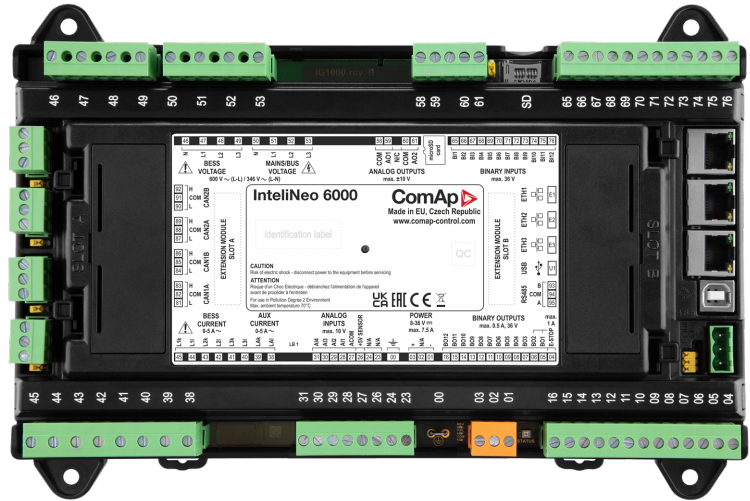


InteliNeo 6000



Order code: INEO6000BBB

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 renewable energy like PV and BESS, and non-ComAp gen-sets
- Native microgrid applications for on & off-grid systems with renewable energy and storage
- Onboard Modbus Master for RTU/TCP support of up to 32 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

*Extended feature (software key required)

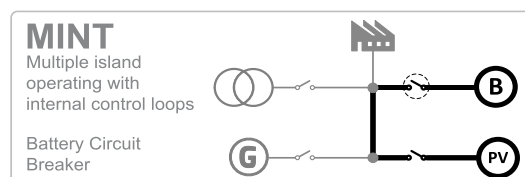
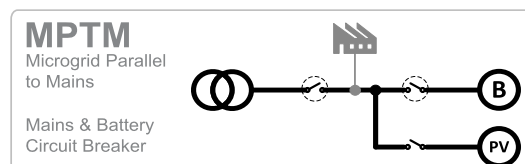
Key Features

- 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
- Integrated "Balance" mode optimizes and prioritises renewable sources before gen-sets and/or mains.

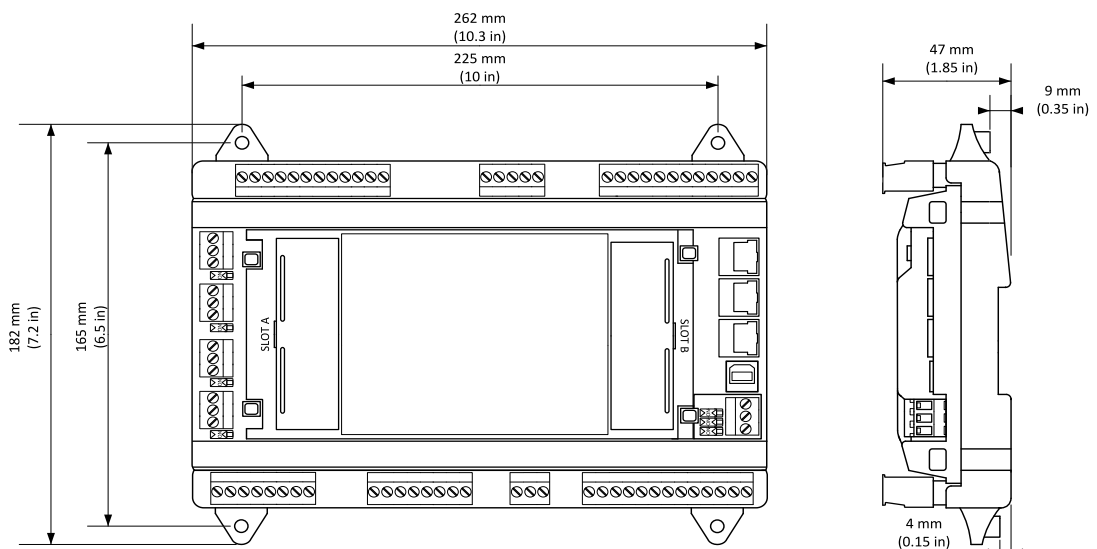
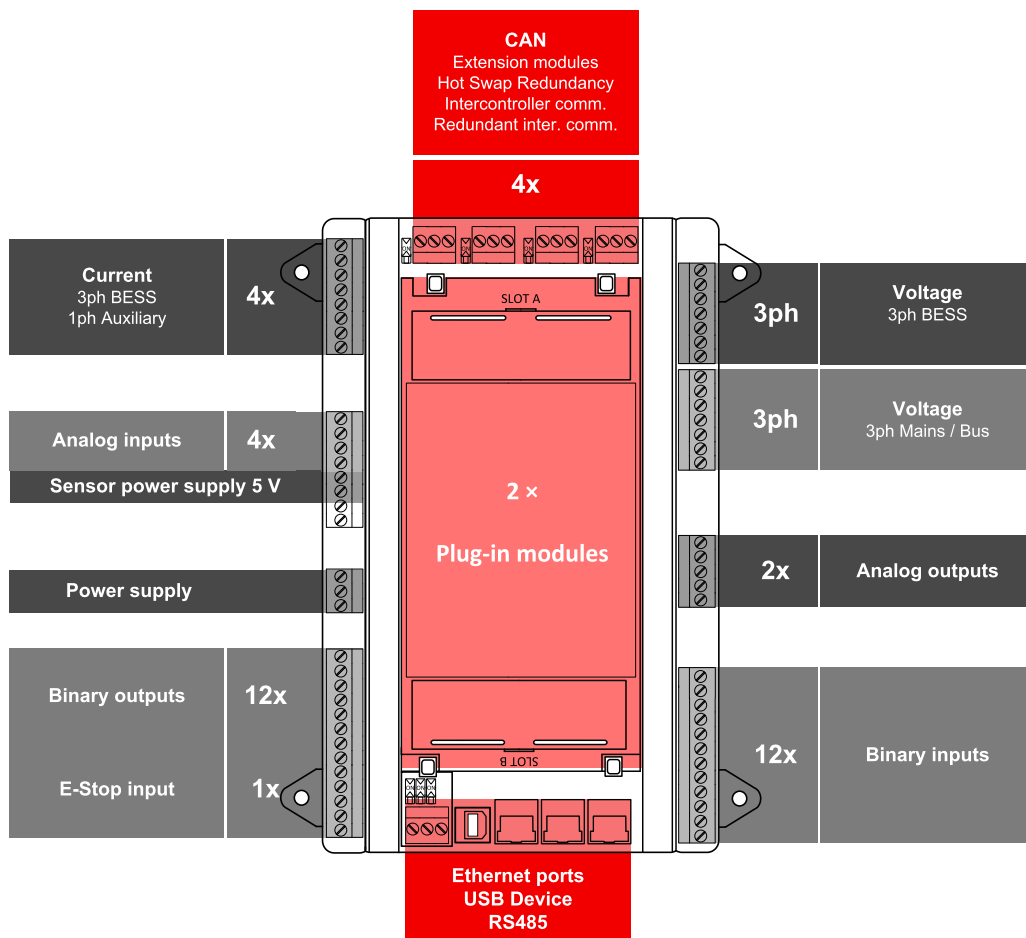
Controller for parallel microgrid applications

