

Order code: IM-NTC-BB

## Comprehensive switchgear controller

# Datasheet

### Product description

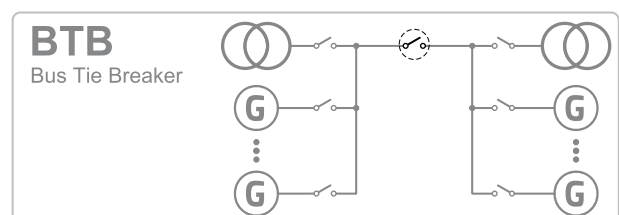
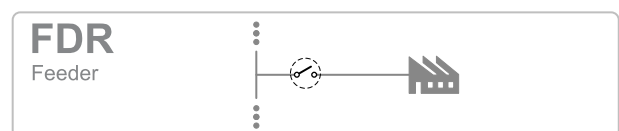
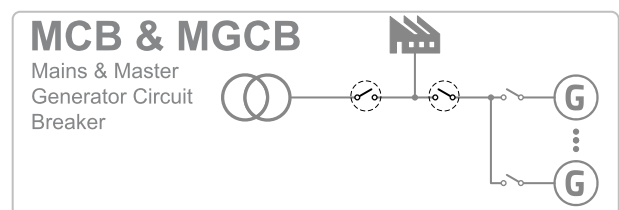
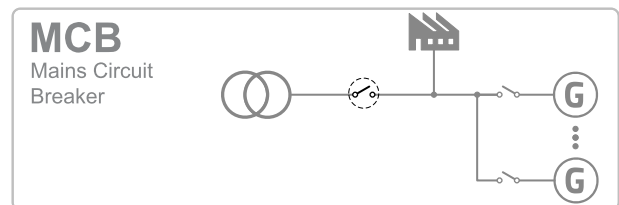
- ▶ Comprehensive switchgear controller
- ▶ Built-in control for up to 32 logic groups divided by Bus Tie Breakers
- ▶ High level control for complex systems

- ▶ Full Modbus slave support (RS232)
- ▶ Extendable with ComAp's extension modules

### Key features

- ▶ Built-in breaker control
- ▶ Genset group synchronization, Loadsharring and VARsharring via CAN2
- ▶ Customizable load control in parallel to mains
- ▶ Extended communication capabilities
  - Built-in web server
  - Airgate support and more
- ▶ Highly configurable
  - Timers, internal PLC, Force value and more
- ▶ Compatible with ComAp's InteliVision displays
- ▶ Monitoring and configuration with ComAp's PC tools
- ▶ Extensive built-in protection functions
  - Undervoltage, overvoltage
  - Underfrequency, overfrequency and more

### Application overview



## Technical data

### Power supply

Power supply range	8-36 VDC
Power consumption	0.4A / 8VDC 0.15A / 24VDC 0.1A / 36VDC
RTC battery	10 years (replacable by official service)
Fusing	2A (without BOUT consumption)
Max. Power Dissipation	9W

### Operating conditions

Operating temperature	-30°C to +70°C
Storage temperature	-40°C to +80°C
Operating humidity	95% w/o condensation
Vibration	5-25Hz, $\pm 1.6$ mm 25-100Hz, a=4g
Shocks	a=200m/s <sup>2</sup>

### Voltage measurement

Measurement inputs	3ph-n Mains voltage 3ph-n Bus voltage
Measurement range	110V/277V
Max allowed voltage	125%
Accuracy	1% of 110V/277V
Frequency range	40-70Hz (at accy 0.1Hz)
Input impedance	0.6M $\Omega$ ph-ph 0.3M $\Omega$ ph-n

### Current measurement

Measurement inputs	3ph Mains current 1ph Bus current
Measurement range	1A/5A
Max allowed current	1000%/200%
Accuracy	2% of 1A/5A
Input impedance	<0.1 $\Omega$

### Binary inputs

Number	12 non-isolated
Input resistance	4.7k $\Omega$
Close/Open indication	0-2VDC close contact >4VDC open contact

### Binary outputs

Number	12 non-isolated
Max current	0.5A (2A per group)
Switching to	negative/positive supply terminal

### Analog inputs

Number	3 non-isolated
Type	Switchable (Voltage, Resistance, Current)
Resolution	10bits, max 4 decimals
Range	0-5VDC/0-2500 $\Omega$ /0-20mA
Input impedance	>100k $\Omega$ / $>100$ k $\Omega$ /180 $\Omega$
Accuracy	$\pm 1\%$ of meas value $\pm 1$ mV $\pm 2\%$ of meas value $\pm 2$ $\Omega$ $\pm 1\%$ of meas value $\pm 0.5$ mA

