

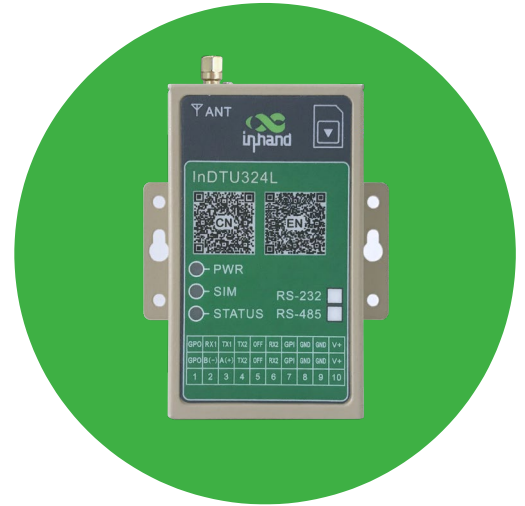


**InHand Networks**

Industrial Design, Low Power Consumption, High Reliability

# InDTU324 Series

## Industrial Cellular Modem



The InDTU324 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.

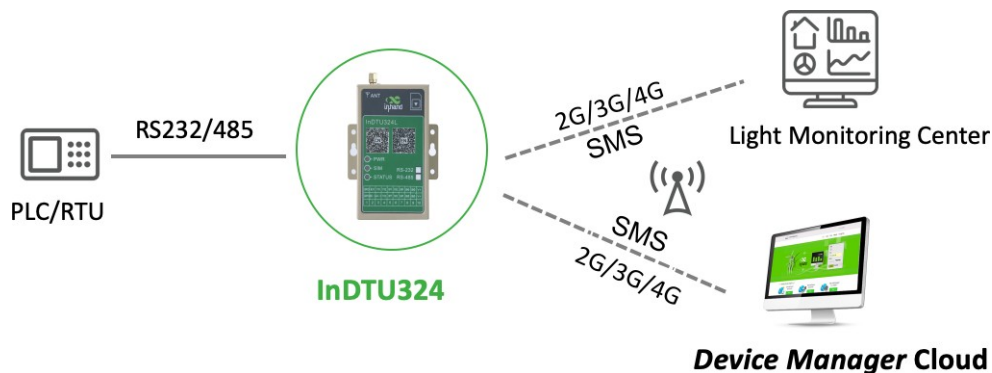
The InDTU324 series is small in size, operates between -40°C ~ 70°C and supports +5 ~ 35V DC wide voltage input, can provide stable data transmission channels for unattended industrial sites.

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 InDTU324 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

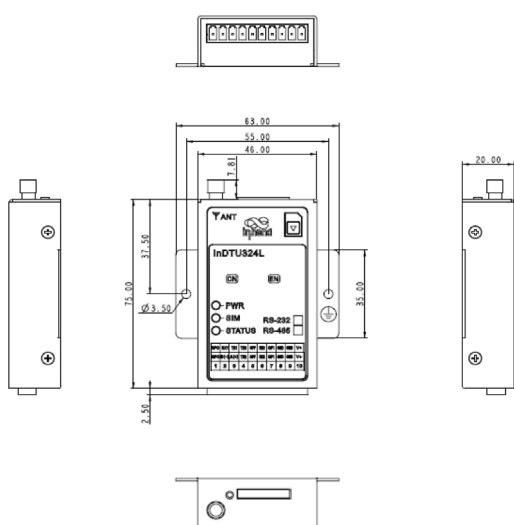


## Features and Advantages

- + Long proven in large-scale applications
  - + 4G/3G/GPRS cellular networks
  - + Fully industrial-grade, ready for challenging environments
  - + Hardware and software watchdog and multi-layer link detection mechanism, ensures high device availability and reliability
  - + Support for multiple management gadgets and the InHand Device Manager cloud platform for flexible and efficient on-site or remote network management
  - + Support for 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  $-40^{\circ}\text{C} \sim 70^{\circ}\text{C}$ , supports +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 Keep alive and application layer heartbeat, keeping wireless connection "always on".
  - **Efficient to manage, flexible and easy to use**  
Support for configuration software login or AT command(AT MODE only) via local serial port.  
  
Support for RTOOL remote configuration over TCP/IP.  
  
Configuration via SMS.  
  
Support for remote batch management by Device Manager cloud platform.
  - **Feature-rich, to provide users with intelligent solutions**  
Support for transparent TCP/UDP protocol.  
  
Support for InHand DC protocol.  
  
Support for Modbus RTU/Modbus TCP protocol conversion.

