

# Reliable monitoring and control via cellular network



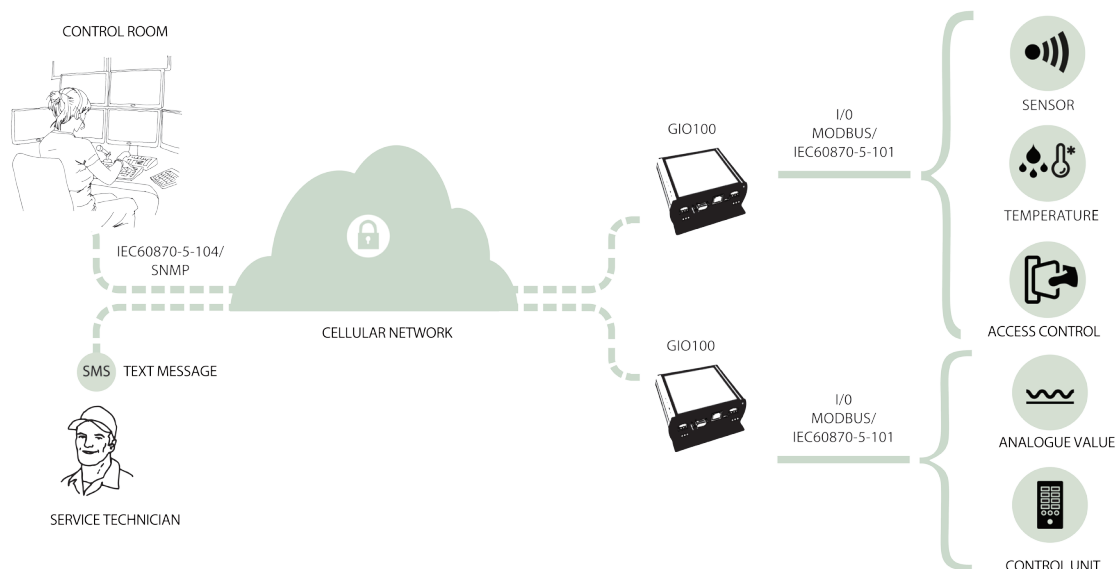
The demand of more control and knowledge regarding the distribution network requires increased number of measurement and control devices in the network. Conventional implementations with separate units for communication and RTU-functionality can be both expensive and complex. GIO100 from Smart Grid Networks will be the solution! GIO100 contains RTU-functionality and 2G/3G/4G communication integrated in one single unit.

- GIO100 consists of RTU-functionality and cellular network communication in one compact device.
- Thanks to its small form factor and robust metal enclosure, GIO100 will be useful in tough environments with limited space. GIO100 is the perfect match for existing installations.
- Digital inputs and outputs, analogue inputs in combination with standard data protocols makes it possible to control equipment, also remotely, in a reliable and cost-effective way.
- GIO100 supports the common protocols IEC60870-5-104 and SNMP for control from the central. IEC60870-5-101 and Modbus can be used to communicate with connected intelligent electronic devices.
- Multi-functional GIO100 can be used as the single communication path to and from the remote device but it can also be used as a complement or redundant path.
- GIO100 supports text message in addition to the ordinary communication between the remote device and control room. GIO100 sends a text message to the listed numbers when an alarm occurs in the distribution network. It is also possible to perform limited remote control via command sent in text message format, which is a very useful feature in some applications.
- Port server conversion between TCP/IP and RS232/RS485 can also be realized by using GIO100.
- It is easy to configure and upgrade GIO100 via the user friendly Web interface.

## TECHNICAL SPECIFICATION

<b>Power supply</b>									
Power supply	9-32 VDC								
Current consumption	Average 60 mA @ 12 V, 35 mA @ 24 V								
Power consumption	Average 0.75 W, max 8 W <1 s								
<b>Inputs and outputs</b>									
5 digital inputs	Max voltage 60 VDC, impedance 10 kΩ, isolation 1500 Vrms								
3 digital outputs	Max voltage 60 VDC, max current 0.5 A, isolation 1500 Vrms								
2 analogue inputs	Input current 0-20 mA, impedance 200 Ω								
<b>Cellular communication</b>									
frequency [MHz]	450	800	850	900	1800	1900	2100	2600	
GIO100 with 2G	-	-	2G	2G	2G	2G	-	-	
GIO100 with 2G and 4G	-	4G	-	2G & 4G	2G & 4G	-	4G	4G	
GIO100 with 2G, 3G and 4G	-	4G	3G	2G, 3G & 4G	2G & 4G	-	3G & 4G	4G	
GIO100 with 4G- 450 MHz	4G	-	-	-	-	-	-	-	
<b>Protocol</b>	SNMP v1/v2c, IEC60870-5-104 (slave), PlexMan 2, Modbus (master), IEC60870-5-101 (master)								
<b>Connectors</b>									
Power Supply	2 way, screw terminal 1.5 mm <sup>2</sup>								
USB	USB 2.0 slave micro								
ETH	RJ45 (TCP/IP, UDP/IP), 10/100 Mbps								
RS232	DB9F, DCE (modem)								
RS485	A, B, GND 3 way, screw terminal 1.5 mm <sup>2</sup>								
Antenna	Female SMA, 50 Ω								
SIM card	Push-push mini SIM card, form factor 2FF								
Inputs and outputs	Push in terminal 0.5 mm <sup>2</sup>								
<b>Temperature range</b>	-40 °C to +85 °C								
<b>Enclosure</b>	Aluminium, dimensions 122 x 123 x 43 mm, weight 365 g, IP51								

## APPLICATION EXAMPLE



Smart Grid Networks has long experience regarding distribution networks business with specialist competence in communication technology, control, automation, fault detection and measurement of distribution networks. Smart Grid Networks offers modular, transparent and customer adapted solutions to achieve cost-effective modernisation of the distribution network.

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