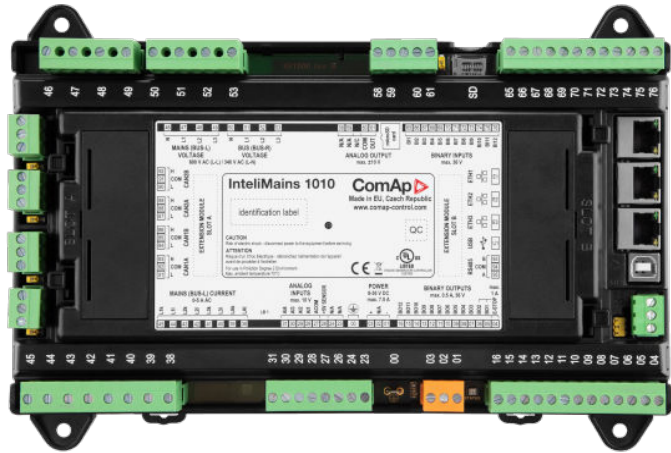


InteliMains 1010



Order code: IM31010XBBB

Mains supervision/Utility breaker controller

Datasheet

Product description

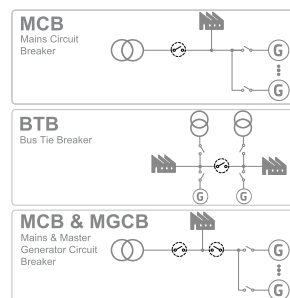
- True RMS measurement is used with Voltage, Current and Power measurement.
- Comprehensive Mains/Utility breaker controller for any site
- Synchronize set of gen-sets to the Mains/Utility when needed
- Acts as Mains protection relay
- Pre-programmed functions allow fast and easy system set-up
- Large in-built PLC interpreter allows customization at no extra costs
- True RMS measurement is used with Voltage, Current and Power measurement.

- Handles large number of simultaneously connected clients like HMIs, SCADA, BMS and others, allowing easy and convenient monitoring from both local and remote areas
- AirGate 2.0 allows faster, more reliable remote connection from all around the world
- Modbus client (master) functionality allows easy integration of Modbus based devices into the InteliMains 1010 to benefit from provided data – e.g. diagnostics
- Load transfer from gen-sets back to Mains/Utility is adjustable, with an option of short time parallel operation, even below 100ms
- Double redundancy of the communication line with other controllers allows usage in complex applications like Data centres and others
- For easy handling for operators or troubleshooting purposes the InteliMains 1010 offers up to 31 characters in text fields which makes Parameters, Values and Alarms self-explanatory and easy to handle for anyone

