



HIRSCHMANN

A **BELDEN** BRAND

User Manual

Installation

OWL 3G (Industrial Cellular Router)



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About this Guide

This document provides technical specifications for the Industrial Cellular Router and illustrates the hardware installation for a Hirschmann Industrial Cellular Router. It also helps the developers to validate their application design using the Industrial Cellular Router.

The information in this publication contains general descriptions or performance factors which, when applied in an actual situation, do not always correspond with the described form and may be amended by way of further development of products. The desired performance factors shall only be deemed binding if these are expressly agreed on conclusion of the contract. Please note that some characteristics of the recommended accessory parts may differ from the appropriate product. This might limit the possible operating conditions for the entire system.

Legend

The designations used in this manual have the following meanings:

	List
<input data-bbox="210 1145 232 1176" type="checkbox"/>	Work step
	Subheading
Link	Cross-reference with link
Note:	A note emphasizes an important fact or draws your attention to a dependency.
<i>Courier</i>	ASCII representation in the graphical user interface

GPL License

Source codes under the GPL license are available free of charge. Send an email request to:

hac-support@belden.com

Safety Instructions

■ General safety instructions

You operate this device with electricity. The safe operation of the device depends on proper handling during transportation, storage and assembly, and proper use of operation and maintenance procedures. Improper use of this device can cause injury or property damage.

- Read this documentation, safety instructions and warnings before connecting any cables.
- Never start an operation with damaged components.
- The device does not contain any service components. If the device is not functioning correctly, or if it is damaged, turn off the power supply and return the device to Hirschmann for inspection.

WARNING

UNCONTROLLED MACHINE ACTIONS

To avoid uncontrolled machine actions caused by data loss, configure all the data transmission devices individually.

Before you start any machine which is controlled via data transmission, be sure to complete the configuration of all the data transmission devices.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

■ Qualification requirements for personnel

- Allow only qualified personnel to work on the device who have the following characteristics:
 - ▶ Properly trained personnel who have practical knowledge and experience. This is the prerequisite for grounding and labeling circuits, devices, and systems in accordance with current technology safety standards.
 - ▶ Qualified personnel are aware of the dangers that exist in their work.
 - ▶ Qualified personnel are familiar with appropriate measures against these hazards in order to reduce the risk for themselves and others.
 - ▶ Qualified personnel receive training on a regular basis.

■ Intended usage

- Use the product only for the application cases described in the Hirschmann product information, including this manual.
- Operate the product according to the technical parameters. See [“First Use” on page 25](#).
- Connect components which are suitable for the requirements of the specific application to the product.

■ National and international safety regulations

Verify that the electrical installation meets applicable national and international safety regulations.

■ Working voltage

- Connect only a working voltage that corresponds to the type plate of your device.
- Make sure the following requirements are met every time you connect the electrical conductors:
 - ▶ The power supply conforms to over voltage category I or II.
 - ▶ The power supply has an easily accessible disconnecting device (such as a switch or a plug) which is clearly identified. So in case of an emergency, it is clear which disconnecting device belongs to which power supply cable.
 - ▶ The electrical wires are voltage-free.
 - ▶ The power supply is Class 2 compliant.
 - ▶ The working voltage inputs are designed for operation with safety extra-low voltage. Connect only SELV circuits with voltage restrictions in line with IEC/EN 60950-1 to the working voltage connections.
 - ▶ The wire diameter of the power supply cable is at least 0.5 mm² (North America: AWG20) on the working voltage input.
 - ▶ The wire diameter of the ground conductor is at least 0.5 mm² (North America: AWG20).
 - ▶ The power supply cables used are permitted for the temperature range required by the application case.
The power cords are suitable for ambient air temperatures of at least 167 °F (75 °C). The power cord wires are made of copper.

Turn on the operating voltage for the device only when the following requirements are fulfilled:

- ▶ The housing is closed
- ▶ The terminal block is wired correctly
- ▶ The terminal block for the operating supply is connected

■ **Installation site requirements**

- Verify that there is at least 4 in (10 cm) of space above and below the device.
- Verify that there is at least 0.8 in (2 cm) of space on the right and left sides of the device.
- Verify that there is at least a minimum distance of 7.9 in (20 cm) between the antenna and the human body.

■ **Housing**

Never insert pointed objects (narrow screwdrivers, wires, etc.) into the device or into the connection terminals for electric conductors. Do not touch the connection terminals.

■ Please, observe the following instructions:

To prevent injury and damage to the device and to ensure that you comply with the relevant provisions, use original accessories only. Unauthorized modifications or unapproved utilization of accessories can result in damage to the router and in a breach of applicable regulations.

Unauthorized modifications or unapproved utilization of accessories can result in the termination of the guarantee.

- Before handling the SIM card, disconnect the router from the power supply.
- Do not exceed the maximum voltage of 30 V DC at the power connector of the router.
- Do not expose the router to extreme ambient conditions. Protect the router against dust, moisture and high temperature. [See table 8 on page 28.](#)
- It is recommended that you should create an appropriate copy or backup of the important settings that are stored in the memory of the device.
- Caution!** The SIM card can be swallowed by small children.
- It is recommended that you do not use the router at petrol filling stations. We recommend observing local restrictions concerning the use of radio-based devices while working with explosive material for example, at petrol filling stations, or in chemical plants.
- While using the router close to personal medical devices, such as cardiac pacemakers or hearing aids, proceed with heightened caution.

