

11/2025

endrich NEWS

www.endrich.com

NEUER MEILENSTEIN FÜR DIE ZUKUNFT:

Endrich gründet eigenes Entwicklungsunternehmen für System- und IoT-Lösungen in Ungarn

Mit der Gründung dieses neuen Unternehmens für System- und IoT-Lösungen in Ungarn setzt Endrich einen wichtigen strategischen Schritt in Richtung Zukunft. Als etablierter Elektronikdistributor kennt Endrich die Bedürfnisse seiner Kunden genau – und weiß: Der Markt verlangt zunehmend nach eingebetteten Systemen (Embedded Systems).

Das neue Unternehmen schließt genau diese Lücke. Es entstehen kundenspezifische Systemlösungen, die Elektronik, Sensorik, Software und Datenanalyse zu einem Ganzen verbinden. Sie übernehmen spezifische Steuerungs-, Regelungs- oder Überwachungsaufgaben. So können die Kunden Geräte miteinander vernetzen, Daten erfassen, überwachen und auswerten – mit dem Ziel, Abläufe zu optimieren, um neue Potenziale zu erschließen.

Ein zentrales Anwendungsfeld ist beispielsweise die Predictive Maintenance. Durch die intelligente Nutzung gesammelter Daten lassen sich Wartungsbedarfe frühzeitig erkennen und Ausfallzeiten reduzieren. Damit unterstützt Endrich seine Kunden dabei, ihre Effizienz zu steigern und Kosten zu senken, während gleichzeitig die Zuverlässigkeit ihrer Systeme wächst.

Mit diesem Schritt erweitert Endrich sein Leistungsportfolio über den klassischen Elektronikvertrieb hinaus und entwickelt sich vom reinen Distributor zum Lösungsanbieter, der seine Kunden

über den gesamten Entwicklungsprozess begleitet – von der Idee über die Konzeption bis zur Realisierung individueller IoT- und Systemlösungen.

Das Ziel von Endrich ist es, Technologie erlebbar zu machen, Mehrwert zu schaffen und die digitale Zukunft gemeinsam mit den Kunden nachhaltig zu gestalten.



