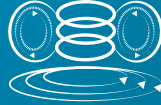




HALL EFFECT



CAPACITIVE



INDUCTIVE



HAPTICS

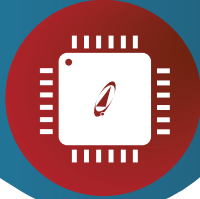
THE CHIP GUIDE

SINGLE IC, MULTI SENSOR SOLUTIONS

WWW.AZOTEQ.COM

JUNE 2025

WHO WE ARE ?



Azoteq is a fabless semiconductor company with a rich IP portfolio. We have more than 20 years sensing experience, and we specialize in multifunctional sensors that integrate capacitive, inductive, Hall-effect, and temperature sensors into a single chip.

We love designing new features for electronics, and to further improve the user experience we have added haptic feedback to our portfolio.

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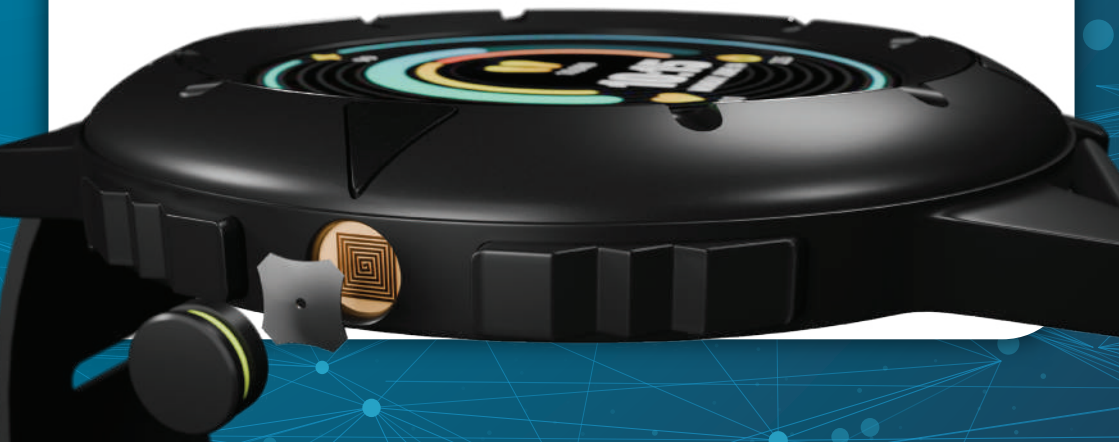
WEARABLES

Our sensors offer industry-leading low power consumption, making them ideal for wearable applications.



	TOUCH BUTTON	DOCKING DETECTION	HALL CROWN	FORCE SENSING	WATERPROOF BUTTON	WEAR DETECTION REFERENCE	WEAR DETECTION WearMax™
IQS7223C	✓	✗	✗	✗	✗	✓	✓
IQS7222E	✓	✓	✗	✗	✗	✓	✗
IQS323	✓	✗	✗	✓	✓	✓	✗
IQS7221G	✓	✗	✓	✓	✓	✗	✗

Inductive sensing enables contactless waterproof buttons.



02

HEARABLES

Touch functionality includes trackpads, capacitive and inductive options for waterproof buttons, wear detection, and docking detection.



CUSTOM SOLUTION

Azoteq offers turnkey, custom-designed modules, along with a manufacturing service. These allow proximity, touch, and swipe detection.

	TOUCH BUTTON	TRACKPAD NODES	SLIDER FUNCTION	FORCE SENSING	WATERPROOF BUTTON	DOCKING* DETECTION	WEAR DETECTION
IQS7222A	✓	✗	✓	✓	✓	✗	✓
IQS7222E	✓	✗	✗	✗	✗	✓	✓
IQS7210A	✓	32	✓	✓	✓	✗	✓
IQS323	✓	✗	✓	✓	✓	✗	✓
IQS318	✓	✗	✗	✓	✓	✗	✓
IQS7211E		42					
IQS572		72					
IQS9151		156					
IQS9150		506					



It is possible to add tap, tap-and-hold, and swipe coordinate detection to true wireless stereo for play/pause and volume or track changing.

