ComAp®

The heart of smart control

InteliMains 210

Order code: IM3210XXBAA

Mains supervision controller

Datasheet

Product description

▶ Solution for parallel operation with 32 controllers on CAN bus

▶ Remote control and monitoring

▶ Flexible, extendable, yet user friendly

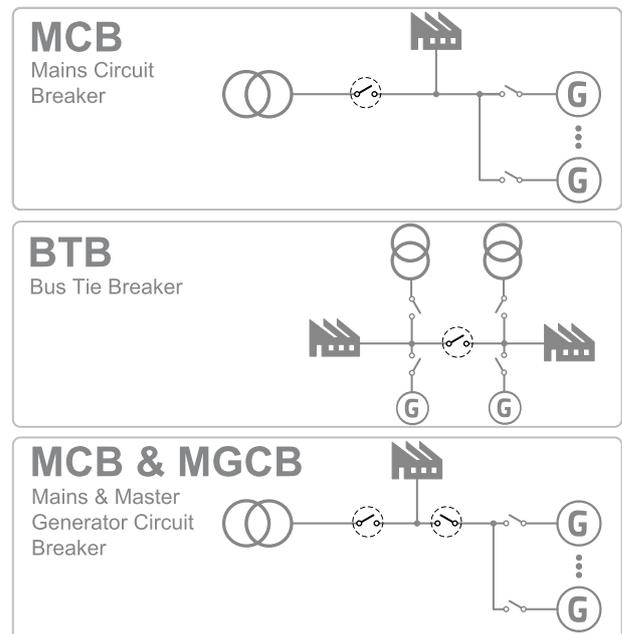## Key features

▶ Import/Export power and Power factor control

▶ Reverse synchronization of the loaded Gen-set group to mains

▶ Peak load shaving functionality

▶ Phase Match & Slip Sync types of synchronization

▶ Support of applications with MCB + MGCB, MCB and BTB

▶ Power management with Running hours equalization and support of the Efficient mode

