

NOVALIGHT GATEWAY 2G/3G/ETH

NOVACOM NETWORK GATEWAY AND ELECTRICAL CABINET CONTROLLER NL-G-023NCE

The NovaLight Gateway is a gateway connecting the street lights controllers in the field to a centralized software. It features IEEE 802.15.4 (NovaCom), 3G/2G and Ethernet network interfaces. Furthermore, several GPIOs and serial interfaces are available and can be used to control and monitor an electrical cabinet remotely.

AT A GLANCE

The first role of the NovaLight Gateway is to make the link between street light controllers connected over a NovaCom wireless mesh network in the field and the centralized server installed in Novaccess cloud or in client own infrastructure. The connectivity of the NovaLight Gateway is realized either via cellular network (3G with fallback to 2G) or via Ethernet. The Novacom network is based on Industrial Internet of Things open protocols and standards. It is very robust and can support high density. Starting with sreet lighting application, this network can then be reuse for other smart city applications.



In order to guarantee product long lasting and security over the time, the NovaLight Gateway can be reprogrammed directly from the software in the cloud or locally using a desktop configuration software and RS-232 (COM) interface.

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The NovaLight Gateway can also be used to monitor and remote control an electrical cabinet thanks to several GPIOs and serial interfaces (RS-232 and RS-485).

KEY FACTS

- IIoT Wireless Mesh Network gateway
 IEEE 802.15.4 869 MHz (NovaCom)
- Robust 3G connectivity with fallback to 2G
- Ethernet connectivity (10/100Mbps)
- Local configuration with secure RS-232 (DB9) service interface
- Electrical cabinet remote control thanks to 4x digital inputs, 4x output relays and RS-232/RS-485 serial interfaces
- AES-256 encryption for communication with the centralized software
- AES-128 encryption for communication within the mesh network and AES-256 for the data
- 12/24VDC power supply
- Over-the-air reprogramming



TECHNICAL CHARACTERISTICS

	Ethernet 3G/2	G R	RS-232	Mesh
	0	Innute		a la d
Reserved Supply	Outputs	inputs	KS-485 Kese	rvea

FIGURE 1 - PINOUT

PHYSICAL PARAMETERS WITHOUT CASE	VALUE	UNIT
Length	150.8	[mm]
Width	81.8	[mm]
Height	21.6	[mm]

PHYSICAL PARAMETERS WITH CASE	VALUE	UNIT
Rail format	DIN 43880	-
Length	157	[mm]
Width	86	[mm]
Height	59.5	[mm]

ENVIRONMENTAL PARAMETERS	MIN	ТҮР	МАХ	UNIT
Temperature	-30	-	75	[°C]
Degree of protection with case	-	IP30	-	-

POWER SUPPLY	SYMBOL	CONDITIONS	MIN	ТҮР	МАХ	UNIT
Input DC voltage range	VDC	-	10	24	38	[V]



NOVACOM WIRELESS MESH NETWORK	MIN	ТҮР	ΜΑΧ	UNIT
Frequency	-	869.525	-	[MHz]
Bitrate	-	38.4	-	[kbps]
Power	-	-	100	[mW]
Sensitivity	-	-104	-	[dBm]
Antenna connector	-	SMA female	-	-
Antenna impedance *	-	50ohm	-	-

The mesh antenna must be plugged before powering the device in order to avoid damages

CELLULAR COMMUNICATION	VALUE
Technology	3G HSPA: B1/B8 ¹ 2G GSM/GPRS: 900/1800 MHz
Zones	Europe/Asia
Output	Coaxial SMA female
SIM card holder	MINI SIM (MICRO+NANO SIM compatible)

The cellular antenna must be plugged before powering the device in order to avoid damages

ETHERNET INTERFACE	VALUE
Connector	RJ-45
Speed	10/100 Mbps

GPIOS	SYMBOL	MIN	ТҮР	MAX	UNIT
Output O0A-O0B Current		-	-	4	[A]
Output O0A-O0B Voltage		-	-	250 30	[VAC] [VDC]
Output O0A-O0B Type of Contact	-	NO			
Output O0A-O0B Load type		Resistive or relay coil			
Output O1x-O3x Current		-	-	0.5	[A]

¹ UTRA naming convention



GPIOS	SYMBOL	MIN	ТҮР	MAX	UNIT
Output O1x-O3x Voltage	-	-	-	24	[VDC]
Output O1x-O3x Type of Contact	-			NO	
Input I0-I3 Voltage	VIH	10	12	24	[VDC]
Input I0-I3 Input current (VIH=24V)	IIH	-		3	[mA]

NO = Normally open

SERIAL INTERFACES	VALUE
Serial1	RS232 on DB-9 for local configuration Configuration: 115200/8N1 Signaling: None
Serial2	RS-485 Interface: Half duplex Integrated bus load: 120 [Ω]



CONFORMITY

Mark	CE (RED)
EMC	EN 301 489-3
SRD	EN 300 220-1/-2
Cellular	EN 301 511, EN 301 908-1/2

ORDER INFORMATION

PRODUCTS	REFERENCE	
NovaLight Gateway 2G/3G/ETH	NL-G-023NCE	
NovaGate Indoor Case + DIN BASE	NGICB-020	
Mesh Antenna	MA-020	
Cellular Antenna	CA-030	
Mesh/cellular deported antenna	MCDA-030	

REVISION HISTORY

REVISION	DATE	COMMENTS
R01	July 17, 2018	Initial release
R02	August 6, 2018	Reference number update
R03	January 31, 2019	Product image corrected (antennas)
R04	May 28, 2019	Added warning on cellular antenna. Added cellular certification. Products references list update.

CONDITIONS

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