Frau Christiane Endrich, CEO und Zoltán Kiss, CDO von Endrich R&D Hungary

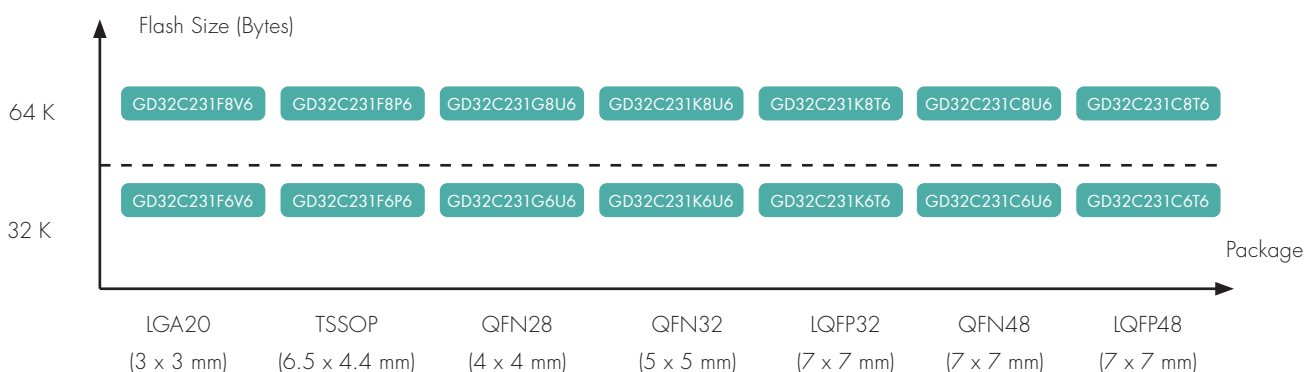
GD32C231 SERIES MCU — REDEFINING COST-PERFORMANCE AND UNLEASHING NEW POTENTIAL



The GD32C231xx is a 32-bit general-purpose microcontroller from the GD32 value line, based on the Arm Cortex-M23 core (up to 48 MHz). It offers high energy efficiency with features like a single-cycle multiplier and 17-cycle divider. It includes up to 64KB Flash, 12KB SRAM, and multiple peripherals: a 12-bit ADC, 2 comparators, 4 general timers, an advanced PWM timer, and interfaces such as SPI, I²C, USART, and I²S. Operating voltage: 2.3–5.5 V, temperature range: –40 °C to +85 °C. Supports several low-power modes for energy optimization.

Typical applications: industrial control, motor drives, user interfaces, power monitoring, consumer electronics, gaming, GPS, and E-bikes

Produktportfolio



NEWS

GD32C231xx – Key Features

- Cortex-M23 @ 48 MHz
- 64 KB Flash / 12 KB SRAM (ECC)
- 1.8 – 5.5 V supply, < 2 μ A Stop mode
- 12-bit ADC, 2 comparators
- 2 $\times$ SPI (QSPI 24 Mbps), 2 $\times$ I²C (1 Mbps), 3 $\times$ USART (6 Mbps)
- Up to 45 GPIOs, multiple compact packages TSSOP20/LGA20, QFN28/32/48, LQFP32/48



Development tools

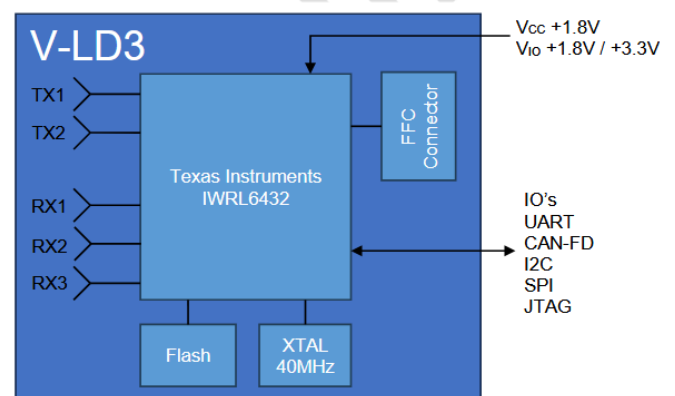
BOARD CATEGORY	BOARD MODEL	PACKAGE TYPE
Evaluation board	GD32C231C-EVAL	LQFP48
Starter kit	GD32C231K-START	LQFP32
Starter kit	GD32C231G-START	QFN28
Starter kit	GD32C231F-START	TSSOP20

RFBEAM V-LD3 RADAR SENSOR V-BAND OBJECT TRACKING SENSOR WITH SIGNAL PROCESSING

The V-LD3-RFB sensor module is built on Texas Instruments' innovative low-power IWR16432 chipset, making it ideal for human detection and multi-object tracking applications up to 20 meters. It is fully compatible with TI's latest low-power SDK and comes preprogrammed with a motion and presence detection demo, including a human/non-human classification feature.

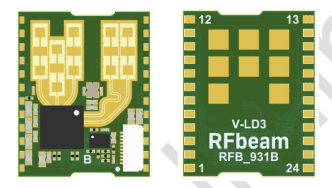
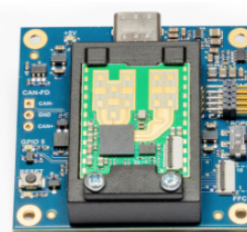
Featuring optimized onboard antennas, the module is pre-calibrated and tested, ensuring a plug-and play experience. RFbeam supports customers in bringing certified radar solutions to market, offering expertise in certification and radome design.

An evaluation kit is available, providing full access to all pins, including SPI raw data capture, JTAG and CAN interface. The kit uses an interface PCB with spring-loaded contacts to mount the V-LD3 module. Simply connect an USB-C cable to your host and start exploring the powerful features of TI's IWR16432 chipset for your end product.



