Technical & Touch Performance Specifications

Technical Specifications

Item	Sensor Variant	Specifications	
Module Size (L x H x W)	0° Type	L x 3.46 x 14.5 mm	(L depending on product variant)
	90° Type	L x 3.46 x 15.45 mm	(L depending on product variant)
Power Consumption I2C Interface Active mode (100 Hz)	72 mm Sensor	57 mW	
	208.8 mm Sensor	80 mW	
	345.6 mm Sensor	104 mW	
Power Consumption I2C Interface Active mode (25 Hz)	72 mm Sensor	44 mW	
	208.8 mm Sensor	45 mW	
	345.6 mm Sensor	47 mW	

Touch Performance Specifications

| Item	Specifications	
Input methods	Finger, hand or glove	
Minimum object size (diameter)	5 mm	
Number of touch objects	1,2, or more (depending on application)	
Touch accuracy	<5 mm for sensors >180 mm	<7.5 mm for sensors <180 mm
Touch Resolution	0.1 mm	
Touch activation force	0 N (No activation force required)	
Touch active area	Up to 345.6 x 208.5 mm	
Response time	16-46 ms (initial touch, at 36 Hz in idle mode)	10 ms (continuous tracking at 100 Hz in active mode)
Scanning frequency	Configurable up to 900 Hz, depending on product variant	

Parts of the zForce Sensor Module

A. Cover
B. Adhesive
C. Front Light Pipe: Straight shooting or 90 degree shooting.
D. Lenses: amount depends on Module length.
E. PCBA
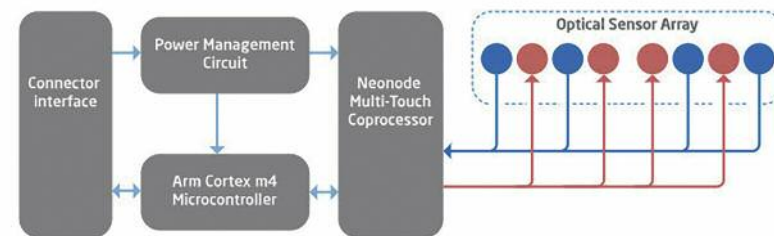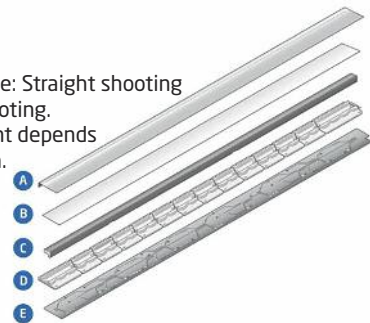
Electrical Block Diagram
The PCBA is equipped with both active and passive components including: MCU, Co-processor (a Neonode proprietary scanning IC), Polycarbonate Optical Lenses, VCSELs, and Photo Diodes.
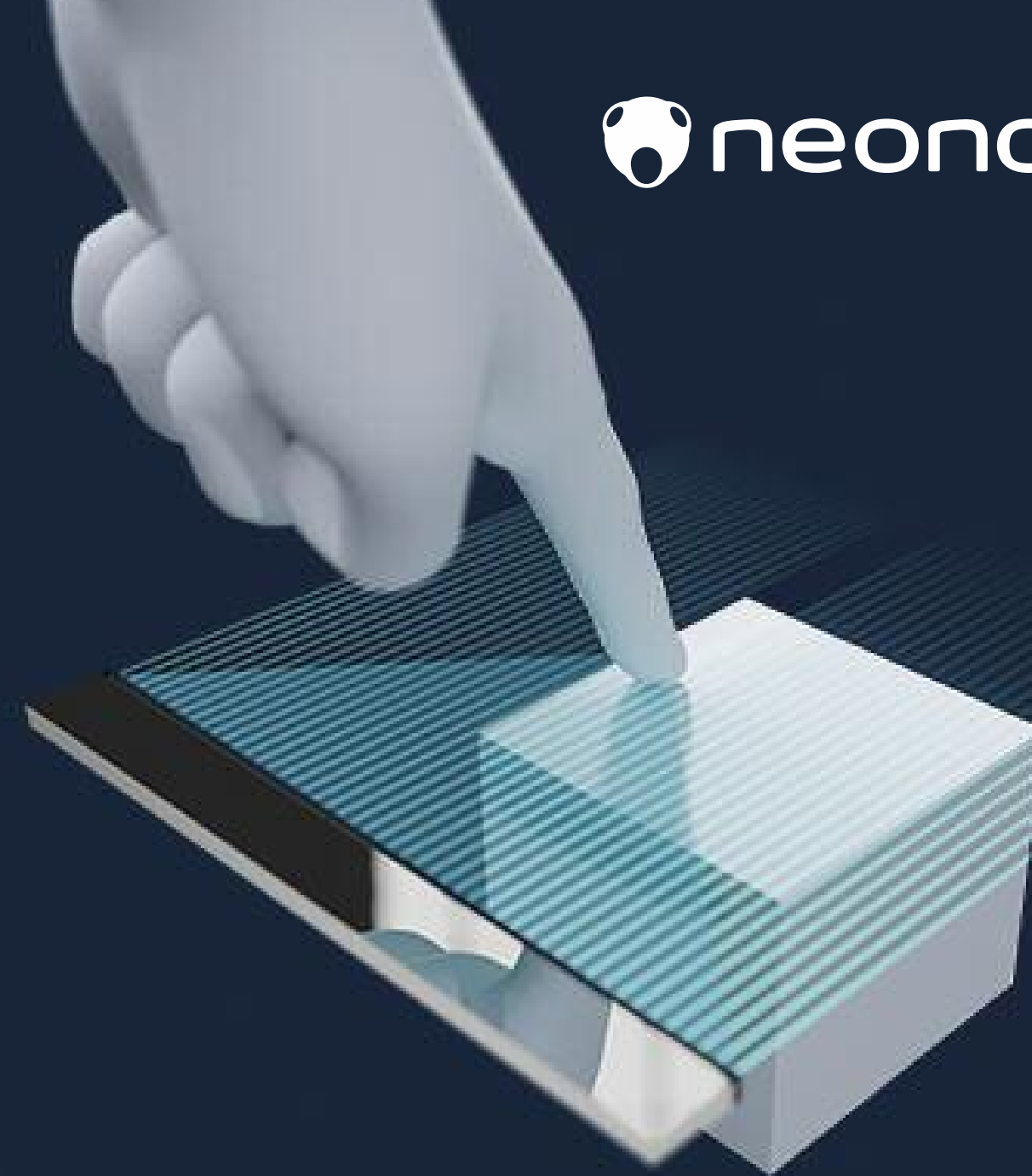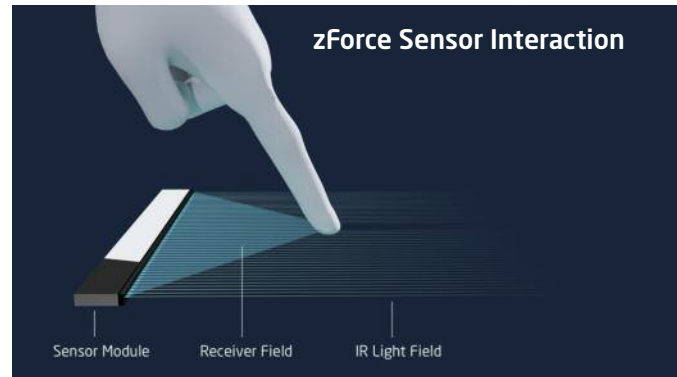
Neonode zForce Sensors Modules
Enable touch interaction on any display or surface

