

TECHNICAL BULLETIN

Product: Guidelines to extend PHD 516 Photodiode cable length
Effective Date: August 31, 2020
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 the PHD 516 Photodiode with 3 different pigtail lengths for our customers convenience. These configurations cover almost all applications. On occasion, an application requires a longer pigtail.

This Technical Bulletin details the proper way to extend PHD 516 pigtail length through splicing.

General Preparations:

- A PHD 516 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 daytime.
- The sensor must never be exposed to direct or reflected artificial light at night or the system will not properly change modes.
- The photodiode may be mounted at the top end of a vertical length of rigid conduit or to the optional Antenna Mounting Bracket kit (P/N 1905355) supplied by Flash Technology.
- The PHD 516 should never be mounted underneath the controller since it can be shadowed and generate inaccurate readings.
- Ensure that the installation is watertight.

Pigtail Extension Guidelines:

1. Use an extension cable that is similar to the PHD 516 pigtail (Flash Technology P/N 5902500 or similar 2-conductor cable with overall shield and drain wire)
2. Ensure that the total distance between Controller and PHD 516 is less than 150 ft.
3. Splices must be made inside a sealed, grounded metal junction box containing no 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.
4. The PHD cable must not be placed in the vicinity of noise sources like AC lines, generators, or motors.

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

The system is now ready to operate.