# ComAp ™

The heart of smart control

## InteliLite MRS11

InteliLite MRS 11

OFF **MAN** AUTO
Loaded
PF 0.79C
RPM 1484
No Timer
45 kW 00:00:00

ComAp ▷

Order code: IL3MRS11BAA

## 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

▶ Easy to install, configure and use

▶ Wide range of communication capabilities including:

- connection via RS232, RS485, CAN and on board USB

- internet access using Ethernet, GPRS or 4G

- support for Modbus and SNMP protocols

▶ Internal PLC support with PLC editor and monitor included in LiteEdit

▶ Cloud-based monitoring and control

▶ Active SMS and emails in different languages

▶ SNMP traps

▶ 2x 10 A binary outputs for cranking and fuel solenoid

▶ Option for up to 8 additional binary inputs/outputs

▶ Flexible event based history with up to 350 events

▶ Tier 4 final support

▶ Automatic temperature based cooling/heating

▶ Comprehensive gen-set protections

▶ Multipurpose flexible timers

▶ True RMS measurement

## Application overview

**MRS**
Generator Circuit Breaker

G

# Technical data

## 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 |
| **Fusing** | 2 A (without BOUT consumption nor extension modules) |

## Operating conditions

| | |
|---|---|
| **Operating temperature** | -20 ˚C to +70 ˚C |
| **Storage temperature** | -30 ˚C to +80 ˚C |
| **Operating humidity** | 95 % w/o condensation |
| **Vibration** | 5-25 Hz, ± 1,6 mm |
| | 25-100 Hz, a = 4 g |
| **Shocks** | a = 500 m/s$^2$ |

## Voltage measurement

| | |
|---|---|
| **Measurement inputs** | 3ph-n Gen 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-n Gen voltage |
| **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** | 6, non-isolated |
| **Close/Open indication** | 0-2 VDC close contact |
| | >6 VDC open contact |

## Binary outputs

| | |
|---|---|
| **Number** | 2 high current output, non-isolated |
| | 4 low current output, non-isolated |
| **Max. current** | 10 A for 10 s, 5 A long term |
| | 0,5 A |
| **Switching to** | positive supply terminal |

## Analog inputs

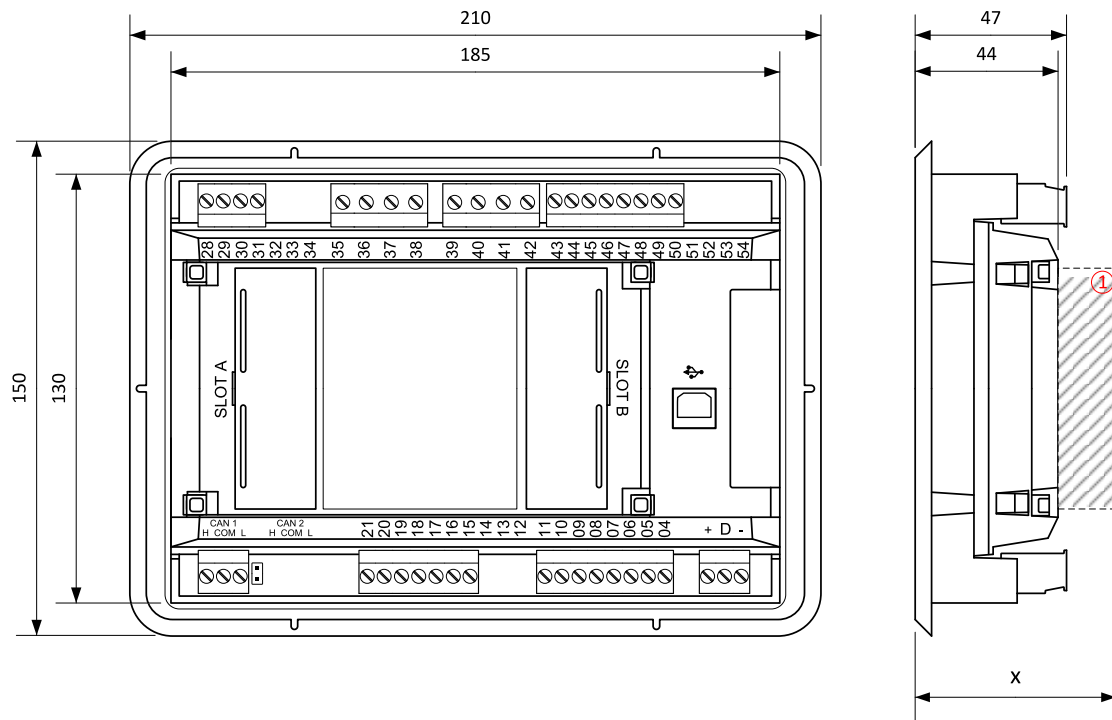| | |
|---|---|
| **Number** | 3 non-isolated |
| **Type** | Resistor |
| **Resolution** | 0,1 Ω |
| **Range** | 0-2500 Ω |
| **Input impedance** | 800 Ω |
| **Accuracy** | ±2 % from range in range 0-2500 Ω |
| | ±1,5 kΩ in range 2,5-15 kΩ |

