Land Oil Drilling Rigs

VFD Power Houses

Voltage rating: 690V, 50/60Hz

DCUS


SACE E2.2 N
并网
COMBINE INTO GENERATING
报警
WARNING
急停
EMERGENCY STOP
选择开关
SELECT SWITCH

VFD Power Houses

Custom designed control system for efficient energy delegation and reliability

Applications

+ Land AC Oil Drilling Rigs

Benefits

+ High-quality and most cost-effective control system used for land drilling

Features

+ VFD Multi-drive solution
  - Common DC busbar
  - Single power line connection
  - Shared energy and motor-to-motor braking without chopper or regenerative supply unit
  - Reduced line current
  - Common braking resourced to several drives
  - Energy saving
  - Saving in cabling, installation and maintenance costs
  - Does not require use of separate MCC
  - Need for less spare parts
+ Redundancy
  - Built-in redundancy through parallel connected modules
  - Each module is a complete three-phase inverter
  - Enables running with partial load if one module fails
  - Provides for higher drive availability and greater process uptime
+ Generator Control Units for automatic breaker closing synchronization and load sharing.
+ Low voltage equipment includes power and control transformers, VFD brake units (brake choppers and brake resistors) and 400V Motor Control Center (MCC)
+ Programmable Logic Controllers (PLCs) and communication networks for easy and safe of operation
+ Formed wall construction with insulation in walls, ceiling and under skid.
+ HAVC systems rated and designed for 100% sensible heat loads
+ Variety of transportation characteristics including skid mounted, top lifted and roller bars mounted.

DCUS is committed to manufacturing safe and high quality electrical control system that provide all the power and control electronics needed to power up all of the electric units on a AC drilling rig.

In addition to PLC controlled VFD units, the DCUS VFD Power House contains all of the required devices e.g. Generator Control Units, Main Switchboard, Motor Control Center, Low Voltage Distribution Panels, Air-conditioning system and Transformers. Each VFD Power House has a customized designed and assembly due to meet the customer requirements. Working with our customers, DCUS team designs power houses that have optimal plug panel placement and transportation characteristics (top lifted, skidded, roller bars) to effectively align with the drilling contractor's rig site layout and transportation methodology. When the power house is in operation, it provides superior performance and control for drilling operations.

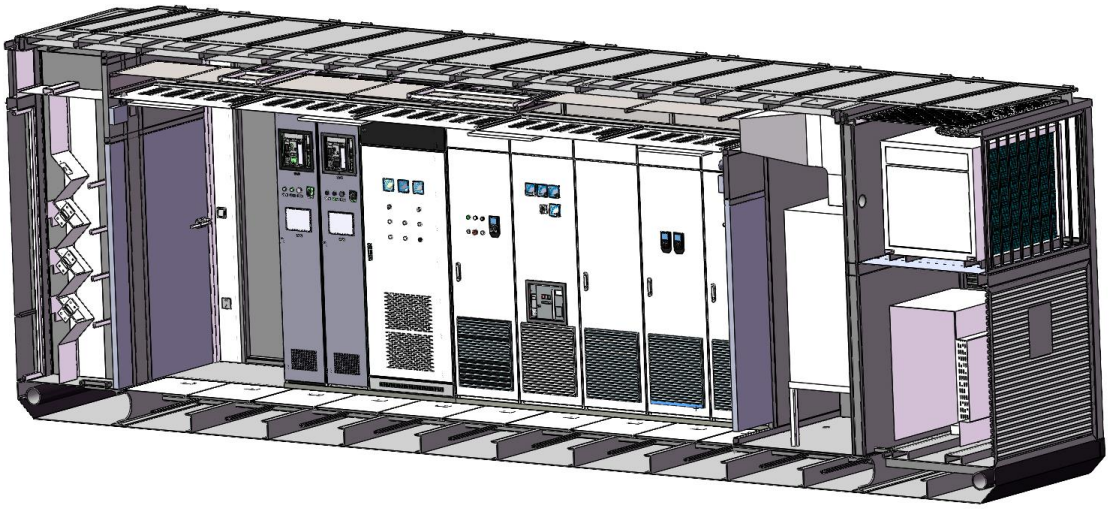
When needed, personnel can remotely connect to a rig to troubleshoot, correct or update software or human machine interfaces. No matter your location, our personnel are trained to solve some of drilling control problems.

VFD Power House drawings and specifications

Custom designed control system for efficient energy delegation and reliability

VFD Power House drawings and specifications

Custom designed control system for efficient energy delegation and reliability



Land oil drilling HP range	From 700HP to 3000HP
Air-cooled VFD	Power supply: 3 phase 600 V AC to 690 V AC, 50/60Hz
	Single supply and DC common bus bars arrangement with several inverters
	Supply unit: 6/12/18/24 pulse diode rectifier or AFE rectifier
	Inverter power range is from 315kW to 3200kW
	IP22 enclosure class
	Close loop vector control or Direct Torque Control (DTC)
	Integrated safety including STO as standard
	Intuitive control panel with USB port
	EMC filter, choke and brake chopper
	Supports a wide range of fieldbus protocols
	Flexible I/O and encoder options
600/690V Generator control unis and switchgear	DCUS generator control units are a proven and widely used mature products in various types of land oil drilling rigs
Motor Control Center (MCC)	400 V AC system
PLC control system	Siemens SIMATIC S7-1500, built-in land drilling control program
HAVC system	Redundant design

Tianjin DCUS Electrical Equipment Co., Ltd

wangwei@dcus.cn
wangjian@dcus.cn