



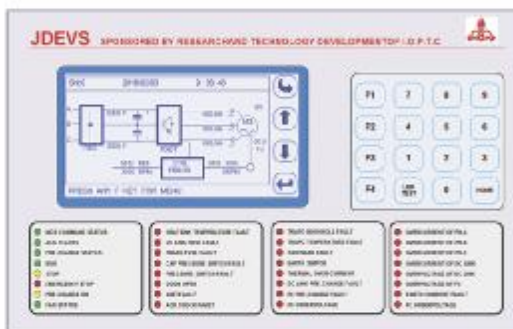
**Standard Specification**

Input Supply	3 to 20 kV - 50/60 Hz
Output Voltage	3 kV/3.3 kV/4.16 kV/6 kV/6.6 kV
Output Frequency	Up to 120 Hz
Output Power	Up to 10 MW
Efficiency	Around 97%
Power Factor	Around 97%
Input THD Current	In accordance with IEEE Standard 519
Duty Cycle	Continuous
Input section	12-24 Pulse Rectifier
Output section	Multilevel NPC/ANPC Inverter
Input/Output Filter	Optional
Operation	LCD Keypad: Modbus-RTU, Key Input
Motor Speed Control Method	Scalar (V/f), Vector (FOC) with/without Sensor, DTC
Protective (Trip & Alarm)	Over Current, Over Voltage, Under Voltage, Drive Over Heat, Comm. Error, Short Circuit, Earth Fault, Over Load, Door Open Alarm
Communication	Modbus-RTU
Protection Class	IP21 to IP42
Cooling Method	Forced Air Cooled/ Water Cooled
Ambient Temperature	0 to 40 °C
Ambient Humidity	Less than 95% RH
Installation	Indoor Use Only
I/O Board Features	3 Input temperature Sensor, 2 Analog Input (4-20 mA, 0-10 V), 5 Digital Input, 2 Digital Output, 5 Fiber Optic Receiver, 2Fiber Optic Transmitter



## 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, 24 pulse rectifier, industrial HMI and communication, compact design

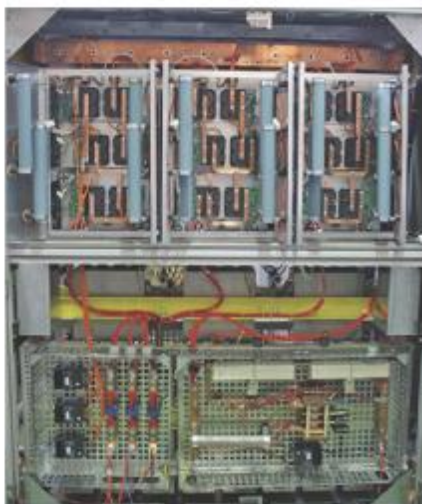


## Interface features of control system

- Communication with MODBUS-RTU
- 32 LED indicators for faults and states
- 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 TRAFU 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 TRAFU BUCHHOLZ FAULT	19 OVERVOLTAGE OF DC LINK
9 TRAFU 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