APPLICATIONS

- Smart Buildings: Presence and occupancy detection, gesture control.
- Healthcare & Elderly Care: Fall detection, activity monitoring, vital sign sensing.
- Industrial Automation: Human-machine interaction, object tracking, collision avoidance.
- Consumer Electronics: Smart appliance control, sleep monitoring, gesture-based interfaces.
- Automotive: In-cabin monitoring, child presence detection, driver awareness systems.
- Security & Surveillance: Intrusion detection, perimeter monitoring, classification of targets.
- Water level and speed measurement.
- Detection of micro movements



FEATURES

- Onboard antennas with 110°x50° field of view, optimized for 57-61 GHz
- Simplified CE/FCC certification
- 3D point cloud output for static and moving targets via UART
- Compact size: 20x25mm, SMT-solderable or 10-pin FFC
- Calibration-free: preprogrammed, pre-calibrated, and tested
- TI SDK compatible for flexible development
- Use built-in firmware or start custom application development

RFbeam

SHORT-WAVE INFRARED (SWIR) SPECTROSCOPY FOR GLUCOSE SKIN SENSOR AND VITAL SIGN MONITORING

Insulin-dependent diabetes is a major global health threat, affecting over 537 million adults worldwide, with the number expected to rise significantly by 2045:

Non-invasive glucose monitoring is essential for diabetes management, yet conventional methods such as finger-prick blood tests pose challenges in terms of patient discomfort, infection risk.

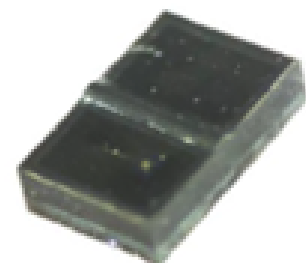
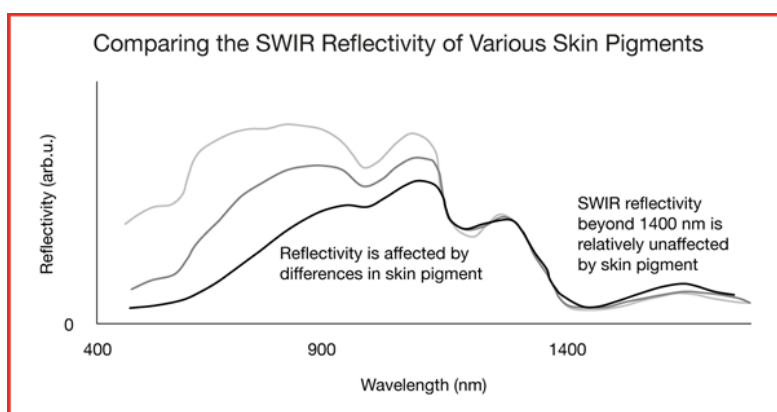
These limitations have contributed to an increasing interest in optical spectroscopy-based glucose sensing, particularly short-wave infrared (SWIR) spectroscopy, which offers a promising approach for quantitative glucose measurement in biological fluids and tissues. SWIR spectroscopy operates in the 700–2500 nm spectral range, where glucose exhibits strong overtone absorption bands, enabling quantitative detection in complex biological environments.

Compared to near-infrared (NIR) spectroscopy, which has been widely explored for glucose sensing, SWIR provides greater molecular specificity, deeper penetration depth, and stronger absorption features, leading to enhanced analytical accuracy.

Beyond biomedical applications, glucose quantification is equally relevant in non-medical fields such as food science, biotechnology, and industrial monitoring. Glucose is a key component in food products, and its measurement is essential for glycemic index assessment, food quality control, fermentation monitoring, and industrial bioprocessing. WIR light is unaffected by the melanin present in the iris.