Note: Insert the SIM Card holder in the SIM card slot very carefully. When inserted improperly, you can damage the SIM card slot. Also, the SIM card can fall out of the holder and end up in the router.

1 Router Description

Hirschmann has designed the OWL router for wireless communication in mobile networks that make use of the following technologies:

- ▶ HSPA+
- ▶ UMTS
- ▶ EDGE
- ▶ GPRS

Due to the high speed data transfer, up to 14.4 Mbit/s (download) and up to 5.76 Mbit/s (upload), this router is an ideal wireless solution for connecting the data stream and security camera systems, individual computers, LAN networks, automatic teller machines (ATM) and other self-service terminals.

As a standard, the router is supplied in a metal casing.

The cellular router is also equipped with the following interfaces located on the front panel:

- ▶ 2 Fast Ethernet 10/100BaseTX ports, RJ45
- ▶ 2 SIM Cards readers, for 3 V and 1.8 V SIM cards
- ▶ 2 SMA antenna connectors, Main + Rx Div
- ▶ 1 Connector (2-pin) for the power supply adapter
- ▶ 1 Reset button

Configuring the cellular router is possible using a graphical user interface which is password protected. The graphical user interface provides, after logging in, detailed statistics about the activities of the router such as, signal strength, and a detailed system log. This device supports the creation of VPN tunnels using technologies such as IPSec, OpenVPN and L2TP for secure communications. The router also supports the following functions:

- ▶ DHCP
- ▶ NAT
- ▶ DynDNS
- ▶ IPSec
- ▶ OpenVPN
- ▶ NTP
- ▶ VRRP
- ▶ control by SMS
- ▶ primary/backup connection

Diagnostic functions, which provide for continuous communication, include an automatic inspection of a PPP connection, offering an automatic restart feature in case of an unexpected termination of the connection. Another diagnostic function is the hardware watchdog, which monitors the status of the router.

Using a special window, the start up script window, you can insert Linux scripts for various actions. For some applications, it is crucial to create several different configurations for a router. You can exchange these configurations as necessary for example, using SMS. The router can automatically upgrade a configuration and firmware from a server. This allows you to configure several routers at a time.

Note: For the system time backup the device contains a 3 V Lithium Battery (Li/MnO₂).

2 Contents of Package

The basic router set available for delivery includes the following items:

- ▶ router
- ▶ clip for the DIN rail
- ▶ loose power connector
- ▶ General Safety Instructions
- ▶ EU Declaration of Conformity



Figure 1: Contents of Package

3 Router Design

3.1 Delivery Identification

Product Name	Product Code	Product Group
OWL 3G	OWL 3G-S20TT9999209SDAHHXX.X	Industrial Cellular Router

