PWB DESCRIPTIONS AND FUNCTIONS

Quad Servo Controller PWB #1

The Quad Servo Controller PWB (QSC#1) is a servo control board capable of controlling up to 4 brushless DC motors. It allows for both velocity and position control of the motors. A Servomotor typically will have an encoder, sensor and timing disk to monitor speed and position. The HCF servomotor has a small circuit board attached to the motor for controlling these motor functions. The 36VDC supply the motor comes from the LVPS through a 36V interlock directly to the motor. QSC#1 controls:

36VDC / 5.0amp blower motor and blower motor pwb
36VDC / 1.01amp Horizontal X-port motor

Dual Stepper Controller PWB'S #1-3

The Dual Stepper Controller PWB (DSC#1-3) is a motor control board capable of controlling up to 2 two phase stepper motors or two brush type DC motors. It allows for both velocity and position control of the motors. The communication with the Dual Stepper Control PWB is done using the SCB and DRC protocols. DSC'S can also supply signal, LED and return voltages to some sensors and switches.

DSC #1 controls:

36VDC / 2.0amp LE/TE elevator motors
36VDC to the LE/TE up/down over travel switches
Supplies the signal (0-5v), LED and return voltage to the LE/TE down home sensors

PWB DESCRIPTIONS AND FUNCTIONS

DSC #2 controls:

36VDC / 2.0amp Slide drive motor
36VDC / 2.0amp TAR(take away roll) drive motor
Supplies the signal (0-5v), LED and return voltage for slide home sensor

DSC #3 controls:

24VDC / 1.0amp vacuum valve drive motor (top)
24VDC / 1.0amp Air knife drive motor (bottom)
Supplies signal (0-5v), LED and return voltage to vacuum valve home sensor and air knife valve home sensor

Digital Remote Control PWB'S #1-3

The Digital Remote Control (DRC) PWB'S are used to control input and output voltages to sensors and switches. The information from these sensors and switches is then feed back to the M-con PWB continuously as the states change. The DRC'S have 8 IIOC chips to poll the various sensors and switches every 528 microseconds and convert the readings into a digital signal, which the M-con PWB can understand. The DRC PWB can monitor up to sixteen sensors and switches. Each IIOC chip has two inputs and two outputs. All the inputs are 5vdc and most outputs are 24vdc with some 5vdc outputs.

PWB DESCRIPTIONS AND FUNCTIONS

DRC #1 controls:

Supplies 5VDC to paper supply control panel
Supplies 5VDC to X-process and process paper size switches
Supplies 5VDC to paper size decoder pwb
Supplies 5VDC to tilt over travel switch
Supplies 24VDC signal and load voltages to jam indication display strobe and HCF ready lights on top control panel

DRC #2 controls:

Supplies signal and return voltages to front door interlock
Supplies signal, LED and return voltages to horizontal x-port exit sensor
Supplies signal, LED and return voltages to feed head over travel sensor
Supplies 24VDC load and return voltages to multifeed detector sensor
Supplies signal, LED and return voltages to tilt sensor pwb and sensor
Supplies signal, LED and return voltages to IB/OB stack height sensors

DRC #3 controls:

Supplies signal, LED and return voltages to control panel for 8 segment display and manual release LED

PWB DESCRIPTIONS AND FUNCTIONS

Peripheral Communication Unit

The PCU pwb converts the packets of information delivered by the CAN bus into information the M-con pwb can understand and process.

Main Controller PWB

The M-con pwb interfaces with all the pwb's in the system. It controls the HCF with flash memory downloaded with pre-set blower speeds appropriate with the gsm ranges that the customer can select on the tray console. It receives all of the serial input and output information supplied by the SCB and DRC chains to make decisions on when to turn components and functions on and off.

Feeding/Finishing Interface Unit

The FFIU pwb is the interface for communication between the IOT and the feeding and finishing devices.