Addendum - Models Containing the BLD72

Driver Pack models DPD72001, DPD72002 and DPD72451 containing the BLD72 style driver now contain a new printed circuit board (AA3840B). This change has been made primarily to reduce manufacturing costs, so that we can continue to pass on savings to our customers. An additional change has been implemented to improve the fault detection circuitry which will affect the way the fault LED blinks. There is also the addition of a Fault Output (pin 10) on the terminal block (formally was a no connect) and the ability to accept 24VDC inputs.

New Fault Protection (The Section on Fault Protection Inside the User's Guide is No Longer Valid)
There are now five new types of fault detection. When a fault is detected, the driver turns off the motor current, the red fault LED indicates which type of fault occurred and the Fault Output pin goes low. This output is able to stand off 50V and sink 50mA. Refer to the table below for LED fault indications.

# of LED Blinks	Fault Condition
1	Short or Over Current
2	Open Motor or Connection
3	High Voltage Too High
4	Low Voltage Too Low
5	Over Temperature

If a fault occurs, reset the fault by applying a logic "0" to the Reset Fault Input (pin 4) for at least 100ms or by cycling power off for at least 15 seconds. After resetting, try to run the motor again. If the driver continues to fault, check the conditions listed below.

Short (One Blink)
This indicates that the driver or motor has a phase shorted or there is a "short" in the motor cable or wiring. Check the motor and the physical wiring for shorts. If the driver continues to sense shorts after the motor and wiring are determined to be accurate, then the output transistors should be checked using a multimeter as follows:

1. Set the multimeter to diode test.
2. Place the red lead on ground (pin 7).
3. Touch the black lead to each phase (pins 1, 2, 12, and 13).
4. This should give readings between 0.450V and 0.550V.
5. If any readings are significantly less than 0.450V, then the unit has been damaged.

Open (Two Blinks)
This indicates that there is an "open" or intermittent connection in one of the motor wires. Check the motor and the wiring for opens. Another condition that may cause this type of fault, is when a large motor is ramped down too quickly and it loses its position (stalls).

High Voltage Too High (Three Blinks)
This indicates that the input voltage of the transformer is too high. Check the input voltage of the transformer to see if it is within the specified range.

Low Voltage Too Low (Four Blinks)
This indicates that there is an excess amount of current being pulled from the driver or the input voltage to the transformer is too low to provide the amount of current needed by the low voltage winding. Check the input voltage of the transformer to see if the voltage is within the specified range.

Over Temperature (Five Blinks)
This is caused by the heat sink reaching a temperature of 80ºC. Make sure proper ventilation or an additional heat sink is provided so the temperature does not reach this level.

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Jumper Functions/Locations

Function	JP1	JP2	JP3
Negative Going Clocks	1-2	x	x
Positive Going Clocks	2-3	x	x
Terminal 5 = CCW	x	1-2	x
Terminal 5 = Direction	x	2-3	x
Low Voltage Fault Detection Enabled	x	x	1-2
Low Voltage Fault Detection Disabled	x	x	2-3
Standard Product	1-2	2-3	2-3