▶ PLC support with PLC editor and monitor

▶ Wide communication capabilities including

   ● Integrated USB for configuration

   ● Isolated RS485 port on board for Modbus

   ● Integrated USB Host for uploading/downloading FW/Configuration with USB key

▶ High accuracy of voltage and current measurement

▶ Cloud-based monitoring and control

▶ Active SMS and emails in different languages*
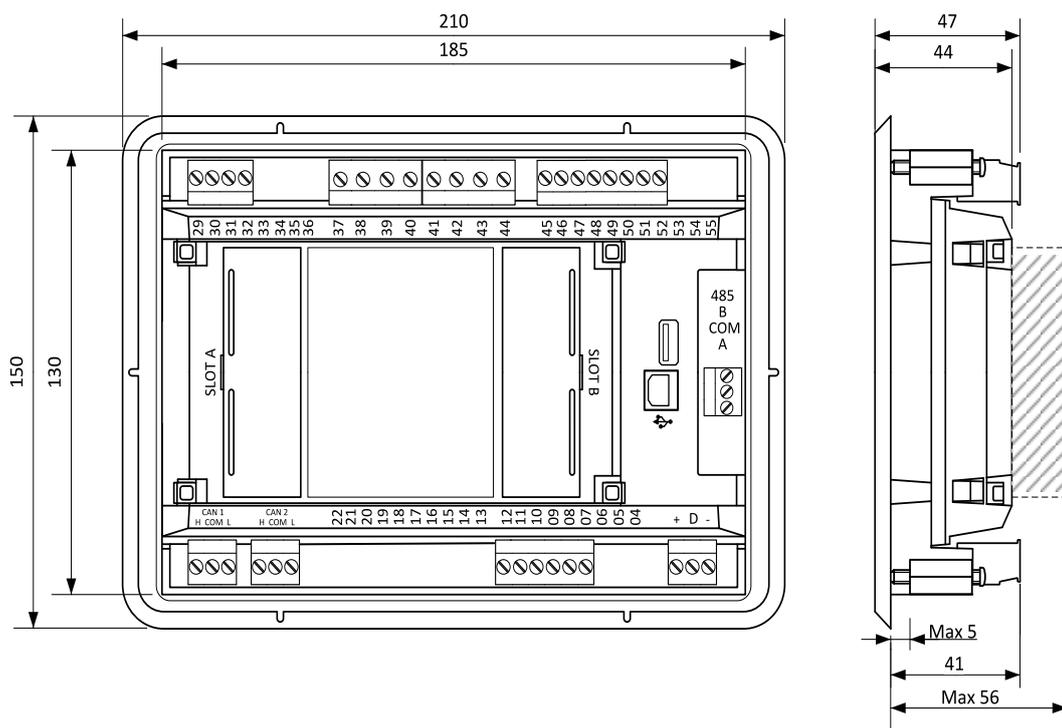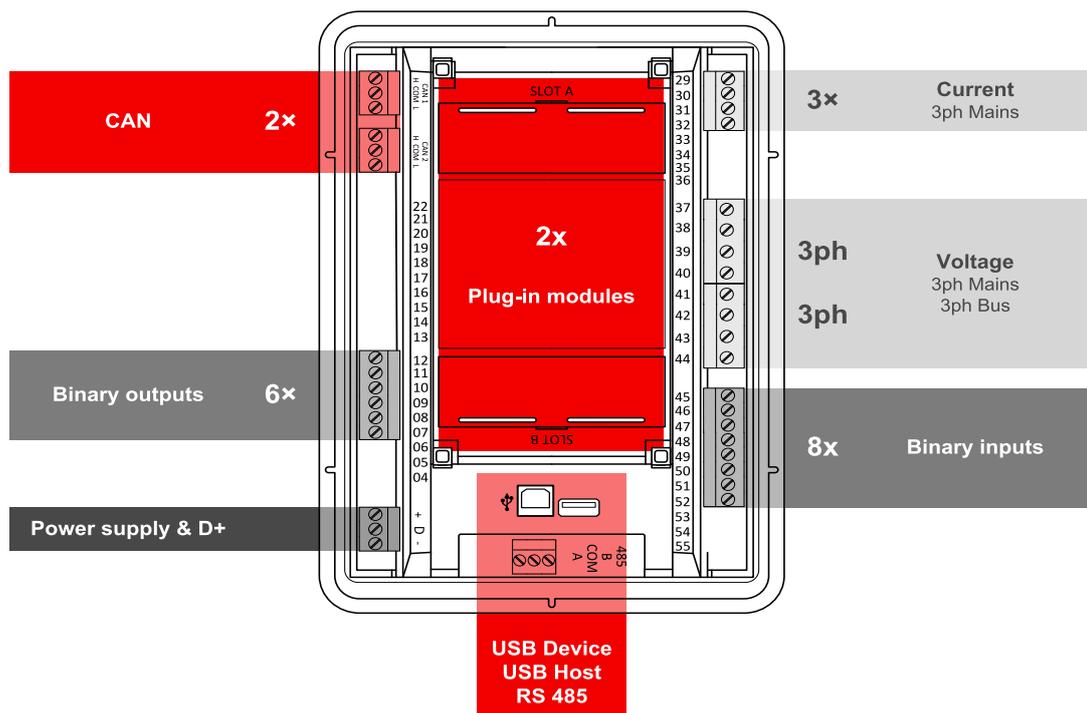
▶ Up to 5 languages in the controller

▶ Configurable Modbus

▶ Support of MODBUS RTU/TCP* or SNMP* v1/v2c

▶ Detailed history with up to 350 events

▶ Load shedding, dummy load capability

▶ Comprehensive mains/bus protections

▶ Multipurpose flexible timers with full calendar

▶ True RMS measurement

Available with extension module

Application overview

MCB
Mains Circuit Breaker

BTB
Bus Tie Breaker

MCB & MGCB
Mains & Master Generator Circuit Breaker

Dimensions, terminals and mounting

Note: *The final depth of the controller depends on the selected plug-in module – it can vary between 41 mm and 56 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 to be mounted into panel doors as a standalone unit using provided metal holders. The requested cut-out size is 187 × 132 mm. Use the screw holders delivered with the controller to fix the controller into the door.*

