Integrel

ADVANCED POWER GENERATION & CONTROL

Integrel Specifications

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Specifications

Integrel power generator

Type	High power density, asynchronous
Nominal output voltage	48v
Maximum output current	170A (software governed)
Max electrical power at 800rpm (engine revs)	3.5kW
Max electrical power at 1400 rpm (engine revs)	9.0kW (software governed)

Battery sensor

Sensor type	Stabilised Hall effect sensor with 18 bit ADC
Voltage range	1mV to 100V +/-1mV
Current range	1mA to 300A +/- 1mA
Temperature	-77C to 190C +/- 0.5C
Data communications type	CAN
Onboard processor	PIC with 8k of static RAM and 16-bit ADC

Controller

Current sensor type	Stabilised Hall effect sensor with 18-bit ADC
Voltage, current and temperature specifications	As for battery sensor
Processors	Dual processors for real time data processing and system oversight
Main control loop	10mS response time
Rectifier	High efficiency bridge rectifier with <1V drop across the diodes
Rectifier voltage and current range	Up to 1,600V and 250A with full open circuit tolerance
Onboard memory	96MB for data logging; 8K FRAM
External switching	Single analogue switch
Stabilised DC DC converter	12v to 57.6v at 4A using planar transformers; 94% efficient
RPM measurement	0 to 15,000 rpm +/- 1RPM
External temperature sensing	Sensing for alternator stator, diode pack and electronics
Data communications	J1939/NMEA200 and proprietary CAN Bluetooth and USB connectivity
Isolation	Fully isolated
Fuel monitoring	(Available on engines with an ECU)
Status indicator	Traffic light LEDs
Battery types supported	Lead acid or lithium ion
Battery capacity supported	From 10kWh to 40kWh in 10kWh increments

Battery to battery charger

Voltage ranges	48v to 12v/24v/36v up to 2.4kW in 600W increments
Power output	Modular
Efficiency	Up to 96%
Data communications	CAN and Bluetooth addressable and controllable

Low voltage disconnect

Voltage	As per battery sensor
Stand by power	100 micro amps
Temperature sensor	
Autonomous operation	

User interface

Screen 5” touch screen with optional smart phone/tablet interface