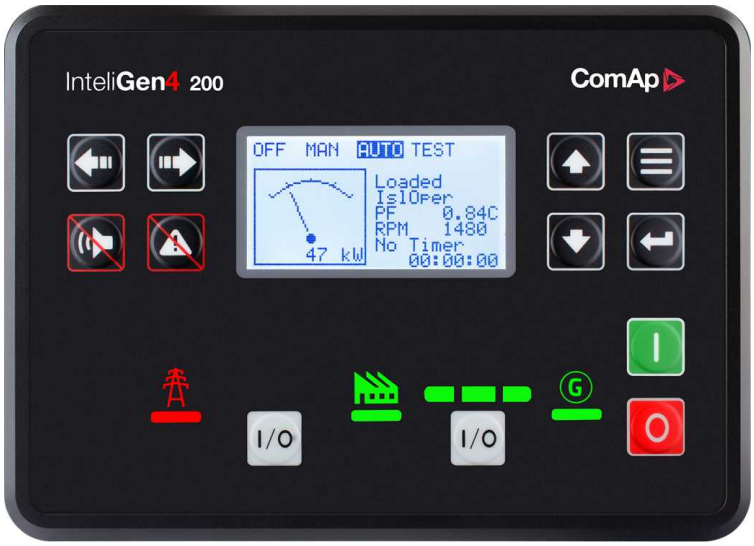
ComAp
The heart of smart control

InteliGen4 200



Order code: IG4200XXBAA, IG4200XXBLA

Controller for multiple gen-set applications

Datasheet

Product description

InteliGen4 200 is a new generation controller for simple paralleling applications offering high security standards, remote communication support, and an additional degree of flexibility when designing your applications.

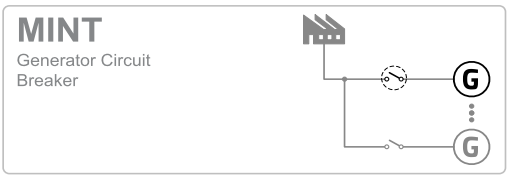
Key benefits

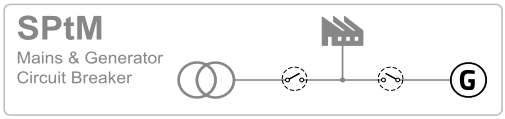
- Flexibility & efficiency in application design using the InteliConfig tool
  - In-built PLC logic and user defined protections and setpoints
- Full control with fast and reliable remote communication support
  - Remote connectivity for monitoring - anywhere, anytime
- Cyber security improvements for protecting any application
  - Keep your data and business as safe as possible
- Enhanced ECU support with multiECU support
  - StageV and Tier4Final ready by default with additional customisation
- New platform ready for future applications
  - Hardware and software architecture built on the latest technologies