*Hall Effect

03

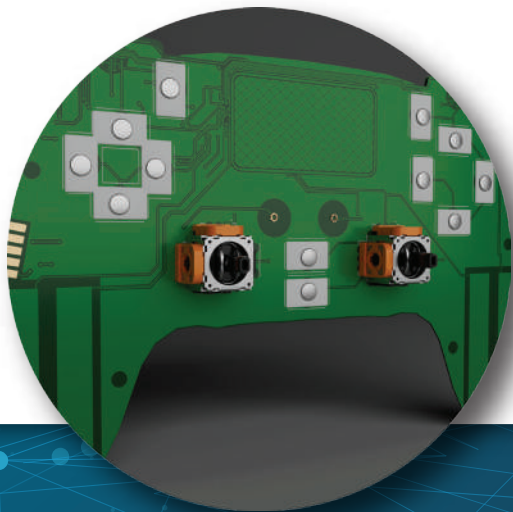
GAMING

Our gaming options include touch functionality, sliders, dials, force sensing, and inductive triggers, providing an immersive and responsive gaming experience.



	TOUCH BUTTON	TRACKPAD	SLIDER	FORCE SENSING	ROTARY DIAL	INDUCTIVE TRIGGER
IQS323	✓	✗	✓	✓	✗	✗
IQS7211E	✓	✓	✓	✗	✗	✗
IQS7225A	✓	✗	✗	✓	✓	✓
IQS9151	✓	✓	✓	✗	✗	✗

Azoteq can integrate multiple controller inputs into a single IC for cost-sensitive applications, for example triggers, thumbsticks, touchpads, grip detection and buttons.



04

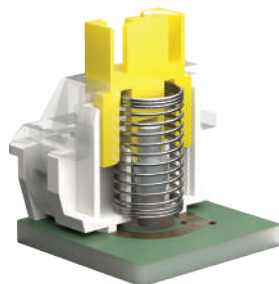
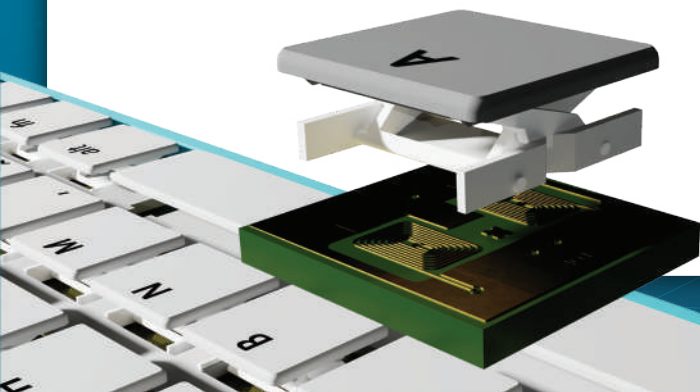
COMPUTER, PERIPHERALS

We offer touch functionality, trackpads, inductive keys, and mouse wheel solutions for computers and peripherals, ensuring enhanced user experience and precision.



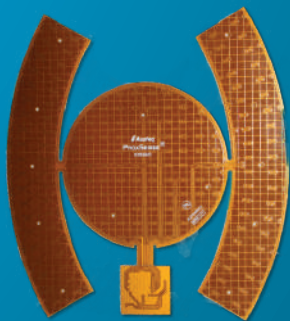
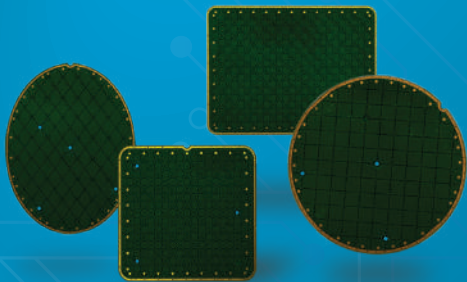
	TOUCH BUTTON	TRACKPAD	SLIDER	KEYBOARD KEYS	KEYBOARD KNOB & BARREL	MOUSE WHEEL
IQS323	✓	✗	✓	✗	✗	✗
IQS324 (off-axis)	✓	✗	✗	✗	✓	✓
IQS326 (on & off -axis)	✓	✗	✗	✗	✓	✓
IQS7221G (on-axis)	✓	✗	✗	✗	✓	✓
IQS7225A (off-axis)	✓	✗	✗	✗	✓	✗
IQS9150	✓	✓	✓	✗	✗	✗
IQS9151	✓	✓	✓	✗	✗	✗
IQS9320	✗	✗	✗	✓	✗	✗
IQS9313	✗	✗	✗	✓	✗	✗
IQS9332	✗	✗	✗	✓	✗	✗

The IQS93xx inductive sensor is a sensing IC for contactless and multi-level keyboard switches, with up to 40 levels in a gaming key and true 8kHz reporting. TriggerMax™ offers dynamic trigger thresholds.