For the most effective results, multi-spectral iris identification images are captured using wavelengths from 950–1250 nm, in 100 nm increments; arguably, the most important wavelength is 1050 nm, where the bio-penetration depth of SWIR is at its peak.

The spectral response of human skin is characterized by peaks and valleys. The reflectivity of human skin is relatively high (e.g., about 50-60%) at a wavelength of 1050nm and is relatively low (e.g., about 5-10%) at a wavelength of 1450nm.



1050nm+1450nm LED integrated with PD

HT66L25XA: THE FLEXIBLE LOW-POWER A/D FLASH MCU

The HT66L25xxA series is a powerful 8-bit flash MCU with RISC architecture, optimized for applications with direct connection to analog signals.

The microcontroller offers power optimization thanks to a low-power design and selectable clock sources. The memory architecture includes flash memory (with multi-programming), RAM, and true EEPROM for non-volatile data such as calibration or serial numbers. In-application programming (IAP) allows users to store measurement data directly in flash and easily update firmware.

On the analog side, a multi-channel 10/12-bit A/D converter and an integrated temperature sensor are included. Fully integrated SPI, I²C, and UART interfaces provide communication. Various protection



functions (WDT, LVR, LVD), together with excellent noise and ESD immunity, ensure reliable operation in demanding environments.

This makes the series ideal for applications such as electronic measuring devices and environmental monitoring.

APPLICATIONS

- Smart metering & environmental monitoring
- Portable measurement & data logging devices
- IoT sensor nodes and controllers
- Low-power industrial and consumer systems

FEATURES

- 8-bit high-performance RISC MCU with Flash
- 10/12-bit multi-channel ADC + temp sensor
- Integrated SPI / I²C / UART interfaces
- In-Application Programming for flexible updates
- Watchdog, LVD, LVR, CRC for safety

NEWS

WHY DOES AN AIR CONDITION SMELL, AND HOW DOES THE RHT1 HELP?

Ever turned on your air conditioner and been hit with a musty smell? That odor isn't just annoying, it means your air condition (AC) isn't handling humidity well, allowing mold to grow inside. Mold loves damp spots, and without good control, your AC can turn into the perfect place for it to spread.

RHT1, the new analog humidity and temperature module from ScioSense, steps in to keep everything under control giving accurate humidity readings to stop mold before it starts. Its tough PTFE membrane protection also keeps the sensor safe from dust, water, and grime, making it super reliable even in tricky conditions.

Key Differentiators of the RHT1

The RHT1 offers flexibility in temperature and humidity detection, tailored to meet the diverse needs of OEM applications. Its customizable form factor, cable length, connector type, and output signal make it adaptable to specific project needs:

- Calibrated Outputs: Available in both analog and digital formats.
- End-of-Line Testing: Ensures consistent quality with comprehensive module testing.
- Unique Serial Number: Enhances traceability and quality control.
- PTFE Membrane Protection: Shields against water, dust, and grease, making it perfect for harsh environments.

Noteworthy Features of the RHT1

- Accurate readings: Provides precise, calibrated measurements with ± 3 %RH humidity accuracy and ± 0.3 °C temperature accuracy, covering a wide range from 0 to 100 %RH and -40 to 85 °C, including accurate dew point detection.

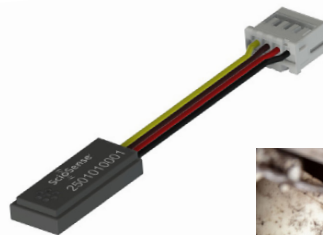
- Reliable Performance in Remote Settings: Ideal for use far from the PCB, where I2C may fail. Its analog output maintains signal quality over long distances.
- Customizable Design: Easily adjustable to various application needs, simplifying integration with different sizes, cables, and connectors.

Why choose RHT1:

RHT1's plug-and-play design accelerates development, cutting time-to-market for OEMs. Its rigorous testing and adaptability make it the ideal choice for diverse applications, from optimizing refrigerator energy use to maintaining air conditioner air quality and ensuring consistent printer performance, especially in remote or challenging conditions.