Technical data

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Power supply

Power supply range	8-36 VDC
Power consumption	320 mA / 8 VDC
	210 mA / 12 VDC
	120 mA / 24 VDC
	90 mA / 36 VDC
RTC battery	Replaceable (3 V)
Power terminal fusing	Max. 3 A
Max. Power Dissipation	9 W

Operating conditions

Protection degree (front panel)	IP 65
Operating temperature	-20 ˚C to +70 ˚C
Operating temperature for Low Temp. version	-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 3	
Heat radiation	9 W

D+ terminal

Max. output current	250 mA
Charging fail threshold	80 % of Usupply

Voltage measurement

Measurement inputs	3ph-n Gen voltage , 3ph-n Mains
Measurement range	277 V / 480 V AC (EU)
	346 V / 600 V AC (US/Canada)
Linear measurement and protection range	381 V / 660 V
Accuracy	1 %
Frequency range	40-70 Hz (accuracy 0.1 Hz)
Input impedance	0.72 MΩ ph-ph , 0.36 MΩ ph-n

Display

Type	Build-in monochromatic 3.2"
Resolution	132 × 64 px

Communications

USB port	non-isolated
USB Device	Non-isolated type B connector
USB Host	Non-isolated type A connector
RS485	Isolated
CAN 1 + CAN 2	CAN bus, 250 kbps, max 200 m, 120 Ω termination option, non-isolated

Current measurement

Measurement inputs	3ph Gen current, 1ph Mains
Measurement range	5 A
Max. allowed current	0.5 A
Accuracy	1.5 % for full temperature range (1 % from 0 ˚C to 50 ˚C)
Input impedance	<0.1 Ω

Binary inputs

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

Binary outputs

Low current	6 low current output, non-isolated
	0.5 A
	switching to positive supply terminal
High current	2 high current output, non-isolated
	5 A (60 °C), 4 A (70 °C)
	switching to positive supply terminal

Available Extension modules

Product	Description	Order code
CM-4G-GPS	For SMS and GPS info	CM14GGPSXBX
CM-Ethernet	Ethernet interface	CM2ETHERXBX
CM-GPRS	For SMS	CM2GPRSXXBX
CM-RS232-485	Dual port interface	CM223248XBX
EM-BIO8-EFCP	8 additional binary inputs/outputs	EM2BIO8EXBX

Note: Maximally 2 plug-in modules can be connected in the same time.

Available CAN modules

Product	Description	Order code
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
IGL-RA15	CAN remote annunciator with 15 LEDs	EM2IGLRABAA
IGS-PTM	CAN module with 8 binary inputs, 8 binary outputs, 4 analog inputs and 1 analog output	IGS-PTM

Note: Maximally 5 CAN modules can be connected in the same time.

Functions and protections

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

Description	ANSI code	Description	ANSI code
Master unit	1	**Overcurrent IDMT**	51
Multi-function device	11	**AC circuit breaker**	52
Synchronizing-check	25	**Overvoltage**	59
Undervoltage	27	**Alarm relay***	74
Annunciator	30	**Vector shift**	78
Overload(real power)	32P	**Reclosing relay**	79
Reverse power	32R	**Overfrequency**	81O
Current unbalance	46	**Underfrequency**	81U
Voltage unbalance	47	**ROCOF**	81R
Overcurrent	50/50TD	**Auto selective control/transfer**	83
Earth fault**	50G	**Regulating device**	90

*Extension module EM-BIO8-EFCP required   *** extension module IGL-RA15 required

Certifications and standards

- ▶ EN 61000-6-2
- ▶ EN 61000-6-4
- ▶ EN 61010-1
- ▶ EN 60068-2-1 (-20 °C/16 h for std, -40 °C/16 h for LT version)
- ▶ 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 60068-2-30:2005 25/55°C, RH 95%, 48hours
- ▶ EN 60529 (front panel IP65, back side IP20)
- ▶ UL 6200

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