CUSTOM MODULES

Azoteq offers turnkey, custom-designed modules, along with a manufacturing service. These allow proximity, touch, and embedded gesture support.



THE KING OF PRECISION IS HERE

Custom designed modules to support the Microsoft Precision Trackpad specification.

STANDARD MODULE	DESCRIPTION	ROWS/ COLUMNS	RESOLUTION	INTERFACE	APPLICATION
GPIO GESTURE TRACKPADS	Round/elliptical trackpad modules with gestures	8 X 8	1792 X 1792	GPIO	Bluetooth Headphone, Remote Control
I2C TRACKPADS	Rectangular trackpad modules with gestures	15 X 10	3584 X 2304	I2C	Laptop, Remote control
PXM0091 Multi Function Trackpad	Trackpad with proximity, touch and gesture functionality	120mm X 75mm	2000 X 1213 (max 6400 X 4352)	I2C	Notebooks / Tablet and notebook accessories / Industrial and Specialized (Control panels, medical devices, aircraft cockpits)

SAR SOLUTIONS



LIMIT RADIATION

Detects when an antenna is touched to revert power levels to a different antenna. Ideal for phones and tablets.



CONTEXT AWARENESS

Detects whether a laptop is on a table or on a user's lap to reduce performance and limit heat emission to the user.



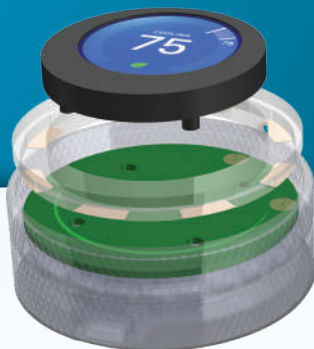
INTELLIGENT SELECTION

Having multiple antennae enables smart switching of the active antenna without the use of proprietary RF techniques.

05

IOT & SMART HOME

We provide IOT and smart home solutions, featuring inductive dials, waterproof buttons, and advanced sensors for seamless home automation and control.



It is possible to simplify mechanical dial inputs with our contactless inductive sensing solutions.

	PROXIMITY WAKE UP	KEYPAD	SLIDER	FORCE SENSING	ROTARY DIAL	TAMPER DETECTION
IQS323	✓	✗	✓	✓	✗	✓
IQS370 (absolute)	✗	✗	✓	✗	✓	✗
IQS7222B	✓	✓	✗	✗	✗	✓
IQS7225 (relative)	✓	✗	✗	✓	✓	✓



We have numerous solutions for door locks - from aesthetically pleasing touch sensors to robust outdoor keypad options.

**Contactless Inductive
Rotation Sensing**

06

APPLIANCES

We offer solutions for household appliances, including inductive dials and waterproof buttons for blenders, coffee machines, washing machines, dryers, and more.



We have solved the challenge of making rotation inputs waterproof with our inductive sensing technology.

	TOUCH KEY	PROXIMITY WAKEUP	TOUCH WHEEL	SLIDER	WATERPROOF BUTTON	WATERPROOF DIAL / KNOB	LID DETECTION	NOISE IMMUNITY
IQS318	1	✓	✗	✗	✓	✗	✓	✗
IQS323	3	✓	✗	✓	✓	✗	✓	✗
IQS370	✗	✗	✗	✓	✗	✓	✗	✓
IQS7222C	10	✓	✓	✓	✓	✗	✓	✗
IQS7225A	✓	✓	✓*	✓*	✓	✓	✓	✗
IQS7229	8	✓	✓*	✓*	✓	✗	✓	✓

*MCU Processing

Contactless inductive sensing, unmatched reliability in wet conditions.

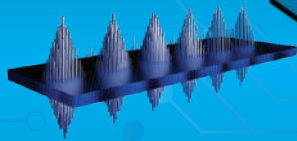


07

HAPTICS

Our haptics family fuses capacitive or inductive sensing with an integrated H-bridge driver for LRA motors. Fewer components, smaller footprint, and a whole new level of responsiveness—without breaking your BOM.

IQS396/7 Sensor + Haptics in One Chip



Efficient. Powerful. Designed to Lead.

Smart power mode management and proximity wake-up extend battery life in mobile and IoT devices—without compromising on speed or response time.

