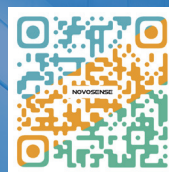


NOVOSENSE

NOVOSENSE

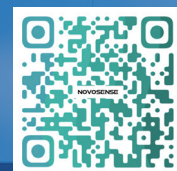
# NOVOSENSE Industrial Control Solution



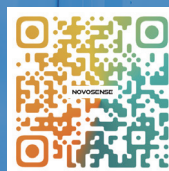
NOVOSENSE  
Company Brochure



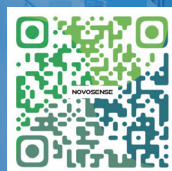
NOVOSENSE  
Product Selection Guide



NOVOSENSE  
Automotive Solution



NOVOSENSE  
Renewable Energy & Power  
Supply Solution



NOVOSENSE  
Industrial  
Control Solution



NOVOSENSE  
Home Appliance  
Solution

NOVOSENSE Microelectronics

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🌐 NOVOSENSE Microelectronics

📺 NOVOSENSE Microelectronics

Release Date: October, 2025



# NOVOSENSE: Highly Robust and Reliable Analog and Mixed Signal Chip Provider

• Robust • Reliable • Keep Learning • Persist in Long-term Value



NOVOSENSE Microelectronics (NOVOSENSE, SSE Stock Code 688052) is a highly robust & reliable analog and mixed signal chip company. Since its establishment in 2013, the company has been focusing on sensor, signal chain, and power management, providing comprehensive semiconductor products and solutions, which are widely used in automotive, industrial, information communication and consumer electronics markets.

With the mission of "Sense & Drive the Future, Build a Green, Smart and Connected World with Semiconductors" , the company is committed to providing chip-level solutions to link the digital world and the real world.

For more information and sample application, please visit: [www.novosns.com](http://www.novosns.com)

**2013**  
Establishment

**1200+**  
Employees  
(as of first half of Y2025)

**~USD 214** million  
Revenue  
(first half of Y2025)

A provider for  
all-category analog  
& mixed signal chips

A leading chip  
provider for automotive  
applications

A leading provider  
for digital isolators  
and sensors



## Key Advantages of NOVOSENSE Industrial Control Solutions

### Comprehensive portfolio

From sensors and signal chain to power management and MCUs, delivering one-stop semiconductor solutions.

### Proven reliability

Certified isolation and sensing technologies ensure stable operation in demanding environments.

### Outstanding performance

Certified isolation and sensing technologies ensure stable operation in demanding environments.

### Agile support

Flexible product design and fast technical response to boost efficiency and competitiveness.

### Positioned for the future

Designed for smarter, smaller, and more digital systems in PLCs, automation, and industrial control.

## NOVOSENSE Products for Industrial Control Applications

| Industrial Control System      | Hall Current Sensor | Operational Amplifier | ADC | Pressure Sensor | Temperature Sensor | CAN Transceiver | RS485 Transceiver | I/O Expander | Buffer | Digital Isolator | Isolated Current/Voltage Sensing | Isolated Power | Isolated Driver | Non-isolated Driver | High & Low-side Switch | AC-DC Switching Converter | DC-DC Switching Converter | Position Sensor | Motor Driver | MCU+ Driver | Current detecting amplifier | LDO | Voltage Reference | Supervisor & Reset IC |
|--------------------------------|---------------------|-----------------------|-----|-----------------|--------------------|-----------------|-------------------|--------------|--------|------------------|----------------------------------|----------------|-----------------|---------------------|------------------------|---------------------------|---------------------------|-----------------|--------------|-------------|-----------------------------|-----|-------------------|-----------------------|
| Energy Control Unit            | ✓                   | ✓                     |     |                 |                    | ✓               | ✓                 | ✓            |        | ✓                | ✓                                | ✓              |                 |                     |                        | ✓                         | ✓                         |                 |              |             |                             |     |                   |                       |
| Smart Wattmeter                | ✓                   | ✓                     |     |                 |                    |                 | ✓                 |              |        | ✓                | ✓                                | ✓              |                 |                     |                        |                           | ✓                         |                 |              |             |                             |     |                   |                       |
| Concentrator                   | ✓                   | ✓                     |     |                 | ✓                  | ✓               | ✓                 | ✓            |        | ✓                | ✓                                | ✓              |                 |                     |                        | ✓                         | ✓                         |                 |              |             |                             | ✓   |                   |                       |
| FTU                            | ✓                   | ✓                     |     |                 |                    | ✓               | ✓                 |              |        | ✓                | ✓                                | ✓              |                 |                     |                        | ✓                         | ✓                         |                 |              |             |                             | ✓   |                   | ✓                     |
| DTU                            | ✓                   | ✓                     |     |                 | ✓                  | ✓               | ✓                 |              |        | ✓                | ✓                                | ✓              |                 |                     |                        | ✓                         | ✓                         |                 |              |             |                             | ✓   |                   | ✓                     |
| PDU                            | ✓                   | ✓                     |     |                 | ✓                  | ✓               | ✓                 |              |        | ✓                | ✓                                | ✓              |                 |                     |                        |                           |                           |                 |              |             |                             | ✓   |                   | ✓                     |
| PLC                            |                     | ✓                     | ✓   | ✓               | ✓                  | ✓               | ✓                 | ✓            | ✓      | ✓                | ✓                                | ✓              | ✓               | ✓                   | ✓                      | ✓                         | ✓                         |                 |              |             |                             |     | ✓                 |                       |
| Stepper Motor                  | ✓                   | ✓                     |     | ✓               | ✓                  |                 | ✓                 |              | ✓      | ✓                | ✓                                | ✓              | ✓               |                     |                        | ✓                         | ✓                         | ✓               |              |             |                             | ✓   |                   |                       |
| Industrial Frequency Converter | ✓                   | ✓                     |     |                 | ✓                  | ✓               | ✓                 |              | ✓      | ✓                | ✓                                | ✓              | ✓               |                     |                        | ✓                         | ✓                         | ✓               |              |             |                             | ✓   |                   | ✓                     |
| Servo                          | ✓                   | ✓                     |     |                 | ✓                  | ✓               | ✓                 | ✓            | ✓      | ✓                | ✓                                | ✓              | ✓               |                     |                        | ✓                         | ✓                         | ✓               |              |             |                             |     |                   | ✓                     |
| Robot                          | ✓                   | ✓                     | ✓   | ✓               | ✓                  | ✓               |                   | ✓            |        |                  | ✓                                |                |                 | ✓                   | ✓                      | ✓                         | ✓                         | ✓               | ✓            | ✓           | ✓                           | ✓   | ✓                 | ✓                     |