Table 1: Delivery identification



Figure 2: Example of Router Label

3.2 Basic Dimensions of Router Box

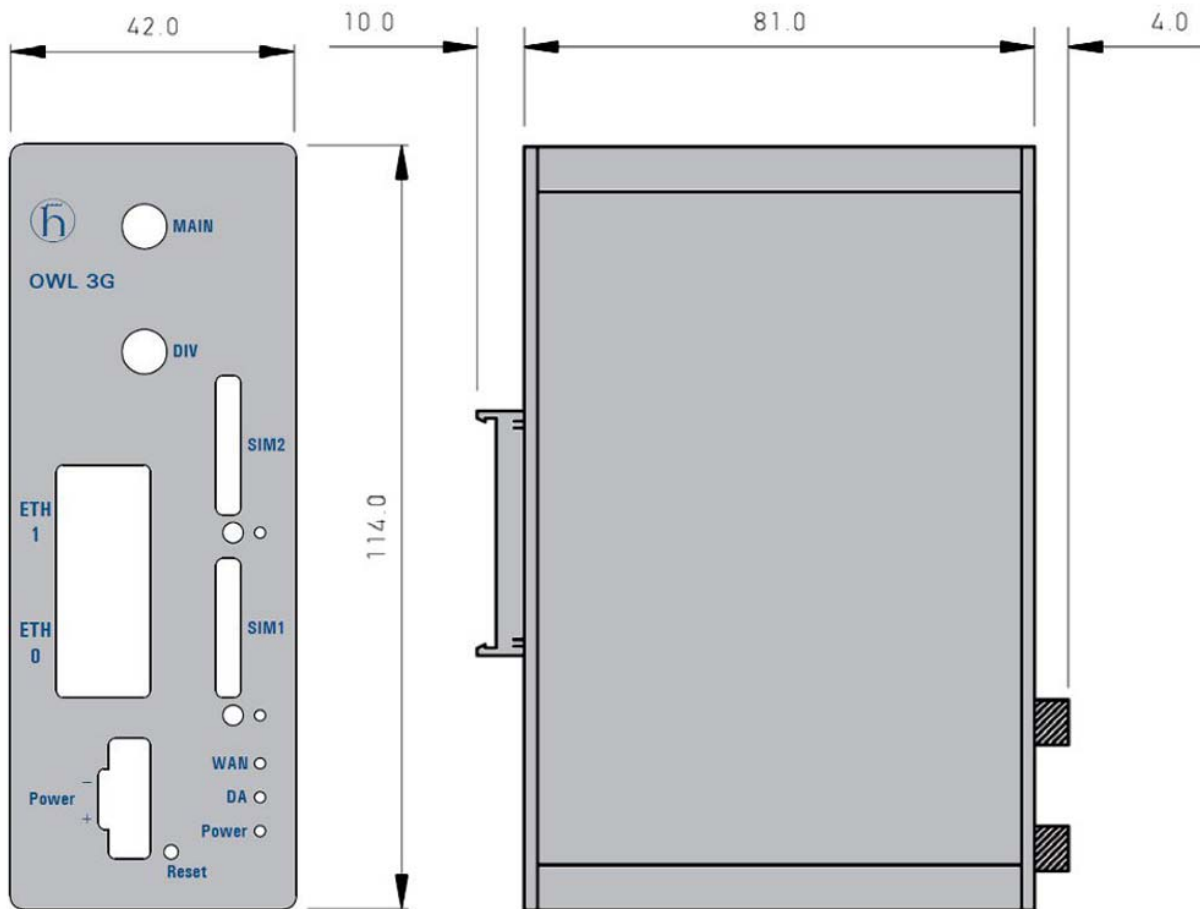


Figure 3: Basic Dimensions of Router Case

3.3 Mechanical Dimensions and Mounting Recommendations

Mounting recommendations:

- ▶ place router on a work surface
- ▶ DIN rail with the CKD2 holder included

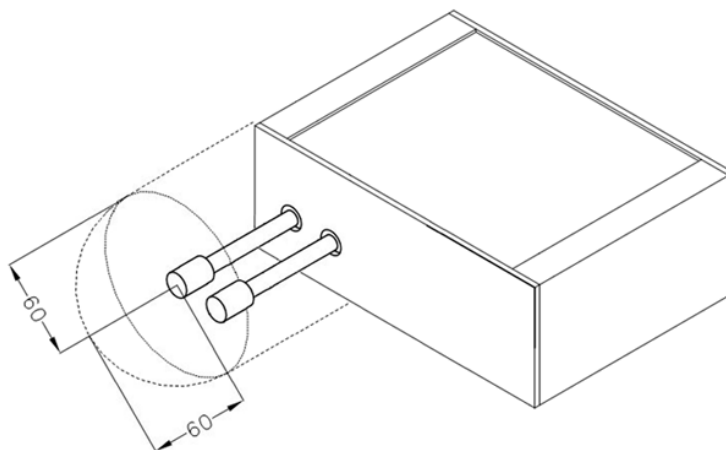


Figure 4: Space around antennas

We recommend you bind every cable in a bunch according to the following figure. For this use we recommend you observe the following rules:

- ▶ The length of the combination of power supply and data cables can be a maximum of 1.5 m. If the length of data cables or power cable exceeds 1.5 m, we recommend that you install surge protectors.
- ▶ Do not use data cables which conduct working voltage 230 V/50 Hz.
- ▶ Use twisted pair cables for sensor communications.

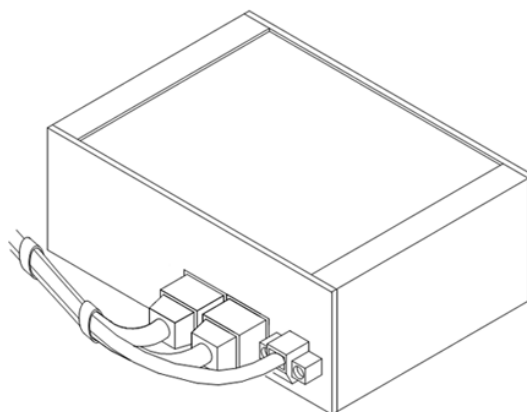


Figure 5: Cable routing

Sufficient space must be left before individual connectors for handling of the cables:

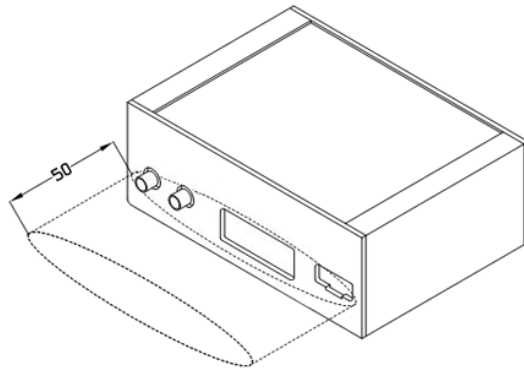


Figure 6: Space in front of connectors

For the correct function of the router, use earth-bonding distribution frame for grounding of power supply of router, data cables and antenna.

3.4 Removing from the DIN rail

Default position of holder, used for mounting the router on a DIN rail, is shown in the following figure:



Figure 7: Default position of DIN holder

To remove the router from the DIN rail, it is necessary to lightly push the router downward so that the bottom part of the holder clears the rail. After the holder clears the rail rotate the bottom part of the router out away from the DIN rail.