## Magnetic pick-up

| | |
|---|---|
| **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 kHz to 5 kHz |
| | 10 Vpk-pk to 50 Vpk-pk in range 5 kHz to 10 kHz |
| **Frequency input range** | 4 Hz to 10 kHz |
| **Frequency measurement tolerance** | 0,2 % from range 10 kHz |

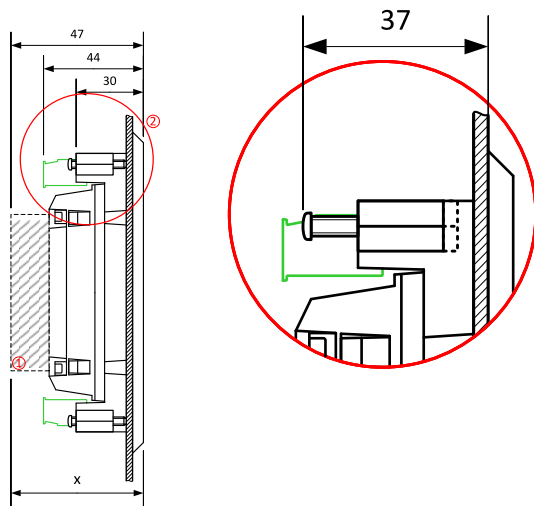## Communications

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

# Dimensions, terminals and mounting

**Note:** *Dimension x depends on extension module.*

## Panel door mounting

## Overview of parameter x

| Plug-in module | Parameter x [mm] |
|---|---|
| CM-RS232-485 | 105 @ RS232 / 62 @ RS485 |
| CM-Ethernet | 95 |
| USB | 85 |
| CM-GPRS | Depends on connector of antenna |
| EM-BIO8 | 62 |
| CM-4G-GPS | Depends on connector of antenna |

**Note:** *The controller is to be mounted into panel doors as a standalone unit using provided metal holders. The requested cut-out size is 187x132 mm. Use the screw holders delivered with the controller to fix the controller into the door.*

# Available extension modules

| Product | Description | Order code |
|---|---|---|
| **CM-4G-GPS** | GSM modem / 4G wireless internet and GPS locator | CM14GGPSXBX |
| **CM-Ethernet** | Ethernet interface | CM2ETHERXBX |
| **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 |

# Functions and protections

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

| Description | ANSI code | Descritption | ANSI code |
|---|---|---|---|
| **Over voltage** | 59 | **Load shedding** | 32P |
| **Under voltage** | 27 | **Overload** | 32 |
| **Voltage asymmetry and Phase rotation**** | 47 | **Power factor** | 55 |
| **Over frequency** | 81H | **Temperature** | 49T |
| **Under frequency** | 81L | **Gas (fuel) level** | 71 |
| **Over current*** | 50 + 51 | **Earth fault current** | 50N + 64 |
| **Current unbalance** | 46 | | |

\* Short current only          \*\* Fixed setting

# Certificates and standards

- ▶ EN 61000-6-1
- ▶ EN 61000-6-2
- ▶ EN 61000-6-3
- ▶ EN 61000-6-4
- ▶ EN 61010-1
- ▶ EN 61000-2-1 (-20°C/16h for std version)
- ▶ EN 61000-2-2 (70°C/16h)
- ▶ EN 61000-2-6 (2÷25Hz / ±1,6mm; 25÷100Hz / 4,0g)
- ▶ EN 60068-2-2(a=500m/s^2)
- ▶ EN 60068-2-30(25/55/25°C; humidity at 97% ; 2 cycles)
- ▶ EN 60529 (front panel IP65, back side IP20)
- ▶ IEC61010-2-030:2010/Measerument category II

CE

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