CONTENTS

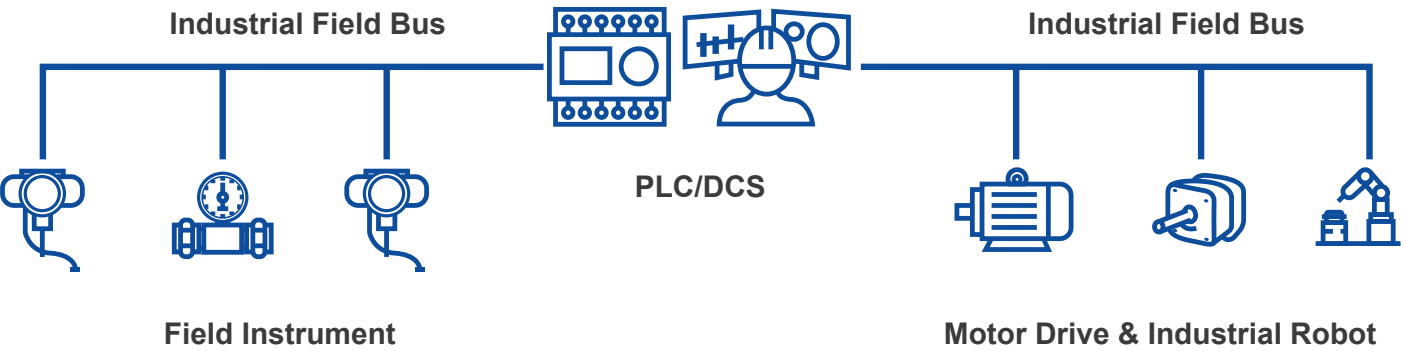
-  **NOVOSENSE Industrial Control Solution**
-  **Industrial Control Solution Overview**
-  **Energy Control Unit / Concentrator / DTU**
-  **Smart Wattmeter / FTU**
-  **PDU**
-  **Water / Gas Meters**
-  **PLC**
-  **Stepper Motor**
-  **Industrial Frequency Converters**
-  **Servo**
-  **Humanoid Robot**







Industrial Control Solution Overview



Field Instrument

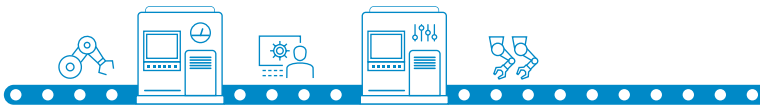
- ▶ 4~20mA industrial transmitter ASIC
- ▶ Industrial field bus interface IC
- ▶ Digital isolator/Isolated power
- ▶ Temperature sensor /MEMS pressure sensor/ Magnetic position sensor
- ▶ Buck/LDO/Voltage supervisor
- ▶ General operational amplifier
- ▶ High-precision voltage reference
- ▶ MCU

PLC/DCS Controller

- ▶ Analog input/output AFE
- ▶ ISO digital input and output
- ▶ Back plane board interface: mLVDS, eFuse, Hot swap
- ▶ Industrial field bus interface IC
- ▶ Digital isolation & power isolation
- ▶ Temperature sensor
- ▶ Buck/LDO/Voltage supervisor
- ▶ General operational amplifier
- ▶ MCU

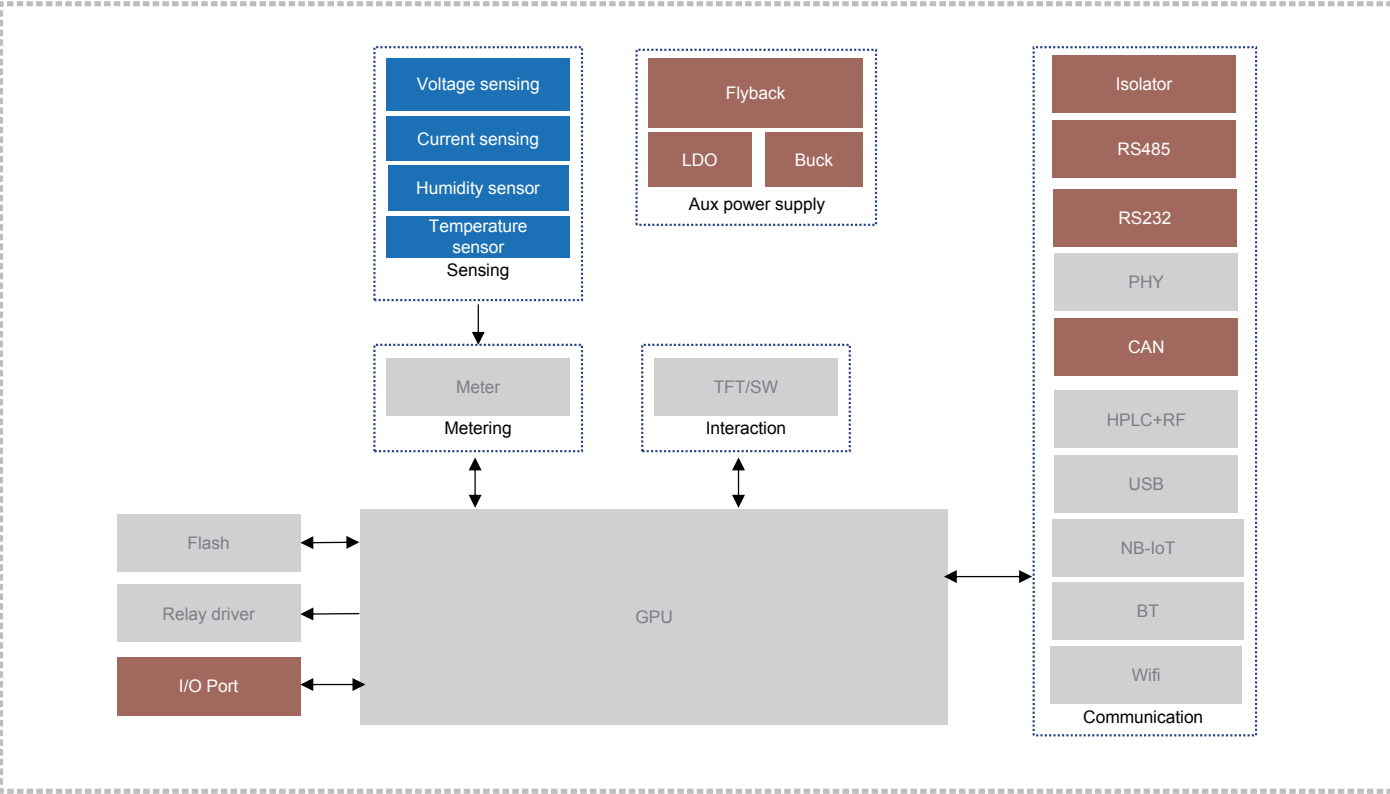
Motor Driver & Industrial Robot

- ▶ Isolated and non-isolated gate driver
- ▶ IGBT & MOSFET
- ▶ ISO voltage & current sensing (ISO operational amplifier & ISO ADC)
- ▶ High-speed digital isolator
- ▶ Industrial field bus and encoder bus interface IC
- ▶ General operational amplifier
- ▶ High-precision voltage reference
- ▶ Analog input/output AFE
- ▶ ISO digital input and output
- ▶ Temperature sensor
- ▶ Magnetic encoder sensor & TMR switch
- ▶ Buck/LDO/Voltage supervisor
- ▶ MCU



Energy Control Unit / Concentrator / DTU

The Energy Controller/Concentrator/Distribution Terminal Unit is used in smart grid systems for energy management and distribution. This system optimizes the distribution and efficiency of electricity by centrally monitoring and controlling multiple energy terminals. The Energy Controller monitors and adjusts the flow of electricity in real-time, the Concentrator gathers and processes various data, and the Distribution Terminal directly manages the energy supply in each distribution area. The system supports remote monitoring, fault diagnosis, and early warning, improving energy utilization and the stability of the power system.