What Sets It Apart

- Capacitive or inductive sensing options
- Integrated H-bridge driver for LRA motors
- Real-time resonance detection and tracking
- Compact, integration-friendly form factor
- Industry-first level of multifunction integration

One Family. Many Forms of Precision.

**IQS390**

Extended Capability
Driver

IQS391

Plug & Play
Driver

IQS396

Extended Capability
Sensor & Driver

IQS397

Plug & Play
Sensor & Driver

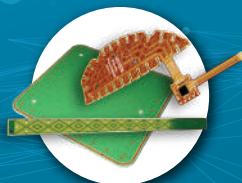
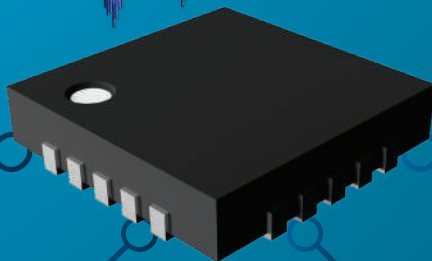
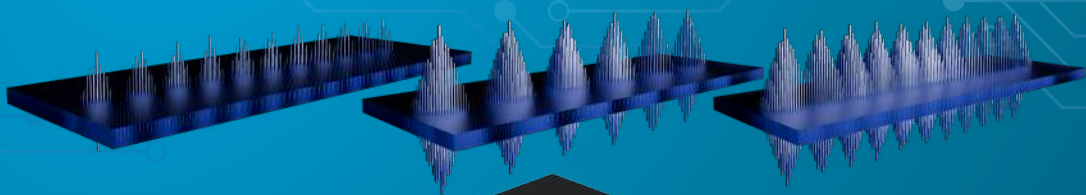
IQS326

Hall Rotation
Sensor & Driver

IQS390/1

Flexible Haptics Driver

- Highly configurable effects
- Fire-and-forget interface
- Real time closed loop autoresonance
- Ultra low power mode
- Automatic power mode management
- Selectable LRA drive frequency
- Internal H-bridge protections
- Design simplicity
- PC software for configuration and debugging



**SLIDERS
& TRACKPADS**



**MOUSEWHEEL
SOLUTIONS**



**ROTATION
SOLUTIONS**



**GAMING
SOLUTIONS**

SLIDERS AND ENCODERS

Mutual Inductive Sensing – Engineered for control. Advanced sliders and encoders that respond with precision and style, from smart audio to industrial UIs.

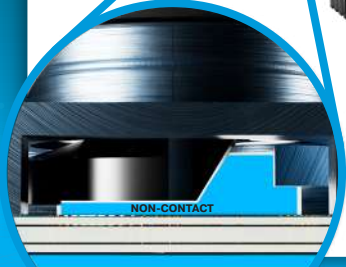


Absolute Encoder

Non-contact sensing enables IP-rated designs with ease

Applications

High resolution encoders & digital potentiometers



IQS370

2-channel inductive sensing
 Supports slider or encoder configurations
 Calibration mode for easy setup
 Movement trigger indication
 Built-in signal processing
 Position detection: slider or encoder
 Movement state detection: slider or encoder
 Automatic biasing for optimal performance
 On-chip calculations for fast response
 Maintains accuracy even in ultra-low power mode

Applications

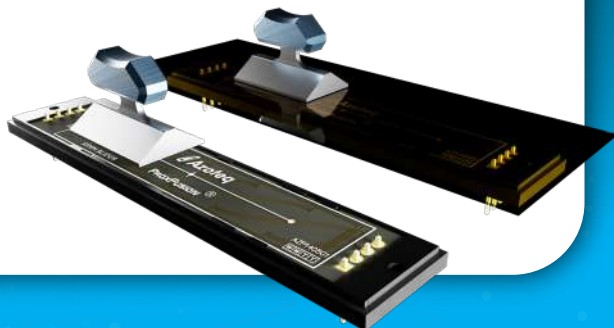
Waterproof sliders · Dials · Counters · Wearables
 · Smart home controllers · White goods UIs
 · Integrated panels · Audio consoles

Absolute slider

Non-contact sensing allows separation of electronics and moving parts

Applications

Digital slider potentiometers



09

EV KITS

Azoteq Evaluation kits are easy to use, work out of the box, and can be wired to prototypes.



Along with a USB dongle and a free graphical user interface, all sensor parameters are displayed and can be adjusted in real time.