

IDS2000 Multi-parameter Drilling Instrumentation System



It is mainly used to acquire, process and display variations of different engineering parameters during drilling process as hook load, weight on bit, rotary torque, top drive torque, top RPM, standpipe pressure, tong torque, Rotary RPM, Pump SPM 1#~3#, mud return flow, mud pit 1#~8# volume, trip tank volume, total SPM, inlet mud volume, total mud pit volume, content of total hydrocarbon and H₂S, height of traveling block, well depth, bit location, bit time, ton-mile, ROP and other parameters. All the parameters are acquired, calibrated, displayed and alarmed via IDS2000, and then the data are transmitted to remote computer in the tool pusher's office for display, record, storage and print. It can help drillers to judge operation situation of drilling rigs, and the information can be used for drilling optimization, trouble judging and shooting at well site, and stored as history data.

Features

- ※ Stable, reliable and advanced
- ※ A complete set of drilling parameters can be chosen and combined freely
- ※ A password is required when changing computed engineering values of all parameters, thus mistaken changes can be avoided
- ※ Engineer units of parameters can be selected between metric and imperial units
- ※ Equipped with special cable that is corrosion-resistant, oil-proof, waterproof, fire-resistant, low temperature resistant and salt-fog resistant, and sealed, water-proof and explosion-proof connectors are used
- ※ Explosive-proof performance of the whole system is reliable
- ※ System features modularized structure and convenient maintenance
- ※ Core of the system: DAQ and display unit (IDS2000) and necessary software, communication box and key sensors are all imported from USA Petron Inc. and other countries so that the system is of advanced technology, high performance and reliability.

Main Technical Parameters

Parameters	Measuring Range	Accuracy	Response Time	Maximum
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				Installation Distance
Hook Load and WOB	0~500×10kN	±2%F.S		
Rotary Torque	0~40kN·m (Display mode;0~500scale)	±5%F.S		
Tong Torque	0~100kN(in tail line pull)	±2.5%F.S		
Mud Pressure	0~40MPa	±1.5%F.S		
Mud Flow	0~100%	±2%F.S		
Mud Density	0.8~2.0g/cm3	±0.02g/cm3		
Total Gas	0~100%LEL(lower limit explosive concentration)	±5%LEL(F.S)	<15seconds (90%response)	1000m
H ₂ S	0~100ppm	±5%F.S	<60seconds	1000m
Depth	0~9999.9m			
RPM	0~300r/min			
SPM of Pump 1 and 2	0~300storkes/min			
Working Temperature	-30~70℃			
Relative Humidity	0~90%			
Mud Pit Volume	0~999.9m3(seven pits can be used)			
Working Voltage	220VAC±10%,47~63Hz			

SZJ- I Multi-parameter Drilling Instrumentation System



SZJ-1 Multi-parameter Drilling Instrumentation System is mainly used to measure and display various engineering parameters as hook load, weight on bit, rotary torque, standpipe pressure, tong torque, power tong torque, RPM, Pump SPM1#~3#, mud return flow (%), mud pit 1#~6# volume, total mud pit volume, total mud in, content of total



hydrocarbon and H₂S, height of block, well depth and others during drilling or workover process. It can help the driller to judge operating situation of drilling rigs

With computer recording mode, the whole system, including driller's console, data acquisition unit, computer terminal, software, sensors, installation cables and hydraulic hoses, can display all the user-required engineering values at real time at driller's display console and tool pusher's office. Driller's console is installed on the rig in the driller's cabin and driller can observe the data displayed by hydraulic gauges and LCD display in real time. Data acquisition unit is usually installed in the doghouse for acquisition and processing of different data. DAQ is connected with terminal computer in the tool pusher's office by a piece of cable. Software runs on Windows operation system, and data can be displayed in dials, numbers or curves in real time, and they can also be recorded, stored inquired and transmitted through GPRS/CDMA network. The system also provides information and evidence for drilling optimization, troubleshooting and history data for future operation. When working without computers, the whole system consists of the driller's console, various sensors, cables and hydraulic hoses. In this case, weight on bit, rotary torque, tong torque and standpipe pressure are displayed by gauges in the console, while RPM, pump SPM will be displayed on the sealed low-temperature, backlit, and explosion-proof digital meter.

The recorder of weight indicating system is optional.