## Dimensions (mm)

L×W×H=75×46×20mm



## Interfaces

Pin	Name	Description
RS232 PIN		
1	GPO	General GPIO (DO), on/offline indicator of DTU
2	RX1	Serial port 1 data receiving
3	TX1	Serial port 1 data transmitting
4	TX2	Serial port 2 data transmitting
5	OFF	Power control: off at high electrical level (3.0-10V), on at low level (0-0.3V) or suspended
6	RX2	Serial port 2 data receiving
7	GPI	General GPIO (DI), reserved (Do not recommend to connect.)
8-9	GND	Ground
10	V+	Positive
RS485 PIN		
1	GPO	General GPIO (DO), on/offline indicator of DTU
2	B(-)	Serial port 1 RS485-
3	A(+)	Serial port 1 RS485+
4	TX2	Serial port 2 data transmitting
5	OFF	Power control: off at high electrical level (3.0-10V), on at low electrical level (0-0.3V) or when suspended
6	RX2	Serial port 2 data receiving
7	GPI	General GPIO (DI), reserved (Do not recommend to connect.)
8-9	GND	Ground
10	V+	Positive

# Product Specifications

InDTU324 Hardware Specifications					
Interfaces					
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				
	10PIN industrial terminal, 3.5mm pitch				
SIM Card Slot	1,8V/3V, drawer-type slot, dual nano-SIM(Optional)				
Antenna	50Ω / SMA x 1				
Mechanical Properties					
Installation	Wall-mounting	Protection Rating		IP30	
Housing	Metal	Cooling		Fanless	
Power Supply					
Power Input	DC5-35V	Polarity Reverse Protection		Support	
Power Interface	Pluggable industrial terminal connection	Overload Protection		Support	
Consumption (@12V)		Standby	Working	Starting	Peak
	InDTU324L	12mA	47mA	202mA	202mA
	InDTU324N	16mA	25mA	163mA	163mA
Ambient Temperature and Humidity					
Working Temperature	-40 ~ +70°C		Ambient Humidity		5 ~ 95% (non-condensing)
Storage Temperature	-40 ~ +85°C				
LED Indicators					
LED	POWER, SIM, STATUS				
EMC Index					
Static	EN61000-4-2, level 2				
Surge	EN61000-4-5, level 2				
Shock Wave Immunity	EN61000-4-12, level 2				
Certification					
CE					

InDTU324 Software Specifications	
Network Connection	
Network Access	APN, VPDN
Access Authentication	CHAP/PAP
Network Type	GPRS/3G/4G
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
Configuration Backup	Supports 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, facilitates checking device operating status
Dial-on-Demand	Data activation, timed on/off, SMS activation, phone activation
Network Management	Supports InHand Device Manager remote central management

## Ordering Guide

Model code: InDTU324-<WMNN>-<S>-<A/NA>-<D>				
Model	<WMNN>: Cellular Type & Module	<S>: Serial Port Type	<A/NA>:AT/DATA	<D>:SIM
InDTU324LQ25-232	Europe and Asia Pacific - LTE CAT4: LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	RS232	DATA MODE	SINGLE
InDTU324LQ25-232-A	Europe and Asia Pacific - LTE CAT4: LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	RS232	AT MODE	SINGLE
InDTU324LQ25-485	Europe and Asia Pacific - LTE CAT4: LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	RS485	DATA MODE	SINGLE
InDTU324LQ25-485-A	Europe and Asia Pacific - LTE CAT4: LTE FDD: B1/B3/B7/B8/B20/B28A WCDMA: B1/B8 GSM: B3/B8	RS485	AT MODE	SINGLE
InDTU324NQ96-232	Europe and Asia Pacific - Cat M1/Cat NB1/EGPRS: LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 LTE TDD: B39 (for Cat M1 only) EGPRS: 850/900/1800/1900MHz	RS232	DATA MODE	SINGLE
InDTU324NQ96-232-A	Europe and Asia Pacific - Cat M1/Cat NB1/EGPRS: LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 LTE TDD: B39 (for Cat M1 only) EGPRS: 850/900/1800/1900MHz	RS232	AT MODE	SINGLE
InDTU324NQ96-485	Europe and Asia Pacific - Cat M1/Cat NB1/EGPRS: LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 LTE TDD: B39 (for Cat M1 only) EGPRS: 850/900/1800/1900MHz	RS485	DATA MODE	SINGLE
InDTU324NQ96-485-A	Europe and Asia Pacific - Cat M1/Cat NB1/EGPRS: LTE FDD: B1/B2/B3/B4/B5/B8/B12/B13/B18/B19/B20/B26/B28 LTE TDD: B39 (for Cat M1 only) EGPRS: 850/900/1800/1900MHz	RS485	AT MODE	SINGLE
InDTU324-FQ78-232	Latin America - LTE CAT4: LTE FDD: B1/ B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 WCDMA: B1/B2/B4/B5/B8 GSM/EDGE: B2/B3/B5/B8	RS232	DATA MODE	SINGLE
InDTU324-FQ78-485	Latin America - LTE CAT4: LTE FDD: B1/ B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 WCDMA: B1/B2/B4/B5/B8 GSM/EDGE: B2/B3/B5/B8	RS485	DATA MODE	SINGLE

## 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 both Rockwell Automation Encompass Product Partner in Asia-Pacific and Schneider Electric CAPP Technology Partner, InHand Networks defines industrial innovation and reliability.



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