ComAp®
The heart of smart control

InteliGen 500

Datasheet

Order code: IG3500XXBAA

Parallel gen-set controller

Product description
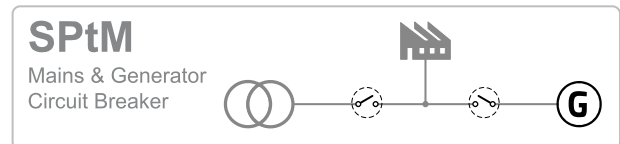
▶ Comprehensive paralleling Gen-set controller

▶ Parallel operation for up to 32 Gen-sets

▶ Direct communication with ECU

▶ Remote control and monitoring
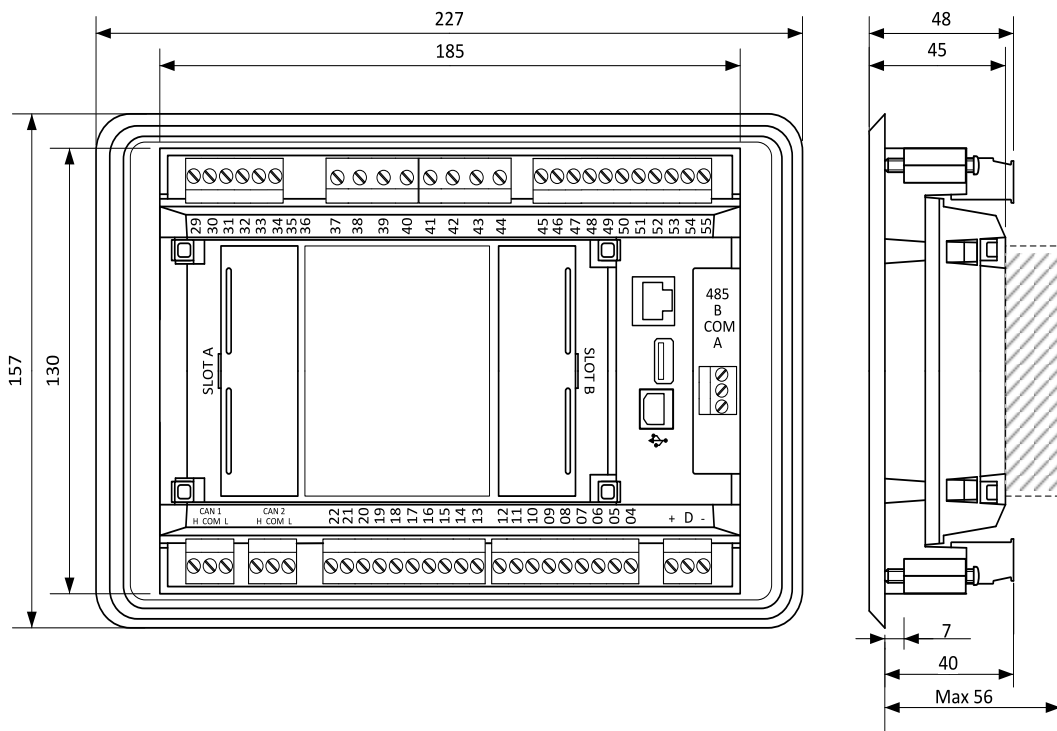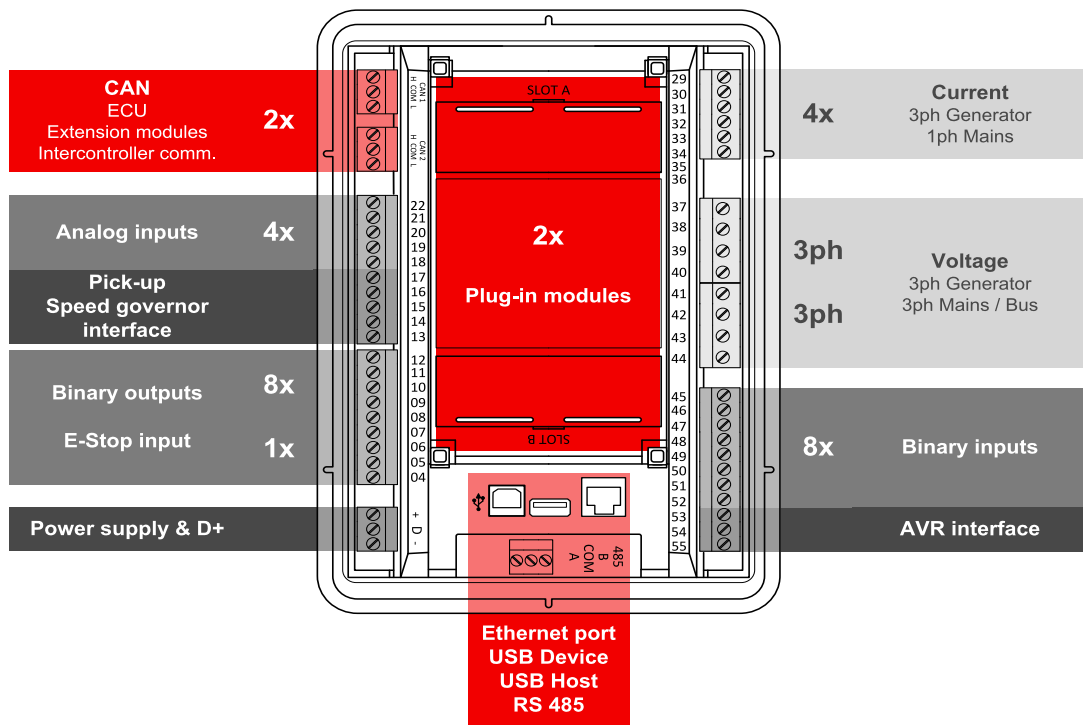
▶ Flexible, extendable, yet user friendly

