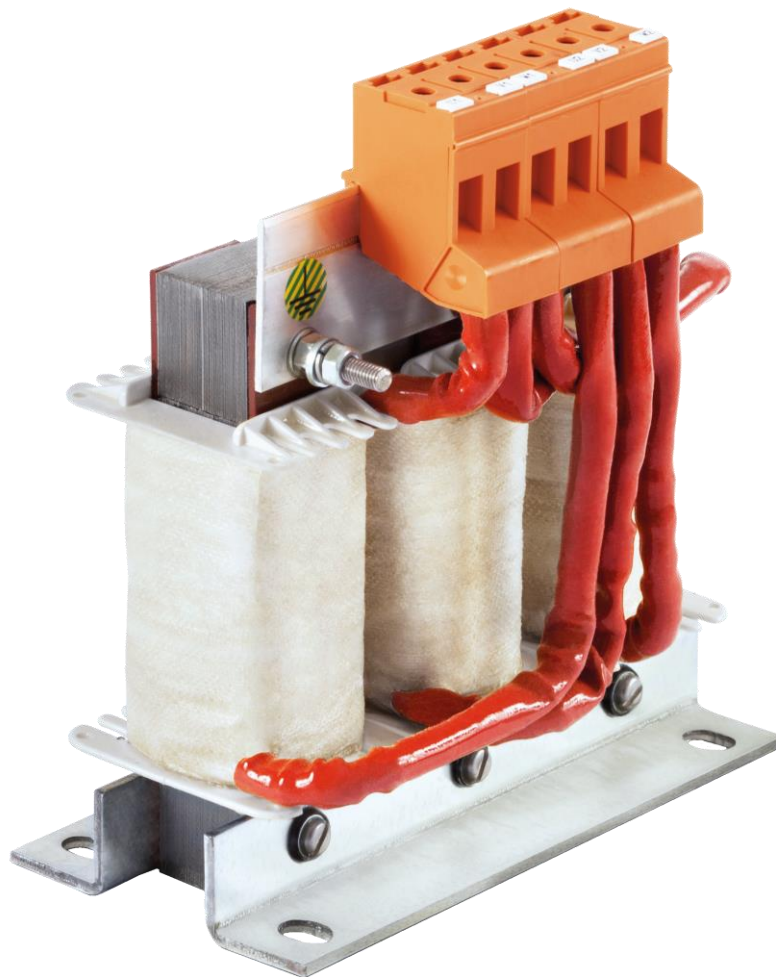


USER AND INSTALLATION MANUAL

3-Phase Load Reactor RWK305



Revision: 04 (June 2023)

English version (original instructions)




Please also read and follow the “General safety notes and installation guidelines” provided with the product. More technical information of RWK305 can be found from the datasheets of the products available at schaffner.com.

Version history

Revision	Date	Description
01 (A)	August 2015	Initial version
02 (B)	April 2017	Addition of RWK212 series in the same document
03 (C)	May 2017	Addition of page 2, required drives settings and fPWM vs motor cable length chart
04 (D)	June 2023	New Schaffner branding template Removal of EOL RWK212 series Clarification of the mounting positions

Filter placement and mounting

Lift the heavy reactors which do have lifting eyes with appropriate lifting aids – smaller types may be lifted manually by two persons (no lifting eye bolt applicable). RWK305 is a 3-phase load reactors device and should be wired in series and positioned on the output side of the VSD (VFD). All terminals marked. U1, V1, and W1 are the input terminals where the 3 phases of incoming power are to be wired. As a result, U2, V2, and W2 are the output terminals.

	The mounting of RWK305 shall be made on a metal plate which has a reliable protective earth (PE) connection.
	Always connect RWK305 to the protective earth (PE) first, and then continue with the wiring of line terminals. When decommissioning the RWK305 remove the PE connection at the end.
	RWK305 reactors can reach surface temperatures up to 175°C when driven under maximum allowed load. Avoid burnings by waiting long enough after that the application is switched off.

