# InHand Networks



Industrial, Reliable, Flexible to Manage

# InDTU332 Series
## Industrial Cellular Modem

The InDTU332 series industrial grade wireless data terminal uses cellular network as the bearer network to provide wireless data transmission channel over TCP/IP. It functionally completes wireless data communications between remote control station serial devices and the central control system, to enable remote control of industrial field sites.

The InDTU332 series is small in size, operates between -40°C ~ 70°C and supports +5~35V DC wide voltage input, can provide stable data transmission channels for unattended industrial sites.

The product supports various configuration and management methods including PC configuration tool, RTool remote management tool and InHand Device Manager cloud, simplifying on-site deployment and maintenance work, greatly improving deployment efficiency and reducing overall system operation cost, so that customers can really experience the convenience of wireless communication.

The InDTU332 series products are particularly suitable for data acquisition and monitoring of distributed unattended field devices, such as:

- Power distribution automation
- Power meter reading
- Street light monitoring
- Smart water
- Heating system monitoring
- Environmental monitoring
- Meteorological monitoring

## Application Case
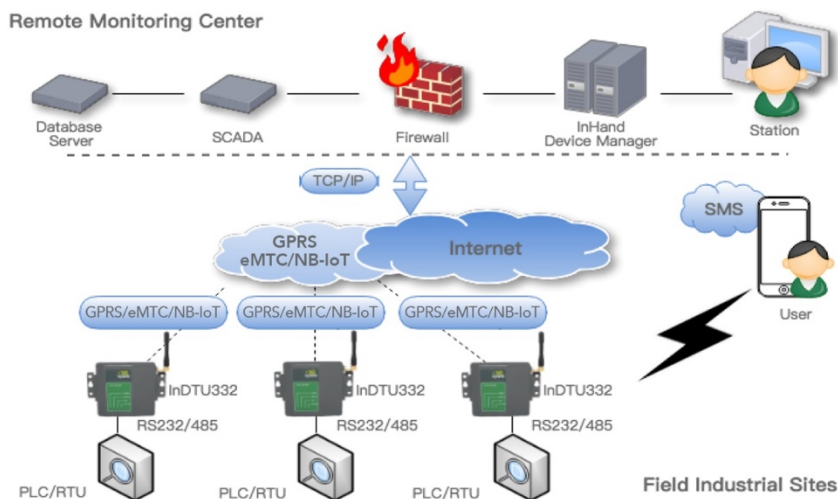
# Features and Advantages

+ Long proven in large-scale applications

+ GPRS or eMTC/NB-IoT(LTE Cat M1/NB1) cellular networks

+ Fully industrial-grade, ready for challenging environments

+ Hardware and software watchdog and multi-layer link detection mechanism, ensure high device availability and reliability

+ Supports multiple management gadgets and InHand Device Manager cloud platform for flexible and efficient on-site or remote network management

+ Supports industrial protocol conversion to help users solve interconnection issues

● Fully industrial-grade, ready for challenging industrial environments

  ✓ Fully industrial-grade chip, operating temperature as wide as -40°C ~ 70°C, support +5 ~ 35VDC wide voltage power input, protection rating up to IP30, to provide reliable network communications for electric power, industrial and other unattended sites

  ✓ Ultra low power consumption, adaptable to various field power supply modes

● High-reliability design, ensure continuity of data transmission

  ✓ Self-recovery: embedded watchdog, self recover from faults., ensuring normal operation of the device

  ✓ Link redundancy: SMS and IP link mutual backup to ensure continuous data transmission

  ✓ Link detection: multi-layer link detection mechanisms including PPP layer heartbeat, ICMP detection, TCP Keepalive and application layer heartbeat, keeping wireless connection "always on"

● Efficient to manage, flexible and easy to use

  ✓ Supports configuration software login via local serial port

  ✓ Supports RTOOL remote configuration over TCP/IP

  ✓ Supports remote batch management by Device Manager cloud platform

  ✓ Configuration via SMS (InDTU332G models only)

● Feature-rich, to provide users with intelligent solutions

  ✓ Supports transparent TCP/UDP protocol

  ✓ Supports InHand DC protocol

  ✓ Supports Modbus RTU/Modbus TCP protocol conversion

  ✓ Supports user-defined TCP/UDP data packets

  ✓ Supports multi-center, 1-5 centers

# Dimensions (mm)

**L×W×H=110×85×35mm**
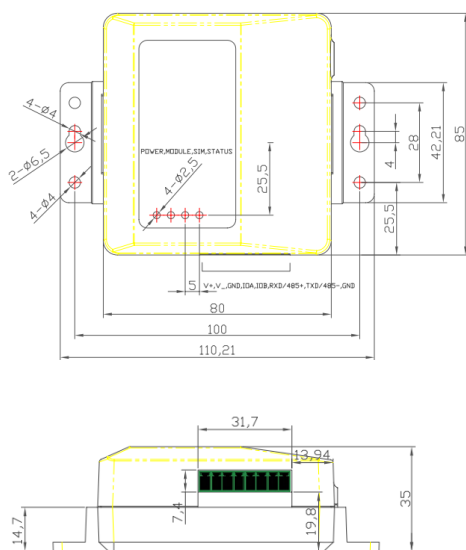


# Interface

| Pin | Signal Name | Description |
|---|---|---|
| 1 | GND | Ground |
| 2 | TXD/485- | Serial port 1 RS232 data transmitting or RS485- |
| 3 | RXD/485+ | Serial port 1 RS232 data receiving or RS485+ |
| 4 | TXD2 | Serial port 2 RS232 data transmitting |
| 5 | RXD2 | Serial port 2 RS232 data receiving |
| 6 | GND | Ground |
| 7 | V- | Negative |
| 8 | V+ | Positive |

