VSD2
VSD3

hydroo®

High-tech motor control concept, based on advanced DSP-technology V/Hz, SENSORLESS VECTOR, PMM syncronus motor control mode - SPEED / TORQUE control Intelligent AUTOTUNING functions for easy set-up.

Rugged construction, all metal enclosure, thermally decoupled from motor, IP67 / NEMA4, shock proof (4G).

Flexible configurable man/machine interface – fieldbus capability

Numerous functions, to make it suitable for all kind of industrial and residential applications, and for retrofit as well

Smart PC-tools, for inverter control, parametrization and troubleshooting. Parameter-duplication stick.

Approved for worldwide standards by independent bodies.

0,75 KW - 11 KW

## VSD2 / VSD3 - Technical product data

| Power input	Rated input voltage	3-Phase 380 - 460V +/- 15% 1-Phase 230/240V +/- 15%
	Input frequency	44….67 Hz
	EMC Filter	Integrated for 2. environment - industrial area (optional for residential area)
Motor output	Output voltage	0………V-input
	Output frequency	0……...650 Hz (1500HZ OPITION)
	Frequency resolution	0,01 Hz
	Overload capability	150% - 60 sec. / 10 min
Control Mode	Motor control algorithm	V/Hz-SpaceVector - SLV-SENSORLESS Vector control - Torque/Speed control mode. CLV-Closed loop vector - Permanent Magnet Synchronous Motor PMSM SENSORLESS control.
	Chopper frequency	0.8…16 kHz (fixed / random)
	V/Hz curve	Linear, exponential, and user-programmable curve
	Starting torque	150% rated torque at 0,5 Hz (in SLV Mode)
	Torque compensation	Automatic / Manual
	Motor data input	Manual, from nameplate / AUTOTUNING
	Speed range	1:100 in SLV mode, 1:1000 in CLV mode, 1:20 in PMSM mode
	Speed precision	+/- 0,5% (SLV),+/- 0.02% (CLV)
	Torque precision	+/- 5% (SLV)
	DC-Brake	User programmable functions
	Brake chopper	Chopper transistor integrated (up to 22 kW)
Display	Character display	Config-Parameters and -value, programmable to display various working parameters

I/O Channels	Analogue channels	2 analogue channels - 12 BIT: 0…10V, 0...5V, -10V...0...10V, 0..(4)20 mA, all free scalable in gain and offset, and mathematically concatenable
	Analogue outputs	2 analogue outputs, programmable in gain and function (0…10V, 0(4)..20 mA)
	Digital outputs	1 switchover contact 5 A 230 V (programmable assignment)
	Relais output	2 analogue outputs, programmable in gain and function (0…10V, 0(4)..20 mA)
	Data link	Serial link RS 485 (MODBUS)
Special functions	Special functions	12V / 50 mA auxiliary power supply on terminals, 10V potentiometer power supply, 5V/100 mA power supply on modbus connector PTC / KLIXON motor protection
Electronic protections with fault history	Electrical	Overvoltage, undervoltage Overcurrent, overload, motor-overload, output short-circuit Input phaseloss, motor phase unbalance
	Thermal	Heatsink overtemperature, I2xt motorprotection
Optionals	Display	Remotable display / keypad units
	Brake chopper	Braking resistors for different load characteristics
	PC-software Parameter copy stick	Configuration-, control- an diagnosis-tool, parameter saving and duplicating For parameter duplicating
Environmental and operating conditions	Protection class	IP67 / NEMA4 motor/wall mountable
	Operating temperature	-10……+50 °C – -40°C with automatic antifreeze control function (option)
	Humidity	0 to 95% RH, non-condensing, non-corrosive
	Altitude	1000 m, above: 1% derating / 100m
Power range	0,4……15 kW	
Standards	Electromagnetic compatibility	EN61800-3(2004)
	Safety	EN61800-5-1 2003

VSD2 / VSD3 - Products and Framesizes

Model	Motor power (KW)	Framesize	Dimensions (WxHxD-mm)	Remarks
VSD2-MT004	0,4 kW - 2.5 A	J1	186x266x180	1-phase 220V
VSD2-MT007	0.75 kW – 4,5A			
VSD2-MT15	1.5 kW – 7A			
VSD2-MT022	2.2 kW – 10A			
VSD2-TT004	0.4 kW – 2,5A			3-phase 220V
VSD2-TT007	0.75 kW - 4,5A			
VSD2-TT015	1.5 kW – 7A			
VSD2-TT022	2.2 kW – 10A			
VSD3-007	0.75 kW – 2A			3-phase 380V
VSD3-015	1.5 kW – 4A			
VSD3-022	2.2 kW – 6,5A			
VSD3-030	3.0 kW – 7A			
VSD3-040	4.0 kW – 9A	J2	215x325x190	
VSD3-055	5.5 kW – 12A			
VSD3-075	7.5 kW – 17A			
VSD3-110	11 kW – 23A	J3	280x380x220	
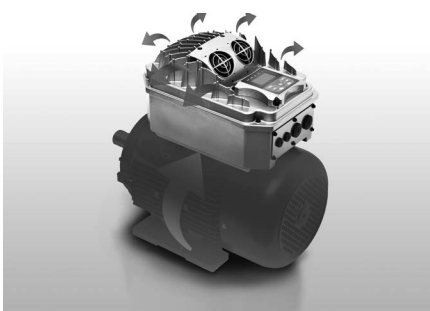
Termally Decoupled from Motor
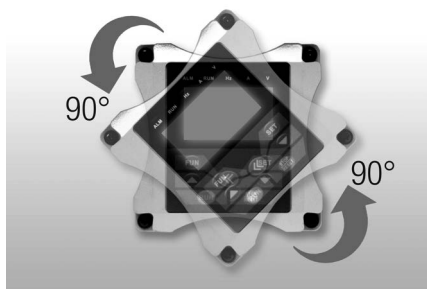
Removable Keypad & 90° Rotation

Decentralized Application