zForce is a Flexible and Economical Display Technology Already Proven in 67 Million Products World-Wide

zForce Sensor Interaction

Sensor Module | Receiver Field | IR Light Field

346mm
295mm
230mm
209mm
180mm
156mm
122mm

Standard zForce Sensor Module Lengths

Neonode zForce (Zero-Force) optical reflective platform is based on light reflection technology, integrating optics and electronics in a thin strip along one side of an intended interactive area, creating a 2-dimensional interactive plane. zForce interacts with the position and movement of any reflective object within its range. It enables reliable touch interaction on any display or surface, with or without any overlay/protective front cover.

Climate Independent: outfit your display for bad weather with easily adjustable detection distance

Works With Any Input: including gloves or dirty hands

Light Resistant: Neonode Technology works in environments with intense or glaring light without aging effect

No Electromagnetic Interference (EMI): reliable interaction without EMI issues in sensitive environments

Temperature Robustness: add interaction to any surface in hot or cold temperatures without degradation.
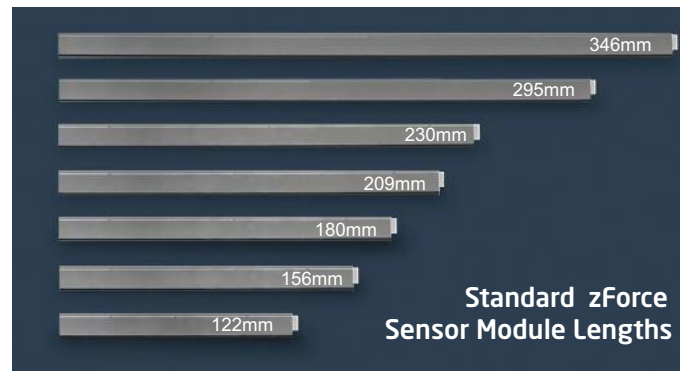
Neonode Sensor Modules can be purchased in a variety of lengths and configurations to fit most applications. In addition to the standard lengths shown above, they can also be ordered in:

- 100 different lengths, from 43mm to 346mm, in 7mm increments. (Custom sizes can be ordered on request).
- 0 or 90 degree configurations.

To help kick-start your next design, Neonode offers an inexpensive and easy-to-use Evaluation Kit in standard lengths. The kits include an Interface board (with USB and I2C interface) and FPC-cable for $51. The Explorer Kit, with the modules in all standard lengths, is available for $336.

Neonode works closely with many of the world's best-known Fortune 500 companies and our customers are some of the largest consumer and automotive brands.

To date, Neonode's technology is deployed in approximately 67 million products, including:

- 4 million cars and
- 63 million consumer devices

Neonode has 170+ Patents worldwide

Neonode Technology is used:
- by 2 of the world's top 3 printer manufacturers
- by 2 out of the world's top 3 eReader providers
- in 30+ car models

Neonode's products and solutions are ideal for integration in a wide range of applications within; markets such as: Industrial, Agriculture, Aerospace, Medical, Off-Highway, etc.

Don't settle for ordinary touch controls or display panels when you can design an economical and versatile zForce interactive touch solution into your product today.

zForce Optical Sensors Enable Touch Interaction on Any Surface and in Any Environment

Touch Controls

IR Light Field | Sensor Module

Touch on Any Surface

Leather | IR Light Field | Stone | Receiver Field | Wood | Sensor Module

Touch on Displays

Protective Glass | IR Light Field | Display | Receiver Field | Sensor Module

Touch on Hidden Displays

Perforated Metal Sheet | LED Matrix | IR Light Field | Receiver Field | Sensor Module