

Order code: INEO6000BBB

Controller for parallel hybrid applications

Datasheet

Product description

InteliNeo 6000 is a controller for managing and optimizing on-grid and off-grid hybrid microgrid systems. The controller features real-time monitoring capabilities to balance power supply and demand and make real-time decisions for optimal energy management.

Key Benefits

- Single controller for renewables power sources and battery energy storage system
- Native microgrid applications for on & off-grid systems with renewable energy and storage
- Onboard Modbus Master for RTU/TCP support of up to 16 devices with extended device support via InteliGateway 300
- Hot-Swap* controller for system resilience and reduced downtime in case of fault (in primary controller)
- Controller data encryption to protect prevent unauthorised views of controller configuration

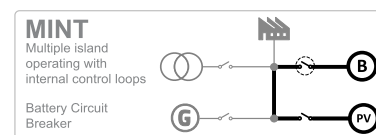
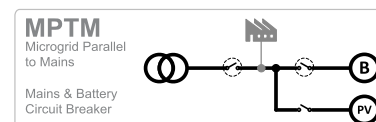
*Features available with software key

Key Features

- Supports black start of grid-forming battery storage systems
- New CAN FD enabling cooperation with up to 64 additional gen-sets/mains/tie controllers
- Import/Export to utility mains by load sharing or curtailment of renewables and storage
- Compatible load/VAr sharing and power management with other ComAp solutions

- Balance mode optimises use of energy by prioritising renewables before gensets/mains
- CAN bus redundancy ensuring that a redundant CAN line be created and take over in case of CAN failure*
- Built-in PLC interpreter via ComAp's free PLC Editor with new logic blocks for microgrid applications
- Keeping your business and data as safe as possible with controller designed to the ISA 62443 level 2 - level 3 security requirements
- Controller data encryption and User-defined protections to protect prevent unauthorised views of PLC Editor and setpoints on top of default protection
- AirGate 2.0 for easy connection to your equipment remotely without worrying about your asset's IP address
- Remote control and monitoring of your microgrid with WebSupervisor, our cloud-based fleet management tool

Application overview



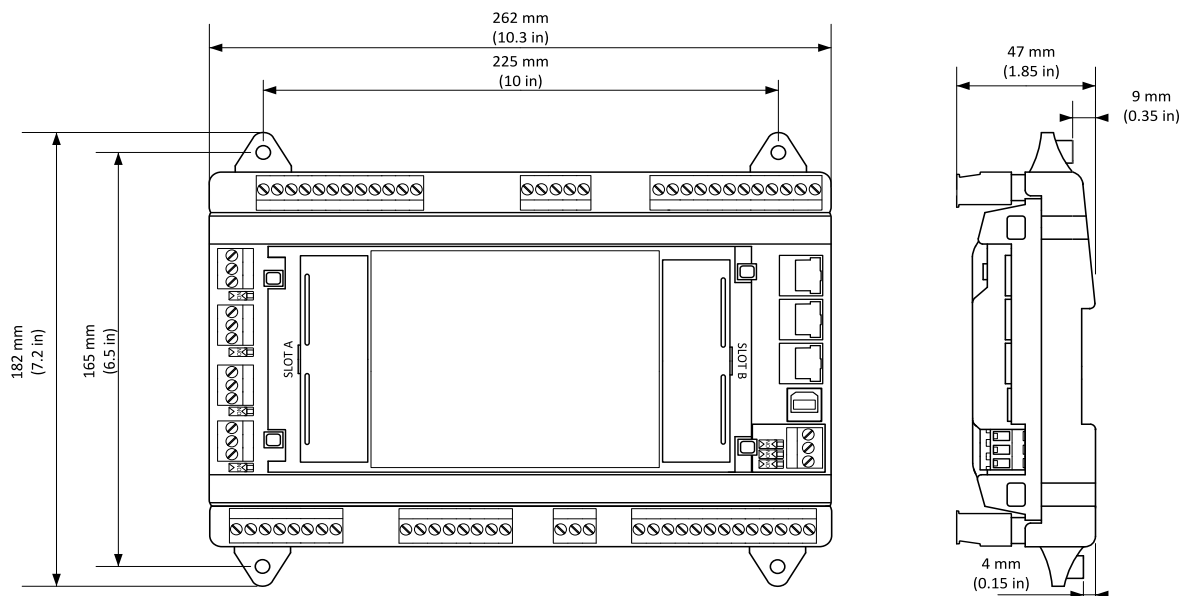
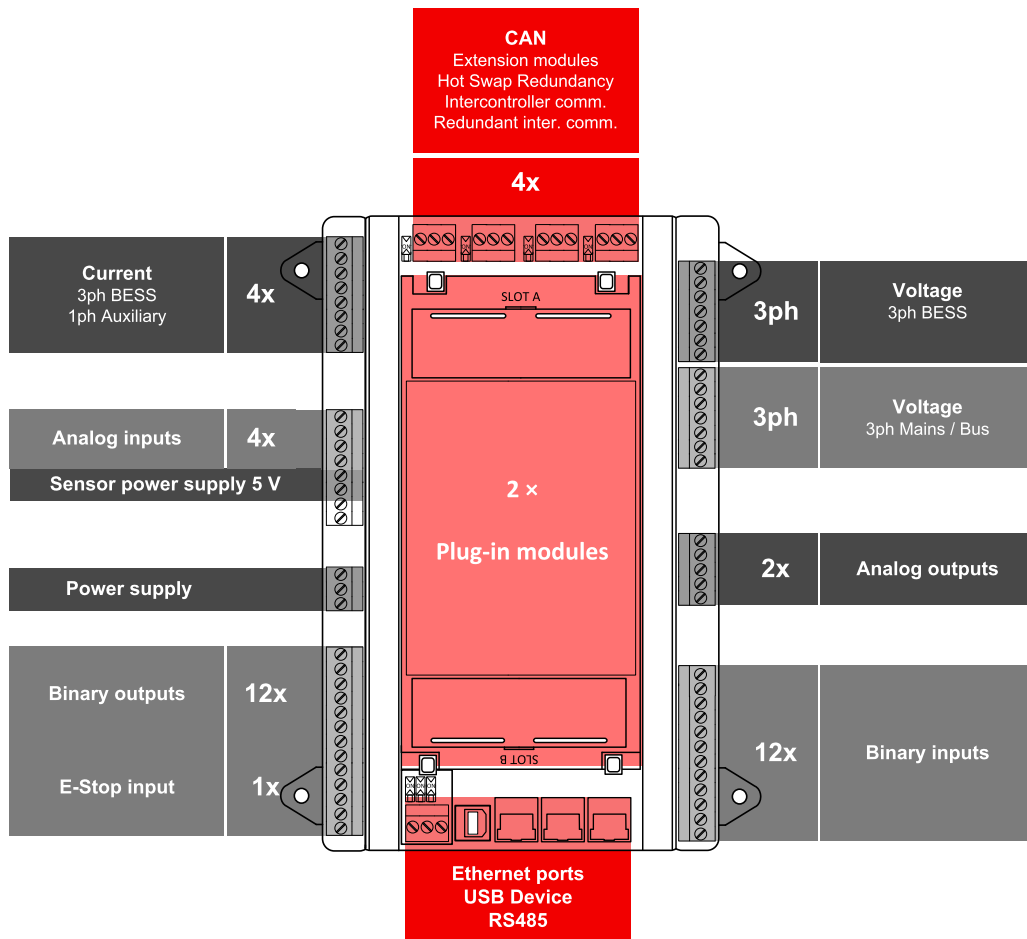
| InteliNeo 6000 1.0.0 Datasheet