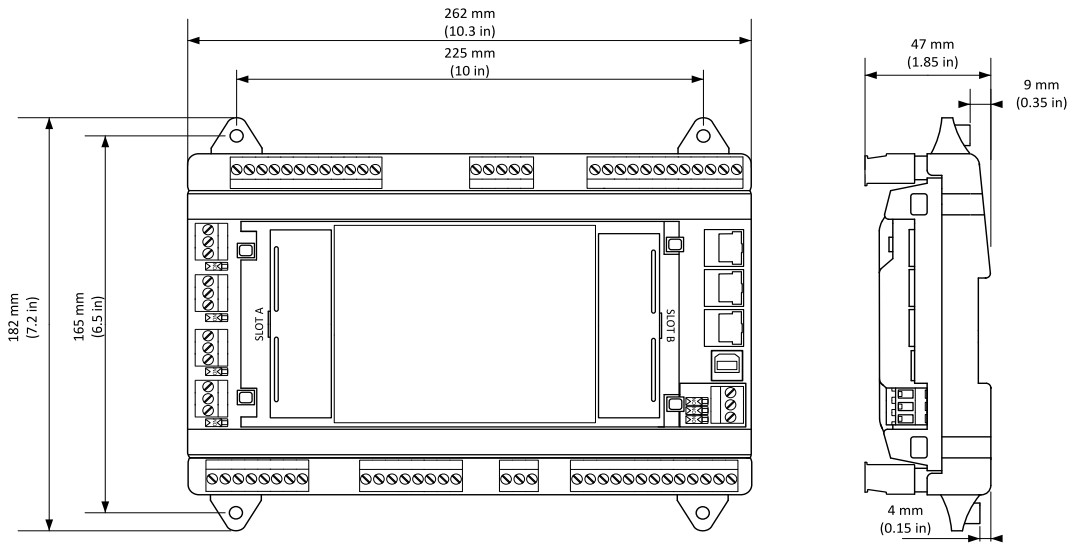
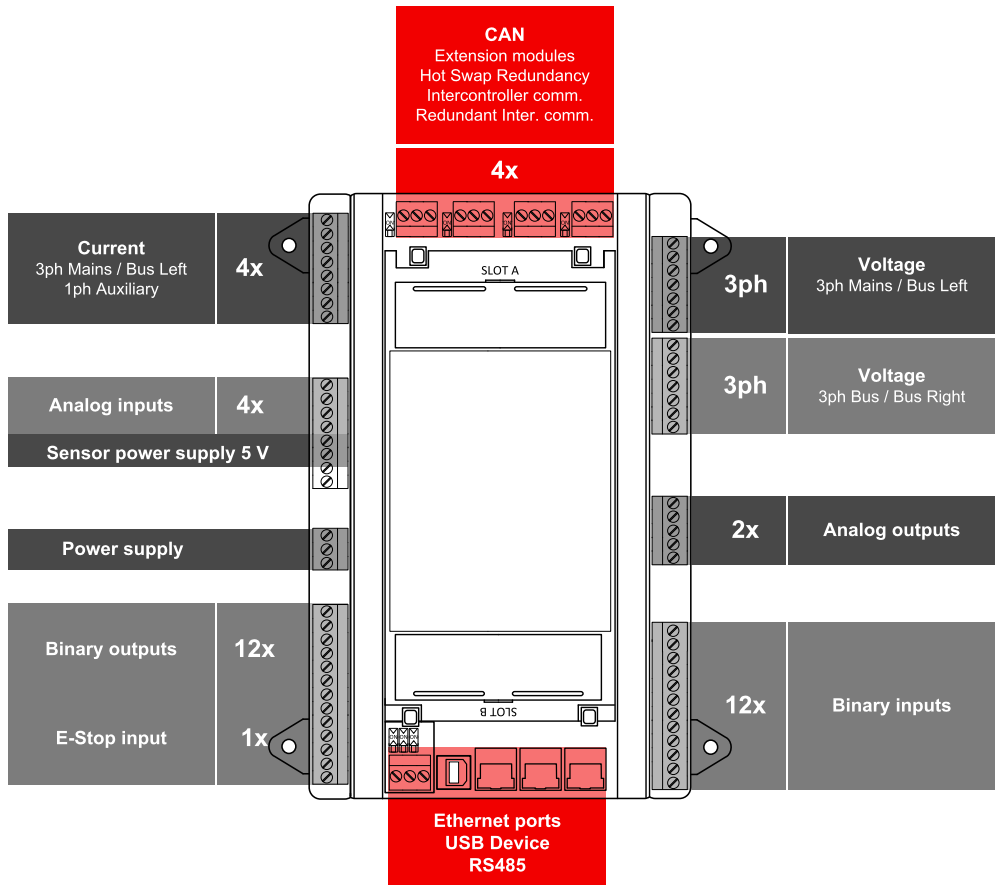
Key features

- Hardware compliant to the latest switchgear market needs
- Supports latest Grid codes requirements from Europe, USA or Australia
- Cooperates with other controllers forming a solution with up to 64 units without any extra repeaters or extensions
- Concept of pre-programmed functions and internal PLC interpreter allows to make the basic solution fast and easy. Shall the project require any specific requirements this can be done easily at no extra costs and with minimum effort or programming skills
- Cyber security is guaranteed on the whole solution level, compliant to the ISA62443

Application overview



Terminals and dimensions



Technical data



Power supply

| | |
|-----------------------|-------------------------------------|
| Power supply range | 8-36 V DC |
| Power consumption | 16 W |
| RTC battery | Replaceable, type CR1632 3V |
| Fusing power | 8 A |
| Consumption | 2.5 A Controller + 10 x 0.5 A BOUTs |
| Fusing ESTOP | 1.2 A |
| Max. Heat Dissipation | 16 W |

