INGEDRIVE MV 300

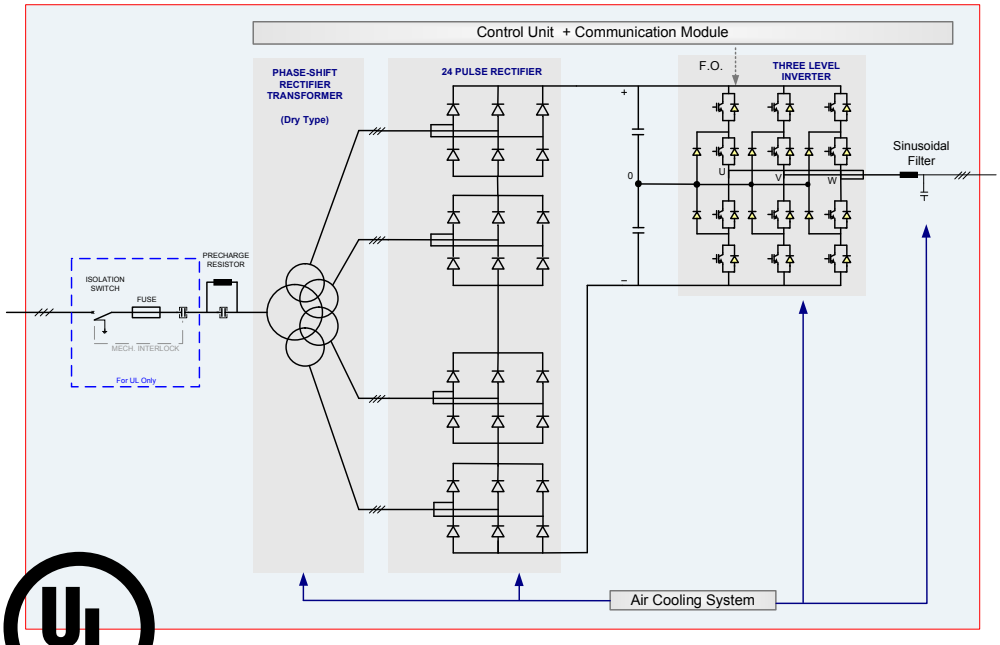
Frequency Converter
air cooled, medium voltage

The **MV300** series of the INGEDRIVE™ converter range is composed of medium-voltage, HV-IGBT based frequency converters. They are designed to control induction, synchronous or permanent magnet motors specially focused on quadratic loads for industrial and mining applications.

INGEDRIVE™ MV300 converter is robust, reliable, and smaller size, which provides a high power density. Its sine wave output filter makes it suitable for any type of motor, be it new or existing, and the built in 24 -pulse transformer has a THD under 3%. It covers the power range from 200 kVA to 1400 kVA, an it is offered in 4.16 kV and 6.6 kV.

The whole Ingedrive converter range offers a powerful configuration tool enabling the user to view and parameterise drives bovth locally using the touch screen and remotely via an Ethernet connection.

With HV-IGBT Power Semiconductors



Applications:

Metals, Power Plants, Water Treatment and Desalination Plants, Cement, Oil&Gas, Mining, Chemicals.

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Technical characteristics

INGEDRIVE MV 300

	MV300
General Data	
Inverter type	Three Level Voltage Source Inverter with HV-IGBT Power Semiconductors
Rectifier Type	Diode Front End (DFE) 24P
Output Power Range	300kVA – 1.4MVA
Supply Voltage Tolerance	Typically ±10%
Main Supply Voltage Range(1)	4.16kV AC(6) / 0-11kV AC
Supply Frequency	50 / 60Hz (±5%)
Input Power Factor	≥0.96
Output Voltage	0 to 4.16kV(6) / 0 to 6.6kV
Output Frequency	0 to 70Hz (higher on request)
Efficiency at Rated Load	Typically > 0.96 (transformer included)
Motor Types	Induction, Synchronous or Permanent Magnet Motor
Control Properties	
Control Types	Vector Control (VC), Voltage Frequency Control (VF) (2)
Static Speed Accuracy (closed loop)(3)(4)	< 0.01% in field weakening / < 0.01% in constant flux
Static Torque Accuracy (closed loop)(3)(4)	< 1% in field weakening / < 1% in constant flux
Static Torque Accuracy (open loop)(3)(4)	< 2% in field weakening / < 2% in constant flux (for synchronous motors) < 5% in field weakening / < 3% in constant flux (for induction motors)
Torque Response Time	< 10 ms
Shaft Torque Ripple (3)(4)	± 1 %
Drive Protection Functions	Overcurrent, overvoltage and undervoltage monitoring; earth fault; short-circuit detection and protection; semiconductor failure monitoring; cooling supervision; phase loss
Motor Protection Functions	Overload (5), overspeed
Environmental Conditions	
Converter Cooling	Air cooled
Noise	< 85dB(A) at a distance of 1m from the cubicle
Ambient Temp. for Operation	+5ºC to +40ºC (maximum 50ºC with derating)
Ambient Temp. for Storage & Transport	-15 to +75ºC
Installation Altitude	< 1000m above sea level (100% load capacity) up to 5000m above sea level (with current derating)
Relative Air Humidity	5% to 95% (condensation not permitted)
Protection Level	IP21 (others on request)
Paint Finish	RAL 7035 (others on request)
Compliance with Standards	UL, IEC 61800-4, IEC 60146-1-1
Options	
Main Options	Different communication modules, input/output isolation switch, motor grounding switch, redundant fan, bypass system, IP42

(1) Integrated transformer
(2) Only for induction motors and quadratic torque loads. No speed sensor needed
(3) Refers to maximum values of equipment
(4) Only for correct design and installation of the motor
(5) Depends on electrical characteristics
(6) UL listed

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