DKN Access Networks & Consulting

What are some examples of intelligent micro-modules

AI Overview

Intelligent micro-modules are compact, integrated systems that combine power electronics or data center infrastructure with smart control and monitoring capabilities for enhanced efficiency and reliability.Intelligent Power Modules (IPMs)Intelligent Power Modules (IPMs) are compact, high-performance power devices that integrate power semiconductors (MOSFETs, IGBTs, or SiC devices) with gate driver ICs and protection features in a single package. They are widely used in motor drives, home appliances, industrial equipment, and automotive applications . Key features include:High integration: Combines power switching and intelligent driving circuits in one module, reducing design complexity and size .Protection mechanisms: Overcurrent protection, temperature sensing, and fault detection improve system reliability .Efficiency and performance: Optimized gate drivers and low-loss semiconductors reduce conduction and switching losses, enabling higher power density .Applications: Low-power motor drives (up to 450W) for fans, pumps, refrigerators, and air purifiers, as well as larger industrial and automotive converters ranging from tens of watts to several kilowatts . Popular IPM families include CIPOS™ Micro, Nano, Mini, and Maxi from Infineon, and SLLIMM and ACEPACK from STMicroelectronics, each tailored for specific voltage, current, and application requirements .Intelligent Micro-Modules in Data CentersIn the context of data centers, intelligent micro-modules integrate power, cooling, and IT infrastructure with IoT and digital technologies to create smart, manageable, and energy-efficient systems . Key benefits include:Enhanced visibility and control: All systems can communicate and be monitored, allowing optimization of energy use and operational efficiency .Modular and flexible deployment: Micro-modular data centers can be de...

Article Content

Modular microrobotics transitioning from remote to on-board ...

Modular robotic functionality is achieved with five key functions, depicted as coloured triangles. The progression towards microrobots, from the tethered-to-macroscopic microrobot

The Building Blocks of Intelligent Power Modules

Intelligent power modules greatly facilitate the task of devel-oping a reliable, eficient, compact circuit for high-power sol-id-state switching. These versatile components can find a place in many applications,

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Microlearning: An Introduction With 6 Examples And

What is microlearning? Get 6 microlearning examples to help make your content meaningful and get your strategy to deliver. Plus, 3 expert tips!

Microprocessors and Microsystems | Intelligent Sensors and

Compared with traditional SoC chips, MEMS components, optoelectronic modules, or integrated microsystems, intelligent sensors and microsystems constitute a qualitative leap in

Top IoT Boards and Modules for Smart Projects in 2025

Find the right IoT board for your smart project with this 2025 guide. Compare ESP32, STM32, Arduino, and GSM modules with key specs, features, and applications.

The Ultimate Guide to Understanding IoT Modules in Embedded

These modules are critical for wireless communication, data processing, protocol conversion, and power optimization, ensuring seamless network transitions and energy-efficient

Multi-Module Micro/Nanorobots for Biomedical and Environmental ...

These systems integrate sensor modules for microbial detection, actuator and propeller modules for active movement, and manipulator modules for bactericidal activity.

Selected Examples of Intelligent (Micro) Sensor Systems: State-of-the ...

This paper highlights some EU funded research activities in micro/nano-manufacturing, and gives examples of the latest development in micro-manufacturing methods/techniques, process

Intelligent power modules (IPM) | Infineon Technologies

We provide a comprehensive portfolio of Intelligent Power Modules (IPMs) covering a wide range of semiconductor technologies, package types, and voltage/current ratings.

Intelligent power modules (IPM) | Infineon Technologies

IPMs involve products from surface mount CIPOS™ Nano, Micro, and Mini to standard CIPOS™ modules with a power range of 20W to 8kW.

TDK Collaborates With Texas Instruments On New i3 Micro Module,

TDK Corporation today announced the TDK i3 Micro Module, the world''s first module with built-in edge AI and wireless mesh connectivity capability.

Intelligent Power Modules (IPMs): What they are and how they work

What is an IPM chip or Intelligent Power Module? An IPM chip is basically a highly integrated solid-state power switching module that combines in a single package the key elements for efficient and safe

25 microlearning examples to boost your employee

Here''s a list of 25 microlearning examples that you can use to enhance your existing training resources, or start creating new resources from

What Is Microlearning and 8 Microlearning Examples

What are Some Examples of Microlearning? Microlearning appears in many real-world tools, from onboarding modules at Walmart and IBM to language apps like Duolingo, fitness apps like

30+ microlearning examples for employees to be inspired from

Explore over 30 microlearning examples designed to inspire innovative employee training, boost engagement, and enhance learning retention efficiently.

Intelligent Power Modules (IPMs): Concepts, Features, and Applications

Form Factor Intelligent power modules tend to come in through-hole packages that I would describe as somewhat nonstandard. Here are some examples: This is a rendering of the

New i3 Micro Module | TDK Electronics

TDK designed the i3 Micro Module for truly “smart” sensor node edge implementation aimed at a wide variety of production equipment, empowering the ongoing global evolution toward

20 Practical Microlearning Examples for Quick and

Get inspired with these 20 practical microlearning examples that boost engagement and retention, using short, focused content perfect for any

An Overview of IoT Modules

The examples above show how modules are enabling real-time insights, automation, and efficiency on an unprecedented scale – from saving

A Guide f or Deploying TinyML Models on Microcontrollers

A notable example is Ping Services, which developed a TinyML-powered device to continuously monitor the acoustic signature of wind turbine blades, enabling early detection of

The Intelligent Micro Module, the Element of Intelligent Data ...

Micro modules have been widely accepted by China Mobile, China Telecom, and Internet giants like Tencent. Their flexibility and predictability also are popular with large- and medium-scale enterprises.

Use These 10 Microlearning Examples in Your Training Programs

Create microlessons with engaging assessments and media. Consider how these microlearning examples can fit into your L& D programs.

Contact Us

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