



Order code: IL3MRS16BAA

## Controller for single gen-set applications

# Datasheet

### Product description

- ▶ Single Gen-set controller for Prime-power applications
- ▶ Direct communication with EFI engines
- ▶ Total remote monitoring and control

### Key features

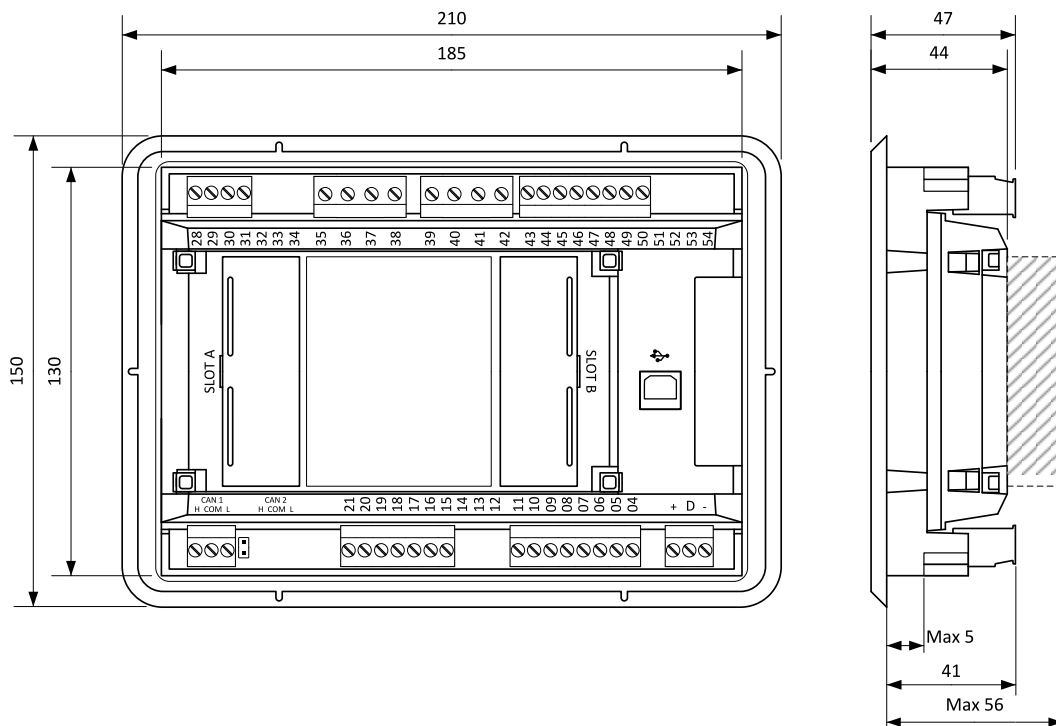
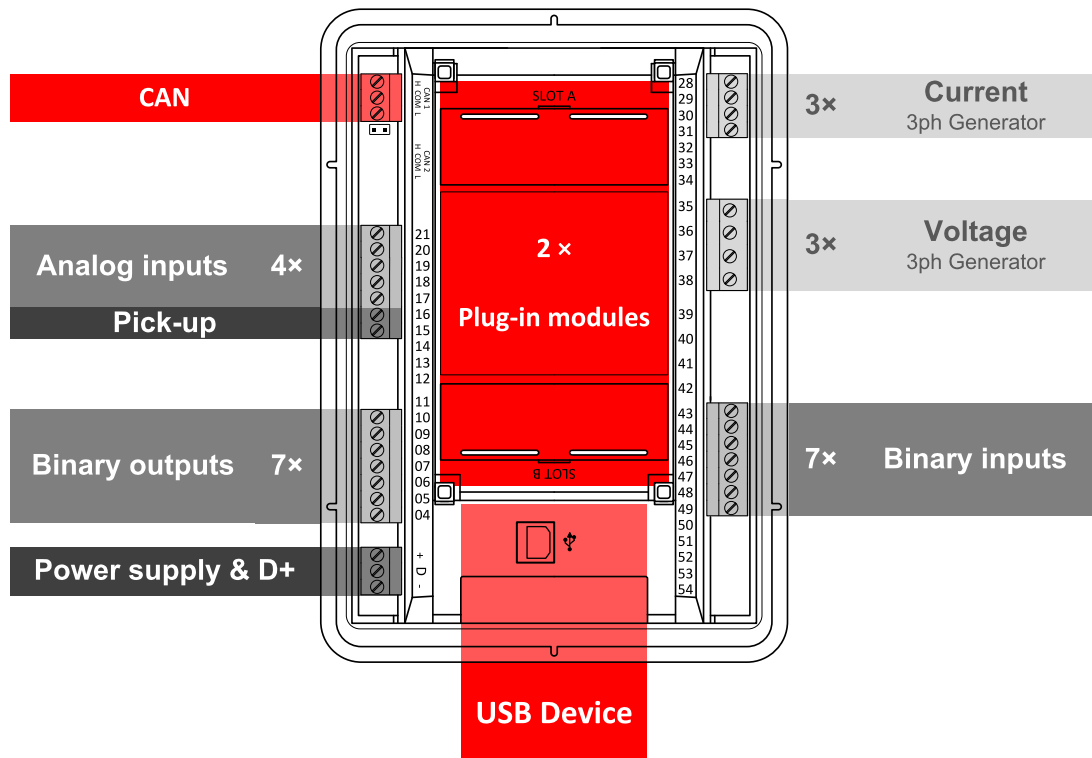
- ▶ 5 languages in the controller & translator functionality
- ▶ 3 levels of password
- ▶ 3 sets of alternative configurations
- ▶ Magnetic pickup
- ▶ ECU support & Tier 4 Final ready
- ▶ STAGE V support
- ▶ Cloud-based monitoring and control via WebSupervisor
- ▶ Geo-Fencing and tracking via WebSupervisor
- ▶ Plug-in module concept for more capabilities (RS232, RS485, Ethernet, GPRS, 4G/LTE, Modbus, SNMP, emails, SMS, I/Os)
- ▶ 2 slots for plug-in modules
- ▶ CAN modules support
- ▶ Power over USB for controller's adjustment
- ▶ In-built PLC, complemented with a monitoring/debugging tool
- ▶ 8 binary outputs, 8 binary inputs, 4 analog inputs
- ▶ 2 high-current binary outputs

