TECHNICAL BULLETIN

Flash Technology Technical Support
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Product:	Photodiode PHD 516 Extension Guidelines
Effective Date:	February 26, 2021
Part Affected:	• F1855516 PHD 516 PHOTODIODE W/20' PIGTAIL SHLD • F1855517 PHD 516 PHOTODIODE W/50' PIGTAIL SHLD • F1855518 PHD 516 PHOTODIODE W/75' PIGTAIL SHLD
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Flash Technology supplies photodiodes (PHD 516) with 3 different pigtail lengths for our customers. These lengths cover almost all applications. On occasion, an applications require a longer pigtail.

This Technical Bulletin details the proper way to extend the pigtail length through splicing.

General Preparations:

- The photodiode must be located and oriented so that the sensor is pointed North and has an unobstructed view of the polar sky. Ensure that the sensor is not shaded at any point during daylight hours.
- Verify that the sensor is not exposed to direct of reflected artificial light at night or they system will not properly change modes.
- The photodiode may be mounted at the top of a vertical length of rigid conduit or to the optional Antenna Mounting bracket kit ((F1905355) supplied by Flash Technology.
- Never mount the photodiode underneath the controller since it can be shadowed and give inaccurate readings.
- Ensure the installation is water tight.

Guidelines to extending Photodiode PHD 516 pigtail length:

The length of the Photodiode pigtail may be extended by splicing the pigtail to similar cable

1. Use an extension cable similar to the PHD 516 pigtail (Flash Technology P/N 5902500 or similar 2-conductor with overall shield and drain wire).
2. The splice must be made inside a sealed, grounded metal junction box that does not contain any other wiring
    a. Ensure all three conductors (includes drain wire) of the two cables are properly connected to each other.
    b. **Do not** connect the drain wire to the metal junction box.
3. Ensure that the pigtail is at a sufficient distance from noise generating sources like AC power lines, generators or motors.

4. Connect the pigtails 3 conductors to the lighting controller. However, if the photodiode case is bonded to earth-ground through metal conduit or H-frame mounting, **do not** connect the pigtail drain wire at the lighting controller.
5. When the cable has been spliced, test and verify the operation of the photodiode PHD 516 in day and night modes:
    a. Fully illuminate the photodiode sensor with natural or artificial light and verify that the system is in day mode.
    b. If connected to a FTS 370 system, ensure that A2D values range between 4090 and 4095.
    c. When day mode is confirmed, securely cover the PHD sensor. After a period of 30 seconds, verify that the system is now in night mode.
    d. If connected to a FTS 370 system, verify that A2D values range between 0 and 10.

The system is now ready to operate.

Please contact the Flash Technology Tech Support team if you have any issues. Tech Support is available Monday – Friday, 7 am – 7 pm, US Central Time. Call 800.821.5825 and select option 9.