Current & voltage & temperature sensing

- Current sensing (NSM201x, NSM211x, NSOPA9xxx, NSOPA8xxx)
- Voltage sensing (NSI1312, NSOPA9xxx, NSOPA8xxx, NSI361x)
- Temperature sensor (NST1001, NST1002, NST86)
- Humidity sensor (NSHT3x)

Power management

- Flyback (NSR284x/NSR28C4x, NSR2240x, NSR2260x)
- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Buck (NSR104xx, NSR106xx, NSR114xx, NSR1103x)

Interface & digital isolation

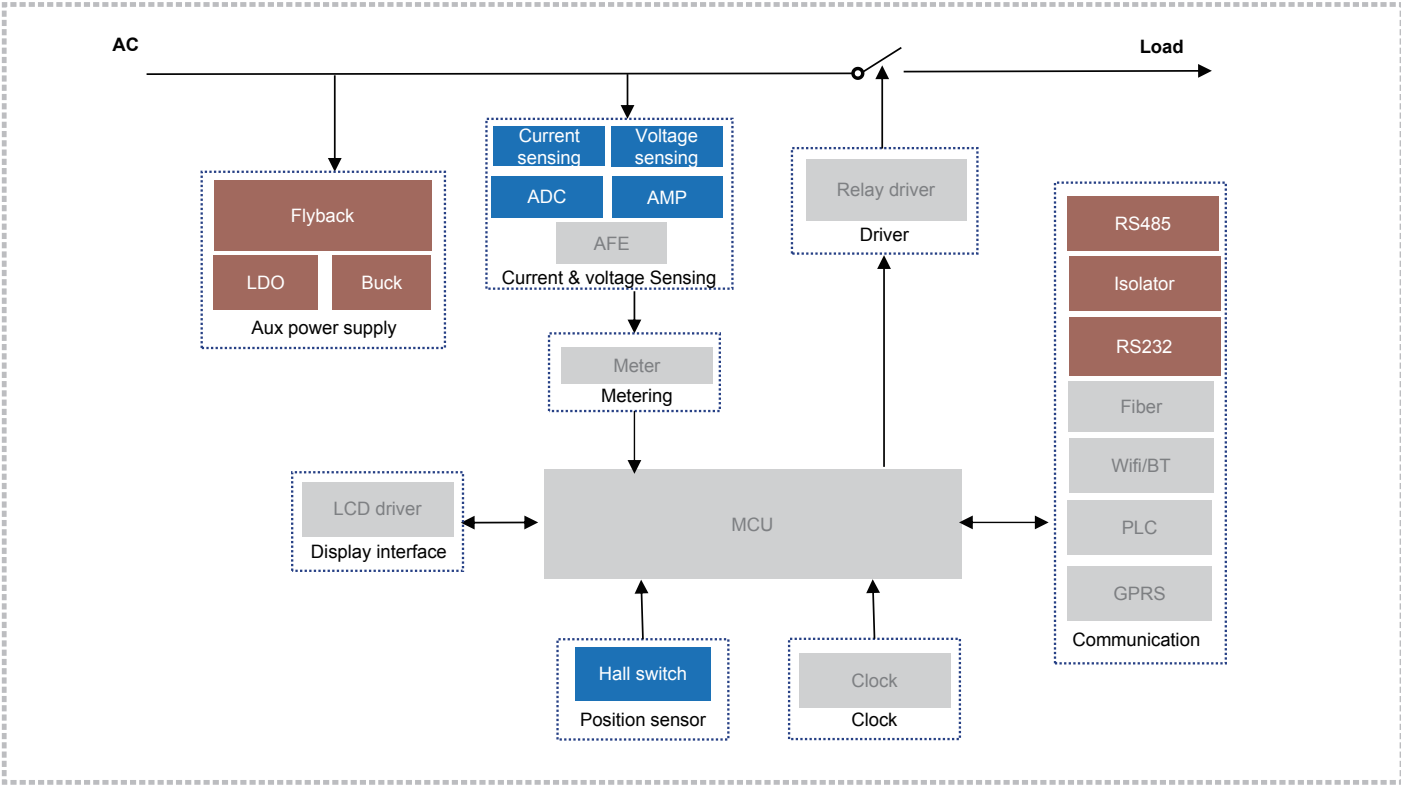
- Digital isolator (NSI82xx, NIRS21, NIRS31)
- CAN transceiver (NCA1051A, NCA1042B, NCA1044, NSI1050, NSI1042)
- RS485 (NSI83085, NSI83086, NCA3176, NCA3485)
- I/O expander (NCA9555)





Smart Wattmeter / FTU

Smart Meters/Feeder Terminal Units (FTU) are key components of the smart grid, working together to enhance the intelligence and automation of power systems. Smart meters feature energy measurement, data storage and processing, real-time monitoring, automatic control, and information exchange, serving as essential measurement devices for automated and intelligent energy data collection. (FTU) are installed near feeder switches for switch monitoring and typically consist of a main control unit and a battery management unit. They support feeder automation functions, enabling fault detection and automatic isolation to minimize the impact of incidents. Both devices connect to the power grid management system via communication networks, enabling intelligent monitoring, control, and optimization of the distribution system.



Current & voltage & position sensing

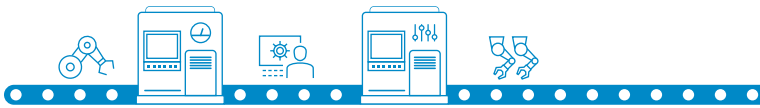
- Current sensing (NSM201x, NSM211x)
- Temperature sensor (NST1001, NST1002, NST7719)
- Voltage sensing (NSI1312, NSOPA9xxx, NSO-PA8xxx, NSI361x)
- Hall switch (MT8652-3D, MT6131)
- Amplifier (NSOPA9xxx, NSOPA8xxx)

Power management

- Flyback (NSR284x/NSR28C4x, NSR2240x, NSR2260x)
- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Buck (NSR104xx, NSR106xx, NSR114xx, NSR1103x)

