ComAp
The heart of smart control

InteliNeo 5500



Order code: INEO5500BAA

Controller for parallel microgrid applications

Datasheet

Product description

- InteliNeo 5500 is a microgrid controller capable of handling multiple sources like renewable energy (PV, wind and BESS) and non-ComAp gen-sets within a single device. It also offers paralleling support of microgrids with multiple gen-sets in grid-tied or island operations.

Key benefits

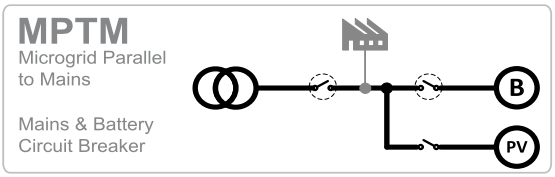
- One controller for renewables, storage and non-ComAp genset controllers
- Configurable microgrid applications for on-grid and off-grid
- Modbus client onboard for flexible integration of devices via RTU or TCP
- Supports black start of grid-forming battery storage systems
- Clear visualisation of critical information on the 5" built-in colour TFT display

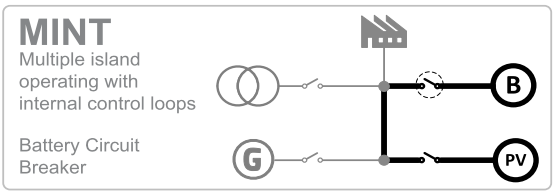
Key features

- Modbus Client support of up to 9 devices for RTU/TCP communications to inverters and storage systems
- Supports 8 controllers over CAN communication in a single system with option to expand up to 32* controllers
- Integrated "Balance" mode optimizes and prioritizes renewable sources before gen-sets and/or mains.
- Built-in PLC interpreter with the use of ComAp's free PLC Editor
- AirGate 2.0 for easy connection to your equipment remotely, without worrying about your asset's IP address
- User-defined protections and setpoints on top of default parameters
- Universal Genset Support allows connection of up to 4 genset controllers via Modbus*
- Compatible load/Var sharing and power management with other ComAp solutions
- Event-based history for fast and easy troubleshooting
- Peak shaving for limiting the import from the mains (e.g., due to higher prices)
- Load shedding ensuring the most important loads are running even when there is a lack of power
- Keeping your business and data with design to the ISA 62443 level 2 - level 3 security requirements
- Slots for plug-in modules for 4G and GPS, additional Ethernet port, RS232/485 connection or additional binary inputs/outputs

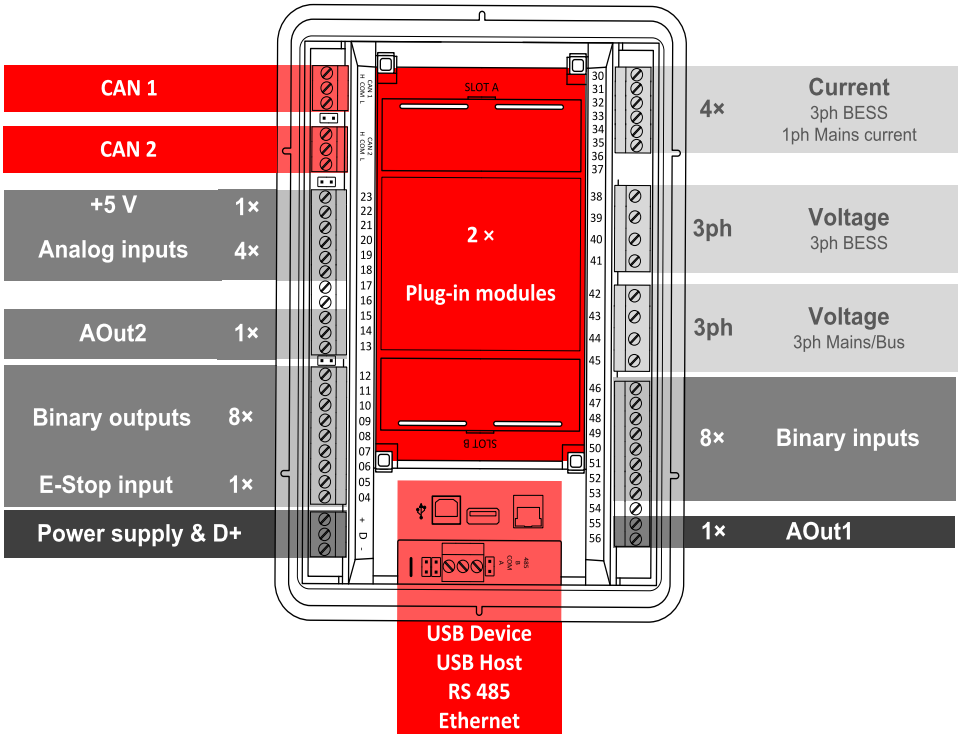
*Extended feature (software key required)