| Related HW ver: 1.0.0

| Related SW ver: 1.0.0

| Date of issue: 3/7/2023

Terminals and dimensions



Technical data

Power supply

Power supply range	8-36 V DC
Power consumption	16 W
RTC battery	Replaceable, type CR1632 3V
Fusing power	8 A
Consumption	2.5 A Controller + 10 x 0.5 A BOUts
Fusing E-STOP	1.2 A
Max. Heat Dissipation	16 W

Operating conditions

Operating temperature	-40 °C to +70 °C
Storage temperature	-40 °C to +80 °C
Operating humidity (norm 60068-2-30)	25/55°C, 48hours,95 % non-condensing (EN 60068-2-30)
Protection degree	IP20
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.	

AC Current measurement

Measurement inputs	3ph BESS current 1ph Mains current (Auxiliary current)
Measurement range	1 A / 5 A
Maximum continuous current	2 A / 10 A
Allowed overload	18 A for 15 sec.
Accuracy	±3 mA / ±15 mA for 0.0 to 0.4 A / 0.0 to 2.0 A 0.75 % of value for 0.4 to 1.0 A / 2.0 to 5.0 A
Frequency range	40-70 Hz (accuracy 0.002 %)
Input impedance	0.68 MΩ ph-ph , 0.34 MΩ ph-n

AC Voltage measurement

Measurement inputs	3ph-n BESS voltage 3ph-n Mains voltage
Measurement range	115 V ph-N / 200 V ph-ph suitable also for VTs output 231 V ph-N / 400 V ph-ph UL, cUL: 346 V ph-N / 600 V ph-ph
Linear measurement and protection range (maximal voltage)	433 V ph-N / 750 V ph-ph
Accuracy	0.25 %
Frequency range	40-70 Hz (accuracy 0.002 %)
Input impedance	0.72 MΩ ph-ph , 0.36 MΩ ph-n
Measurement category CAT III, overvoltage category III	

Display

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

E-Stop

Dedicated terminal for safe Emergency Stop input.	
Physically disconnects BO 1 & BO 2 from power supply.	

