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Quick start guide

Nokia Industrial 5G dongle DGRx501c

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Nokia Industrial 5G dongle DGRx501c is designed for industrial applications that converts 5G wireless signals into Gigabit Ethernet, providing stable and high-speed 5G access for the devices. With an operating temperature range of -40°C ~ 70°C, IP65 dust and water proof endurance, it offers industrial-grade environmental qualifications while providing higher speed data services for video and other bandwidth-intensive applications.

Designed for both indoor and outdoor harsh industrial environments, Nokia Industrial 5G dongle DGRx501c meets high standards in vibration tolerance and is ideal for operations in robot, AVG, AMR, unmanned delivery cars, drones, logistics, automated manufacturing, port and other outdoor applications. Nokia Industrial 5G dongle DGRx501c can also offer precise information about its real-time location; its built-in GNSS receiver allows GPS, GLONASS, Beidou and Galileo constellations.

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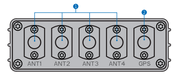
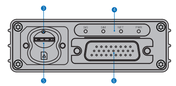
Device introduction





1 LTE/NR antenna interface 2 GPS antenna interface 3 Reset
4 LED 5 SIM slot 6 VGA port

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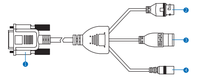

1 VGA port 2 LAN port 3 RS485 port 4 Power port

Cable Definition

DI/DO Cable Definition		
	Number	Definition
	1	RS485_B
	2	RS485_GND
	3	RS485_A

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Environmental specifications

Operating temperature	-40°C ~ 70°C
Storage temperature	-40°C ~ 85°C
Humidity	5% ~ 95%
Power supply	12VDC
Power consumption	< 24W
Water and dustproof	IP65

Packing list

Items	Accessories	Qty
1	VGA to Power/LAN/RS485 cable	1
2	Mounting kit U-clip bolt	1
3	U-card bolts	2
4	Ethernet cable	1
5	Ethernet port jacket	1
6	Power adapter	1
7	Rubber paddle antenna	4
8	Magnetic base for rubber paddle antenna	4
9	GPS antenna	1

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Hardware configuration

SIM card installation

1. Use a cross screwdriver to remove the SIM card cover.

2. Slide the SIM cards into the SIM slots until they click into place. When the dongle is powered on or rebooted, it automati cally connects to the network associated with the Primary SIM card.

3. Re-attach the cover.

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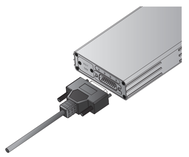
Connect and turn on the dongle

1. First, make sure the VGA connector is plugged into the socket;

2. Tighten the nut to make sure it's assembled in place.



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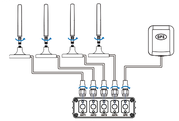
Antenna installation

Antenna Accessories:
- 4 Rubber Paddle Antennas
- 4 Magnetic Bases for Rubber Paddle Antennas
- 1 GPS Antenna

Instructions:
1. Attach each of the four rubber paddle antennas to the SMA bases of the corresponding magnetic bases for rubber paddle antennas;

2. Screw the other end of the extension cable onto the corresponding ANT1/ANT2/ANT3/ANT4 SMA interface on the device;

3. Screw the GPS antenna onto the GPS SMA interface of the device.



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Antenna interface frequency definition

Antenna ports	Bands	Frequency
ANT1	**5G NR:** n2/n5/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78 **LTE-FDD:** B2/B4/B5/B12/B13/B14/B17/B25/B26/B29/B30/B66/B71 **LTE-TDD:** B38/B41/B42/B43/B46 (LAA) /B48	617MHz-960MHz 1710MHz-2690MHz 3300MHz-4200MHz
ANT2	**5G NR:** n2/n5/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78 **LTE-FDD:** B2/B4/B5/B12/B13/B14/B17/B25/B26/B29/B30/B66/B71 **LTE-TDD:** B38/B41/B42/B43/B46 (LAA) /B48	617MHz-960MHz 1710MHz-3600MHz 3300MHz-4200MHz
ANT3	**5G NR:** n2/n5/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78 **LTE-FDD:** B2/B4/B5/B12/B13/B14/B17/B25/B26/B29/B30/B66/B71 **LTE-TDD:** B38/B41/B42/B43/B46	617MHz-960MHz 1710MHz-3590MHz 3300MHz-4200MHz
ANT4	**5G NR:** n2/n5/n12/n13/n14/n25/n26/n29/n30/n38/n41/n48/n66/n70/n71/n77/n78 **LTE-FDD:** B2/B4/B5/B12/B13/B14/B17/B25/B26/B29/B30/B66/B71 **LTE-TDD:** B38/B41/B42/B43/B46	617MHz-960MHz 1427MHz-2690MHz 3300MHz-4200MHz
GNSS	**GPS:** 1575.42MHz ±1.023MHz (GPS L1) 1176.45MHz ±10.23MHz (GPS L5) **GLONASS:** 1602MHz~1605.8MHz **Galileo:** 1575.42MHz ±2.046MHz **BeiDou/COMPASS:** 1561.098MHz ±2.046MHz **QZSS:** 1575.42MHz &1176.45MHz &L5	