Features

- ※ Values of parameters can be recorded, displayed and plotted by indoor computer system but also recorded by conventional weight indicator
- ※ Easy and convenient move, installation and detachment are guaranteed by special cables that are corrosion-resistant, oil-proof, water-proof, fire-resistant, low temperature resistant and salt-fog resistant, and by sealed, waterproof and explosion-proof aerial connectors
- ※ Adopting electromagnetic shielding technology, it can even work in such adverse environment featuring great environment temperature changes, strong vibration, high humidity and serious electromagnetic interference
- ※ It adopts maintenance-friendly and highly integrated electronic components. Its sensors are also integrated
- ※ The whole system is explosion-proof
- ※ Easy operation is guaranteed by flexible software, which realizes switches between Chinese and English display, and metric and imperial measuring units
- ※ Making use of mechanism and electronics, and employing world-class programmed processing technology, the system can group any number of parameters into various instrumentation configurations

Main Technical Parameters

Parameters	Measuring Range	Accuracy	Response Time	Maximum Installation Distance
Hook Load and WOB	0~500×10kN	±2%F.S		
Rotary Torque	0~40kN·m (Display mode;0~500scale)	±5%F.S		
Tong Torque	0~100kN(in tail line pull)	±2.5%F.S		
Mud Pressure	0~40MPa	±1.5%F.S		
Mud Flow	0~100%	±2%F.S		
Mud Density	0.8~2.0g/cm ³	±0.02g/cm ³		



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Total Gas	0~100%LEL(lower limit explosive concentration)	±5%LEL(F.S)	<15seconds (90%response)	1000m
H ₂ S	0~100ppm	±5%F.S	<60seconds	1000m
Depth	0~9999.9m			
RPM	0~300r/min			
SPM of Pump 1 and 2	0~300storkes/min			
Working Temperature	-30~70°C			
Relative Humidity	0~90%			
Mud Pit Volume	0~999.9m ³ (seven pits can be used)			
Working Voltage	220VAC±10%,47~63Hz			

SZJ-II Multi-parameter Drilling Instrumentation System



SZJ-II Multi-parameter Drilling Instrumentation System is mainly used to measure and display variation of different engineering parameters during drilling process and assist drillers to monitor working status of drilling rig. The system consists of sensors, Bus contacts, front-end driller's console (with PC104 built-in computer, touch-screen LCD display) and computer terminal in tool pusher's office.

Features

- ※ Modularized structure and easy extension. Various parameters can be combined in accordance with requirement of customers
- ※ Equipped with a built-in PC/104 industrial control computer, all the data can be acquired and processed in a reliable way



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- ※ Front-end monitor software can acquire and process 30 original parameters and 20 derivative parameters. Users can set up alarm threshold values of relevant parameters to realize acoustic and optical alarm
- ※ Human-friendly design of monitor software can help drillers to switch between different display modes, such as analogue dial, digital display and curve display
- ※ Wide TFT LCD touch screen, human-machine dialog operation and ideal visual effect
- ※ Back-end monitoring software can perform real-time monitoring, acoustic and optical alarming and remote display; reports and curves of all the parameters can be displayed (in real time), saved and printed
- ※ As all the composing parts of system are connected through CAN bus, it is easy to conduct field installation, adjustment and maintenance
- ※ The system enjoys a wide range of working voltage, excellent stability, strong anti-jamming capacity and long-term trouble-free service

Main Technical Parameters

Parameters	Measuring Range	Accuracy	Response Time	Maximum Installation Distance
Hook Load and WOB	0~500×10kN	±1.5%F.S		
Rotary Torque	0~40kN·m (Display mode;0~500scale)	±5%F.S		
Tong Torque	0~100kN(in tail line pull)	±2.5%F.S		
Mud Pressure	0~40MPa	±1.5%F.S		
Mud Flow	0~100%	±2%F.S		
Mud Density	0.8~2.0g/cm ³	±0.02g/cm ³		
Total Gas	0~100%LEL(lower limit explosive concentration)	±5%LEL(F.S)	<15seconds (90%response)	1000m
H ₂ S	0~100ppm	±5%F.S	<60seconds	1000m
Depth	0~9999.9m			
RPM	0~300r/min			
SPM of Pump 1 and 2	0~300storkes/min			
Working Temperature	-30~70℃			
Relative Humidity	0~90%			
Mud Pit Volume	0~999.9m ³ (seven pits can be used)			
Working Voltage	220VAC±10%,47~63Hz			