not connect mains voltage to output terminals.

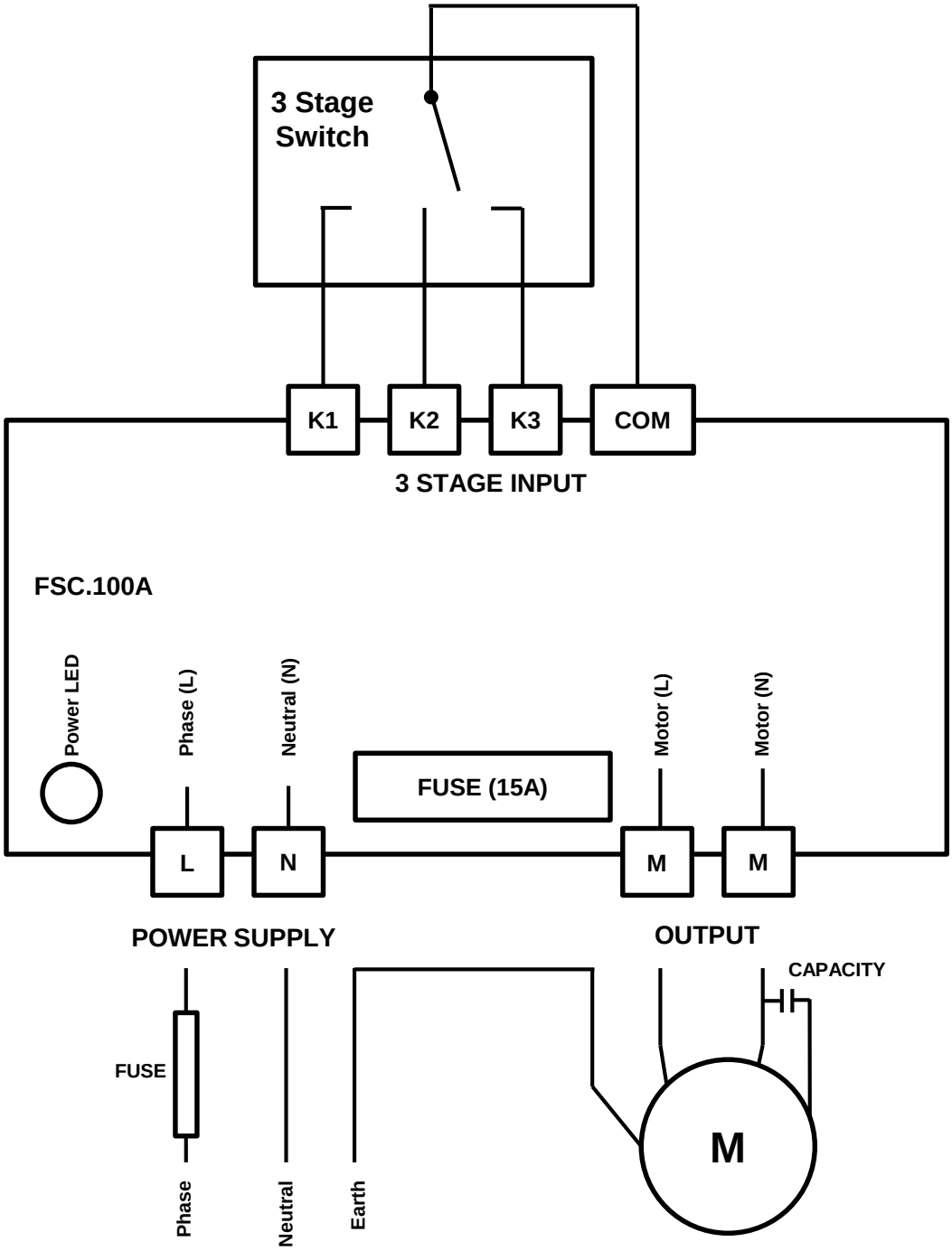
Wiring Diagram

Havkon ACP.220K provides a 0–220 kΩ potentiometer signal to the FSC.100A controller. The controller regulates the fan speed by adjusting the phase-cut voltage applied to the motor. ACP.220K uses internal wiring and only K3–COM connection is required.

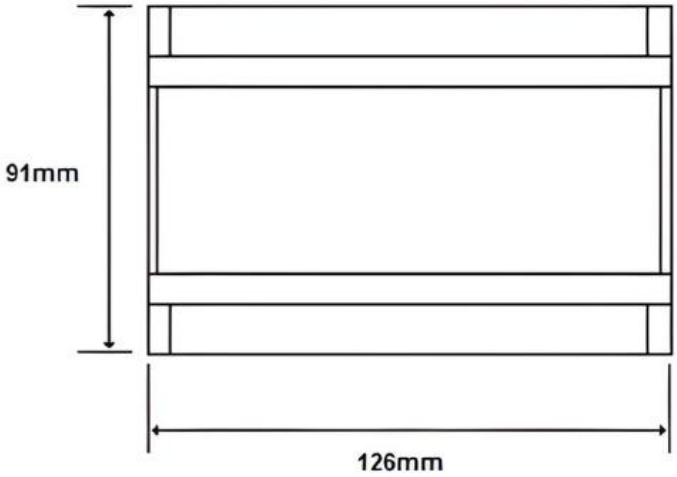


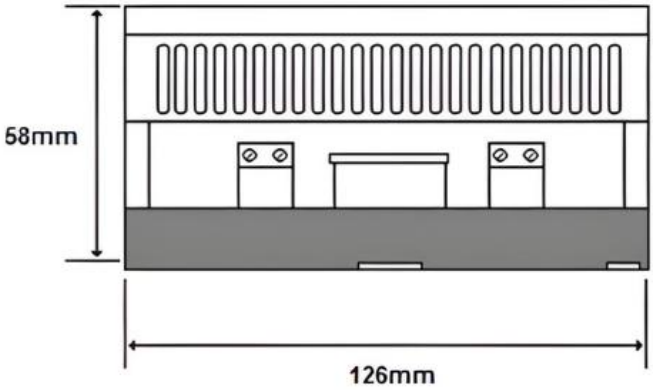
Wiring Diagram

Havkon FSC.100A controller can be operated using a 3-stage selector switch for discrete speed control. Each switch position activates a different control input (K1, K2 or K3), corresponding to predefined speed levels such as low, medium and high. The controller adjusts the fan speed by applying phase-cut voltage according to the selected stage.
Only one input (K1, K2 or K3) should be active at a time.



Dimensions





Weight: 125 g