- ▶ Run Hours source selector
- ▶ Activation of outputs based on inputs/power/temperature
- ▶ Real time clock
- ▶ Multipurpose flexible timers (also for rental)
- ▶ Comprehensive history log with up to 350 events
- ▶ Dual Application: control of Gen-set, transfer switch and alternation
- ▶ 3 maintenance timers (counting even under zero)
- ▶ Possibility to disable protections
- ▶ Modbus register mapping possibility
- ▶ Adjustable Main Screen
- ▶ A version for low temperature is also available

### Application overview



## 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 cutout size is 187 × 132 mm. Use the screw holders delivered with the controller to fix the controller into the door.

## Power supply

Power supply range	8-36 VDC
Power consumption	394 mA / 8 VDC
	255 mA / 12 VDC
	140 mA / 24 VDC
	97 mA / 36 VDC
RTC battery	Replaceable (3 V)
Power terminal fusing	Max. 3 A (without BOUT consumption nor extension modules)
Max. Power Dissipation	3.5 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 <sup>2</sup>
Surrounding air temperature rating 70 °C Suitable for pollution degree 3	

## D+ terminal

Max. output current	250 mA / 36 V
Charging fail threshold	Adjustable

## Voltage measurement

Measurement inputs	3ph-n Gen voltage
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

## Communications

USB port	non-isolated
CAN 1	CAN bus, 250 kbps, max 200 m, 120 Ω termination option, non-isolated

## Current measurement

Measurement inputs	3ph Gen current
Measurement range	5 A
Max. allowed current	10 A
Accuracy	1.5 % for full temperature range (1 % from 0 °C to 50 °C)
Input impedance	<0.1 Ω

## Binary inputs

Number	7, non-isolated
Close/Open indication	0-2 VDC close contact 6-36 VDC open contact

## Binary outputs

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

## Analog inputs

Number	4, non-isolated
Type	Resistive
Resolution	0.1 Ω
Range	0-2500 Ω
Input impedance	170 Ω
Accuracy	±2 % from value in range above ±1.5 kΩ in range 2.5-15 kΩ

## 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

### Available plug-in modules

Product	Description	Order code
CM-4G-GPS	GSM modem / 4G wireless internet and GPS locator	<a href="#">CM14GGPSXBX</a>
CM-Ethernet	Ethernet interface	<a href="#">CM2ETHERXBX</a>
CM-GPRS	GSM modem / GPRS wireless internet	<a href="#">CM2GPRSXBX</a>
CM-RS232-485	Dual port interface	<a href="#">CM223248XBX</a>
EM-BIO8-EFCP	8 additional binary inputs/outputs; current measurement	<a href="#">EM2BIO8EXBX</a>

**Note:** Controller has 2 slots for plug-in modules

### Available CAN modules

Product	Description	Order code
IGL-RA15	CAN remote annunciator with 15 LEDs	<a href="#">EM2IGLRABAA</a>
Inteli AIN8	CAN module with 8 analog inputs	<a href="#">I-AIN8</a>
Inteli IO8/8	CAN module with 8 binary inputs and 8 binary outputs	<a href="#">I-IO8/8</a>
IGS-PTM	CAN module with 8 binary inputs, 8 binary outputs, 4 analog inputs and 1 analog output	<a href="#">IGS-PTM</a>
Inteli AIN8TC	CAN module with 8 analog inputs dedicated for thermocouple sensors only.	<a href="#">I-AIN8TC</a>
Inteli AIO9/1	CAN module with analog inputs and outputs – designed for DC measurement.	<a href="#">I-AIO9/1</a>

### 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	Current unbalance	46
Stopping device	5	Voltage unbalance	47
Multi-function device	11	Incomplete sequence relay	48
Overspeed	12	Overcurrent	50/50TD
Underspeed	14	Earth fault**	50G
Starting-to-running transition contractor	19	Overcurrent IDMT	51
Thermal relay	26	AC circuit breaker	52
Undervoltage	27	Overvoltage	59
Annunciator	30	Pressure switch	63
Overload(real power)	32P	Liquid level switch	71
Master sequence device	34	Alarm relay***	74
Unit sequence starting*	44	Overfrequency	81O

\*Dual-operation

\*\*Extension module EM-BIO8-EFCP required

\*\*\* extension module IGL-RA15 required

### Certifications and standards

<ul style="list-style-type: none"> <li>▶ EN 61000-6-2</li> <li>▶ EN 61000-6-4</li> <li>▶ EN 61010-1</li> <li>▶ EN 60068-2-1 (-20 °C/16 h for std, -40 °C/16 h for LT version)</li> <li>▶ EN 60068-2-2 (70 °C/16 h)</li> </ul>	<ul style="list-style-type: none"> <li>▶ EN 60068-2-6 (2÷25 Hz / ±1,6 mm; 25÷100 Hz / 4.0 g)</li> <li>▶ EN 60068-2-27 (a=500 m/s<sup>2</sup>; T=6 ms)</li> <li>▶ EN 60068-2-30:2005 25/55°C, RH 95%, 48hours</li> <li>▶ EN 60529 (front panel IP65, back side IP20)</li> <li>▶ UL 6200</li> </ul>	  
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