



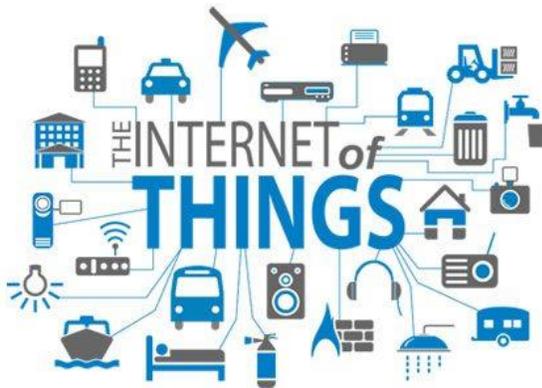
Making Data Acquisition Easy

CAGE/NCAGE Code: 3FNFO

White Paper

How to Utilize Internet of Things (IoT) Technology For Industrial Wireless Communication

You've probably heard of **Internet of Things (IoT)** - it describes how electronic devices, sensors, software and human interface connect to the same internet network and are able to collect and exchange data. IoT has been around for fewer than 20 years, but people nowadays rely more and more on IoT, computer and smart devices. In the future, IoT and wireless communication will be the most important part in communication.



How **Internet of Things** can be applied to industrial world has been discussed very often as well. ICP DAS USA is one of the first manufacturers that developed IoT industrial automation and IoT control hardware and software. ICP DAS USA offers modules that are simple in order to make data acquisition easy. According to the reviews of customers, they usually combine data acquisition modules, touch screen controllers, programmable automation controllers, and wireless

communication products to set up a complete industrial automation system.

Industries are trying to replace their old wired communication systems to wireless. Wireless communication is safe, reliable, easy and simple, and is better than wired communication in a lot of ways. ICP DAS USA's wireless products are designed with various types of wireless communication technology, including [ZigBee](#) Wireless Technology, [Infrared](#) Wireless Technology, [Radio Frequency](#) Wireless Technology, [WI-FI](#) Wireless Technology, etc. that support both short wireless communication distance to very long distance. We also carry GPS Receivers, Industrial Cellular Routers & Modems, RF devices, ZigBee Wireless Hardware, SMS Controllers, GPRS Data Servers and more. From simple point to point installations to complex wireless data acquisition networks, we are capable of meeting any industrial wireless communication needs.

[Infrared \(IR\) technology](#) is widely used in remote control of televisions, air conditioners, lighting and other IR devices. ICP DAS USA has developed various IR products for home



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automation. These IR products will help users control and integrate these IR devices into a control system. Users can set up a home automation system using IR remote modules to control all appliances at home instead of turning on and off separately.



[IR-712-MTCP - Universal IR Learning Remote Module](#)

Wi-Fi and ZigBee wireless products are the most common industrial wireless communication product at medium distance. ICP DAS's [WIFI data acquisition module](#) follow with the popularity of 802.11 network structure which compatible with most computers and has the best wireless connectivity. ICP DAS's ZigBee data acquisition module follow IEEE 802.15.4 standard for Wireless Personal Area Networks (WPANs). [ZigBee](#) operates in a pair of master and slave, master collect data from slave and slave read data from I/O. It is an inexpensive network for industrial control, embedded sensing, data collection, smoke and intruder alarms, building automation, and home automation. A ZigBee network consists of 3 different types of ZigBee wireless devices: Master, Router/Repeater and End Device. We provide ZigBee converters, ZigBee repeaters and ZigBee I/O modules. In addition, ZigBee signal can travel up to 700m compare with WIFI signal only has 50 meters transmission range. This is one of the reasons why ZigBee is popular in industrial wireless communication.

For longer distance, RF or 2G/3G cellular technology would be used for industrial communication. ICP DAS has cellular modems utilize the GSM/GPRS network for convenient and inexpensive data transfer from remote instruments, meters, computers or control systems in either live or packet data. It relies on signal from carrier similar to a phone call. 3G GT-540P-3GWA is one of the most powerful 3G remote terminal controller we carry, it can track location and send real time data of connected I/O at the same time. It is widely used on vehicle or remote location tracking applications.

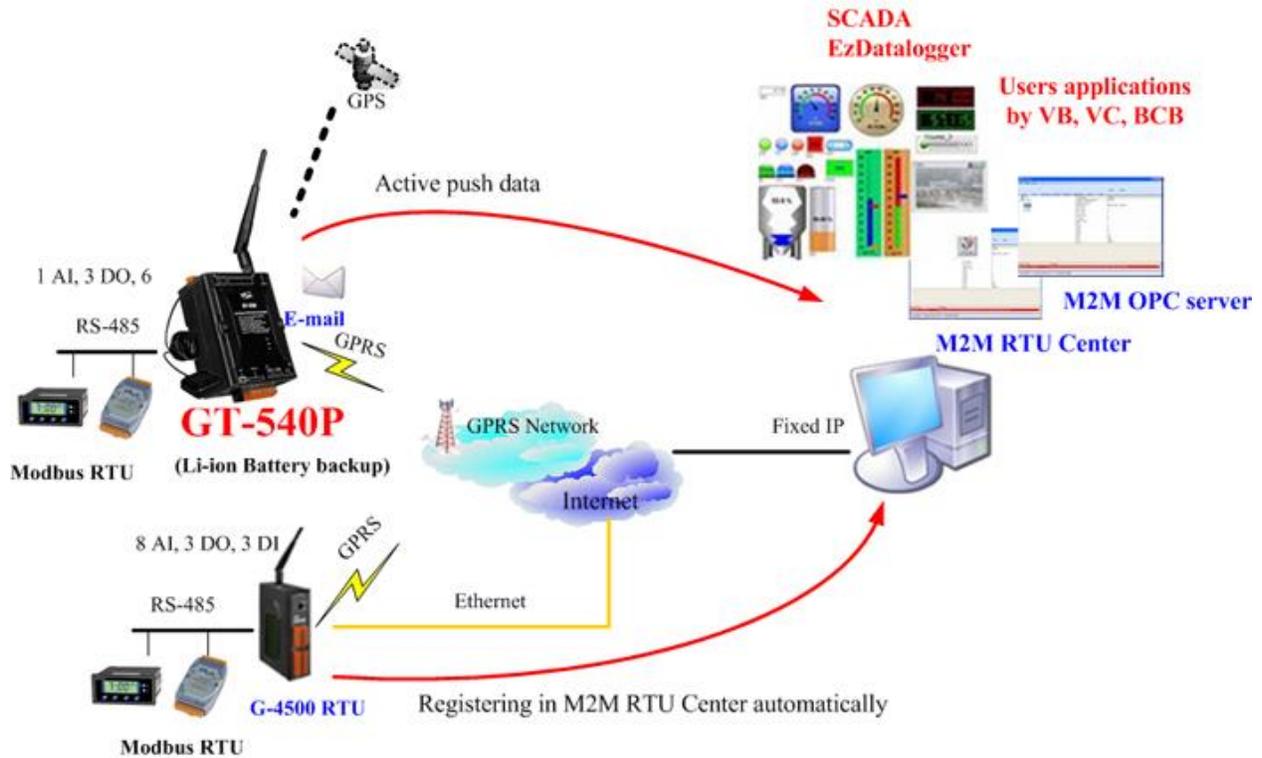


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GT-540P-3GWA - Cellular Wireless Intelligent 3G Remote Terminal Controller



If you have any wireless communication requirements or questions, we can certainly help you to choose the best solution. Please call our technical support team at (310) 517-9888 x102 or email us at tech@icpdas-usa.com for more details.