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Global Control Solutions for Mobility and Industrial Applications

PG DRIVES TECHNOLOGY

SPIRENT Communications

SK79525/04/08

ACCESS

Aerial Work Platform Control System

PG DRIVES TECHNOLOGY

- **Dual 120A per channel traction motor drive**
- **Choice of integrated Joystick Module or Interface Panel**
- **Proportional control of traction and steering**
- **150A pump motor output**
- **Proportional control of lift and lower**
- **Switchable ground/platform control**
- **Alarm, beacon and horn outputs**
- **Pothole protection switch inputs**
- **Large, easy-to-read LCD screen**
- **Built-in tilt sensor**
- **Sleep timer**
- **On-board programming**

Access is an integrated system to control the entire functionality of aerial work platforms including variable lift, lower and traction. The three modules of the system are connected simply and easily to enhance machine capability and reduce installation errors. A choice of operator modules are offered - an integrated Joystick Module that contains all controls and display, or an environmentally sealed Interface Module that allows connection to external switches and joystick.

The Ground Module forms the hub of the connection system, to allow all wiring to be centralized. This module connects directly to the system batteries and provides the high current, variable speed output for the hydraulic pump motor, along with the lower current outputs such as a variable down valve, alarm, horn and beacon. All input switch wiring for pothole switches, elevation switches or auxiliary inputs is also connected here, to ease servicing of external parts.

A 3-position keyswitch powers the system at the Ground Module and determines whether platform or ground control is selected. When switched to platform control, the operator can use the joystick to effect smooth and precise control of traction and steering, or lift and lower. In ground control, two pushbuttons can be used to raise or lower the platform, using built-in soft start and stop to minimise wear on vital system components.

Unique to the system is a large LCD screen in the Ground Module that shows system status and diagnostics, such as a battery discharge indicator, hours run or whether, for example, an interlock is active and inhibiting certain functions on the machine. This display also provides an ideal user-interface for the on-board programming functions to be easily accessed and interpreted by OEM manufacturing and service personnel. A built-in tilt sensor can report live data directly to the screen. This sensor can be zeroed effortlessly, at the touch of a button, on the production line prior to the shipment of a machine.

Both operator interface options, the Joystick Module and the Interface Module, contain super-bright LEDs that provide clear indication of battery state-of-charge, mode of operation and diagnostic information. Also included in both is a sounder for audible feedback or warnings.

USER-INTERFACE OPTIONS

JOYSYTICK MODULE

Selects lift / lower or drive at the touch of a button then precise positioning of the platform is achieved by variable joystick control.
High-brightness LEDs show an accurate TruCharge battery indicator and a clear indication of selected speed.

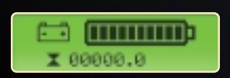
INTERFACE MODULE

If a larger, external joystick and user switches are preferred, then the Interface Module provides all the connections to these, while still providing the same display functions as the Joystick Module.
The electronics are 'potted' for maximum environmental protection and the integrated gasket ensures the panel into which the module is fitted remains fully water-proofed.

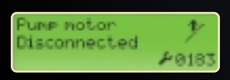
FULLY PROGRAMMABLE SYSTEM ON SCREEN

LARGE BACKLIT LCD SCREEN

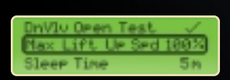
Under normal operation the LCD screen shows battery gauge and total hours run.



Since all systems are connected directly to the Ground Module, text and diagnostic icons clearly indicate if any of the machine's components have malfunctioned.



On-board programming screen provides a simple, intuitive user interface for OEM's and Service Engineers to adjust machine-specific, programmable parameters.



ACCESS

Variable Lift / Lower and Traction Control

GROUND MODULE

Provides input/output connection hub for the entire machine ensuring easy installation and maintenance. Intelligent lift / lower controls allow soft-start and stop of hydraulic pump motor, limiting wear on expensive components.

TRACTION MODULE

Two 120A variable speed outputs for permanent magnet motors and electromagnetic brakes. Serial connection to Ground Module for simple, hassle-free wiring.

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The Traction Module connects directly to the Ground Module via a serial communications link accepting commands from the joystick to determine speed and direction by driving two permanent magnet traction motors. Proven technology is used to power the motors via sophisticated yet dependable microprocessor-controlled, power semiconductors and digital electronics - eliminating the need for expensive and unreliable contactors and relays.

Safety, however is not compromised. It is assured by dual path hardware circuitry from the joystick and self-checking software to prohibit unexpected lift, lower or traction drive of the machine unless valid signals are present. Internal logic circuits can be programmed to inhibit individual functions depending on the state of inputs, such as pothole switches. The ability to lower the platform in almost all cases is allowed, even when the system detects malfunctions in other parts of the machine. This unique and comprehensive functionality makes Access the ideal choice of fully integrated control system for aerial work platforms.

GENERAL SPECIFICATIONS

Operating Voltage	16 to 32 V
Pump Motor Drive Current	150 A (1 min)
Traction Module Drive Current	120 A per channel (15 secs)
	80 A per channel (1 min)
PWM Frequency	20 kHz ± 1%
Auxiliary Outputs	5 A continuous, short circuit protected
Safety	Multiple Hardware and Software Strategy to assist conformance with Machinery Directive 89/392/EEC
Operating Temperature	-25°C to + 50°C
Storage Temperature	-40°C to + 65°C
EMC: Emissions	EN55022 1998 Class B
Susceptibility	IEC 1000-4-3, Tested at 30 V/m
ESD	IEC 801-2, severity level 3
Environmental Protection	Electronics to IPx5

DIMENSIONS

Joystick Module			Interface Module		
Length	179mm	6.9"	Length	128mm	5.1"
Width	86mm	3.4"	Width	108mm	4.3"
Height	152mm	5.0"	Height	25mm	1.0"
Ground Module			**Traction Module**		
Length	260mm	10.2"	Length	180mm	7.1"
Width	94mm	6.5"	Width	95mm	3.7"
Height	152mm	3.7"	Height	46mm	1.8"

For further details please contact PG Drives Technology