



The DNA of tech.®

Vishay Optical Force Sensing Sales Playbook



TECHNOLOGY

Optical force sensing



MARKET

Automotive, industrial, medical, consumer



OPPORTUNITY SIGNAL

Works through gloves, any IR reflective material

WHY IT MATTERS

Turning Surface Deformation into Intelligent Interaction

- Detects force by measuring changes in infrared light reflection caused by surface deformation
- Converts minute mechanical deformation into a digital force signal with resolution down to 20 μm
- Enables force-sensitive controls behind IR reflective plastic / decorated surfaces without exposed mechanical buttons

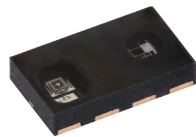
Customer Value: Intuitive user controls, enhanced user experiences, and greater design flexibility

FOCUS PRODUCTS



VCNL3030X01

Proximity sensor (PS) and a high power IRED into one small package



VCNL4030X01

Proximity sensor (PS), ambient light sensor (ALS), and a high power IRED into one small package

- Automotive AEC-Q101 qualified
- Dimensions (L x W x H in mm): 4.0 x 2.36 x 0.75
- Output type: I²C bus (ALS / PS)
- Orderable in four different slave addresses
- Programmable interrupt function
- Selectable for 12- / 16-bit PS output data

OPERATING PRINCIPLES

THE SENSOR IS PLACED BEHIND A REFLECTIVE SURFACE WITH A MINIMUM DISTANCE OF 3 mm



THE HIGH RESOLUTION HELPS TO DISTINGUISH THE LEVEL OF FORCE APPLIED



PRESSURE BENDS THE SURFACE, SLIGHT CHANGES IN THE SURFACE WILL BE DETECTED



TIPS: HOW TO APPROACH CUSTOMER AND WIN BUSINESS

Door Opener Questions

- Are you looking for an alternative to mechanical / capacitive buttons?
- Do you need an alternate solution that works well with gloves?
- Should it work through materials like plastics or wood?
- Do you need automotive or consumer variants?

Target Applications

- Steering wheel switches, volume and climate control switches, gear shift, door handles, digital mirror systems (DMS)
- Thermostats, metering
- VR/AR glasses, smart speakers, sound bars, IOT devices, e-bikes dashboard buttons

HOW TO CLOSE - Advancing the Opportunity

- Pull in tech support in time to support quick design cycles
- Lock in customer design through demo boards, [3D models](#), [simulations](#), [design tools](#), and [power consumption calculator](#)
- Reinforce with resources: [infographics](#), [white papers](#), [application notes](#), toolkits; tailored follow-ups

"We don't just supply components — we partner with engineers to design robust HMI and sensing solutions and get it right the first time."

For further details contact: Sensorstechsupport@vishay.com | For business support reach out to Regional Marketing Team | VISHAY OPTO

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