



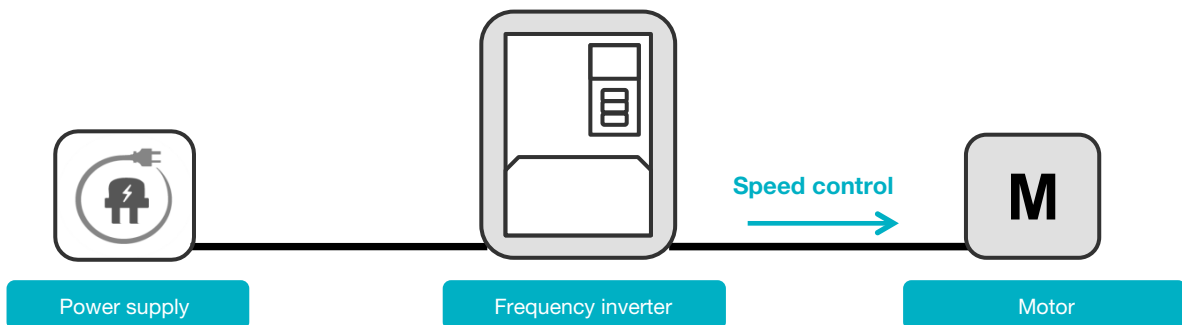
Cables for variable-frequency drives (VFD)

What is a variable-frequency drive?

- » Electronic circuit inverter
- » Transformer of direct current (DC) to alternating current (AC)
- » Motor speed controller

Motor speeds depend on the frequency applied, the winding arrangement and, to a lesser extent, the load. Therefore, for controlling induction motor speed it is necessary to control the power source frequency. However, to control the speed of an AC induction motor, a more complex controller is needed, usually known as a **Variable-Frequency Drive (VFD)**.

Motors equipped with variable-frequency drives are widely used in a range of applications and for many reasons; mainly, energy saving and extending motors' service life through more efficient start-up. **Control is achieved by varying the frequency of the motor.**



Sumflex RC4V-K & Sumsave RC4Z1-K

With low motor output (up to 10 mm² for conductors) copper braid cables with a minimum of 65% coverage may be used, such as Sumflex RC4V-K and Sumsave RC4Z1-K.

A basic feature is the cable's shield coverage, which reduces electromagnetic emissions from the line and also provides reduced transfer impedance.



Sumflex RC4V-K

- » Copper conductor, flexible, Class 5
- » XLPE insulation
- » Copper braid shield, 65% coverage
- » PVC outer sheath

Sumsave RC4Z1-K

- » Copper conductor, flexible, Class 5
- » XLPE insulation
- » Copper braid shield, 65% coverage
- » Polyolefin outer sheath



Cables for variable-frequency drives (VFD)

Sumflex VFD, Sumsave VFD & Sumline VFD

In the case of high output motors (a partir de 16mm² para los conductores) se deben emplear cables con una muy buena cobertura de pantalla y un diseño del cable simétrico e uniforme.

VFD cables are designed as concentric cables comprising 4 conductors or grounding cables distributed around the spaces formed by the isolated phase grouping. Each space holds 1/3 of

the overall section of the ground conductor, rendering the cable physically and electrically symmetrical. This uniformity guarantees a more balanced grounding system.

The shield is designed to prevent any noise generated by the energized cable to be dissipated or to escape, and to prevent any existing external noise from entering the system.

Example of cable with symmetrical conductors and shielding with 90% coverage

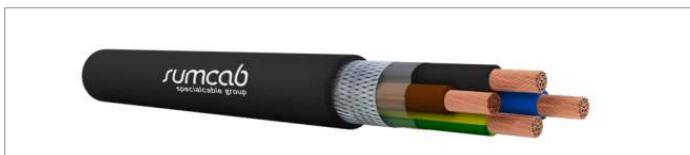


VFD product range



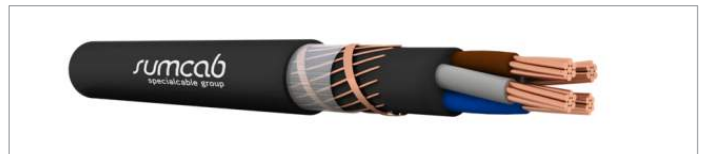
Sumline (VFD) NYCWY

- » Copper conductor, rigid, Class 2
- » PVC insulation
- » Copper concentric shield
- » PVC outer sheath



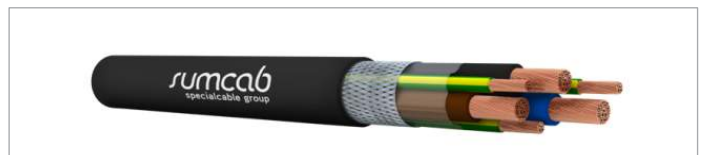
Sumflex (VFD) KU7000 EMV2

- » Copper conductor, flexible, Class 5
- » Cross-linked polyolefin insulation
- » Symmetrically placed conductors
- » Copper braid shield, 90% coverage
- » PVC outer sheath



Sumsave (VFD) 2XCH

- » Copper conductor, rigid, Class 2
- » XLPE insulation
- » Copper concentric shield
- » Polyolefin outer sheath



Sumflex (VFD) KU7000 EMV3

- » Copper conductor, flexible, Class 5
- » Cross-linked polyolefin insulation
- » Symmetrically placed TT conductors
- » Copper braid shield, 90% coverage
- » PVC outer sheath



Cables for variable-frequency drives (VFD)

Available options

- » System service voltage at 0.6/1kV and 1.8/3kV
- » Rigid, flexible and extra-flexible conductors
- » Special identification
- » Personalized markings on outer sheath
- » Fire resistant
- » For use in ATEX areas

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