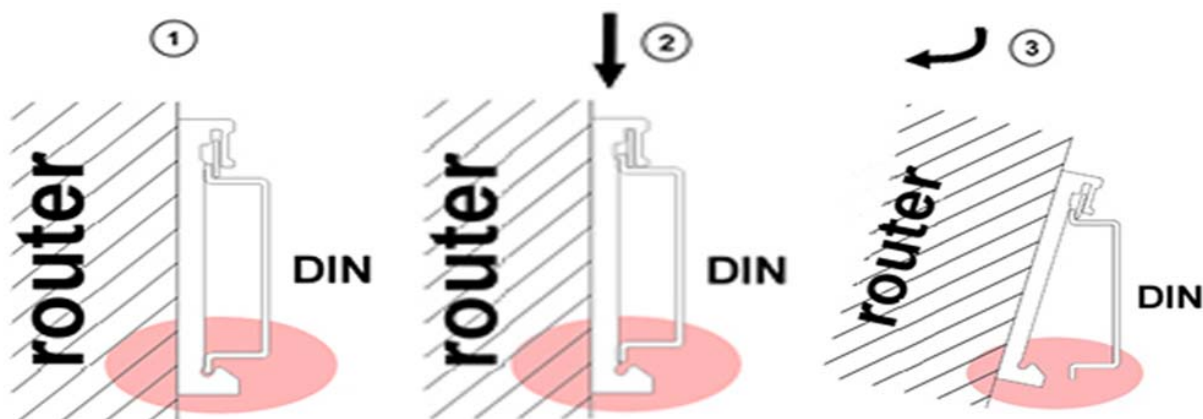


Figure 8: Removing from the DIN rail

3.5 Description of the Front Panel

The front panel of router contains the following connectors:

Caption	Connector	Description
Power	2-pin	Connector for the power supply adapter
ETH0	RJ45	Connector for connection into the local computer network
ETH1	RJ45	Connector for connection into the local computer network
MAIN	SMA	Connector for main antenna
DIV	SMA	Connector for diversity antenna
SIM1	-	Holder for the first SIM card
SIM2	-	Holder for the second SIM card
Reset	-	Returns the configuration in the router to the default settings.

Table 2: Delivery identification



Figure 9: Router Front Panel

3.5.1 Status Indication

There are 3 LED indicators on the front panel and 2 LED indicators on every port, that provide information about the port status.

Applies to software releases **before** 01.2.01 (2017-01-06):

Caption	Color	State	Description
Power	Green	Blinking	Router is ready
		On	Starting of the router
		Fast blinking	Updating firmware
WAN ^a	Yellow	1x flash per sec.	Signal strength is from -50 dBm to -69 dBm
		2x flash per sec.	Signal strength is from -70 dBm to -89 dBm or difference between neighbors cells is exactly 3 dBm
		3x flash per sec.	Signal strength is from -90 dBm to -113 dBm or difference between neighbors cells is smaller than 3 dBm
DA	Red	Blinking	Communication in progress on radio channel
ETH0	Green	On	Selected 100 Mbit/s
ETH1		Off	Selected 10 Mbit/s
ETH0	Yellow	On	The network cable is connected
ETH1		Blinking	Data transmission
		Off	The network cable is not connected
SIM1	Yellow	On	SIM card 1 is active
SIM2	Yellow	On	SIM card 2 is active

Table 3: Router Status Indication

a. The WAN status is updated every 10 seconds. The WAN LED displays the current status.

Applies to software releases **from** 01.2.01 (2017-01-06):

Caption	Color	State	Description
Power	Green	On	Router is ready
		Blinking	Starting of the router
		Fast blinking	Updating firmware
WAN ^a	Yellow	1x flash per sec.	Signal strength is from -50 dBm to -69 dBm
		2x flash per sec.	Signal strength is from -70 dBm to -89 dBm or difference between neighbors cells is exactly 3 dBm
		3x flash per sec.	Signal strength is from -90 dBm to -113 dBm or difference between neighbors cells is smaller than 3 dBm
DA	Red	Blinking	Communication in progress on radio channel
ETH0	Green	On	Selected 100 Mbit/s
ETH1		Off	Selected 10 Mbit/s
ETH0	Yellow	On	The network cable is connected
ETH1		Blinking	Data transmission
		Off	The network cable is not connected

Table 4: Router Status Indication

Caption	Color	State	Description
SIM1	Yellow	On	SIM card 1 is active
SIM2	Yellow	On	SIM card 2 is active

Table 4: Router Status Indication

a. The WAN status is updated every 10 seconds. The WAN LED displays the current status.

3.5.2 Power Connector

Panel socket 2-pin.

Pin number	Signal mark	Description
1	VCC(+)	Positive pole of DC supply voltage (+12 to +24 V DC)
2	GND(-)	Negative pole of DC supply voltage (connected to ground)

Table 5: Connection of Power Connector



Figure 10: Power connector

The power supply for the router should be between +12 V to +24 V DC supply. Protection against reversed polarity without signaling is built into the router.

The power consumption during receiving is 2.3 W. The peak power consumption during data sending is 5.5 W. For correct operation, it is necessary that the power source is able to supply a peak current of 0.9 A.

Circuit example:

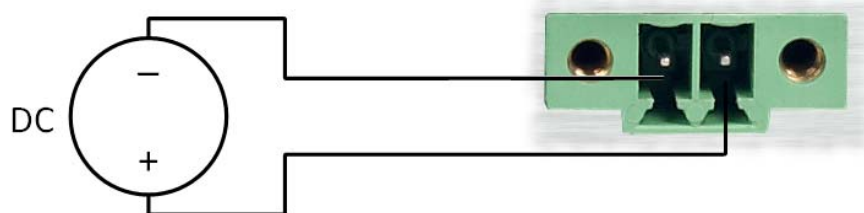


Figure 11: Power connector pin-outs

3.5.3 Grounding the device (functional earth)

Ground the device by connecting the minus pole (GND) of the power supply to earth. When you mount the device on a grounded DIN rail, then the DIN rail provides the ground. The shield of a shielded twisted pair cable is connected to the housing and the minus pole of the power supply socket.