Ambient temperature and clearance

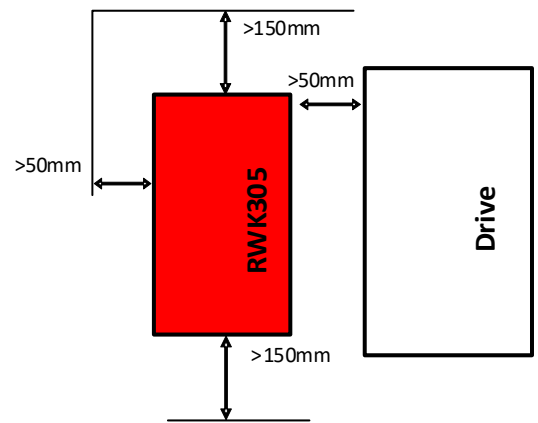
RWK305 shall be installed where the ambient temperature does not exceed 100°C. **Do not locate the reactor next to any other component with operating surface temperature above 125°C.**

RWK305 reactors can be used to a maximum altitude of 2000m without derating, and with derating (current and voltage) above 2000m according to IEC 60664-1.

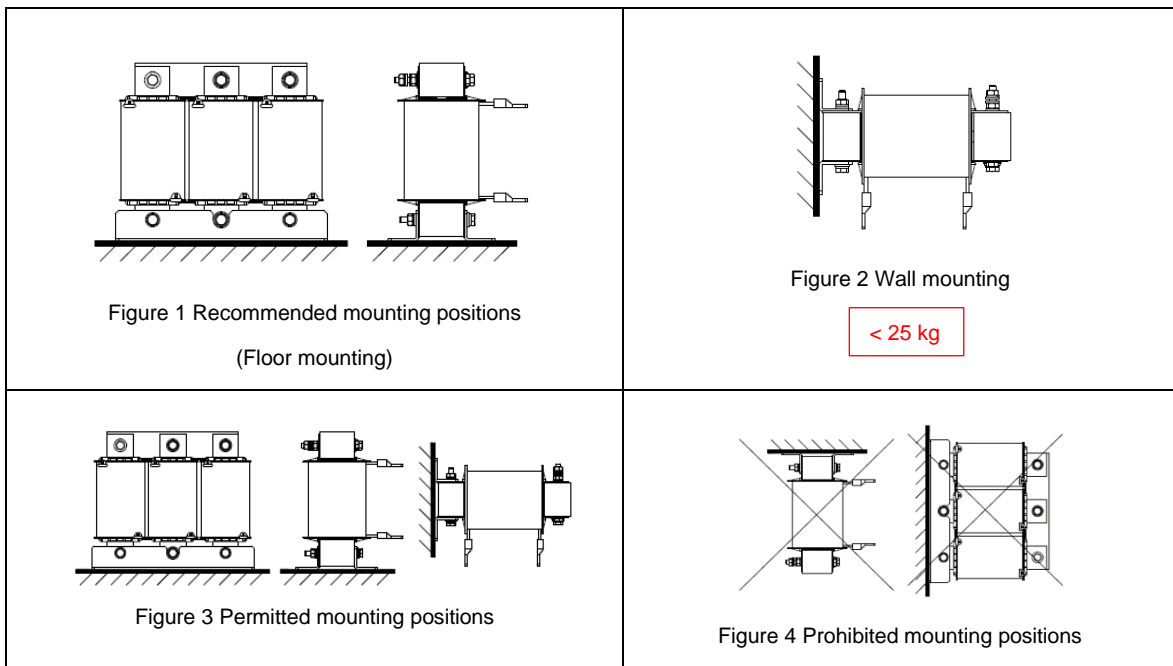


RWK305 reactors are designed to be floor-mounted or wall-mounted. In principle, the reactors shall be mounted vertically to respect a proper heat dissipation flow. To ensure an optimal ventilation and thermal radiation, it is recommended to leave enough space towards surrounding equipment, walls or components in all directions.

For floor-mounting, clearance above the filter of >150mm and >50mm aside is required.



