

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

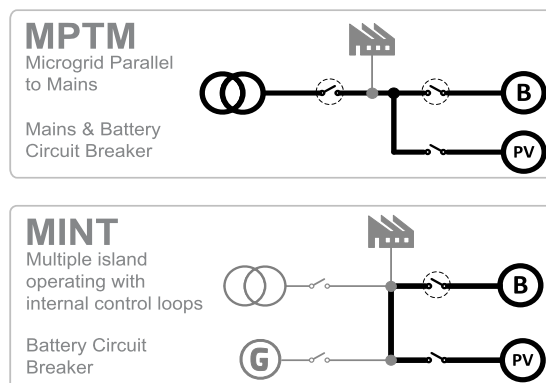
Key features

- 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

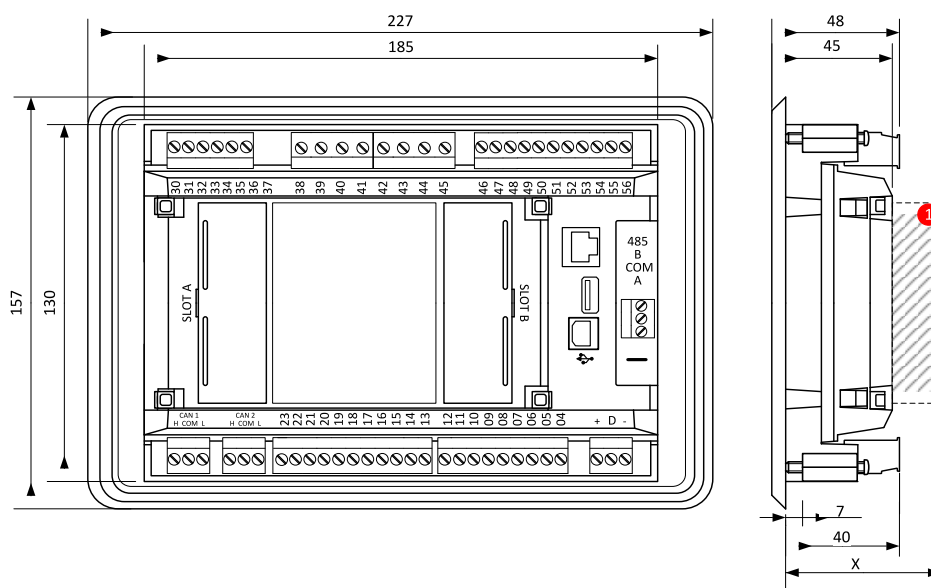
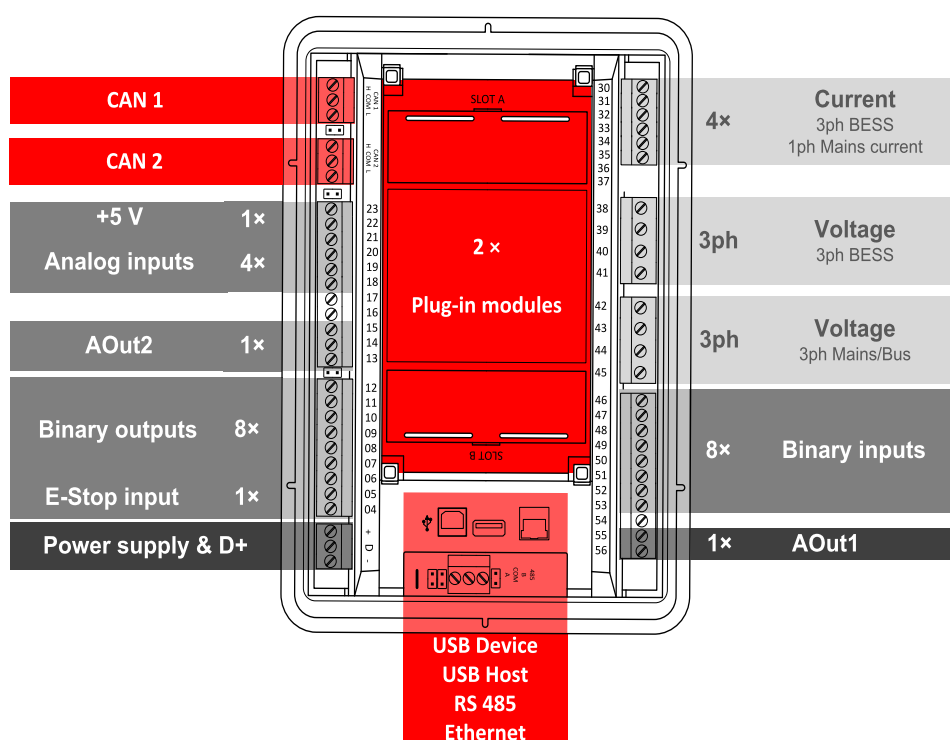
- Universal Genset Support allows connection of up to 4 genset controllers via Modbus*
- Compatible load/Var sharing and power management with other ComAp solutions
- Event-based history for fast and easy troubleshooting
- Peak shaving for limiting the import from the mains (e.g., due to higher prices)
- 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 0.01 Hz, resolution 0.001 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