- 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



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 @ 8 V
Fusing E-STOP	1 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 (Aux 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	33-67 Hz (accuracy 0.002 %) 67-133 Hz (accuracy 0.01 %) 100-200 Hz (accuracy 0.01 %) 267-520 Hz (accuracy 0.01 %)
Sampling frequency	6.4kHz (50Hz) / 7.68kHz (60Hz)
Input impedance	< 0.1 Ω

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, VT not present Maximal: 144 V L-N / 249 V L-L 231 V ph-N / 400 V ph-ph Maximal: 289 V L-N / 500 V L-L UL, cUL: 346 V ph-N / 600 V ph-ph Maximal: 433 V L-N / 750 V L-L
Accuracy	0.25 %
Frequency range	33-67 Hz (accuracy 0.002 %) 67-133 Hz (accuracy 0.01 %) 100-200 Hz (accuracy 0.01 %) 267-520 Hz (accuracy 0.01 %)
Sampling frequency	6.4kHz (50Hz) 7.68kHz (60Hz)
Input impedance	0.68 M Ω ph-ph , 0.34 M Ω ph-n
Upper-harmonics filtering	Active Low-Pass filter Cutoff frequency 3100Hz (-3dB)
Measurement category CAT III, overvoltage category III	

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 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
EM-BIO8-EFCP	Binary I/O plug-in module with 8 binary inputs or outputs.	EM2BIO8EXBX
CM-EICC Ethernet	Communication plug-in module extending the inter-controller communication capabilities over RJ45 socket.	CM3ETHERICC

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
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



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ComAp 
The heart of smart control

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

* extension module IGL-RA15 required

Certifications and standards

> EN IEC 61000-6-2:2019 > EN IEC 61000-6-4:2019 > EN IEC 61010-1:2010/A1:2019/AC:2019-04 > EN IEC 60255-1:2009 > EN IEC 60255-26:2013 > EN IEC 60255-27:2013 > EN IEC 60255-127:2010 > EN IEC 60255-181:2019 > EN 60529:1991/A1:2000/A2:2013/AC:2016-12 (IP20)	> EN 60068-2-1:2007 > EN 60068-2-2:2007 > EN 60068-2-6:2007 > EN 60068-2-27:2008 > EN 60068-2-30:2005 > ULC 6200:2019	   
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* ULC 6200:2019 Certified (see the NFL File for the FW version with the Witness test if it is required by the certification of the end product)

Grid codes

The product is compliant with global grid codes, but it is certified for the following standards:

- > EN50549-1
- > EN50549-2
- > Austrian TOR A & B
- > German VDE-AR-N 4105:2018
- > German VDE-AR-N 4110:2023

Extended Features

Extended Feature	More information	Order Code
CAN2 bus redundancy	Inter-controller CAN redundancy to maintain communication between controllers if the primary CAN bus fails.	SKREDCAN201
Controller Hot swap redundancy	Hot swap feature allows for a redundant/backup unit to take over control in case a primary controller fails.	SKHOTSWAP01
Bank controller function in IN6000 for multiple IN530	Function to aggregate and bank multiple IntelliNeo 530 controllers to a single IntelliNeo 6000 at the higher level controller with communication over CAN1.	SKBANKCNTRL
Emulation tool	The Emulation tool allows testing of ComAp solutions in a virtual environment without needing real physical machinery (engines, generators, etc.).	SKEMTOOLXXX



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