

01-03 · ELECTRIC DRIVE & CONTROL

Drilling Rig VFD Control System

Multi-drive variable-frequency speed control for drilling rigs from 3000 to 12000 m.

3000–12000 m

DRILLING DEPTH

30DB–120DB

SEVEN RIG CLASSES

S7-1500

MAIN PLC

PROFINET

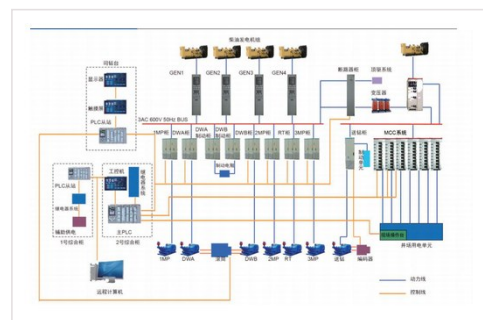
FIELDBUS

HOW IT WORKS

Fully digital vector-control, voltage-type AC variable-frequency drives with V/F characteristic and field-oriented vector control modes. The PLC system uses PROFINET fieldbus for control, monitoring and fault diagnosis.

SYSTEM FEATURES

- High-performance speed control
- High operating efficiency
- Feedback braking
- Small starting current
- Strong overload capacity
- Low noise, easy maintenance



SYSTEM DIAGRAM

TECHNICAL PARAMETERS

Configuration	30DB	40DB	50DB	70DB	80DB	90DB	120DB
Generator control cabinet	3 sets			4 sets	5 sets		
Frequency inverter	600kW × 1	800kW × 1	800kW × 2	800kW × 2		1100kW × 2	1100kW × 4
	400kW × 1	600kW × 1	600kW × 1	800kW × 1		1100kW × 1	
	1200kW × 2	1200kW × 2	600kW × 4	1000kW × 6		1100kW × 6	
Dynamic braking	1200kW × 1	2400kW × 1		3600kW × 1	4800kW × 1		
Comprehensive control cabinet	Siemens S7-1500						
Driller's console	ET200SP						
Auto drilling feed frequency cabinet	45kW × 1		55kW × 1	75kW × 1	90kW × 1	90kW × 2	110kW × 2
Main transformer (1 set)	800kVA	1000kVA	1250kVA	1600kVA	2000kVA	2100kVA	2500kVA
MCC cabinet	4 sets		5 sets	6 sets	7 sets		8 sets
Soft starter	45kW 5-circuit		55kW 7-circuit	75kW 8-circuit	110kW 12-circuit		110kW 15-circuit

Tell us the rig.

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