

InteliNeo 530 BESS



Order code: INEO530BBAA

Datasheet

Controller for Battery Energy Storage System Application

Product description

- > The InteliNeo 530 BESS is an advanced energy management system for directly integrating the Battery Management System (BMS) with the Power Conversion System (PCS) within a Battery Energy Storage System (BESS) as well as control, monitoring and protection of the auxiliary systems to ensure the highest level of Storage System performance.

Key benefits

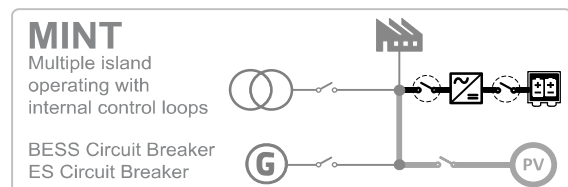
- > Single controller solution for integration of the battery energy storage system components and participation in ComAp power management
- > Predefined BMS and PCS devices stored within the device list save time on setting up Modbus communications
- > Synchronising AC breaker control for easy addition of the battery energy storage system into a new or existing microgrid
- > Controller application and integrated 5" color display are configured using InteliConfig for fast setup and commissioning

Key features

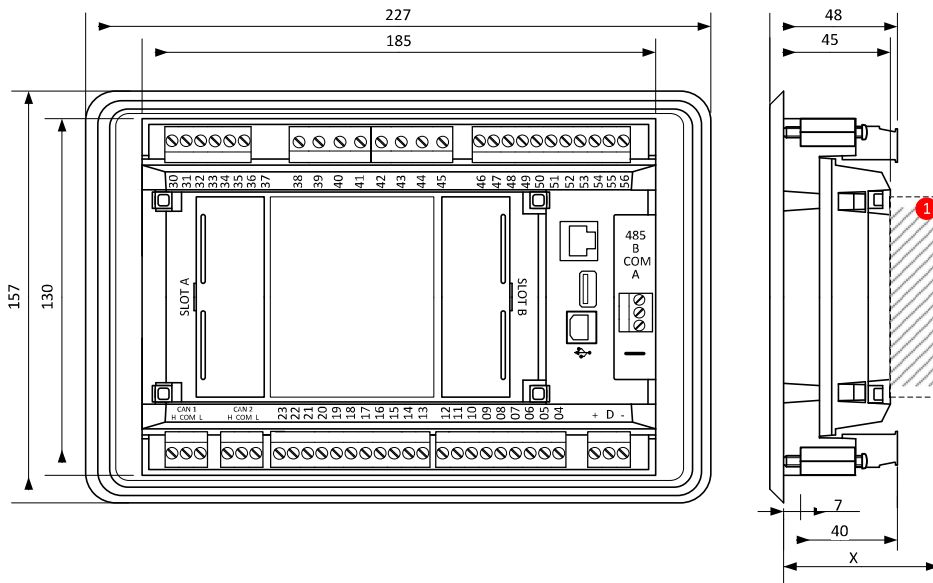
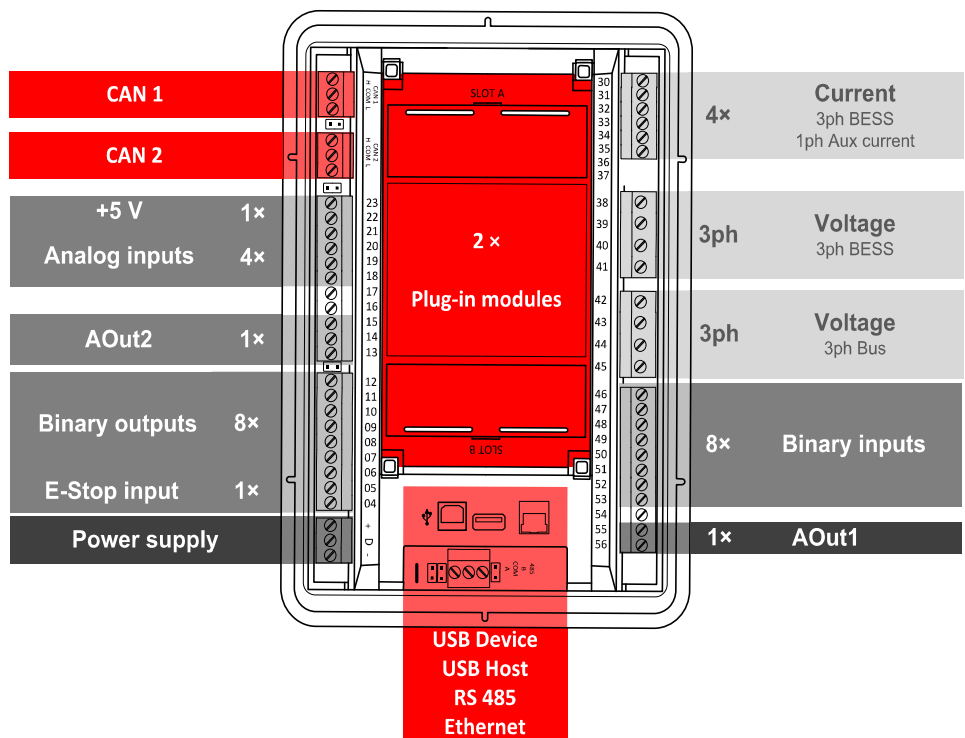
- > Grid forming (V/F), grid following (P/Q) and droop (VSG) modes supported
- > BMS and PCS integration via Modbus RTU/TCP device list
- > Control, monitoring and protection of auxiliary systems within the battery storage system
- > Direct AC voltage and current sensing
- > DC voltage and current sensing via Modbus or IDC4/4 module
- > AC and DC startup sequence and breaker control
- > Compatible load/Var sharing and power management with other ComAp solutions

