

Reliable monitoring and control via cellular network



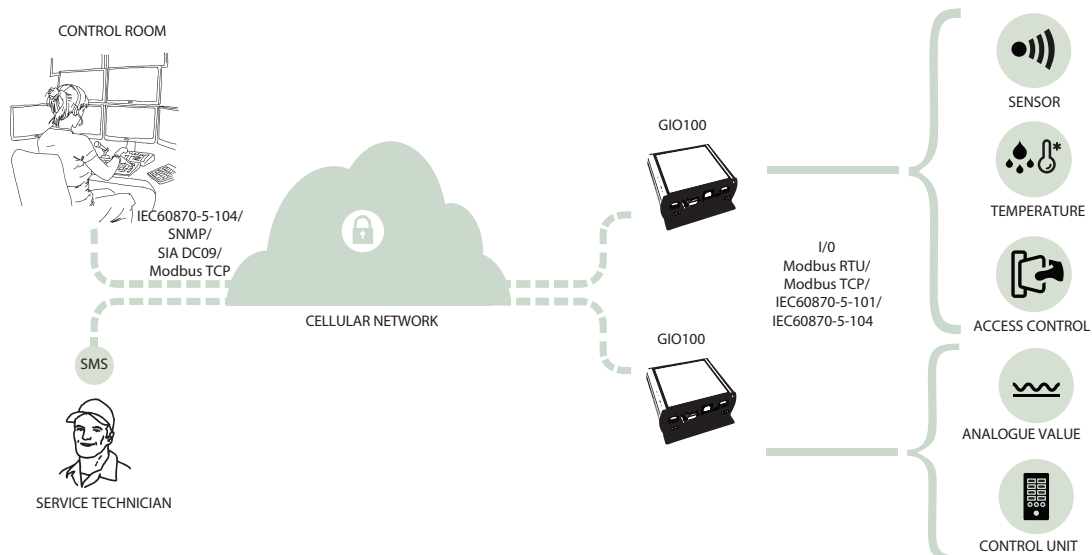
The demand of more control and knowledge regarding the distribution network requires increased number of measurement and control devices in the network. Conventional implementations with separate units for communication and RTU-functionality can be both expensive and complex. GIO100 from Smart Grid Networks 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, SIA DC09, SNMP and Modbus TCP for control from the central. IEC60870-5-101, IEC60870-5-104, Modbus RTU and Modbus TCP can be used to communicate with connected intelligent electronic devices.
- To get a complete safe and robust communication system, combine GIO100 with the AddSecure IoT solution, AddSecure Link. Link utilises roaming between different operators and the network will be totally separated from regular mobile traffic and Internet. The system will be self-administered and controlled via the Link manager portal that does not require certified network technician.
- Additional monitoring and alarm handling services are available via AddView from AddSecure.
- 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.

SPECIFICATION

Power supply								
Voltage	9-32 VDC							
Current consumption	Average 60 mA @ 12 V, 35 mA @ 24 V							
Power consumption	Average 0.75 W, max 8 W < 1s							
Inputs and outputs								
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							
Cellular communication								
frequency [MHz]	450	800	850	900	1800	1900	2100	2600
GIO100 - 2G	-	-	2G	2G	2G	2G	-	-
GIO100 - 2G & 4G	-	4G	-	2G & 4G	2G & 4G	-	4G	4G
GIO100 - 2G, 3G & 4G	-	4G	3G	2G, 3G & 4G	2G & 4G	-	3G & 4G	4G
GIO100 - 4G 450 MHz	4G	-	-	-	-	-	-	-
Protocol								
IEC60870-5-104, IEC60870-5-101, PlexMan 2, SNMP v1/v2c, IPsec, SIA DC09, Modbus RTU, Modbus TCP								
Connectors								
Power supply	2 way, screw terminal 1.5 mm ²							
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 ²							
Antenna	Female SMA, 50 Ω							
SIM card	Push-push mini SIM card, form factor 2FF							
Inputs and outputs	Push in terminal 0.5 mm ²							
Temperature range								
-40 °C to +85 °C								
Enclosure								
Aluminium, 122 x 123 x 43 mm, 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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