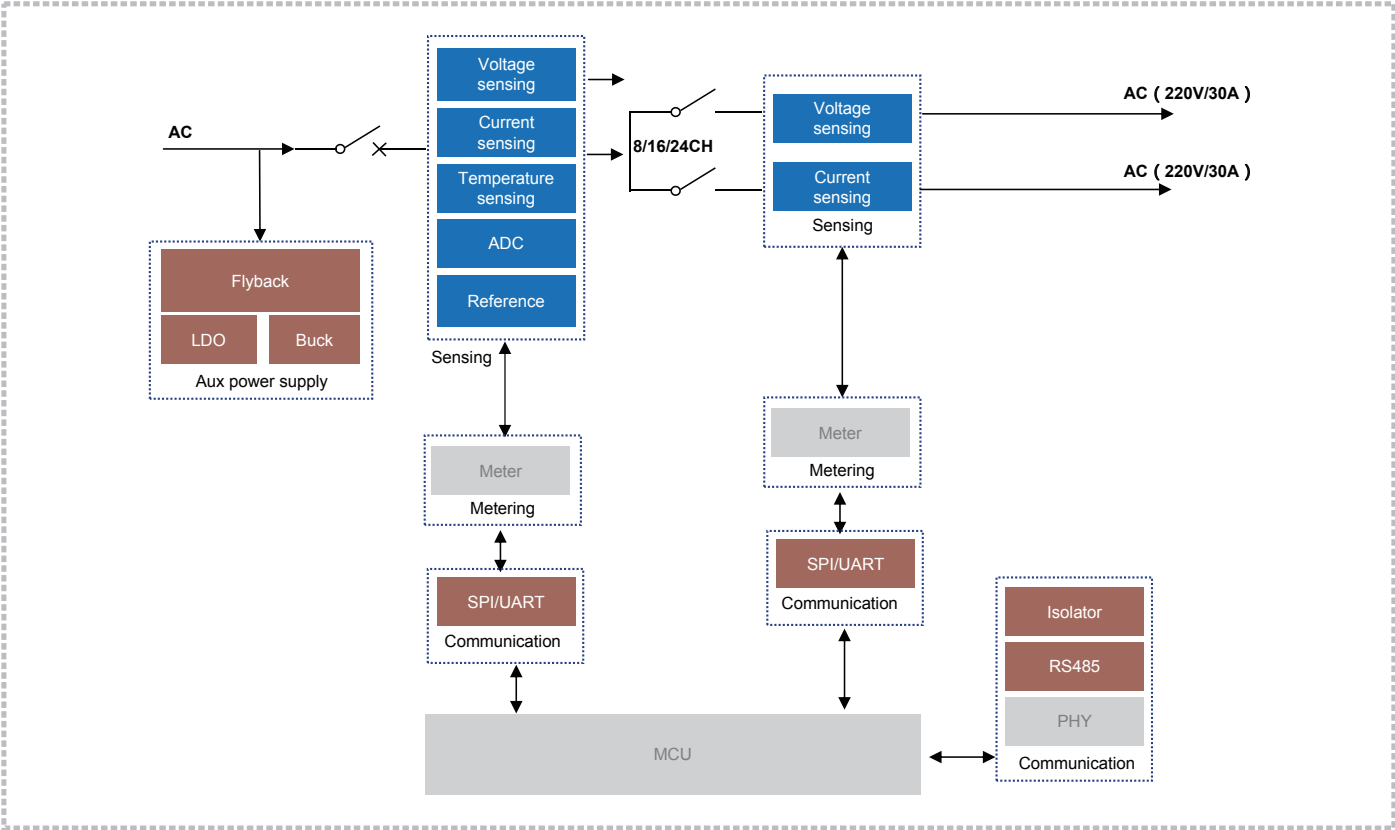
Interface & digital isolation

- Digital isolator (NSI82xx, NIRS21, NIRS31)
- RS485 (NSI83085, NSI83086, NCA3176, NCA3485)



PDU

PDU (Power Distribution Unit) is an industry-standard power connection device that distributes power to devices. It is mainly used for the distribution and management of power supply in the server cabinet of the computer room, with monitoring of various electrical parameters and environmental parameters, modular structure and multifunctional integration, to meet the requirements of key equipment in the computer room for safe, stable and reliable, and to realize precise management of terminal power distribution.



Current & voltage & temperature sensing

- Current sensing (NSM201x, NSM211x, NSOPA9xxx)
- Voltage sensing (NSI1312, NSOPA9xxx, NSOPA8xxx, NSI361x)
- Temperature sensor (NST235, NST20, NST1001, NST1002)
- Reference (NSREF30xx, NSREF31xx)

Power management

- Flyback (NSR284x/NSR28C4x, NSR2240x, NSR2260x)
- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Buck (NSR104xx, NSR106xx, NSR114xx, NSR1103x)

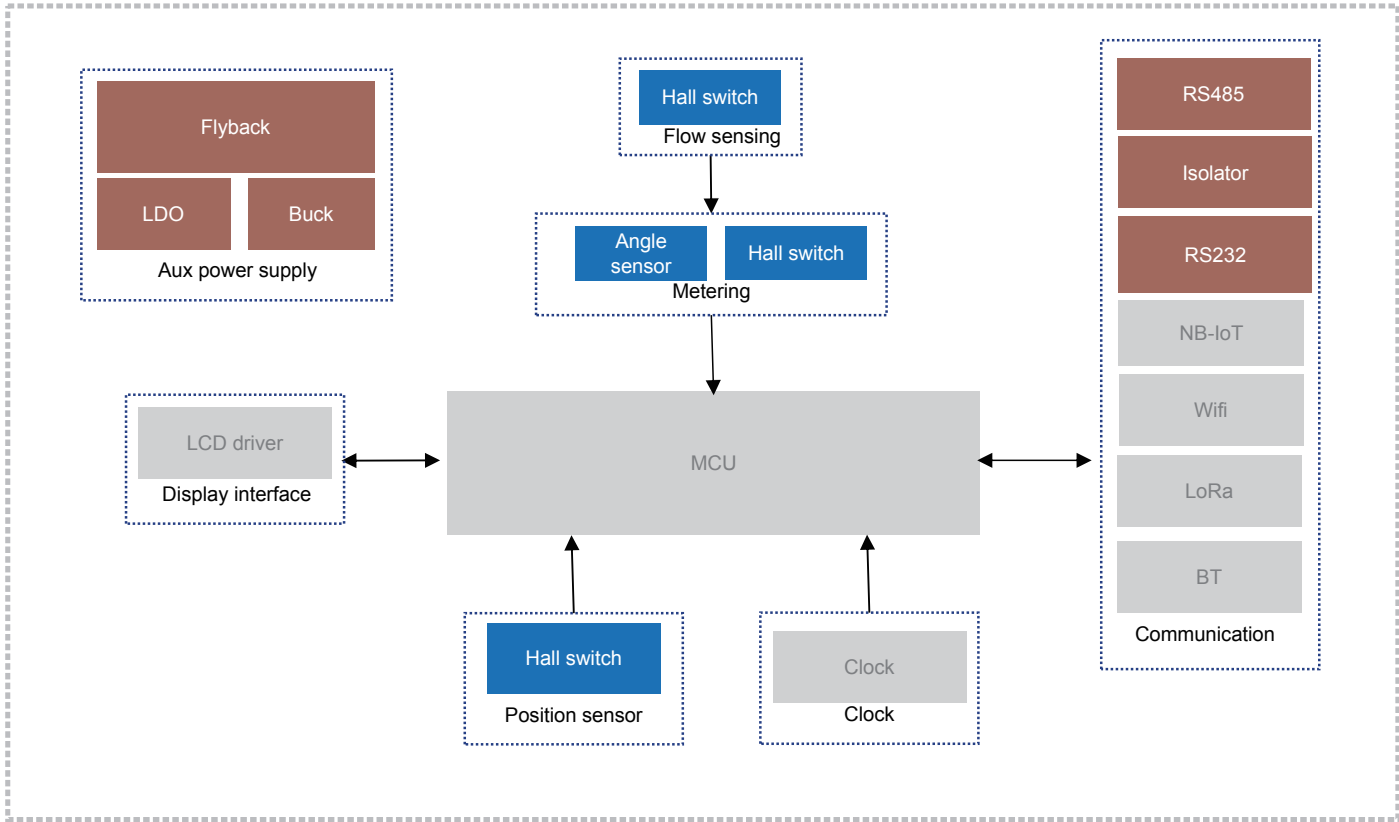
Interface & digital isolation

- Digital isolator (NSI82xx, NIRS21, NIRS31)
- CAN transceiver (NCA1051A, NCA1042B, NSI1050, NSI1042)
- RS485 (NSI83085, NSI83086, NCA3176, NCA3485)
- SPI/UART (NSI82xx, NSI8100, NSI8200)



## Water / Gas Meters

Water and gas meters are used to measure and manage water and gas consumption, widely applied in residential, commercial, and industrial sectors. Smart meters integrate high-precision sensors and wireless communication to enable automatic metering, remote reading, and anomaly alerts, improving measurement efficiency and management. Combined with IoT technology, they optimize resource allocation, reduce waste, and contribute to smart city development and sustainable growth.



