

JDEVS

Variable Frequency Drive (VFD)



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Designing, Engineering & Manufacturing of:
Variable Frequency Drive (VFD)

TRCA02-01



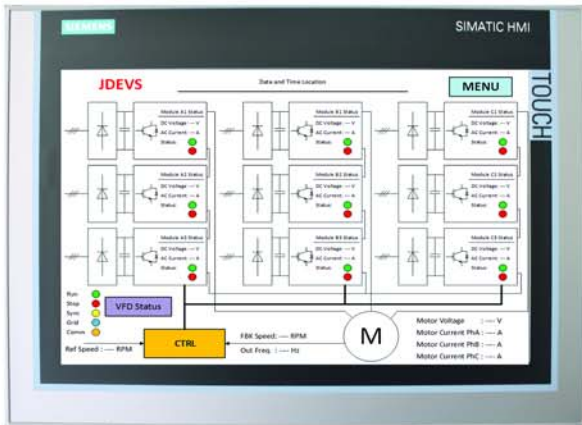
Standard Specification

Input Supply	3 to 20 kV-50/60Hz
Output Voltage	3 kV/3.3 kV/4.16 kV/6kV/6.6 kV
Output Frequency	Up to 120Hz
Rotation Mode	CW/CCW
Frequency Resolution	0.05 Hz
Speed Resolution	1 RPM
Output Power	Up to 10 MW
Efficiency	≥ 97%
Input Power Factor	≥ 0.97
Input THD Current	<5%, According to IEEE 519 Standard
Output Current THD	<5%, According to IEEE 519 Standard
Duty Cycle	Continuous
Input Section	18-24-36 Pulses Rectifier According to customer request
Control Power Supply	230V mains / UPS / By Customer
Output Section	Multilevel Modular (ANPC)-(CHB)-(NPC-HB)
Pre-Charge Unit	Yes
Operation	HMI with touch screen
HMI Language	English
Motor Speed Control Method	Scalar (V/F)-Vector(FOC)with/without Sensor, DTC
Control	Sensor/Sensorless
Control Unit	JDEVS DSP/FPGA Control Unit
Bypass and Grid Synchronization Mode	Yes
Protective (Trip & Alarm)	Output Over Current, Input and Output Over Voltage, Input and Output Under Voltage, Drive Over Heat, Comm. Error, Short Circuit, Earth Fault, Over Load, Door Open Alarm, IGBT Fault Protection, Surge Suppressor, Phase Loss Protection
Protection Time	<10μs
Communication	Modbus RTU/Profibus
Signal Communication	Fiber Optic
Protection Class	IP21 TO IP42
Cooling Method	Forced Air cooled/Water Cooled
Ambient Temperature	0 to 45°C
Ambient Humidity	Less than 95% RH
Installation	Indoor



Key Features:

Compatible with old and new electric motors, modular design and high reliability, low harmonic distortion at input current and output voltage, multi-level inverter, 18-24-36 pulse rectifier, Grid Synchronization Function, industrial HMI and communication, compact design

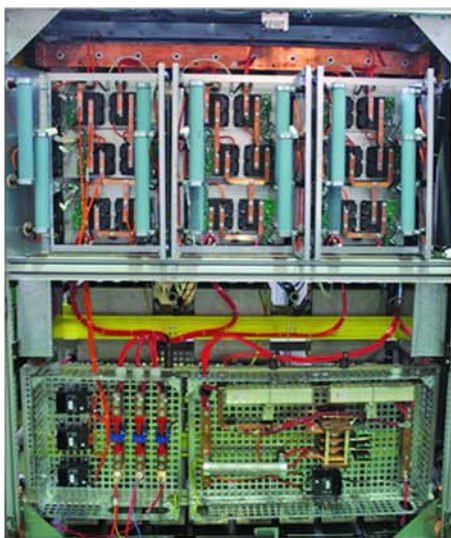


Interface features of control system

- Communicated mode: MODBUS RTU-PROFIBUS
- HMI with touch screen
- Internal memory for saving data
- Ability of time and date calculation
- Ability of saving data on multi media card (MMC)
- Ability of saving 3000 events with related time and date.
- 16-Key keyboard interface for user commands

Protective Functions:

	Protection		Protection
1	HEATSINK TEMPERATURE FAULT	12	DC LINK PRE-CHARGE FAULT
2	DC LINK FUSE FAULT	13	FC PRE-CHARGE FAULT
3	TRAFO FUSE FAULT	14	FC UNDERVOLTAGE
4	CAP PRESSURE SWITCH FAULT	15	OVERCURRENT OF PH-A
5	PRESSURE SWITCH FAULT	16	OVERCURRENT OF PH-B
6	DOOR OPEN	17	OVERCURRENT OF PH-C
7	IGBT FAULT	18	OVERCURRENT OF DC LINK
8	TRAFO BUCHHOLZ FAULT	19	OVERVOLTAGE OF DC LINK
9	TRAFO TEMPERATURE FAULT	20	OVERVOLTAGE OF FC
10	CROWBAR FAULT	21	EARTH CURRENT FAULT
11	THERMAL OVER CURRENT	22	DC LINK UNDERVOLTAGE



Fields of Application:

- Oil, Gas and Chemical Industries: Pumps, Compressors, Extruders, Mixers and Blowers
- Cement, Mining and Minerals Industries: Conveyors, Crushers, Mills, Mine Hoists, Fans and Pumps
- Power Generation Industry: Fans, Pumps, Conveyors and Coal Mills
- Water and Wastewater Industry: Pumps
- Transportation Industry: Traction Electromotors of Metro, Trains and Ships
- Metals Industries: Fans and Pumps
- Pulp and Paper Industries: Fans, Pumps, Refiners, Vacuum Pumps and Chippers
- Other Applications: Test Stands and Wind Tunnels

ENGINEERING & MANUFACTURING OF DRILLING RIGS

- Designing & manufacturing of oil & gas land drilling rigs
- Designing & manufacturing of drilling rigs electrical and control system
- Supplying spare parts, upgrading and repairing of land drilling rigs
- Technical & consultant services in the field of oil & gas land drilling rigs
- Automation in oil, gas and petrochemical industries
- Turn-Key projects in electrical and control packages



CONVERTERS & POWER SUPPLIES

- Industrial UPS single/three phase(s)
- Industrial charger
- AC/DC no break system
- Special converter & inverter
- Standard UPS
- HVDC light system
- Electric propulsion system

HIGH VOLTAGE ENGINEERING

- AC, DC, impulse, resonant and hipot test equipment
- AC, DC and impulse measuring equipment
- Quality control testing services
- Onsite test services (GIS stations and ...)



AIR POLLUTION CONTROL

- ESPs, bag filters and scrubbers for non-metallic mineral and metal industries, refineries and petrochemicals
- Internal parts: collecting plates, electrodes, rapping systems, ...
- Upgrading of existing dedusting systems
- Supplying spare parts for ESPs and bag houses

ELECTROMECHANIC R&D GROUP

- Submerge Rotary Jet (SRJ)
- Oil loading arms
- Electrostatic oil desalter



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