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

Available simulator

Product	Order code
IntelNeo 6000 StarterKit	SM1INEO6BAB

Available plug-in modules

Product	Description	Order code
CM-RS232-485	Dual port interface	CM223248XBX
CM2-4G-GPS	4G & GPS plug-in communication module	CM24GGPSXBX
CM3-Ethernet	Internet / Ethernet plug-in communication module	CM3ETHERXBX
EM-BIO8-EFCP	8 additional binary inputs/outputs	EM2BIO8EXBX

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

Available external displays

Product	Description	Order code
IntelVision 5.2	5" TFT external display with 800 ×480 px resolution	RD2IV5BXBAA
IntelVision 10Touch	10.1" display unit for ComAp controllers with pre-installed IntelISCADA display.	RD1IV10TBPF
IntelVision 13Touch	13.3" display unit for ComAp controllers with pre-installed IntelISCADA display.	RD1IV13TBME
IntelVision 18Touch G2	18.5" display unit for ComAp controllers with pre-installed IntelISCADA Lite.	RD2IV18TBPE

Available CAN modules

Product	Description	Order code
IGL-RA15	CAN remote annunciator with 15 LEDs	EM2IGLRABAA
Intel AIN8	CAN module with 8 analog inputs	I-AIN8
Intel 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
Intel AIN8TC	CAN module with 8 analog inputs dedicated for thermocouple sensors only	I-AIN8TC
Intel 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

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	Undercurrent	37	Pressure switch	63
Stopping device	5	Excitation loss	40	Liquid level switch	71
Multi-function device	11	Unit sequence starting	44	Alarm relay *	74
Overspeed	12	Current unbalance	46	Vector shift	78
Underspeed	14	Voltage unbalance	47	Reclosing relay	79
Data communications device	16EFT 16SC	Incomplete sequence relay	48	Overfrequency	81H
Starting-to-running transition contractor	19	Temperature monitoring	49T	Underfrequency	81U
Synchronizing-check	25	Overcurrent	50/50TD	ROCOF	81R
Thermal relay	26	Earth fault current	50N+64	Auto selective control/transfer	83






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Description	ANSI code	Description	ANSI code	Description	ANSI code
Undervoltage	27	Overcurrent IDMT	51	Regulating device	90
Reverse power	32R	Power factor	55		
Master sequence device	34	Overvoltage	59		

* extension module IGL-RA15 required

Certifications and standards

<ul style="list-style-type: none"> > 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) 	<ul style="list-style-type: none"> > EN 60068-2-6 (2÷25 Hz / ±1,6 mm; 25÷100 Hz / 4,0 g) > EN 60068-2-27 (a=500 m/s²; T=6 ms) > EN 60068-2-30 (25/55 °C, RH 95%, 48 h) > UKCA > UL 6200 	  
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Grid codes

European Requirements for Generators, 2016/631

- > 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 IntelliNeo 5500 via analog or Modbus.	SKUNIGENSUP01



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