### Hall Switch & Angle Sensor

- Hall switch (MT863x, MT6343, MT8652-3D, MT8831)
- Amplifier (NSOPA9xxx, NSOPA8xxx)
- Angle sensor (MTL100)
- Temperature sensor (NST1001, NST1002)
- Pressure sensor (NSPADx)

### Power management

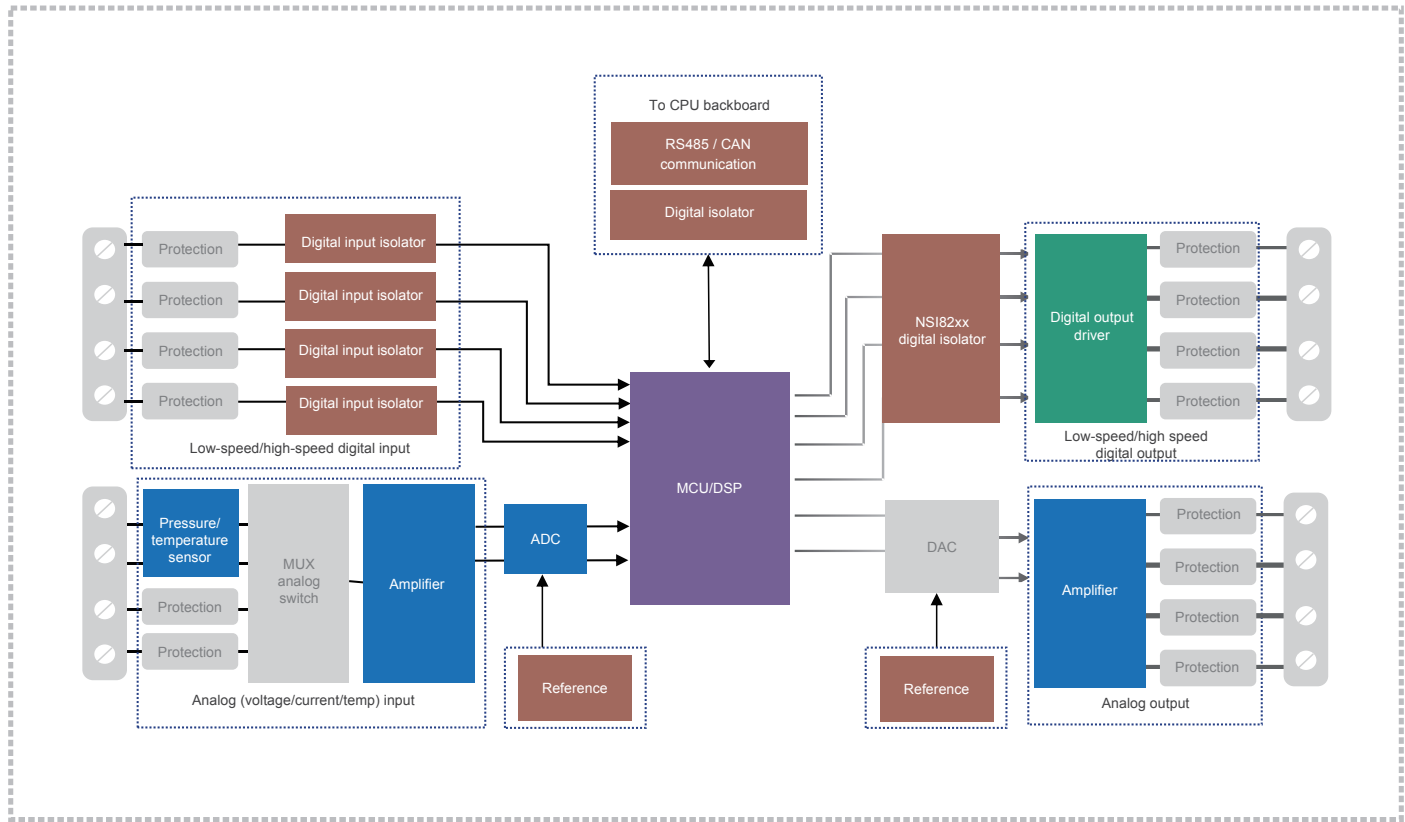
- Flyback (NSR284x/NSR28C4x, NSR2240x, NSR2260x)
- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Buck (NSR104xx, NSR106xx, NSR114xx, NSR1103x)

### Interface & digital isolation

- Digital isolator (NSI82xx, NIRS21, NIRS31)
- RS485 (NSI83085, NSI83086, NCA3176, NCA3485)

## PLC

As an important electronic device in the field of industrial control, programmable logic controller (PLC) is widely used in automatic production control, flow control, logistics control, data processing and other fields. With its various advantages such as high reliability, efficient automation and high flexibility, it plays an irreplaceable role in the field of industrial automation.



### MCU

- MCU (NS800RT7377D)

### Temperature & pressure sensing

- Temperature sensor (NST1001, NST1002)
- Pressure sensor (NSC2860x, NSA2860x, NSA2862x)
- Amplifier (NSOPA9xxx, NSOPA8xxx)
- ADC (NSAD124x, NSAD114x)

### Motor driver

- Digital output driver (NSD56008)

### Reference

- Reference (NSREF30xx, NSREF31xx)

### Interface & digital isolation

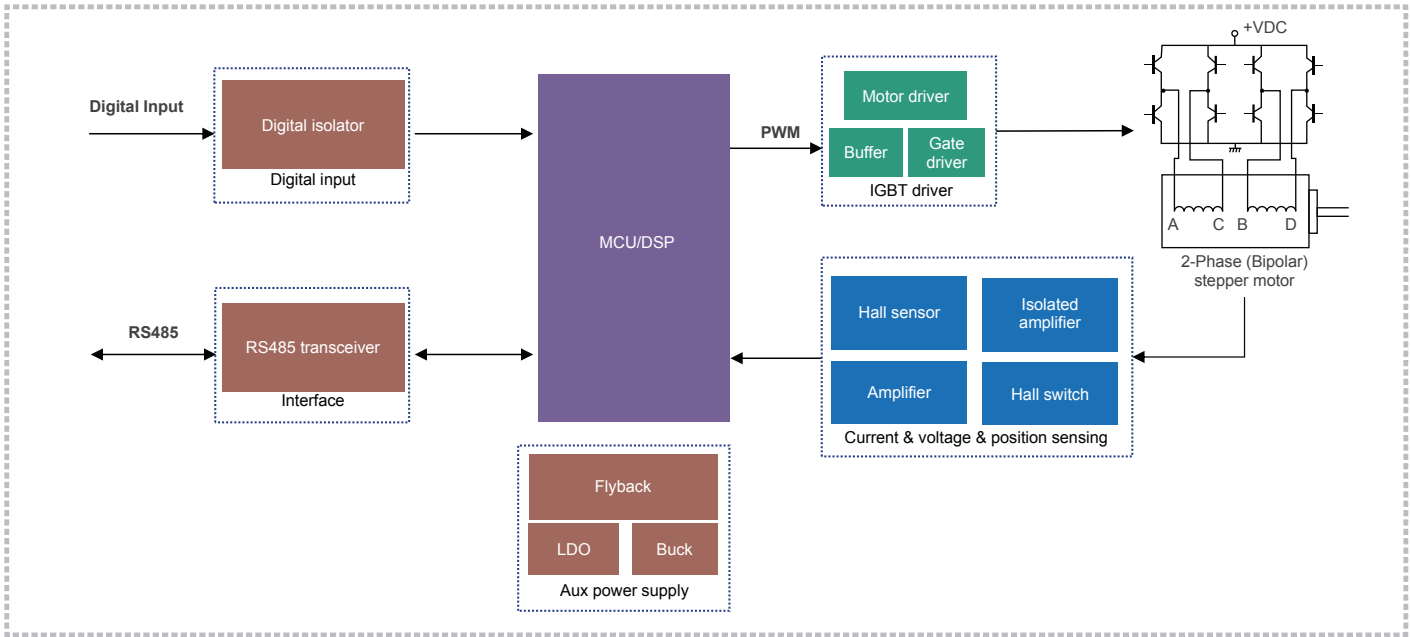
- Digital isolator (NSI82xx)
- Digital input isolator (NSI8608)
- CAN transceiver (NCA1051A, NCA1042B, NSI1050, NSI1042)
- RS485 (NSI83085, NSI83086, NCA3176, NCA3485)





