

TELEM-AGC – RTU, 4G modem and data concentrator for remote control solutions



TELEM-AGC is an intelligent control device in which the data concentrator functionality is combined with 4G modem and digital inputs/outputs. The main usage is in electricity control solutions for implementing the remote data processing units. It has several communication ports and communication protocols for interfacing with measurement equipment and control center. For ensuring the secure data exchange the VPN channels and VLANs are used.

Features

- Firewall functionality
- Supports VPN connections: OpenVPN, IPsec, L2TP and SSH
- Possibility of transparent connections from TCP/IP to serial ports
- Various data exchange protocols via Ethernet and serial ports
- Automatic protocol conversion from IEC 60870-5-101 to IEC 60870-5-104 without description of data objects.
- Data processing and autonomous control
- NTP client and server for time synchronization
- Alarms via SMS and e-mail
- Configurable graphical web pages for user interface

Base board modifications

- B, R – Router & 2G/3G/4G modem
- C, G – Data concentrator (with enhanced processor)
- L – Lighting Control Box Controller (LCBC)

	B	C	R	G	L
Functionality					
Router & 4G modem	✓	✓	✓	✓	✓
Data Concentrator	-	✓	-	✓	✓
Communication interfaces					
Ethernet RJ-45	2	2	1	1	1
Ethernet SFP sockets	-	-	2	2	-
RS-232 / RS-485 ports, isolated	2	2	-	-	-
RS-232 ports, isolated	1	1	-	-	-
RS-485 ports, isolated	-	-	2	2	1
Serial FO SC	Optional	Optional	Optional	Optional	-
1-wire	1	1	1	1	1
USB console	1	1	1	1	1

	B	C	R	G	L
Other interfaces					
SIM card sockets	2	2	2	2	1
SD card sockets	1	1	1	1	1
Base board I/O	-	-	-	-	19 DI, 4 DO
12 V battery charger	-	-	-	-	✓
Power voltage	DC options	DC options	DC options	DC options	230 V AC

L modification base board includes I/O:

- 12 + 7 optically isolated digital inputs
- 4 relay outputs (max 0,5 A 250 VAC; 0,25 A 220 VDC)

Configuration and maintenance

- User friendly configuration tool with remote configuration possibility
- Web browser interface for maintenance
- SNMP for device status monitoring
- Status logs

Expansion options

Device can be expanded with additional inputs/outputs and communication interfaces according to order code.

Data communication protocols

To upper level systems	IEC 60870-5-104, OPC UA, IEC 60870-5-101 balanced and unbalanced
To lower level devices	IEC 61850, IEC 60870-5-101 balanced and unbalanced, IEC 60870-5-103, IEC 60870-5-104, Modbus-RTU, Modbus-TCP, IEC 62056-21 (IEC 1107), SPA-bus, Telem

Electrical characteristics of isolated inputs

Withstand to static discharge	EN 61000-4-2
Withstand to bursts, surges	EN 61000-4-4, EN 61000-4-5
Immunity to power frequency magnetic field	EN 61000-4-8
Immunity to voltage dips, variations	EN 61000-4-11

Radio frequency compatibility

RF emission	EN 55032
Immunity to RF fields	EN 61000-4-3, EN 61000-4-6

Mechanical and environmental parameters

Degree of protection	IP 30
Dimensions (W x H x D)	67 x 148 x 190 mm
Mounting	DIN rail
Ambient temperature in operation	-40...+70 °C

Relative humidity	5...95% non-condensing
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Power consumption (average)	< 7 W, < 18 W with optical Eth.
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Configuration

Telem-AGC is configured using the Telem-GWS software tool. Parts of configuration can be exported and imported to/from .csv files for using the Excel or similar spreadsheet software.

Order code

TELEM-AGC-XX-XX-XX(-XXX)

	Modification: B, C, R, G, L
	Power
	Extra communication
	GPRS Modem
	Expansion module 1
	Expansion module 2
	P – IEC 61850 (only on modifications C and G), N or blank – without
	I or blank – Internal DI wetting voltage, E – External DI wetting voltage
	H, V, A or N – Redundant power supply. Requires the presence of C card,
	not available on L modification.

Example: TELEM-AGC-CL-S4-DD-PIN

Order code choices by modifications:

Modification	B, C, R, G	L	Remark
Power			
L - 11...33 V DC	*		
H - 20...60 V DC	*		Also on redundant supply
V - 40...160 VDC	*		Only on redundant supply
A - 230 V AC		*	
Extra communication			
S – FO SC serial	*		
G – FO SC GPS inp.	*		
R – Radio		*	
N – None	*	*	
GPRS Modem			
4 – 4G	*	*	
N – None	*	*	
Expansion module			
C – 4 x RS-232/485	*		Has to be if redundant power supply is ordered
D – 8 x DI, 3 x Double DO	*		
H – 12 x 230 V DI, 2 x Single DO		*	
I – 12 x 230 V DI, 1 x Single DO, DALI		*	Only 1-st exp. card
J – 12 x dry cont. DI, 2 x Single DO		*	
K – 12 x dry cont. DI, 1 x Single DO, DALI		*	Only 1-st exp. card
L – 3 x Eth. RJ-45	*		Only 1-st exp. card
O – 2 x FO Eth. + Eth. RJ-45	*		Only on B and C models
N – None	*	*	

* – can be selected