The recommended, permitted and prohibited mounting positions are shown in Figure 1 to Figure 4. The mounting on a vertical plate is limited to products with a maximum weight of 25kg. **Larger reactors must be mounted in a horizontal position.**



Use all available mounting holes and select the correct screws and washers (more information please refer to the product datasheet) to ensure reliable mounting and consider the weight of these products. Apply torques appropriate for the strength class of the screws and washers you are using. Specifications can be obtained from the supplier of the screws and washers.

Required drives settings

Ensure the motor drive switching frequency (fPWM) is set to the required switching frequency. Check the drives manual whether special settings are necessary. For any questions, please contact the drive manufacturer. Refer to the following “fPWM/motor cable length” diagram:

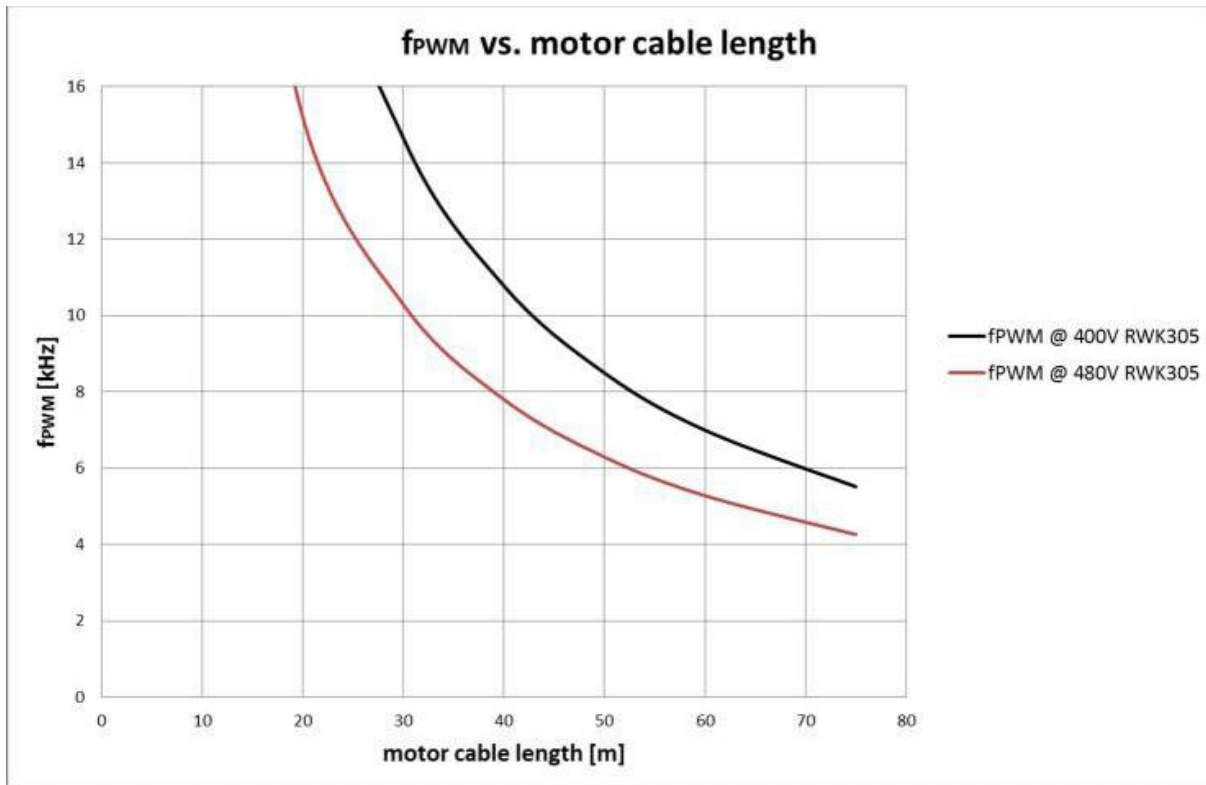


Figure 5 relation curve between fPWM and motor cable length



If the drives settings are not correct, the dv/dt effect may not be sufficient to protect the motor winding insulation and the filter may be damaged!

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