Stepper Motor

As an important component of the stepper motor, the stepper motor controller is a precise control system which can accurately control the movement of the stepper motor within a tiny time interval to achieve the precise control required by the user.



**MCU**

- MCU (NS800RT1137)

**Power management**

- Flyback (NSR284x, NSR28C4x, NSR2240x, NSR2260x)
- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Buck (NSR104xx, NSR106xx, NSR114xx, NSR1103x)

**Current & voltage & temperature & pressure sensing**

- Hall sensor (NSM201x, NSM211x, NSM204x)
- Hall switch (NSM1013, NSM3012, NSM3011, MT9501, MT9511, MT83xx, MT89xx, MT72xx)
- Isolated amplifier (NSI1400, NSI1300, NSI1200C, NSI1312, NSI1311)
- Amplifier (NSOPA9xxx, NSOPA8xxx)
- Temperature sensor (NST1001, NST1002)
- Pressure sensor (NSC2860x, NSA2860x, NSA2862x)
- Angle position sensor (MT6826S, MT6835)

**Interface & digital isolation**

- Digital isolator (NSI82xx)
- Digital input isolator (NSI8608)
- RS485 (NSI83085, NSI83086, NCA3176, NCA3485)

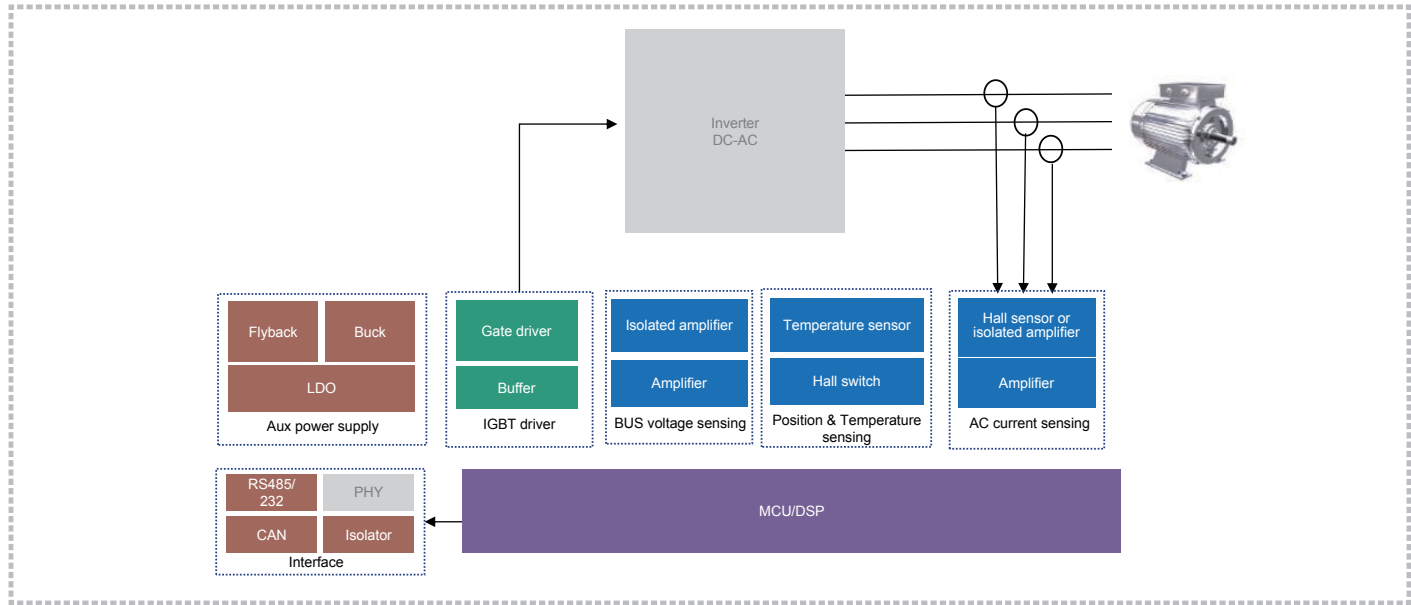
**Gate driver & Buffer & Motor driver**

- Gate driver (NSI6801, NSI6801x, NSI68515, NSI6801M, NSD1624)
- Buffer (NCA8244, NCA8245)
- Motor driver (NSD8381)



Industrial Frequency Converters

As an important power control equipment in the field of industrial automation, frequency converter controls the speed of the motor by changing the frequency and voltage of the motor signal. At the same time, it integrates over-current, over-voltage, overload and other protection functions, and plays an increasingly important role in modern industry.



**MCU**

- MCU (NS800RT3025, NS800RT1137)

**Protection & reference**

- Reference (NSREF30xx, NSREF31xx)
- Voltage supervisor (NSR7808)

**Current & voltage & temperature sensing**

- Hall sensor (NSM201x, NSM211x, NSM203x, MT9519, NSM2311)
- Isolated amplifier (NSI1400, NSI1300, NSI1200C, NSI1312, NSI1311)
- Isolated comparator (NSI22C12, NSI22C11)
- Amplifier (NSOPA9xxx, NSOPA8xxx, NSOPA084)
- Temperature sensor (NST1001, NST1002)
- Hall switch (NSM1013, NSM3012, NSM3011, MT9501, MT9511, MT83xx, MT89xx, MT72xx)

**Power management**

- Flyback (NSR284x/NSR28C4x, NSR2240x, NSR2260x)
- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Buck (NSR104xx, NSR106xx, NSR114xx, NSR1103x)

**Interface & digital isolation**

- Digital isolator (NSI82xx, NIRS21, NIRS31)
- CAN transceiver (NCA1051A, NCA1042B, NSI1050, NSI1042)
- RS485 (NSI83085, NSI83086, NCA3176, NCA3485)

