ComAp
The heart of smart control

InteliGen 500

Order code: IG3500XXBAA

Parallel gen-set controller

Datasheet

Product description

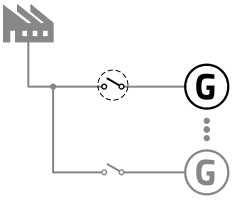
- Comprehensive paralleling gen-set controller
- Parallel operation for up to 32 gen-sets
- Direct communication with ECU
- Remote control and monitoring
- Flexible, extendable, yet user friendly

Key features

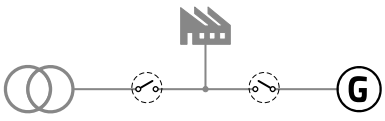
- Multiple Island or Single Parallel to Mains applications both in one controller
- PLC support with PLC editor and monitor
- Perfect solution for rental applications:
  - Rental timers
  - Geofencing and tracking via WebSupervisor
  - Alternative configuration
  - Droop and Emergency droop
- Load sharing and VAr sharing via CAN
- 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
  - Integrated Ethernet port
- 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 (User MODBUS)
- Support of MODBUS RTU/TCP or SNMP v1/v2c
- Detailed history with up to 500 events
- Load shedding, dummy load capability
- Tier 4 Final support
- Automatic temperature based cooling/heating
- Comprehensive gen-set protections
- Multipurpose flexible timers with full calendar
- True RMS measurement