3.5.4 Antenna Connectors

Main and diversity antennas are connected to the router using the SMA connector on the front panel. The "MAIN" connector is used to connect the main antenna to the router. To connect the diversity antenna, use the second "DIV" antenna connector.

Note: Do not operate the router without the main antenna connected.

For connecting the antenna, use an SMA connector. Screw the antennas to the SMA connector on the front panel of the router (see figure below).

Note: Be very careful when tightening the antenna. If you over tighten the antenna, then you will twist the antenna connector off of the circuit board.

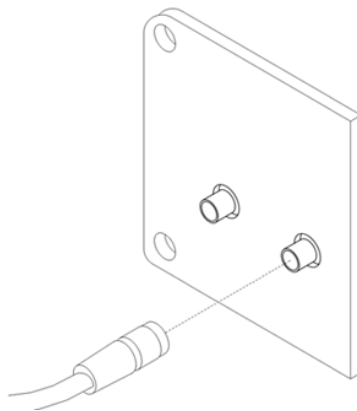


Figure 12: Connecting the Antenna

The diversity antenna improves radio features of the router at a low signal strength.

3.5.5 SIM Card Reader

There are 2 SIM card readers for 3 V and 1.8 V SIM cards located on the front panel of the router.

In order for the router to function properly, insert an activated SIM card with the PIN code unblocked in to the SIM card holder. Each SIM card can have a different APN (Access Point Name).

Note: When changing the SIM Card, pay close attention to the following rules:

- ▶ Before handling the SIM card, disconnect the router from the power supply.
- ▶ Press the small button under the SIM card slot to eject the SIM card holder.
- ▶ Remove the SIM card and place another SIM card into the holder.
- ▶ Very carefully, insert the SIM card holder and SIM card in the slot. Push the SIM card holder into the slot until it clicks in place.

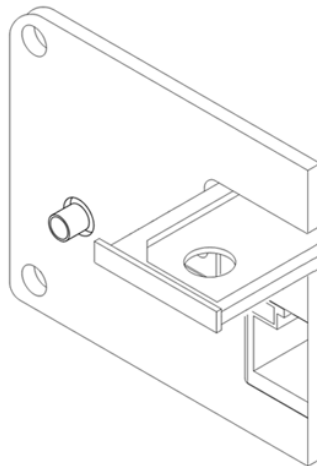


Figure 13: Example of an ejected SIM card holder

3.5.6 Reset

When the "Power" LED on the front panel has turned on, it is possible to restore the default configuration of the router by pressing the "Reset" button. After pressing the "Reset" button, the default configuration is restored and the router reboots. During rebooting, the "Power" LED blinks.

Note: We recommend that you back up the router configuration before resetting the router. For detailed information about resetting the router refer to the User Manual Configuration. Resetting the router returns the configuration to the default state.

Use a narrow screwdriver for pressing the "Reset" button located on the front panel.

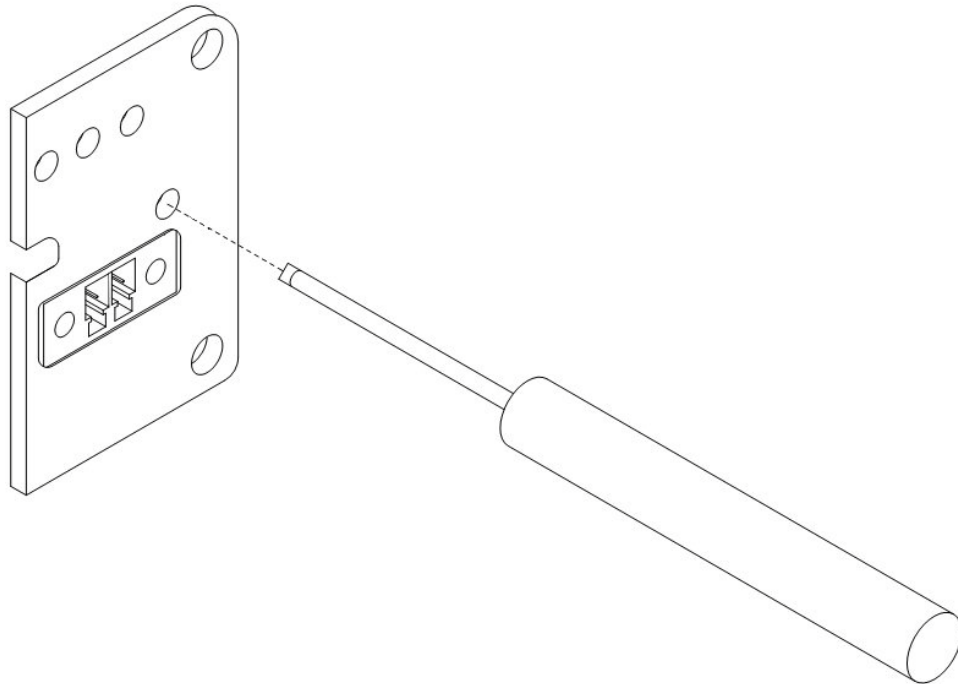


Figure 14: Router Reset

It is important to distinguish the difference between resetting and rebooting the router.

Action	Router behavior	Invoking events
Reboot	Turn off and then turn on router.	Disconnect and connect the power.
Reset	Restore default configuration and reboot the router	Press "Reset" button on front panel

Table 6: Description of Reset and Restart Router

3.5.7 Ethernet Ports ETH0 & ETH1

Panel socket RJ45.