Key features

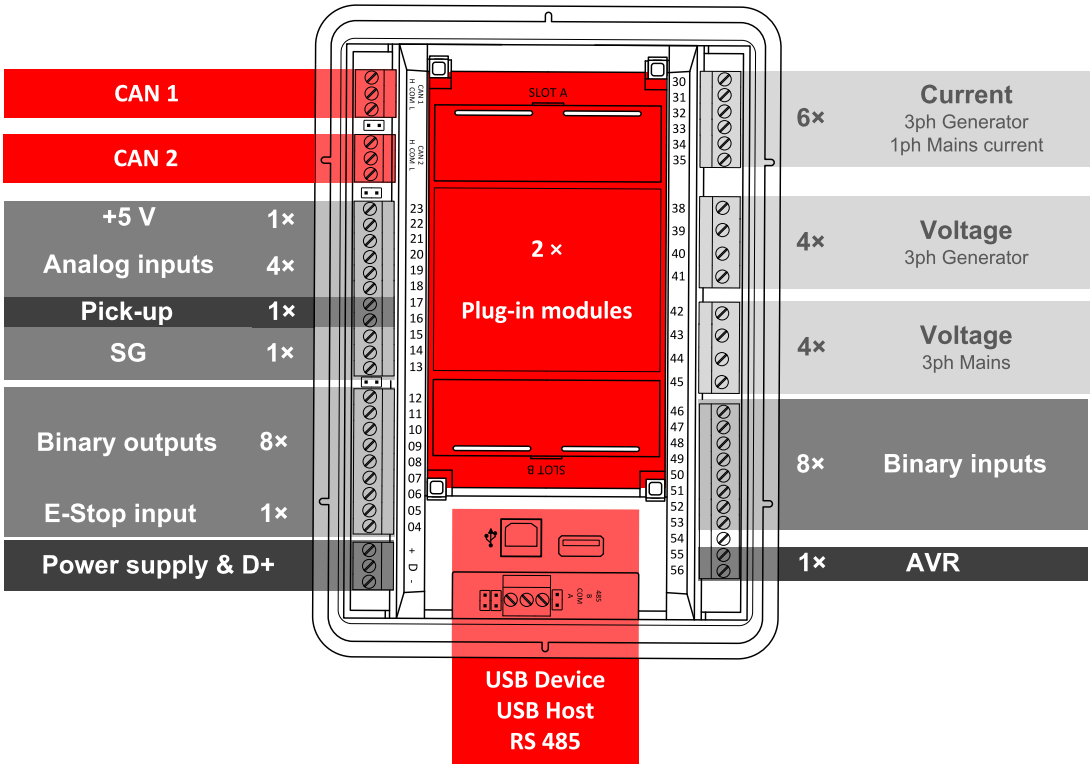
- Two applications (MINT + SPTM) in 1 HW
- Integrated communication and control ports (USB/CAN/RS485 on board, USB host, AVRi)
- Improved HW platform
  - Switchable analogue inputs (R/I/U)
  - 5V reference output for supplying analog sensors
  - Earth fault current protection (EFCP) directly in the controller
- The support of hybrid applications together with InteliSys NTC Hybrid
- Communication protocols (MODBUS RTU/TCP, SNMP v1 and v2, J1939)
- PLC with easy-to-use drag & drop blocks (PLC editor & monitor)
- Slots for plug-in modules for 4G, Ethernet, RS232/485 connection or additional binary inputs/outputs
- Extensions via CAN modules - binary/analog inputs and outputs
- Remote communication support by AirGate 2.0, WebSupervisor and InteliSCADA
- Compatible Load/VAr Sharing and Power Management with InteliCompact NT, InteliGen and InteliSys NT families
- Cyber security features
  - User access management with 5 unique user accounts
  - Ciphering of communications
  - Production mode
- Cooperation of up to 32 gen-set controllers in multiple island applications
- Multi-purpose maintenance timers and exercise timers
- Dual Starter
- Pulse Counters
- Multi ECU support