# Product Specifications

| InDTU332 Hardware Specifications | |
|---|---|
| Item | InDTU332 |
| Interface | |
| Industrial Serial Port | 2 x Logic serial ports: |
| | Serial port 1: RS-232/RS-485 (Optional) |
| | Serial port 2: RS-232 |
| | RS-232 signal: TXD, RXD, GND |
| | RS-485 signal: 485+, 485-, GND |
| | 8PIN industrial terminal, 3.81mm pitch |
| SIM Card Slot | 1.8V/3V, card slot |
| Antenna | 50Ω / SMA x 1 |
| Mechanical Properties | |
| Installation Method | Wall-mounting |
| Protection Rating | IP30 |
| Cooling | Fanless |
| Housing | ABS engineering plastics |
| Power Supply | |
| Power Input | DC5-35V |
| Power Interface | Pluggable industrial terminal connection |
| Polarity Reverse Protection | Supported |
| Overload Protection | Supported |

| Consumption (@12V) | | Standby | Working | Peak |
|---|---|---|---|---|
| | InDTU332G | 10mA | 40mA | 45mA |
| | InDTU332N | 15mA | 30mA | 160mA |

| Environment | |
|---|---|
| Operating Temperature | -40 ~ 70℃ |
| Storage Temperature | -40 ~ 85℃ |
| Ambient Humidity | 5 ~ 95% (non-condensing) |
| LED Indicators | |
| LED | POWER, MODULE, SIM, STATUS |
| EMC Index | |
| Static | EN61000-4-2, level 3 |
| Surge | EN61000-4-5, level 3 |
| Shock Wave Immunity | EN61000-4-12, Level 3 |
| Certifications | |

InDTU332G: CE, FCC
InDTU332N: CE, FCC, PTCRB, IC, Verizon Wireless, AT&T

| InDTU332 Software Specifications | |
|---|---|
| Item | InDTU332 |
| Network Connection | |
| Network Access | APN, VPDN |
| Access Authentication | CHAP/PAP |
| Network Type | GPRS or eMTC/NB-IoT(LTE Cat M1/NB1) |
| Network Protocol | |
| Network Protocol | Ping, DNS, transparent TCP/UDP, InHand DC TCP/DC UDP, user-defined login/heartbeat data packet |
| Protocol Conversion | Modbus RTU/TCP protocol conversion |
| Network Security | |
| Multi-level Authorization | User levels: administrator, maintenance staff |
| Certification Security | Supports login security certification |
| Reliability | |
| Reliable Upgrade | Patent upgrade mechanism, ensures reliable upgrade |
| Link Connection Detection | Sends heartbeat packet detection, auto connect once disconnected |
| Embedded Watchdog | Device operation self-detection technology, and self-recovery from operation faults |
| Network Management | |
| Configuration Method | Local serial port, RTool, InHand Device Manager, SMS (InDTU332G only) |
| Configuration Backup | Support import and export of configuration files |
| Upgrade Method | Patent upgrade mechanism, upgrade firmware through local serial port or remotely |
| Log | Supports local and online viewing of logs, facilitate engineers to check device operating status |
| Dial-on-Demand | Data activation, timed on/off, SMS activation, phone activation (InDTU332G only) |
| Network Management | Supports InHand Device Manager remote central management |

**InHand** Networks

# Ordering Guide

| Part Number | Model code: InDTU332GS55-<232/485> | | |
| | Network | Serial port: <232/485> | SIM |
|---|---|---|---|
| InDTU332GS55-232 | GSM 850/900/1800/1900MHz | RS-232 | Single |
| InDTU332GS55-485 | GSM 850/900/1800/1900MHz | RS-485 | Single |
| InDTU332NB02-232 | eMTC/NB-IoT (LTE Cat M1/NB1) Band 1,2,3,4,5,8,12,13,17,18,19,20, 25,26,28 (band 39 in M1-only) | RS-232 | Single |
| InDTU332NB02-485 | eMTC/NB-IoT (LTE Cat M1/NB1) Band 1,2,3,4,5,8,12,13,17,18,19,20, 25,26,28 (band 39 in M1-only) | RS-485 | Single |
| InDTU332NB02-232-DS | eMTC/NB-IoT (LTE Cat M1/NB1) Band 1,2,3,4,5,8,12,13,17,18,19,20, 25,26,28 (band 39 in M1-only) | RS-232 | Dual |
| InDTU332NB02-485-DS | eMTC/NB-IoT (LTE Cat M1/NB1) Band 1,2,3,4,5,8,12,13,17,18,19,20, 25,26,28 (band 39 in M1-only) | RS-485 | Dual |

## About Us

InHand Networks is a global leader of Industrial IoT, with a record of tremendous success following groundbreaking innovation since our inception in 2001.

InHand serves world-class partners and customers with industrial M2M routers, gateways, industrial Ethernet switches, rugged computers and IoT management platforms. We provide IoT solutions for various vertical markets including Smart Grid, Industrial Automation, Remote Machine Monitoring, Smart Vending, Smart City, Retail and more.

Proudly bearing the marks of AWS Select Technology Partner, Schneider Electric TPP Certified Technology Partner, and Rockwell Automation Encompass Product Partner in Asia-Pacific, InHand Networks defines industrial innovation and reliability.

**InHand Networks**

3900 Jermantown Rd., Suite 150, Fairfax, VA 22030 USA
T: +1 (703) 348-2988
E: info@inhandnetworks.com
www.inhandnetworks.com