Operating conditions

| | |
|---|--|
| Operating temperature | -40 °C to +70 °C |
| Storage temperature | -40 °C to +80 °C |
| Operating humidity (norm 60068-2-30) | 25/55°C, RH 95%, 48hours, without condensation |
| Protection degree | IP20 |
| 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. | |

AC Current measurement

| | |
|----------------------------|---|
| Measurement inputs | 3ph Mains (Bus Left) current 1ph Bus (Bus Right) current (Auxiliary current) |
| Measurement range | 1 A / 5 A |
| Maximum continuous current | 2 A / 10 A |
| Allowed overload | 18 A for 15 sec. |
| Accuracy | ±3 mA / ±15 mA for 0.0 to 0.4 A / 0.0 to 2.0 A 0.75 % of value for 0.4 to 1.0 A / 2.0 to 5.0 A |
| Frequency range | 40-70 Hz (accuracy 0.002 %) |
| Input impedance | < 0.1 Ω |

AC Voltage measurement

| | |
|---|--|
| Measurement inputs | 3ph-n Mains (Bus Left) voltage 3ph-n Bus (Bus Right) voltage |
| Measurement range | 115 V ph-N / 200 V ph-ph, suitable also for VTs output 231 V ph-N / 400 V ph-ph UL, cUL: 346 V ph-N / 600 V ph-ph |
| Linear measurement and protection range (maximal voltage) | 433 V ph-N / 750 V ph-ph |
| Accuracy | 0.25 % |
| Frequency range | 40-70 Hz (accuracy 0.002 %) |
| Input impedance | 0.68 MΩ ph-ph , 0.34 MΩ ph-n |
| Measurement category CAT III, overvoltage category III | |

E-Stop

| |
|---|
| Physically disconnects BO 1 & BO 2 from power supply. |
|---|

Binary inputs

| | |
|-----------------------|--|
| Number | 12, non-isolated |
| Close/Open indication | 0-2 V DC close contact 6-36 V DC open contact |
| Configurable | Pull-up / Pull-down |
| Pulse input | Bin 9 and 10 max. 50 Hz |

Binary outputs

| | |
|--------------|--------------------------|
| Number | 12, non-isolated |
| Max. current | 0.5 A |
| Switching to | Positive supply terminal |

Analog inputs

| | |
|----------|--|
| Number | 4, switchable (R/U/I) |
| Range | R = 0-10000 Ω; U = 0-10 V; I = 0-20 mA |
| Accuracy | R: 2 % from value for 0-250 Ω R: 4% from value for 250-2500 Ω R: 6 % from value for 5000-10000 Ω U: 1% from value ±100 mV I: 1% from value ±200 uA |

Analog output 1

| | |
|------------|--|
| Protection | Reinforced isolation |
| Type | Switchable: U ±10 V, I ±20 mA, PWM: 0 V/5 V |
| Accuracy | U: 1 % from value ±100 mV I: 1 % from value ±200 uA |

Analog output 2

| | |
|------------|--|
| Protection | Basic isolation |
| Type | Switchable: U ±10 V, I ±20 mA, PWM: 0 V/5 V |
| Accuracy | U: 1 % from value ±100 mV I: 1 % from value ±200 uA |

Communications

| | |
|--------------------------------------|--|
| USB device | Basic isolation, USB type B |
| RS 485 | Basic isolation |
| ETH1 ETH2 ETH3 | 10/100 Mbit |
| CAN 1A CAN 2A CAN 1B CAN 2B | Basic isolation, 1000/250/50 kbps nominal impedance 120 Ω |

Weight

| | |
|------------|-------|
| Controller | 750 g |
| Package | 920 g |

Controller handles 300 million records into the History, which represents roughly 1 record per second during 9,5 years. Shall be the History recording faster, the controller lifetime will become smaller.