Pin	Signal mark	Description	Data flow direction
1	TXD+	Transmit Data - positive pole	Input/Output
2	TXD-	Transmit Data - negative pole	Input/Output
3	RXD+	Receive Data - positive pole	Input/Output
4	-	-	
5	-	-	
6	RXD-	Receive Data - negative pole	Input/Output
7	-	-	
8	-	-	

Table 7: Ethernet connector pin-outs

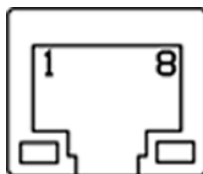


Figure 15: Ethernet Connector

Note: ETH0 and ETH1 ports are not POE (Power Over Ethernet) compatible.

Ethernet cable plugged into the RJ45 connector is labeled as ETH0 or ETH1 (see figure below).

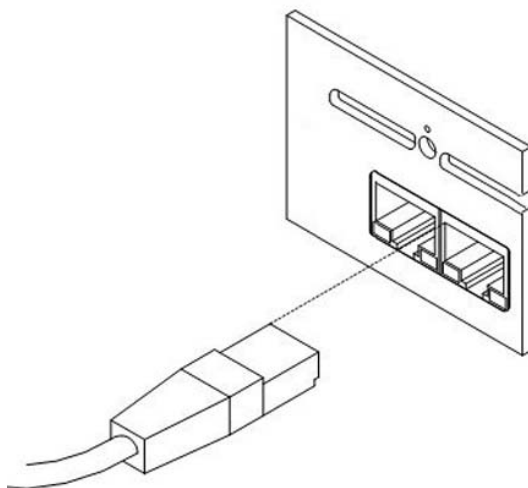


Figure 16: Connection of an Ethernet Cable

4 First Use

4.1 Connecting Components before the First Use

Before putting the router into operation, it is necessary to connect the components which are required for your applications. Do not forget to insert at least 1 SIM card.

Note: The router can not operate without connecting the main antenna, at least 1 SIM card and a power supply. If the antenna is not connected, the router can be damaged.

Note: Be very careful when tightening the antenna. If you over tighten the antenna, then you can twist the antenna connector off of the circuit board.

