

## Application

Smart power meters have become the standard in the power delivery industry. When there is a failure in the remote communications system of the meter, the on-board optical port allows failsafe communication with on-site service personnel in order to retrieve vital information. Loss of this information has a significant revenue impact.



## Requirement

Smart power meter optical ports commonly use LED and phototransistor components. The close proximity of the LED and phototransistor leads to crosstalk which means having to add a light barrier between them. The sensor is highly susceptible and sensitive to ambient light which requires some sort of opaque housing. The output of the phototransistor is not directly compatible with the microcontroller of the meter which means loss of valuable real estate in adding signal conditioning elements and associated passive components. Also, the phototransistor is a relatively slow technology and will be quickly left behind as the need for more information exchange requires faster and faster components. All of these issues must be addressed as future generations of smart power meter optical ports are designed.



## Solution

### Smart Meter Pair

- OPTEK offers a pair of 1.9mm surface mount components. The emitter uses high irradiance LED, while the sensor uses a custom designed ASIC.
- Communication speeds up to 256kpbs
- Ambient light immunity against solar radiation and fluorescent lighting
- Driver output for microcontroller compatibility
- Compliant with smart power meter standard ANSI C12.18



### General Note

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