RHT1 is the perfect fit for air conditioners, keeping your AC fresh and mold-free by managing humidity levels—so you can stay cool and comfortable all summer long without that musty smell!

Just sit back, relax, and let RHT1 handle the rest!



MOUNTING OPTIONS FOR ACOUSTICS ON PRINTED CIRCUIT BOARDS (PCB)

The integration of loudspeakers into electronic systems requires a well-designed mechanical and electrical connection to the printed circuit board (PCB). Depending on the design, field of application and space available, different types of mounting and connection are used.

This article introduces the most common methods for mounting speakers and sounders on PCBs, each with their advantages and disadvantages.



METHOD	DESCRIPTION	ADVANTAGES	DISADVANTAGES
THT - Through-Hole Technology	Speaker leads are inserted through holes and soldered underneath. Very stable, suitable for large speakers	High mechanical stability Ideal for classic pin-type speakers	More space required than with other options More complex assembly
SMT - Surface-Mount Technology	Mini speakers are soldered directly onto the PCB, ideal for compact designs	Automated manufacturing Space-efficient design	Less mechanical strength Limited to very small speakers
Off-board mounting with cable or connector	Speaker is mounted externally in the housing and connected electrically via wires or connectors	Flexible positioning Mechanically decoupled Easily replaceable	Additional assembly effort Higher material cost
Screw or clip mounting	Speaker mechanically mounted to the housing, electrically connected via terminals or screws	Very robust attachment Easy maintenance	More space required than with other options Increased assembly effort
Spring contacts (Pogo Pins)	Connection via spring-loaded contacts without soldering - allows quick replacement	Tool-free replacement No soldering required	Lower mechanical security Higher design cost

The ideal loudspeaker mounting method depends on factors such as mechanical strength, device size, manufacturing approach and maintenance. A well-considered design ensures optimal acoustic and electrical performance.

☒ **Contact for information:** Mrs. Ungericht · **phone:** +49 7452 6007 – 6628 · **e-mail:** S.Ungericht@endrich.com

HEADQUARTERS

endrich Bauelemente Vertriebs GmbH
P.O.Box 1251 · 72192 Nagold,
Germany
T +49 7452 6007-0
E endrichnews@endrich.com
www.endrich.com

SALES OFFICES IN EUROPE

France
Paris:
T +33 1 86653215
france@endrich.com
Lyon:
T +33 1 86653215
france2@endrich.com

Spain
Barcelona:
+34 93 2173144
spain@endrich.com
Hungary
Budapest:
T +36 1 2974191
hungary@endrich.com

Austria & Slovenia
Gmunden:
+43 1 6652525
austria@endrich.com

Switzerland – Novitronic
Zurich:
T +41 44 30691-91
info@novitronic.ch

IMPRESSUM

Herausgeber: endrich Bauelemente Vertriebs GmbH, Hauptstr. 56, 72202 Nagold, Deutschland, Tel: +49 7452 6007 0, Fax: +49 7452 6007 70, Mail: endrich@endrich.com, Web: www.endrich.com, Geschäftsführer: Dr. Christiane Endrich, Sitz: Nagold, HRB Stuttgart 340213, VAT-Nr.: DE144367280, Konzept: endrich Bauelemente Vertriebs GmbH, Nachdruck, auch auszugsweise, nur mit schriftlicher Genehmigung der endrich Bauelemente Vertriebs GmbH. Alle Informationen und Angaben in diesem Heft wurden nach bestem Wissen und Gewissen erstellt, aber ohne jegliche Gewähr. Preisänderungen, Irrtümer, Satz- und Druckfehler vorbehalten. Stand 05.10.2023

Wenn Sie die endrich news nicht mehr per Post wünschen, schreiben Sie bitte eine E-Mail an newsletter@endrich.com

Certified acc. to ISO 9001:2015 / 14001:2015