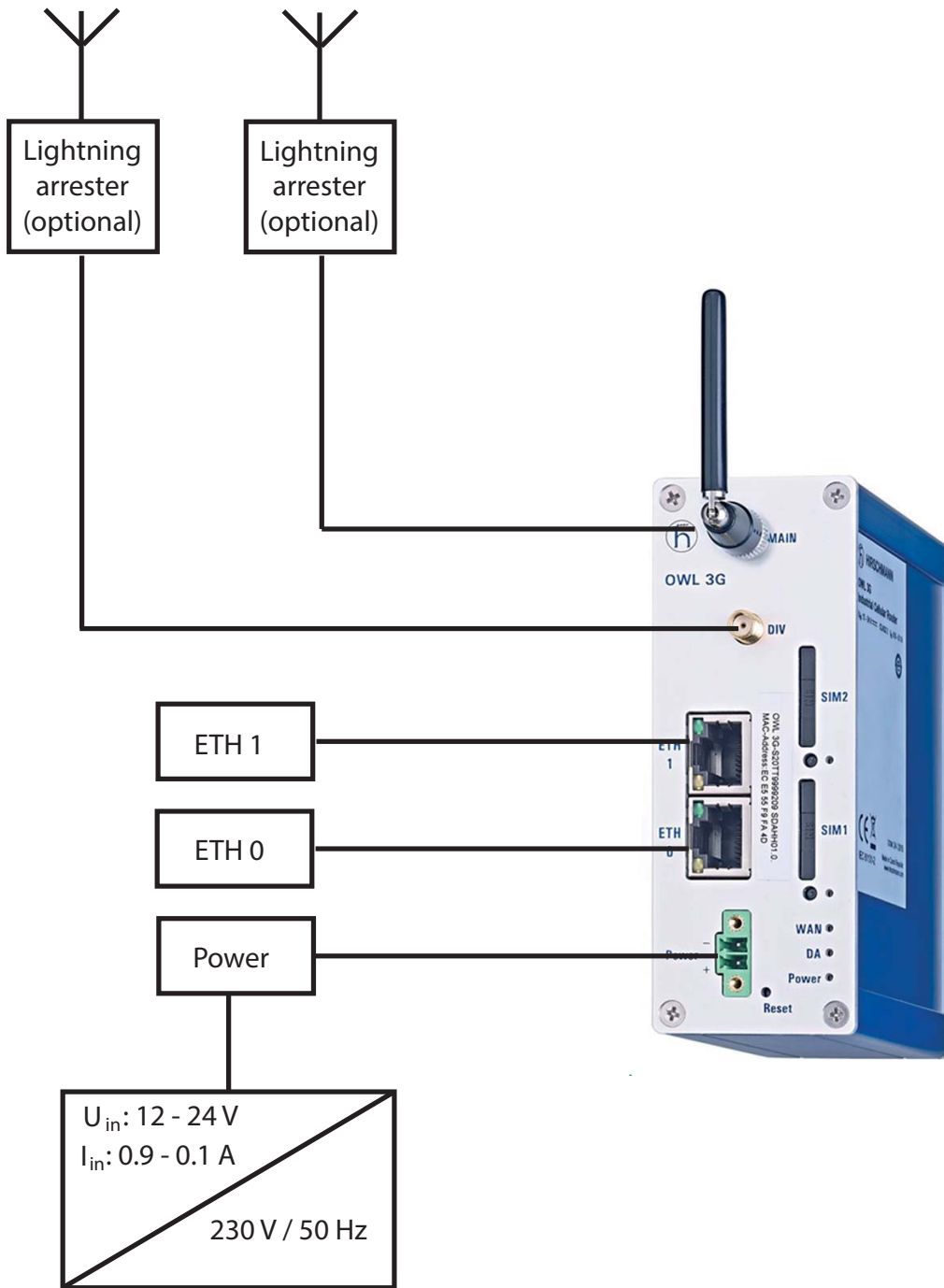


Figure 17: Router Connection

4.2 Start

The router operates when the power supply is connected to the router. By default, the router automatically starts to log in to the default APN. You can change the parameters of the router behavior using the web interface. You can find a detailed description of the parameters in the User Manual Configuration.

The power consumption during receiving is 2.3 W. The peak power consumption during data sending is 5.5 W. For correct operation, it is necessary that the power source supplies a peak current of 0.9 A.

4.3 Configuration

Note: Before you apply power to the router, insert at least 1 SIM card in the router, and install the main antenna. Activate the SIM card in the "Administration> Unlock SIM card" dialog, after inserting it into the SIM card reader.

4.3.1 Configuration using a Web Browser

Status monitoring, configuration and administration of the router is available using the graphical user interface (GUI) which can be accessed by entering the IP address of the router into your web browser. The default IP address of the router is 192.168.1.1 netmask 255.255.255.0. The default settings allow only the user `admin` with the default password `private` to configure the router.

Note: Use the HTTPS protocol for secure communication.

After successfully entering the login information a user has access to the router using the Internet browser.

5 Technical Parameters

5.1 Basic parameters

OWL 3G		
Complies with standards		EN 301 511, EN 300 440-2 EN 301 908-1, -2, -13 EN 301 489-1, -7, -24 EN 60950-1, EN 62311 EN 61000-6-2 EN 61131-2 EN 55022
Temperature range	Operation	-40 °C to +70 °C
	Storage	-40 °C to +85 °C
Cold start	-35 °C	Data transfers via mobile network are available immediately
	-40 °C	Data transfers via mobile network are available approximately in five minutes after the start of the router. Everything else is functional immediately.
Humidity	Operating	0 to 95 % relative humidity non condensing
	Storage	0 to 95 % relative humidity non condensing
Altitude	Operating	2000 m/ 70 kPa
Protection		IP30
Supply voltage		12 to 24 V DC
Consumption	Reception	2.3 W
	GPRS	to 3.5 W (GPRS transmission)
	UMTS	to 5.5 W (UMTS/HSDPA transmission)
Dimensions		42 x 87 x 113 mm (DIN 35 mm)
Weight		280 g
Antenna connectors		SMA - 50 Ohm
Use interfaces	2x ETH	Ethernet (10/100 Mbit/s)

Table 8: Technical Parameters of the Router

5.2 Type tests and environmental conditions

Phenomena	Test	Description	Test levels
ESD	EN 61000-4-2	Enclosure contact	± 6 kV
		Enclosure air	± 8 kV
RF field AM modulated	IEC 61000-4-3	Enclosure	10 V/m (80 – 2700 MHz)
Fast transient	EN 61000-4-4	Signal ports	± 2 kV
		Power ports	± 2 kV
		Ethernet ports	± 2 kV

Table 9: Type tests and environmental conditions

Phenomena	Test	Description	Test levels
Surge	EN 61000-4-5	Ethernet ports Power ports I/O ports	± 2 kV, shielded cable ± 0.5 kV ± 1 kV, L to L ± 2 kV, L to GND
RF conducted	EN 61000-4-6	All ports	10 V/m (0.15 – 80 MHz)
Radiated emission	EN 55022	Enclosure	Class B
Conducted emission	EN 55022	DC power ports Ethernet ports	Class B Class B
Dry heat	EN 60068-2-2	+75 °C, 40 % rel. humidity	
Cold	EN 60068-2-1	-40 °C	
Damp heat	EN 60068-2-78	95 % rel. humidity (+40 °C)	

Table 9: Type tests and environmental conditions

5.3 Technical Parameters of module

HSPA+ module	
HSPA+ parameters	Bit rate 14.4 Mbps (DL) / 5.76 Mbps (UL) 3GPP rel. 6/7 standard Data compress 3GPP
UMTS parameters	Bit rate 384 kbps (DL) / 384 kbps (UL) 3GPP rel. 4 standard
GPRS/EDGE parameters	EDGE bit rate 237 kbps (DL) / 237 kbps (UL) GPRS bit rate 85.6 kbps (DL) / 85.6 kbps (UL) Multi slot class 12, CS 1 to 4, 3GPP rel. 99/4 standard
Support channels	GSM/GPRS/EDGE: Quad band, 850/900/1800/1900 MHz UMTS/HSDPA/HSUPA/HSPA+: Five band, 800/850/900/1900/2100 MHz

Table 10: Technical parameters of the module

Depending on the capabilities of the operator.