Application overview

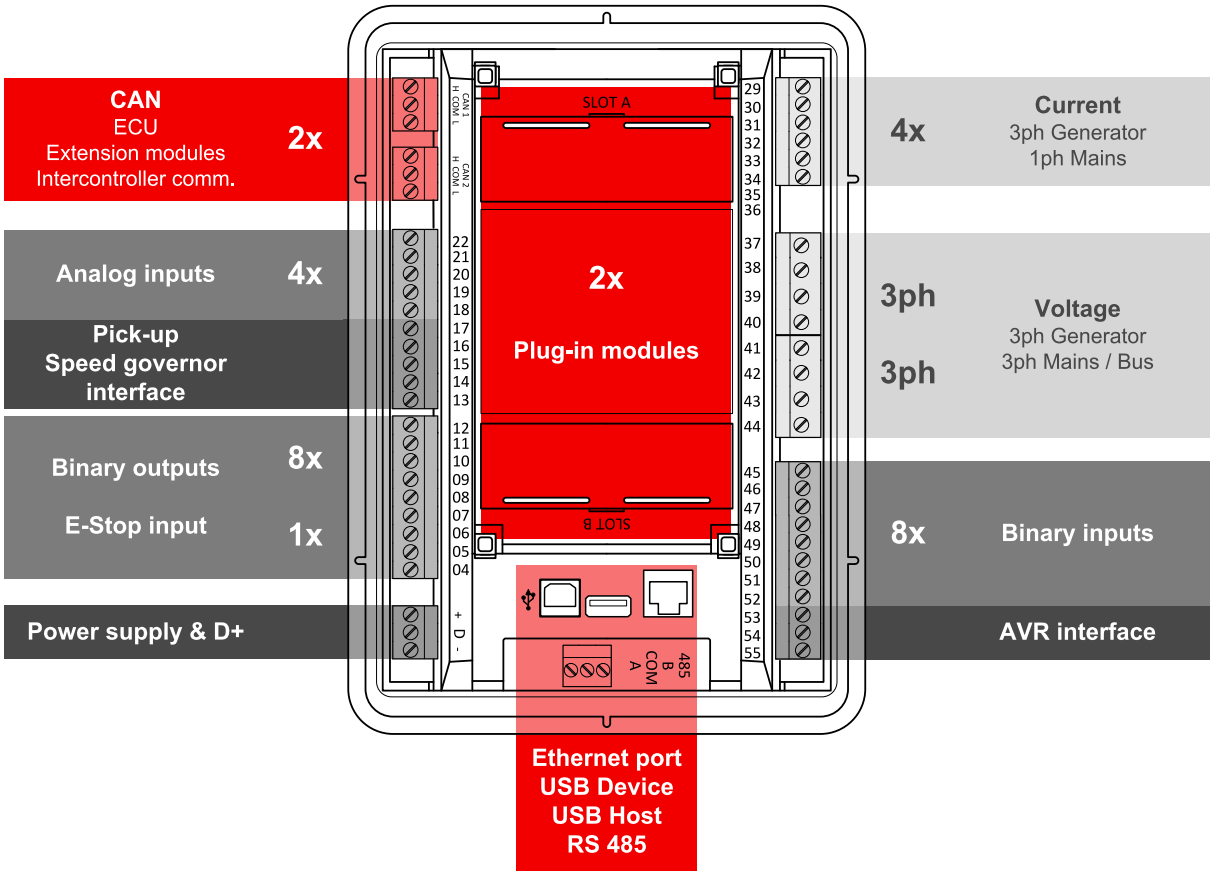
MINT
Generator Circuit Breaker

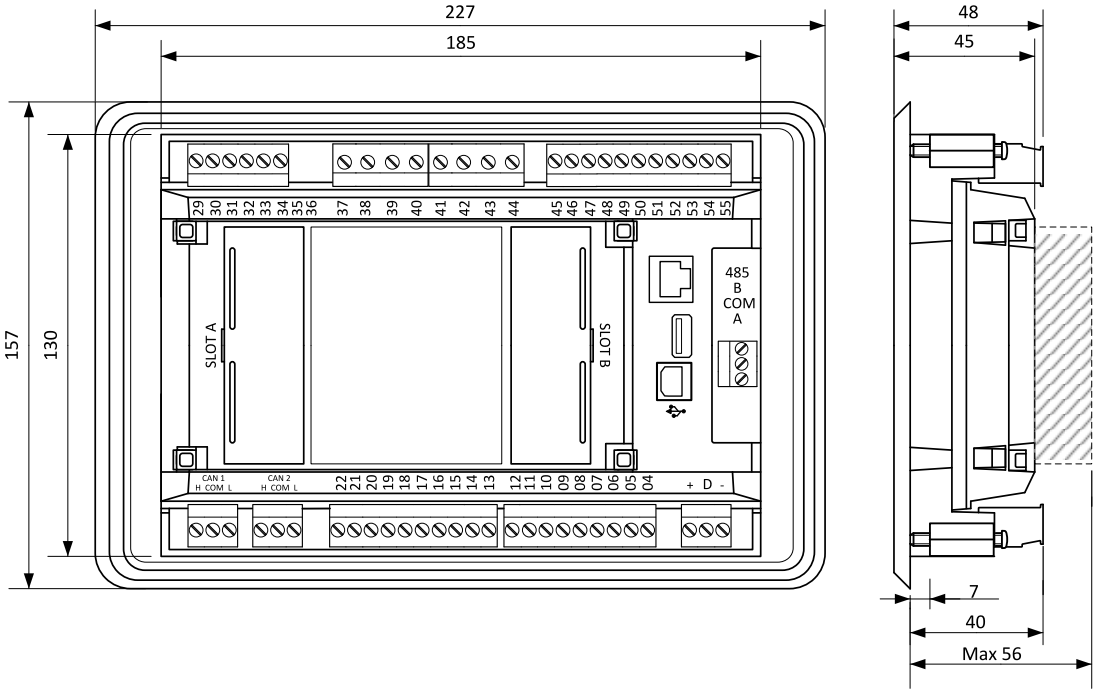


SPtM
Mains & Generator Circuit Breaker



Dimensions, terminals and mounting





Note: *The final depth of the controller depends on the selected extension module - it can vary between 41 and 56 mm. Mind also a size of connector and cables (e.g. in case of RS232 connector add about another 60 mm for standard RS232 connector and cable).*

Technical data

Power supply

Power supply range	8-36 V DC
Power consumption (without modules)	6 W
RTC battery	Replaceable
Fusing power	5 A / 6 × 0.5 A BOUT
Fusing ESTOP	1.2 A
Max. Heat Dissipation	8 W

D+

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

Operating conditions

Operating temperature	-20 °C to +70 °C
Storage temperature	-30 °C to +80 °C
Operating humidity (norm 60068-2-30)	95 % w/o condensation
Protection degree (front p.)	IP 65
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 Gen voltage 3ph-n Mains voltage
Measurement range	277 V
Max. allowed voltage	350 V
Accuracy	1 %
Frequency range	40-70 Hz (accuracy 0.1 Hz)
Input impedance	0.72 MΩ ph-ph; 0.36 MΩ ph-n

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

Display

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

E-Stop

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

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 for 0 - 250 Ω R: ±4% from value for 250 Ω - 2500 Ω U: 1% from value ±100 mV I: 1% from value ±0.2 mA

Voltage regulator output

Protection	Isolated
Type	Max ±10 V DC

Speed governor output

Output type	±10 V DC or 5 V PWM
Protection	Non-isolated

Magnetic pick-up

Minimum input voltage	4 V pk-pk to 50 V pk-pk in range 4 Hz to 1 kHz
Working voltage range	6 V pk-pk to 50 V pk-pk in range 4 Hz to 5 kHz 10 V pk-pk to 50 V pk-pk in range 4 Hz to 10 kHz
Frequency input range	4 Hz to 10 kHz
Frequency measurement tolerance	0.2 % from range 10 kHz

Communications

USB device	Non-isolated type B connector
USB host	Non-isolated type A connector
RS 485	Isolated
Ethernet	10/100 Mbit
CAN 1 + CAN 2	Isolated, 250 / 50 kbps nominal impedance 120 Ω

Available extension plug-in modules

Product	Description	Order code
CM-4G-GPS	GSM modem / 4G wireless internet and GPS locator	CM14GGPSXBX
CM-GPRS	GSM modem / GPRS wireless internet	CM2GPRSXXBX
CM-RS232-485	Dual port interface	CM223248XBX
EM-BIO8-EFCP	8 additional binary inputs/outputs; current measurement	EM2BIO8EXBX

Note: *Up to 2 plug-in modules can be connected at the same time.*

Available extension 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 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	Up to 12 additional Analog/Binary Input/Output Module	IGS-PTM

Note: *Up to 5 CAN modules can be connected at the same time.*

Functions and protections

The described product fully supports the following functions and protections as defined by ANSI (American National Standards Institute):

Description	ANSI code	Description	ANSI code
Synchronism check	25	**Earth fault current**	50N + 64
Under voltage	27	**Overcurrent (IDMT)**	51
Overload	32	**Power factor**	55
Load shedding	32P	**Over voltage**	59
Reserve power	32R	**Gas (fuel) level**	71
Excitation loss	40	**Vector shift**	78
Current unbalance	46	**Over frequency**	81H
Voltage asymmetry and Phase rotation	47	**Under frequency**	81L
Temperature	49T	**ROCOF**	81R
Generator overcurrent	50		

- EN 61000-6-2
- EN 61000-6-4
- EN 61010-1
- EN 60068-2-1 (-20 °C/16 h for std 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)

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