**Gate driver & Buffer**

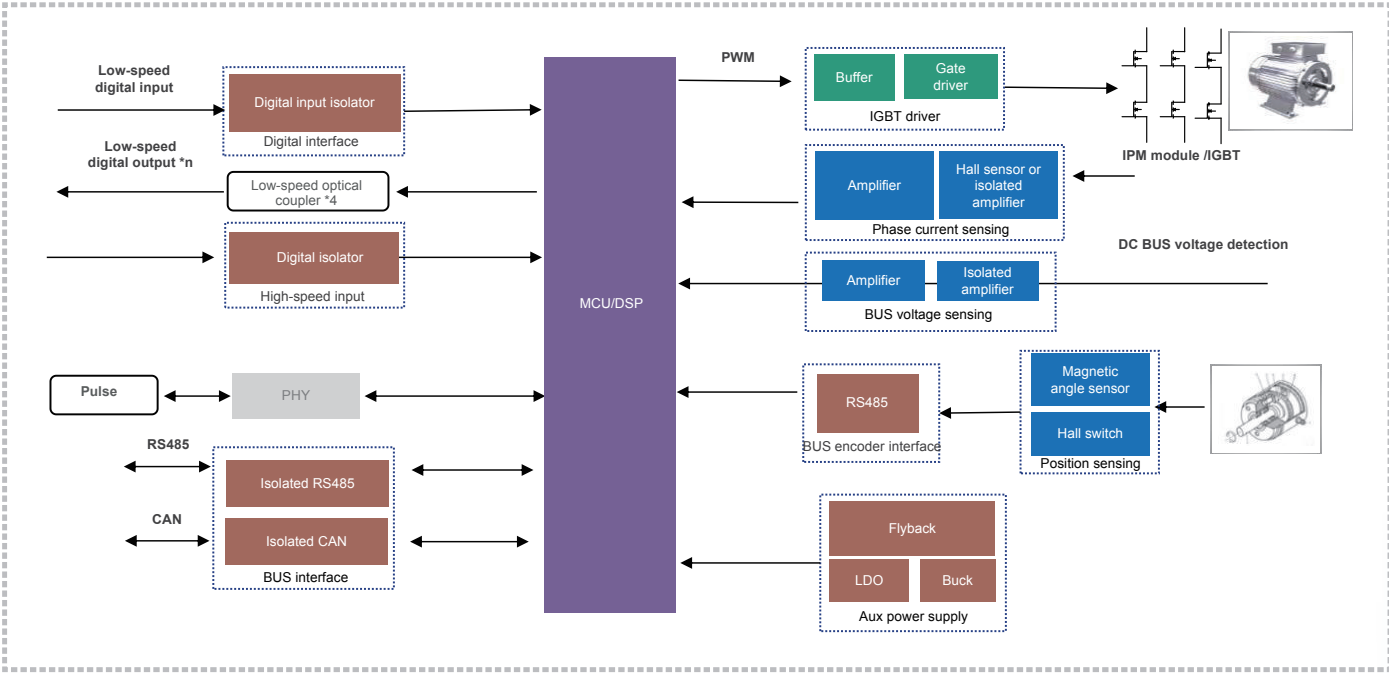
- Gate driver (NSI6801, NSI6801E, NSI68515, NSI6801M, NSD1624)
- Buffer (NCA8244)





Servo

In industrial automation applications, the servo system serves as a feedback control system that accurately follows or reproduces a given process, so that the output such as the object's position, orientation and other status will change by a given value. It can control the device closed-loop according to the instruction requirements, so that the torque, speed and position control of the output of the driving device are more flexible and convenient.



MCU

- MCU (NS800RT5049, NS800RT7P65)

Gate driver & Buffer

- Gate driver (NSI6801, NSI6801x, NSI68515, NSI6801M, NSD1624, NSD1015T)
- Buffer (NCA8244)

Interface & digital isolation

- Digital input isolator (NSI8608)
- Digital isolator (NSI82xx, NSI8260, NSI8266)
- CAN transceiver (NSI1050, NSI1042)
- Isolated RS485 (NSI83085, NSI83086)
- RS485 (NCA3176, NCA3485)

Current & voltage & temperature sensing

- Hall current sensor (NSM201x, NSM211x, NSM203x, MT9519, NSM2311)
- Isolated amplifier (NSI1400, NSI1300, NSI1200C, NSI1312, NSI1311)
- Isolated ADC (NSI1306, NSI1305, NSI1303)
- Isolated comparator (NSI22C12, NSI22C11)
- Amplifier (NSOPA9xxx, NSOPA8xxx, NSOPA084)
- Temperature sensor (NST1001, NST1002)
- Magnetic angle sensor (MT6835, MT6826S)
- Hall switch (NSM1013, NSM3012, NSM3011, MT9501, MT9511, MT83xx, MT89xx, MT72xx)

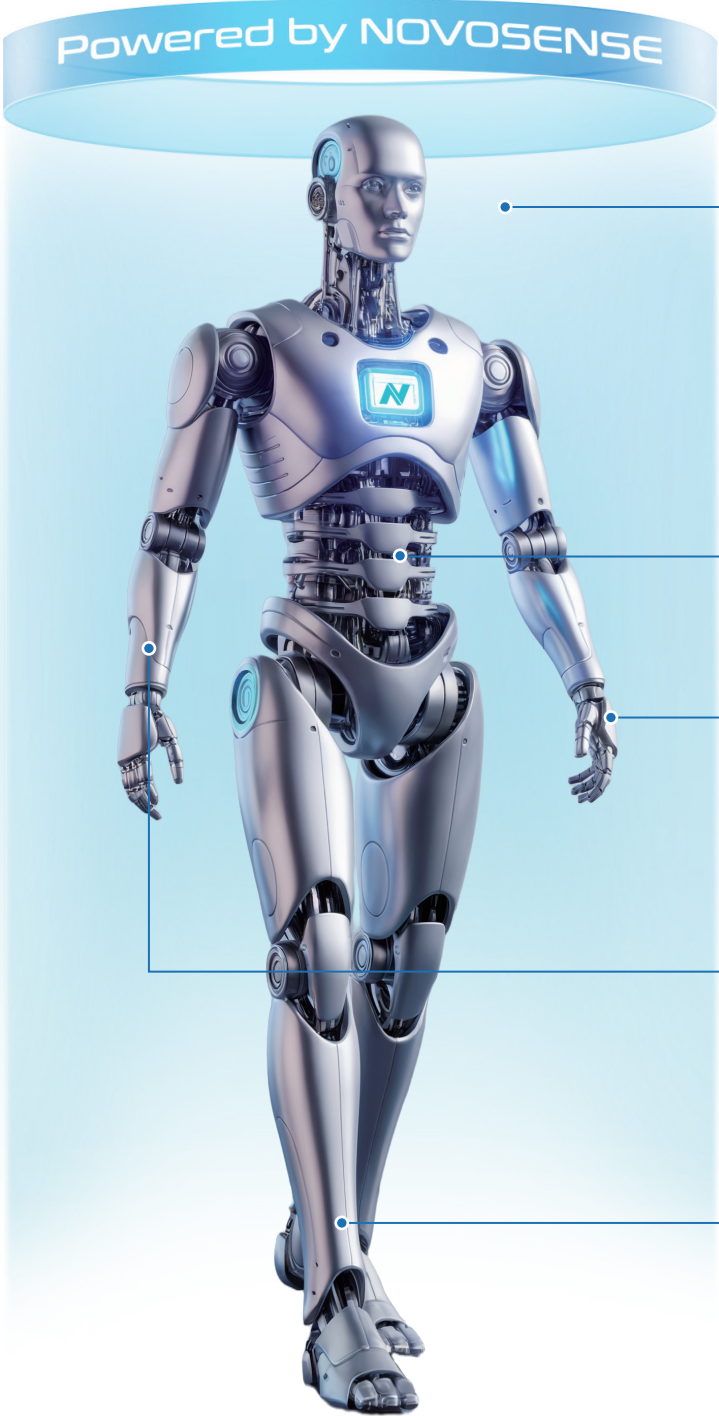
Power management

- Flyback (NSR284x, NSR28C4x, NSR2240x, NSR2260x)
- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Buck (NSR104xx, NSR106xx, NSR114xx, NSR1103x)