Binary inputs

Number	12, non-isolated
Close/Open indication	0-2 V DC close contact 6-36 V DC open contact
Configurable	Pull-up / Pull-down
Pulse input	Bin 9 and 10 max. 50 Hz

Binary outputs

Number	12, non-isolated
Max. current	0.5 A
Switching to	Positive supply terminal

Analog inputs

Number	4, switchable (R/U/I)
Range	R = 0-10000 Ω; U = 0-10 V; I = 0-20 mA
Accuracy	R: 2 % from value for 0-250 Ω R: 4 % from value for 250-2500 Ω R: 6 % from value for 5000-10000 Ω U: 1 % from value ±100 mV I: 1 % from value ±200 uA

Analog output 1

Protection	Reinforced isolation
Type	Switchable: U ±10 V, I ±20 mA, PWM: 0 V/5 V
Accuracy	U: 1 % from value ±100 mV I: 1 % from value ±200 uA

Analog output 2

Protection	Basic isolation
Type	Switchable: U ±10 V, I ±20 mA, PWM: 0 V/5 V
Accuracy	U: 1 % from value ±100 mV I: 1 % from value ±200 uA

Communications

USB Device	Basic isolation, USB type B
RS 485	Basic isolation
ETH1 ETH2 ETH3	10/100 Mbit
CAN 1A CAN 2A CAN 1B CAN 2B	Basic isolation, 1000/250/50 kbps , nominal impedance 120 Ω

Weight

Controller	750 g
Package	920 g

Controller handles 300 million records into the History, which represents roughly 1 record per second during 9,5 years. Shall be the History recording faster, the controller lifetime will become smaller.

Available simulator

Product	Order code
InteliNeo6000 StarterKit	SM1INEO6BAB

Available external displays

Product	Description	Order code
InteliVision 5.2	5" TFT external display with 800x480 px resolution	RD2IV5BXBAA
InteliVision 10Touch	10.1" Touchscreen display uni with 1280 x 800 px resolution	RD1IV10TBPF
InteliVision 13Touch	13.3" Marine certified display unit with 1920 × 1080 px resolution	RD1IV13TBME
InteliVision 18	18.5" Touchscreen display unit with 1366 × 768 px resolution	RD31840PBIE

Available CAN modules

Product	Description	Order code
Inteli AIN8	8 Analog Input Channels and 1 RPM/Impulse Input Module	I-AIN8
Inteli AIN8TC	8 Analog Input Channels for termocouples measurement	I-AIN8TC
Inteli AIO9/1	4 Analog Inputs for differential voltage measurement, 4 Analog Input equipment channels, 1 Analog Input for resistance measurement and 1 Analog Output	I-AIO9/1
Inteli IO8/8	16 Configurable Binary Inputs/Outputs and Analog Outputs Module	I-IO8/8
IGL-RA15	Remote Annunciator w/ 15 programmable LEDs	EM2IGLRABAA
IGS-PTM	4 Analog Inputs, 1 Analog Output, 8 Binary Inputs and 8 Binary Outputs	IGS-PTM
I-AOUT8	8 configurable analog outputs	I-AOUT8
IS-AIN8	8 configurable analog inputs	IS-AIN8
IS-BIN16/8	16 galvanically separated inputs, 8 binary outputs, 2 pulse inputs	IS-BIN16/8
InteliFieldbus Gateway	Modbus TCP/RTU Communication gateway	CM1IFGATBBB
I-CR	CAN Repeater Module, compatible when using 32C/8C CAN Intercontroller Comm Mode	I-CR
InteliGateway 300	Communication gateway with configurable interfaces between Modbus TCP/RTU, ComAp CAN, WebSupervisor and InteliScada protocols allowing user-defined interconnection of all attached devices	CM2GW300BAB


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	Load shedding	32P	AC circuit breaker	52
Stopping device	5	Master sequence device	34	Power factor	55
Multi-function device	11	Undercurrent	37	Overvoltage	59
Speed and frequency matching device	15	Unit sequence starting	44	Alarm relay *	74
Data communications device	16EFT 16SC	Current unbalance	46	Vector shift	78
Starting-to-running transition contractor	19	Voltage unbalance	47	Reclosing relay	79
Distance relay	21	Incomplete sequence relay	48	Overfrequency	81H
Synchronizing-check	25	Temperature monitoring	49T	Underfrequency	81U
Thermal relay	26	Overcurrent	50/50TD	ROCOF	81R
Undervoltage	27	Earth fault current	50N+64	Auto selective control/transfer	83
Annunciator	30	Overcurrent IDMT	51	Regulating device	90
Overload	32	Earth fault current IDMT	51+64		

* 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 60255-1 > EN 60529 (IP20) 	<ul style="list-style-type: none"> > 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/s²; T=6 ms) > EN 60068-2-30 (25/55 °C, RH 95%, 48 h) 	<ul style="list-style-type: none"> > UL6200 > UKCA 	
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Grid codes

European Requirements for Generators, 2016/631

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|----------------------|-------------|
| > American IEEE 1547 | > EN50549-1 |
| > UK ENA EREC G99 | > EN50549-2 |

List of SW Key Features

SW Key Feature	Order Code
CAN bus redundancy	SKREDCAN201
Hot Swap Redundancy	SKHOTSWAP01

Supplier's Declaration of Conformity 47 CFR § 2.1077 Compliance Information

Unique identifier: INEO6000BBB

Responsible Party:

10 N Martingale Rd #400
60173 - Schaumburg, IL
USA

Tel: +420 246 012 111

E-mail: info@comap-control.com

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.