Available external displays

| Product | Description | Order code |
|----------------------|--|-----------------------------|
| InteliVision 5.2 | 5" TFT external display with 800x480 px resolution | RD2IV5BxBAA |
| InteliVision 10Touch | 10.1" Touchscreen display unit with 1280 x 800 px resolution | RD1IV10TBPF |
| InteliVision 13Touch | 13.3" Marine certified display unit with 1920 x 1080 px resolution | RD1IV13TBME |
| InteliVision 18 | 18.5" Touchscreen display unit with 1366 x 768 px resolution | RD31840PBIE |

Available 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 AIO9/1 | 4 Analog Inputs for differential voltage measurement, 4 Analog Input equipment channels, 1 Analog Input for resistance measurement and 1 Analog Output | I-AIO9/1 |
| 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 | 4 Analog Inputs, 1 Analog Output, 8 Binary Inputs and 8 Binary Outputs | IGS-PTM |
| I-AOUT8 | 8 configurable analog outputs | I-AOUT8 |
| IS-AIN8 | 8 configurable analog inputs | IS-AIN8 |
| IS-AIN8TC | 8 configurable analog inputs | IS-AIN8TC |
| IS-BIN16/8 | 16 galvanically separated inputs, 8 binary outputs, 2 pulse inputs | IS-BIN16/8 |
| InteliFieldbus Gateway | Modbus TCP/RTU Communication gateway | CM1IFGATBBB |
| I-CR | CAN Repeater Module, compatible when using 32C/8C CAN Intercontroller Comm Mode | I-CR |

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 | Temperature monitoring | 49T |
| Multi-function device | 11 | Overcurrent | 50/50TD |
| Speed and frequency matching device | 15 | Overcurrent IDMT | 51 |
| Data communications device | 16ECFM+16SC | AC circuit breaker | 52 |
| Synchronizing-check | 25 | Power factor | 55 |
| Thermal relay | 26 | Overvoltage | 59 |
| Undervoltage | 27 | Pressure switch | 63 |
| Annunciator | 30 | Liquid level switch | 71 |
| Overload | 32 | Alarm relay * | 74 |
| Load shedding | 32P | Vector shift | 78 |
| Master sequence device | 34 | Reclosing relay | 79 |
| Undercurrent | 37 | Overfrequency | 81H |
| Unit sequence starting | 44 | Underfrequency | 81U |
| Current unbalance | 46 | ROCOF | 81R |
| Voltage unbalance | 47 | Auto selective control/transfer | 83 |
| Incomplete sequence relay | 48 | Regulating device | 90 |

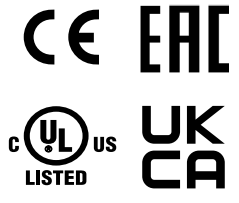
* extension module IGL-RA15 required



E-mail: info@comap-control.com
 Web: www.comap-control.com

ComAp 
 The heart of smart control

Certifications and standards

| | | | |
|--|--|--|---|
| <ul style="list-style-type: none"> > EN 61000-6-2 > EN 61000-6-4 > EN 61010-1 > EN 60255-1 > EN 60529 (IP20) | <ul style="list-style-type: none"> > EN 60068-2-1 (-40 °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/s²; T=6 ms) > EN 60068-2-30 (25/55 °C, RH 95%, 48 h) | <ul style="list-style-type: none"> > UL6200 > UKCA |  |
|--|--|--|---|

Grid Codes

| | |
|---|---|
| European Requirements for Generators, 2016/631 | |
| <ul style="list-style-type: none"> > German VDE-AR-N 4110:2018 > American IEEE 1547 | <ul style="list-style-type: none"> > UK ENA EREC G99 > Austrian TOR |

List of SW Key Features

| SW Key Feature | Order Code |
|---------------------|-------------|
| CAN bus redundancy | SKREDCAN201 |
| Modbus client | SKMODBCLI01 |
| PLC package | SKPLCPCKG01 |
| Hot Swap Redundancy | SKHOTSWAP01 |

Supplier's Declaration of Conformity 47 CFR § 2.1077 Compliance Information

Unique identifier: IM31010XBBB

Responsible Party:

Kevin Counts

10 N Martingale Rd #400

60173 - Schaumburg, IL

USA

Tel: +1 815 636 2541

E-mail: info.us@comap-control.com

FCC Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



E-mail: info@comap-control.com
Web: www.comap-control.com