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

- Geo-Fencing 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

▶ Operating temperature: -30 °C to +70 °C
(-40 °C to +70 °C if the device is powered on above -30 °C)*

Application overview

MINT
Generator Circuit
Breaker

SPtM
Mains & Generator
Circuit Breaker

Dimensions, terminals and mounting

CAN ECU Extension modules Intercontroller comm.	**2x**	**4x**	**Current** 3ph Generator 1ph Mains
Analog inputs	**4x**		
Pick-up Speed governor interface		**3ph** **3ph**	**Voltage** 3ph Generator 3ph Mains / Bus
Binary outputs	**8x**		
E-Stop input	**1x**	**8x**	**Binary inputs**
Power supply & D+			**AVR interface**

Ethernet port
USB Device
USB Host
RS 485

227
185
48
45
157
130
7
40
Max 56

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).

Technical data

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Power supply

Power supply range	8-36 VDC
Power consumption (without modules)	6 W
RTC battery	Replaceable (3 V)
Fusing power	5 A / 6 × 0.5 A BOUT
E-Stop fusing	1.2 A
Max. Power Dissipation	8 W

Operating conditions

Protection degree (front panel)	IP 65
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

D+

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)
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

Voltage regulator output

Protection	Isolated
Type	max ±10 VDC

Speed governor output

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

Display

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

Communications

USB Device	Non-isolated type B connector
USB Host	Non-isolated type A connector
RS485	Isolated
Ethernet	10/100 Mbit
CAN 1 + CAN 2	250 / 50 kbps, isolated, nominal 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
Physically disconnects binary outputs 1 & 2 from power supply

Binary inputs

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

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 range 10 kHz

*Note: *) If the device is powered on above -30 °C*

Available Extension modules

Product	Description	Order code
CM-4G-GPS	For SMS and GPS info	CM14GGPSXBX
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 AIN8TC	CAN module with 8 analog inputs dedicated for thermocouple sensors only.	I-AIN8TC
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	Voltage unbalance	47
Stopping device	5	Incomplete sequence relay	48
Multi-function device	11	Overcurrent	50/50TD
Overspeed	12	Earth fault**	50G
Underspeed	14	Overcurrent IDMT	51
Starting-to-running transition contractor	19	AC circuit breaker	52
Synchronizing-check	25	Overvoltage	59
Thermal relay	26	Pressure switch	63
Undervoltage	27	Liquid level switch	71
Annunciator	30	Alarm relay***	74
Overload(real power)	32P	Vector shift	78
Reverse power	32R	Reclosing relay	79
Master sequence device	34	Overfrequency	81O
Excitation loss	40	Underfrequency	81U
Unit sequence starting *	44	ROCOF	81R
Current unbalance	46	Auto selective control/transfer	83

*MINT   **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)
- 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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