



Optical Sensors With Photodiode Output

for Wear-Free Optical Data Communication

KEY FEATURES

- Up to 6 Mbit/s simultaneous bidirectional data transfer
- AEC-Q102 qualified
- Operating temperature: -40 °C to +110 °C
- Faster switching times at low forward current

APPLICATIONS



AUTOMOTIVE



GAS METERS



ENERGY STORAGE



CONSUMER

SPECIFICATIONS

Parameter	VCND2040 Series	VCND2045 Series	Key Takeaway
Radiant Intensity (I_e) Typ.	35 mW/sr	65 mW/sr	85 % higher Intensity
Radiant Power (ϕ_e) Typ.	8 mW	12 mW	50 % higher typical optical power output
Rise / Fall Time (t_r / t_f) Typ.	18 ns	9 ns	2x faster switching
Forward Voltage (V_F , at $I_F = 24$ mA)	1.5 V	2.5 V	Higher forward voltage



KEY BENEFITS

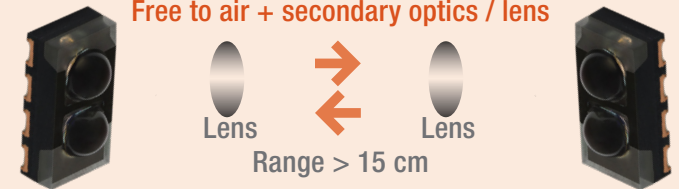
- A wettable flank lead frame design allows the device to be mounted in either **side-view** or **top-view** orientation
- Optical data transmission line is **robust** against **cyberattacks**, immune to **EMC** and **EMI / RFI** interference

COMMUNICATION SETUP⁽¹⁾

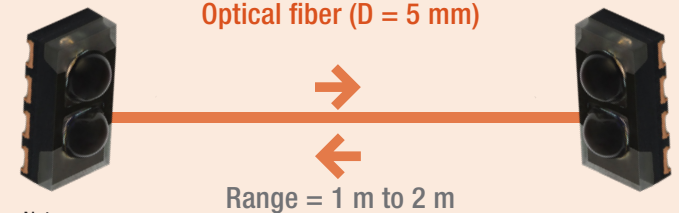
Free to air communication



Free to air + secondary optics / lens



Optical fiber (D = 5 mm)



Note
⁽¹⁾ Expected transmission distance at $I_F = 24$ mA, $I_{RA} \geq 100$ μ A

For technical questions, contact: sensorstechsupport@vishay.com