Humanoid Robot

A humanoid robot is an intelligent robot designed to resemble humans, integrating artificial intelligence, machine vision, motion control, and human-computer interaction technologies. It has autonomous perception, decision-making, and execution capabilities. Humanoid robots can be applied in industries such as manufacturing, healthcare, services, and education, performing delicate operations, caregiving, or hazardous tasks. With advanced algorithms and flexible mechanical structures, they can adapt to complex environments and interact naturally with humans, driving the development of intelligent automation and contributing to the smart transformation of future society.



Sensing/Communication

- MCU+Sense
- Power Supply/Op amp/ADC/IO Expander
- Class D
- CAN/SerDes/RS485
- Pressure sensor/angle & position sensor/temperature sensor

Powertrain & BMS

- Power Supply
- Op amp/ADC
- Current sensing amplifier
- CAN
- Pressure sensor
- Temperature sensor
- Solid-State Relay

Dexterous Hand

- Sensor
- Motor driver
- MCU+Driver
- Hall switch
- Current sensor
- Power Supply

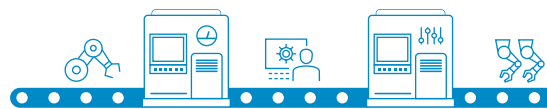
Joint Control

- Sensor
- Motor drivers
- MCU+Driver
- Hall switches
- Current sensing amplifier
- Power Supply/ Op

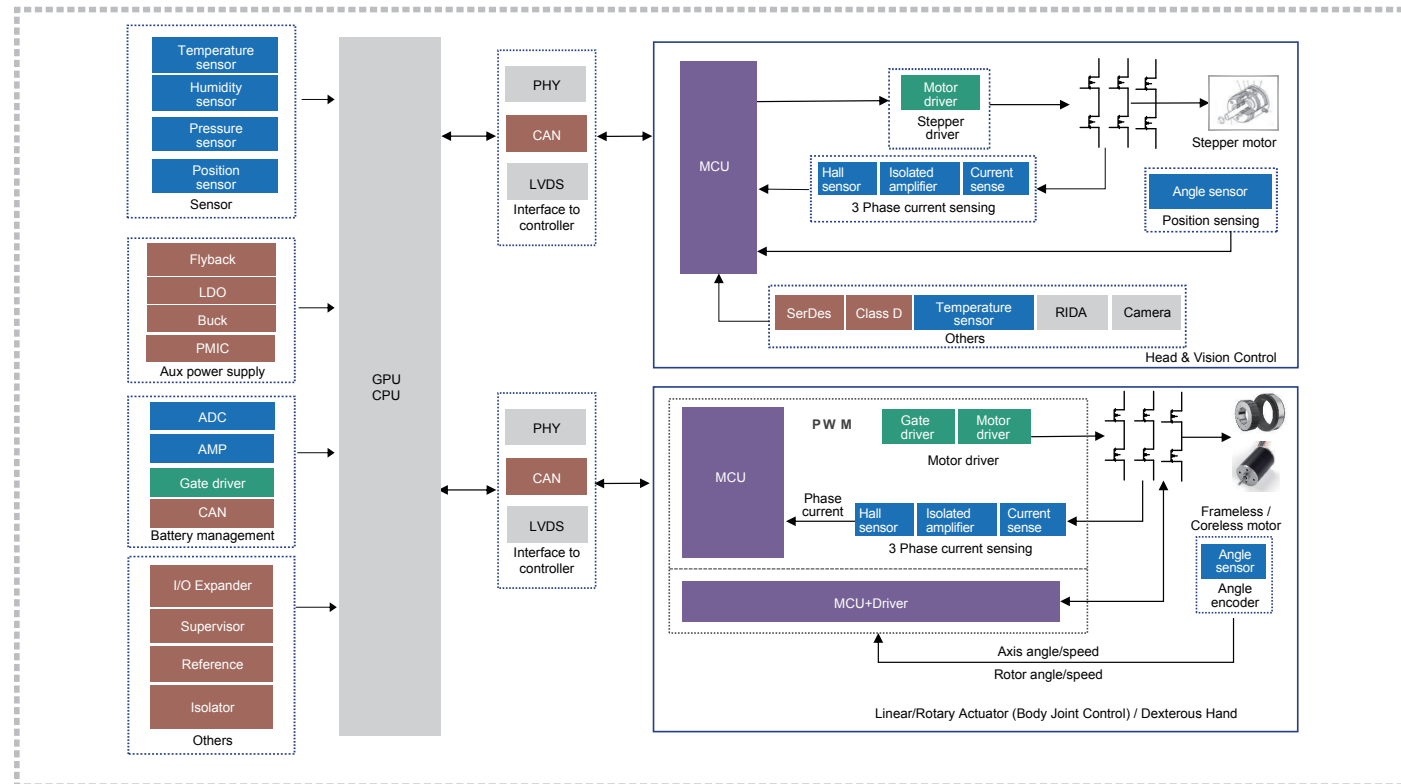
Thermal Management

- Fan control
- Valve control
- Temperature sensor





## Humanoid Robot



### MCU & MCU+Driver

- MCU (NS800RT5049, NS800RT7P65)
- MCU+Driver (NSUC1610, NSUC1602)

### Gate driver & Buffer

- Gate driver (NSD262x)
- Motor driver (NSD8381)

### Power management

- LDO (NSR31xxx, NSR33xxx, NSR35xxx)
- Flyback (NSR284x, NSR28C4x, NSR2240x, NSR2260x)
- Buck (NSR10Axx, NSR104xx, NSR106xx, NSR114xx, NSR1103x)

### Current & voltage & temperature & position sensing

- Hall current sensor (NSM201x, NSM211x, NSM2311, NSM204x)
- Isolated amplifier (NSI1400, NSI1300, NSI1200C, NSI1312, NSI1311)
- Amplifier (NSOPA9xxx, NSOPA8xxx, NSOPA084)
- Temperature sensor (NST1001, NST1002)
- Position sensor (NSM105x, MT81xx, NSM301x, MT6835, MT6826s, MT6701, MT6709, MT6901)
- Humidity sensor (NSHT3x)
- Pressure sensor (NSA/C9260x, NSA/C2860x)
- Current sense (NSCSA240, NSCSA21x)

### Communication & amplifier & monitoring & reference

- RS485 (NSI8308x, NCA3176, NSIP83086)
- CAN (NCA1051A, NCA1042B, NSIP1042, NSI1050, NSI1042)
- Isolator (NSI82xx)
- Reference (NSREF30xx, NSREF31xx)
- Voltage supervisor (NSR7808)

Robust

Reliable

Keep Learning

Persist in Long-term Value