CS-MV

Bi-directional DC/AC overhead line converter

CS-MV: Power your grid into the future

The two-way DC/AC converter (three-phase inverter) is a state-of-the-art power conversion solution. This 5-level converter (9 levels between phases) featuring 97 % efficiency, and designed to optimise the electrical infrastructure, converts direct current (DC) to alternating current (AC) and vice versa, with flexible two-way operation. Handling input voltages between 1500 and 3000 volts DC, and a stable output of 400 volts AC, it offers a scalable power output of up to 1 MW. This makes it ideal for stationary grid stabilisation applications, as well as large-scale industrial and commercial applications, where both DC to AC power conversion and AC to DC power backfeed are required. Our converter guarantees exceptional performance and proven reliability, boosting efficiency and meeting the power demands of the future, from energy storage systems to electric vehicles and renewable energy systems.

Applications: Efficiency and versatility in a sustainable energy system

The two-way DC/AC converter (three-phase inverter) is an advanced technical solution designed specifically for the transport industry. It can take input voltages typical in commuter, metro and railway DC overhead systems and transform them into a three-phase 400 VAC output, providing a versatile and reliable solution for a variety of industrial, commercial and electrical infrastructure applications. Its modular and scalable design can accommodate a wide range of needs, from electric vehicle charging stations to energy storage systems (ESS), stationary grid stabilisation applications and high-power industrial applications. It maximises energy conversion efficiency, reducing losses and optimising energy consumption.

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Performances

· Overhead Contact Line Application (OCL) for 1500 VDC and 3300 VDC
· Output voltage 3 x 400 V / 50 Hz
· Input voltage between 1500 VDC and 3000 VDC
· Flexible use (up to 1000 kW)
· Safety and reliability with high quality galvanic isolation
· High insulation level of 18.5 kV - 1 min at 50 Hz
· High efficiency and power quality due to 5 levels of energy efficiency
· Maximum efficiency 97 %.
· Efficient and controlled AC/DC/AC power management capability
· Increased reliability by reducing energy losses and heat generation
· Bidirectional
· Reactive power management
· Harmonic compensation
· Redundancy and Scalability (up to 4 elements)
· Electromagnetic interference reduction

Range

MODEL	POWER (VA / W)	INPUT VOLTAGE (VDC)	DIMENSIONS (D × W × H mm)
CS-MV 125/10	125000 / 125000	1500 / 3300	1000 × 2600 × 2260
CS-MV 250/10	250000 / 250000	1500 / 3300	1000 × 2600 × 2260
CS-MV 375/10	375000 / 375000	1500 / 3300	1000 × 2600 × 2260
CS-MV 500/10	500000 / 500000	1500 / 3300	1000 × 2600 × 2260
CS-MV 250/7	250000 / 250000	1500 / 3300	1000 × 2600 × 2260
CS-MV 500/7	500000 / 500000	1500 / 3300	1000 × 2600 × 2260
CS-MV 750/7	750000 / 750000	1500 / 3300	1000 × 2600 × 2260
CS-MV 1000/7	1000000 / 1000000	1500 / 3300	1000 × 2600 × 2260

Manufactured according to customer requirements.
Indicative technical specifications.

Technical specifications

MODEL		CS-MV
INPUT	Rated voltage	1500 / 3300 V
	Voltage range	1350 ~ 1800 V / 3000 ~ 3900 V
OUTPUT	Power factor	1
	Rated voltage	3x400 V
	Accuracy	±1 %
	Frequency	50 Hz
	Performance	97 %
	Admissible overloads	125% @ 30 s.
GENERAL	Operating temperature	-20ºC ~ + 40ºC
	Cooling	Forced
STANDARDS	Safety	UNE-EN IEC 62477-2
	Railway	UNE-EN 50121-3-2 / UNE-EN 50124-1 / UNE-EN 50124-2 / UNE-CLC/TS 50238-2 / UNE-EN 61287-1 / UNE-EN IEC 62477-2
	Corporate cerification	ISO 9001, ISO 14001, ISO 45001

Non-contractual specifications. Final specifications according to project.

+34 938 482 400 WWW.SALICRU.COM
Avda. de la Serra 100 · 08460 Palautordera Spain · salicru@salicru.com