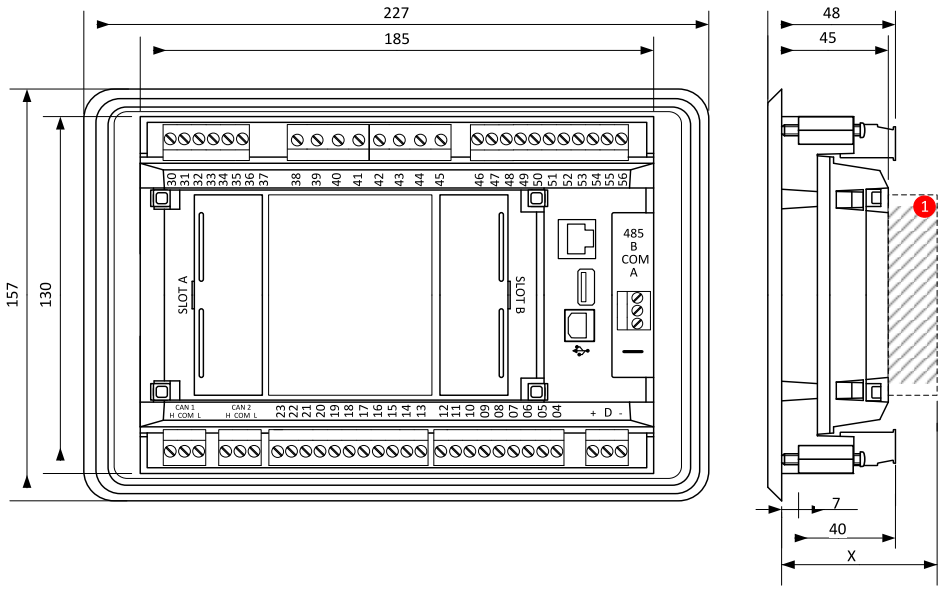
Application overview





Terminals and dimensions





1 Plug-In module

Note: *Dimensions are in millimeters, dimension of "x" depends on a plug-in module,*

Note: *The final depth of the controller depends on the selected plug-in module – it can vary between 47 mm and "x" mm. Mind also the size of connectors and cables (e.g. in case of RS232 connector, add about 60 mm more for standard RS232 connector and cable).*

Note: *The controller is mounted into panel doors as a standalone unit using provided holders. The requested cutout size is 187 × 132 mm. Use the screw holders delivered with the controller to fix the controller into the door.*

Technical data



Power supply

Power supply range	8-36 V DC
Power consumption (without modules)	6 W
RTC battery	Replaceable, 3V
Fusing power	5 A / 6 × 0.5 A BOUT
Fusing ESTOP	2 A
Max. Heat Dissipation	10 W

Operating conditions

Protection degree	IP65
Operating temperature	-30 °C to +70 °C (-40 °C to +70 ˚C)*
Storage temperature	-30 ˚C to +80 ˚C
Operating humidity	95 % non-condensing (EN 60068-2-30)
Vibration	5-25 Hz, ± 1.6 mm 25-100 Hz, a = 4 g
Shocks	a = 500 m/s^2
Surrounding air temperature rating 70 °C.	
Suitable for pollution degree 2.	

Voltage measurement

Measurement inputs	3ph-n BESS voltage 3ph-n Mains voltage
Measurement range	277 V AC / 480 V AC (EU)
	346V AC / 600 V AC (US/Canada)
Linear measurement and protection range (maximal voltage)	350 V AC Ph-N / 660 V AC Ph-Ph
Accuracy	1 %
Frequency range	30-70 Hz (accuracy 0.1 Hz)
Input impedance	0.72 MΩ ph-ph , 0.36 MΩ ph-n

AOut1/VRO

Isolation	Isolated
Type	max ±10 V DC

Aout2/SRO

Isolation	Non-isolated
Type	±10 V DC PWM selectable by jumper

Display

Type	Build-in colour TFT 5"
Resolution	800 × 480 px

Communications

USB device	Non-isolated, USB type B
USB host	Non-isolated, USB type A
RS 485	Isolated
Ethernet	10/100 Mbit
CAN 1A **CAN 2A**	Isolated, 250/50 kbps Terminator impedance 120Ω
Protocols	Modbus RTU/TCP SunSpec SNMP v1/v2c/v3 , J1939

Current measurement

Measurement inputs	3ph BESS current 1ph Mains current
Measurement range	5 A
Max. allowed current	10 A
Accuracy	±20 mA for 0-2 A; 1 % of value for 2-5 A
Input impedance	<0.1 Ω

E-Stop

Dedicated terminal for safe Emergency Stop input.
Physical supply for binary outputs 1 & 2.