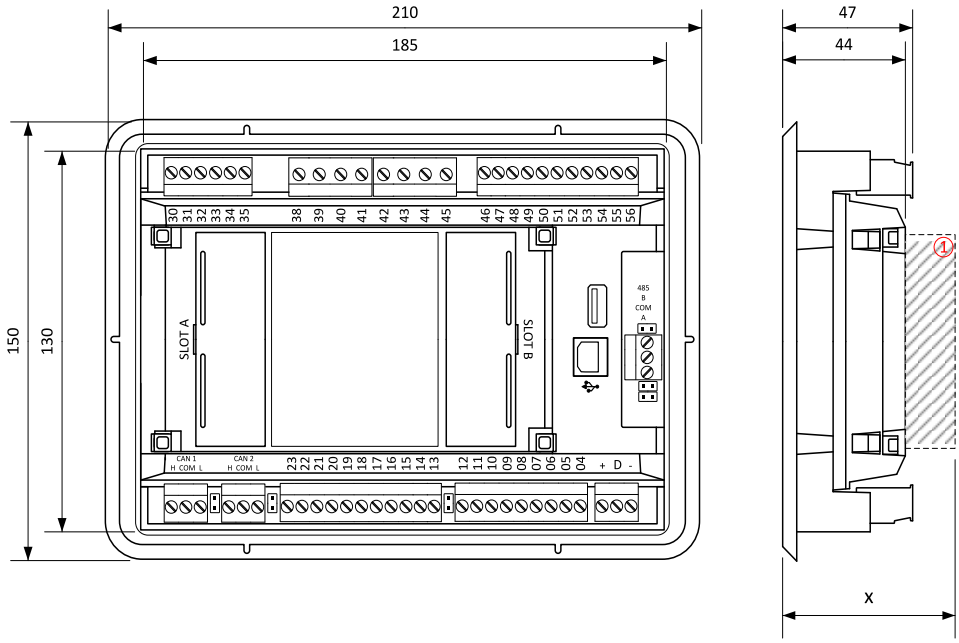
Application overview





Dimensions, terminals and mounting





1 Plug-in module

Note: *Dimension "x" depends on a plug-in module*

Note: *Dimensions are in millimeters.*

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 VDC
Power consumption (without modules)	3.5 W
RTC battery	Replaceable (3 V)
Fusing power	4 A w/o BOUT consumption
E-Stop fusing	10 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 2	

D+

Max. output current	250 mA
Charging fail threshold	Adjustable

Voltage measurement

Measurement inputs	3ph-n Gen voltage , 3ph-n Mains
Measurement range	10-277 V AC / 10-480 V AC (EU) 10-346 V AC / 10-600 V AC (US/Canada)
Linear measurement and protection range	350 V AC Ph-N 660 V AC Ph-Ph
Accuracy	1 %
Frequency range	30-70 Hz (accuracy 0.1 Hz)
Input impedance	0.72 MΩ ph-ph , 0.36 MΩ ph-n

Voltage regulator output

Isolation	Isolated
Type	max ±10 V DC

Speed governor output

Isolation	Non-isolated
Output Type	±10 V DC or 5 V @ 500 Hz, PWM selectable by jumper

Display

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

Communications

USB Device	Non-isolated type B connector
USB Host	Non-isolated type A connector
RS485	Isolated
CAN 1 + CAN 2	Isolated, 250 / 50 kbps, Terminator impedance 120 Ω

Current measurement

Measurement inputs	3ph Gen 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 E-Stop input.
Physical supply for binary outputs 1 & 2.

Binary inputs

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

Binary outputs

Number	8
Max. current	BO1,2=5 A (60 °C); BO1,2=4 A (70 °C), BO3-8=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	45 mA

Magnetic pickup

Voltage input range	4 Vpk-pk to 50 Vpk-pk in range 4 Hz to 1 kHz 6 Vpk-pk to 50 Vpk-pk in range 1 to 5 kHz 10 Vpk-pk to 50 Vpk-pk in range 5 to 10 kHz
Frequency input range	4 Hz to 10 kHz
Frequency measurement tolerance	0.2 % from measured value

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 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-R

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	**Voltage unbalance**	47
Stopping device	5	**Incomplete sequence relay**	48
Multi-function device	11	**Overcurrent**	50/50TD
Overspeed	12	**Earth fault**	50G
Underspeed	14	**Breaker failure**	50BF
Speed & frequency matching Device	15	**Overcurrent IDMT**	51
Starting-to-running transition contactor	19	**Overvoltage**	59
Synchronizing-check	25	**Aux Over Voltage**	59X
Thermal relay	26	**Pressure switch**	63
Undervoltage	27	**Liquid level switch**	71
Aux Battery Under Voltage	27X	**Alarm relay****	74
Annunciator	30	**Vector shift**	78
Overload (real power)	32P	**Reclosing relay**	79
Reverse power	32R	**Overfrequency**	81O
Master sequence device	34	**Underfrequency**	81U
Excitation loss	40	**ROCOF**	81R
Unit sequence starting *	44	**Auto selective control/transfer**	83
Current unbalance	46		

*MINT ** 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)
- 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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Supplier's Declaration of Conformity

47 CFR § 2.1077 Compliance Information

Unique identifier: IG4200XXBAA, IG4200XXBLA

Responsible Party:

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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.