- > Alarm and fault management of all components within the battery storage system
- > Event-based history for fast and easy troubleshooting
- > Slots for plug-in modules for 4G and GPS, additional Ethernet port, RS232/485 connection or additional binary inputs/outputs
- > Secure Modbus TCP interface for higher level external control systems
- > Built-in PLC interpreter with the use of ComAp's free PLC Editor
- > Remote control and monitoring of your battery storage system with WebSupervisor, our cloud-based fleet management tool
- > 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
- > Keeping your business and data safe with design to the ISA 62443 level 2 - level 3 security requirements

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 BUS
Measurement range	277 V AC / 480 V AC (EU) 346 V 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
Protocols	Modbus RTU/TCP SunSpec SNMP v1/v2c/v3 , J1939

Current measurement

Measurement inputs	3ph BESS current 1ph Aux 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 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 modules

IDC4/4	4 DC Voltage/Current measurement	EM1DC44XBDB
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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

List of extended features

Extended feature	Description	Order code
Multi BMS support	Multi BMS Control allows cooperation with up to 8 string BMSes	SKMCON8BMS01

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	Power factor	55
Stopping device	5	Excitation loss	40	Overvoltage	59
Multi-function device	11	Unit sequence starting	44	Pressure switch	63
Speed and frequency matching device	15	Current unbalance	46	Liquid level switch	71
Data communications device	16EFT 16SC	Voltage unbalance	47	Alarm relay *	74
Starting-to-running transition	19	Incomplete sequence relay	48	Vector shift	78



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Description	ANSI code	Description	ANSI code	Description	ANSI code
contractor					
Synchronizing-check	25	Temperature monitoring	49T	Reclosing relay	79
Thermal relay	26	Overcurrent	50/50TD	Overfrequency	81H
Undervoltage	27	Earth fault current	50N+64	Underfrequency	81U
Annunciator	30	Overcurrent IDMT	51	ROCOF	81R
Overload	32	Earth fault current IDMT	51+64	Auto selective control/transfer	83
Load shedding	32P	Voltage restraint time OverCurrent	51V	Regulating device	90
Reverse power	32R	Voltage controlled time Overcurrent	51C		
Master sequence device	34	AC circuit breaker	52		

* 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/s²; 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	
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