Binary inputs

Number	8, non-isolated
Close/Open indication	0-2 V DC close contact 6-36 V DC open contact

Binary outputs

Number	8, non-isolated
Max. current	BO 1-8 = 0.5 A
Switching to	Positive supply terminal

Analog inputs

Number	4, switchable (R/U/I)
Range	R = 0-2500 Ω; U = 0-10 V; I = 0-20 mA
Accuracy	R: ±2 % from value ±5 Ω in range 0-250 Ω R: ±4 % from value in range 250 Ω-2500 Ω U: 1 % from value ±100 mV I: 1 % from value ±0.2 mA

+5 V Power supply output

Max. current	100 mA

Note: **) If the device is powered on above -30 °C*

Available simulator

Product	Order code
InteliNeo 6000 StarterKit	SM1INEO6BAB

Available plug-in modules

Product	Description	Order code
CM-RS232-485	Communication module for integration of controllers into a local monitoring system. RS- 232 terminal is not supported.	CM223248XBX
CM2-4G-GPS	4G & GPS plug-in communication module	CM24GGPSXBX
CM3-Ethernet	Internet / Ethernet plug-in communication module	CM3ETHERXBX
EM-BIO8-EFCP	Binary I/O plug-in module with 8 binary inputs or outputs.	EM2BIO8EXBX

Note: *Controller has 2 slots for plug-in modules.*

Available external displays

Product	Description	Order code
InteliVision 5.2	5" TFT external display with 800 ×480 px resolution	RD2IV5BXBAA
InteliVision 10Touch	10.1" display unit for ComAp controllers with pre-installed InteliSCADA display.	RD1IV10TBPF
InteliVision 13Touch	13.3" display unit for ComAp controllers with pre-installed InteliSCADA display.	RD1IV13TBME
InteliVision 18Touch G2	18.5" display unit for ComAp controllers with pre-installed InteliSCADA Lite.	RD2IV18TBPE
InteliVision 1050	10.1" display unit for ComAp controllers with pre-installed InteliSCADA Display	RD21050XBGA
InteliVision 1550	15.6" display unit for ComAp controllers with pre-installed InteliSCADA Display	RD11550XBGA

Available CAN modules

Product	Description	Order code
IGL-RA15	CAN remote annunciator with 15 LEDs	EM2IGLRABAA
Inteli AIN8	CAN module with 8 analog inputs	I-AIN8
Inteli IO8/8	CAN module with 8 binary inputs and 8 binary outputs	I-IO8/8
IGS-PTM	CAN module with 8 binary inputs, 8 binary outputs, 4 analog inputs and 1 analog output	IGS-PTM
Inteli AIN8TC	CAN module with 8 analog inputs dedicated for thermocouple sensors only	I-AIN8TC
Inteli AIO9/1	CAN module with analog inputs and outputs – designed for DC measurement	I-AIO9/1
I-CR	CAN Repeater Module	I-CR
I-CR-R	CAN Redundancy Module	I-CR

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Functions and protections

Support of functions and protections as defined by ANSI (American National Standards Institute):

Description	ANSI code	Description	ANSI code	Description	ANSI code
Master unit	1	Current unbalance	46	Overfrequency	81O
Stopping device	5	Voltage unbalance	47	Underfrequency	81U
Multi-function device	11	Incomplete sequence relay	48	ROCOF	81R
Data communications device	16EFT 16SC	Overcurrent	50/50TD	Auto selective control/transfer	83
Synchronizing-check	25	Overcurrent IDMT	51	Regulating device	90
Thermal relay	26	Voltage restrained time overcurrent	51V		
Undervoltage Relay	27	AC circuit breaker	52		
Directional power relay	32	Power factor relay	55		
Overload / directional real power	32P	Overvoltage	59		
Reverse power protection	32R	Alarm relay *	74		
Undercurrent	37	Vector shift	78		
Unit sequence starting	44	Reclosing relay	79		

* extension module IGL-RA15 required

Certifications and standards

- EN 61000-6-2
- EN 61000-6-4
- EN 61010-1
- EN 60068-2-1 (-40 °C/16 h)
- EN 60068-2-2 (70 °C/16 h)
- EN 60068-2-6 (2÷25 Hz / ±1,6 mm; 25÷100 Hz / 4,0 g)
- EN 60068-2-27 (a=500 m/s^2; T=6 ms)
- EN 60068-2-30 (25/55 °C, RH 95%, 48 h)
- EN 60529 (front panel IP65, back side IP20)
- EN 60068-2-14
- EN IEC 60255-1
- EN 60255-26
- EN 60255-27
- EN IEC 60255-127
- EN IEC 60255-181
- UKCA
- UL 6200

Grid codes

The product is compliant with global grid codes such as:

- UK ENA EREC G99
- EN50549-1
- EN50549-2

List of Extended Features

Extended Feature	Description	Order Code
Intercontroller Expansion	Support of up to 32 device addresses over CAN2 communication. This include virtual devices based on source type, and ComAp gen-sets/bus-tie/ mains controllers.	SKCAN2EXP01
Universal Genset Support	Functionality for integration of up to 4x third-party generator controllers into InteliNeo 5500 via analog or Modbus.	SKUNIGENSUP01
Emulation Tool	The Emulation Tool allows the testing of ComAp solutions in a virtual environment without needing real physical machinery (engines, generators, etc.)	SKEMTOOLXXX

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