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About Nokia

We create the critical networks and technologies to bring together the world's intelligence, across businesses, cities, supply chains and societies.

With our commitment to innovation and technology leadership, driven by the award-winning Nokia Bell Labs, we're expanding networks at the limits of science across mobile, infrastructure, cloud, and enabling technologies.

Adhering to the highest standards of integrity and security, we help build the capabilities we need for a more productive, sustainable and inclusive world.

For our latest updates, please visit us online www.nokia.com and follow us on Twitter @nokia.

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LED behavior

When setting up the dongle unit, the LED will have the following behavior:

Dongle		
PWR	Steady on	Power on
	Off	No power supply
NET	Steady on	Internet available
	Off	Internet unavailable
	Blinking (500ms interval)	Searching network
SIM	Steady on	SIM ready
	Off	No SIM detected
SIG	Green	Signal strong
	Yellow	Signal good
	Red	Signal weak
	Off	No signal
	Blinking Green and Red (500ms interval)	Firmware upgrade

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Software configuration

Login to the web management page

1. Launch the web browser, enter https://192.168.225.1 in the address bar, and press Enter.

2. Enter the username and password, and click Login.

3. After the password is verified, you can login to the web management page.

The default username and password are both admin.
If you want to view or configure the dongle, you should use the super account to login to the web management page. The default super username is superadmin, and the password is admin.

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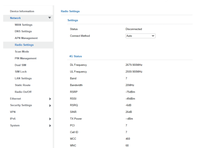
Radio settings

1. Connect to the dongle correctly.

2. Go to the management website.

3. Choose Advanced Settings → Network → Radio Settings.



The default setting is automatic connection and full band scanning, if you want to connect to the 5G/LTE network according to your needs, you can set the connection mode as manual, and simply scan a specific band.

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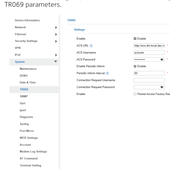
Device management settings

1. Choose Advanced Settings > Device Information.

2. On the Device Information page, you can view Device Serial Number, IMEI, IMSI and Software Version.

3. Choose Advanced Settings > System > TR069.

4. On the 'TR069' page，you can view/set Device management/ TR069 parameters.



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FAQs

The POWER indicator does not turn on:
1. Make sure that the power cable is connected properly and the dongle is powered on.
2. Make sure that the power supply is compatible with the dongle.

Fails to Login the web management page:
1. Make sure that the dongle is powered on.
2. Verify that the dongle is correctly connected to the computer through a network cable.
3. If the problem persists, please contact the authorized local service suppliers.

The dongle fails to search for the wireless network:
1.Check if the power supply is connected properly.
2.Check if the dongle is placed in an open area that is far away from obstructions, such as concrete or wooden walls.
3. If the problem persists, please contact the authorized local service suppliers.

The parameters are restored to default values:
1. If the dongle is powered off unexpectedly while being configured, the parameters may be restored to the default settings.
2. After configure the parameters, download the configuration file and restore the desired settings quickly.

The dongle does not support SIM card hot-plug, please confirm that the device is powered off when the SIM card is inserted or removed.

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FCC Statement
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement
This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons

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and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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ISED Canada Statement
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
(1) This device may not cause interference;
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
1) L'appareil ne doit pas produire de brouillage;
2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

ISED Radiation Exposure Statement
The device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS-102 RF exposure, users can obtain Canadian information on RF exposure and compliance.

Le dispositif rencontre l'exemption des limites courantes d'évaluation dans la section 2.5 de RSS 102 et la conformité à l'exposition de RSS-102 rf, utilisateurs peut obtenir l'information canadienne sur l'exposition et la conformité de rf.

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This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Cet émetteur ne doit pas être Co-placé ou ne fonctionnant en même temps qu'aucune autre antenne ou émetteur. Cet équipement devrait être installé et actionné avec une distance minimum de 20 centimètres entre le radiateur et votre corps.

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