5.4 Technical Parameters of the processor

32b ARM microprocessor	
Memory	512 Mb DDR SDRAM 128 Mb FLASH 1 Mb MRAM
Interface	Serial interface RS232 Ethernet interface 10/100 Mbit/s USB 2.0 interface

Table 11: *Technical Parameters of the processor*

6 Recommended literature

6.1 Available Literature

- ▶ User Manual Configuration

7 Possible problems

7.1 Solutions

Some network cards are able to be set in a situation, when it is not possible to connect directly to the router. Follow the steps below to solve this problem:

- ▶ manually select the 10 Mb/s communication rate for the network card
- ▶ connect the computer to the router through a switch
- ▶ start the computer only after the router has completed its boot process

8 FAQ

- ▶ When I have NAT enabled, I can't access the equipment from the internet, which is connected to the router.
 - Configure the gateway in the device with the IP address of the router.
- ▶ The router resets itself and the Ethernet connection fails.
 - Connect an antenna to the router. Keep the antenna as far as possible away from the power supply.
- ▶ I cannot get on the web server at NAT.
 - The remote http access of the router has to be disabled, default server address has to be your web server and the gateway of the web server has to be the IP of router.
- ▶ PPP connection fails.
 - Check the signal power. If the signal power is weak, then use a better antenna. If the neighboring cells have a similar signal strength, then use a directional antenna. For proper operation, the signal levels have to be in the range from - 50dBm through -90dBm.
 - Configure the router to ping the neighbors. The router verifies the connection using the ping function. When the ping fails, the router attempts to re-establish the connection.
- ▶ The router can not establish the PPP connection.
 - Recheck GPRS settings – APN, name, password and IP address.
 - Try to enter the PIN – verification if the SIM card has the PIN code set.
 - In private APN, disable the DNS server.
 - Enable the system log and observe where the router detected errors.
- ▶ Connection fails on Ethernet or connection not established.
 - It is possible to disable the auto negotiation and set a rate and duplex manually on the Ethernet interface of the router.
- ▶ DynDNS is not functioning.
 - In a private APN, the DynDNS function is unavailable.
 - If the same IP address is recorded in your canonic name as a dynamically assign address, it means that the operator is using NAT or firewall.
 - To verify NAT, ping the static server address.
 - Verify Firewall accessing remotely to the GUI interface of the router.
 - The operator does not give out the address of DNS servers and without the address of the DNS servers, it is impossible to connect to the dyndns.org server. The router displays the following messages in the log system:
 - DynDNS daemon started
 - Error resolving hostname: no such file or directory
 - Connect to DynDNS server failed

- ▶ IPsec tunnel is established but communication does not function.
 - Verify that you have specified the route conditionals of connected equipment correctly. Also verify the Gateway configuration.
- ▶ FTP does not function.
 - Router does not support the active FTP mode, supports the passive mode only.
- ▶ L2TP or IPsec is not established.
 - Verify the reason in the log system.
- ▶ I switched the router to the off line mode using an SMS message, but the router is in the online mode after restart.
 - The control SMS message does not change the router configuration. For example, if the router is changed to the off line mode using an SMS message, then the router remains in this mode until the next restart. This behavior is the same for every control SMS message.

9 Customers Support

You can find current information about this product on our website:
<http://www.hirschmann.com/en/QR/OWL-Industrial-Cellular-Routers>

Upkeep-advice:

- The SIM card must be handled carefully like a credit card. Do not bend or scratch the SIM card and do not expose the SIM card to static electricity.
- When cleaning the router, do not use aggressive chemicals, solvents or abrasive cleaners.

The router meets the SAR coefficient values defined by the International Commission on Non-Ionizing Radiation (ICNIRP) and the values described in "About protection of health before non-ionized radiation".

9.1 CE-marking

Hirschmann hereby declares that the labeled devices comply with the regulations contained in the following European directives:

■ 2011/65/EU (RoHS)

Directive of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

■ 2014/53/EU (RED)

Directive of the European Parliament and of the Council on the harmonization of the laws of the Member States relating to the making available on the market of radio equipment.

This product may be operated in all EU (European Union) countries.

In accordance with the above-named EU directives, the EU declaration of conformity will be at the disposal of the relevant authorities at the following address:

Hirschmann Automation and Control GmbH
Stuttgarter Str. 45-51
72654 Neckartenzlingen
Germany

The product can be used in industrial areas only.

Warning! This is a class A device. This device can cause interference in living areas, and in this case the operator may be required to take appropriate measures.

Note: The assembly guidelines provided in these instructions must be strictly adhered to in order to observe the EMC threshold values.

9.2 E marking

The labeled devices comply with the regulations contained in the following European directive(s):

Regulation No. 10 of the Economic Commission for Europe of the United Nations (UN/ECE): **Devices with an approval are labeled with the E type approval mark.**

A Further support

Technical questions

For technical questions, please contact any Hirschmann dealer in your area or Hirschmann directly.

You find the addresses of our partners on the Internet at <http://www.hirschmann.com>.

A list of local telephone numbers and email addresses for technical support directly from Hirschmann is available at <https://hirschmann-support.belden.eu.com>.

This site also includes a free of charge knowledge base and a software download section.

Hirschmann Competence Center

The Hirschmann Competence Center is ahead of its competitors on three counts with its complete range of innovative services:

- ▶ Consulting incorporates comprehensive technical advice, from system evaluation through network planning to project planning.
- ▶ Training offers you an introduction to the basics, product briefing and user training with certification.
You find the training courses on technology and products currently available at <http://www.hicomcenter.com>.
- ▶ Support ranges from the first installation through the standby service to maintenance concepts.

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