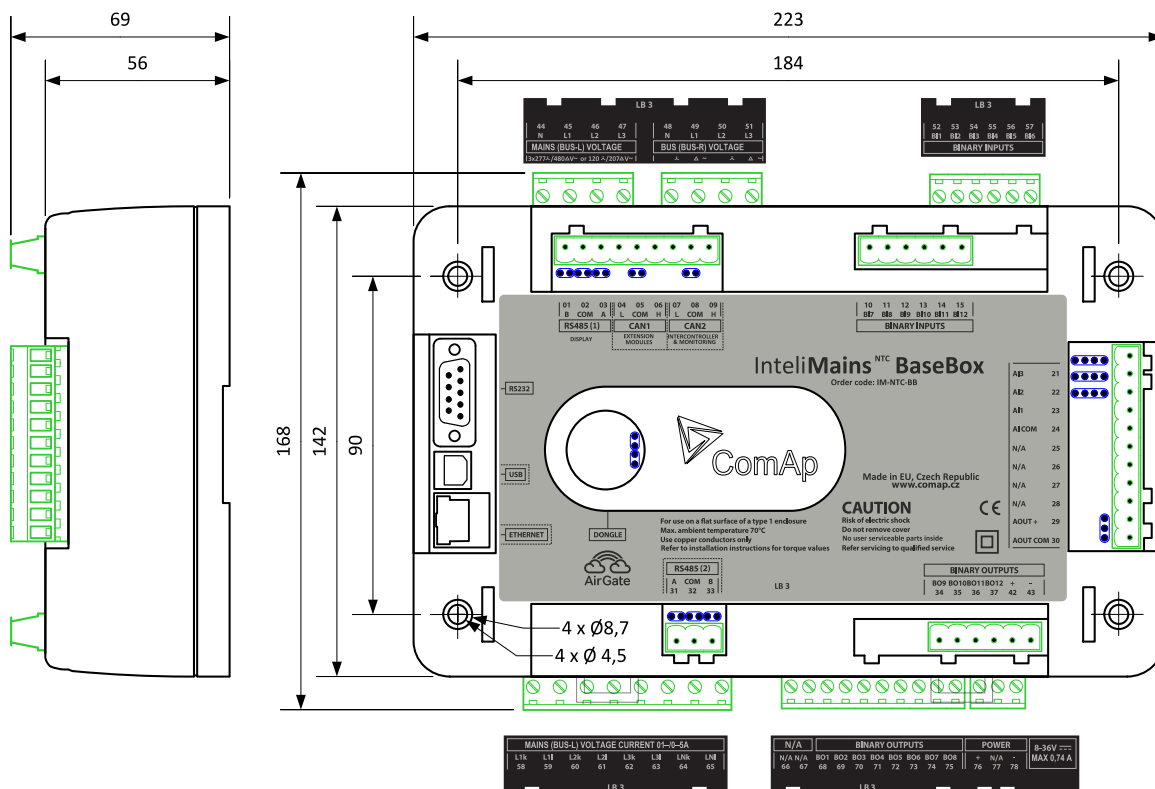
### Analog outputs

Number	1
Type	Switchable (Voltage, Current)
Range	0-10VDC/0-20mA
Max current/load	5mA/500 $\Omega$
Accuracy	$\pm 0.5\%$ of output value $\pm 20$ mV $\pm 0.5\%$ of output value $\pm 100$ $\mu$ A

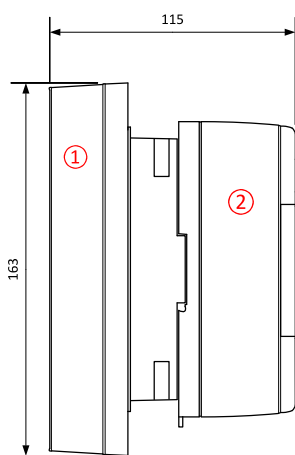
### Communications

RS232	Direct/Modbus, non-isolated
RS485	Direct/Modbus, isolated
Display port	non-isolated RS485, only terminal connection
USB port	Direct, isolated
Ethernet port	LAN/Internet, Modbus TCP, SNMP, WebServer, Airgate
CAN1	External modules 250kbps, max 200m Isolated
CAN2	Intercontroller and comm extensions 250/50kbps, max 200/1000m Isolated

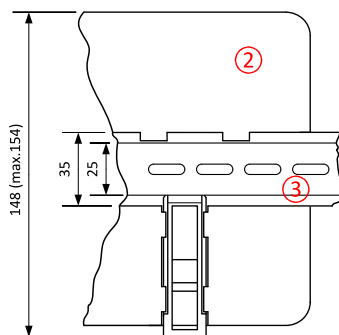
## Dimensions, terminals and mounting



### Panel door mounting with IntelliVision 5

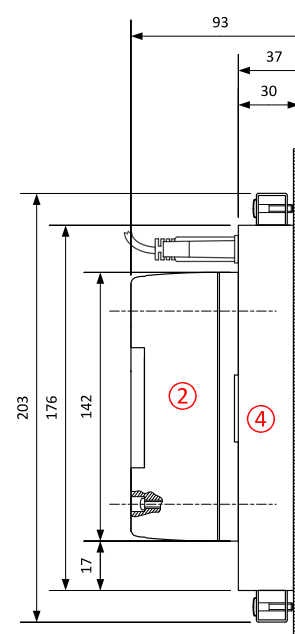


### DIN-rail mounting



- ① IntelliVision5
- ② IntelliMains<sup>NTC</sup> BaseBox
- ③ DIN-rail
- ④ IntelliVision 8

### Panel door mounting with IntelliVision 8



**Note:** IntelliMains<sup>NTC</sup> BaseBox can be mounted on a standard DIN rail or, in combination with IntelliVision 5 or IntelliVision 8, it can be door mounted. IntelliVision 5 features mounting rail for direct mounting. Mounting in combination with IntelliVision 8 uses four screws provided in the IntelliMains<sup>NTC</sup> BaseBox package.

## Available extension modules

Product	Description	Order code
Intel IO8/8	8 Binary inputs and 8 Binary outputs packed in a small unit (HW switchable to IO16/0)	<a href="#">I-IO8/8</a>
Intel IO16/0	16 Binary inputs packed in a small unit (HW switchable to IO8/8)	<a href="#">I-IO8/8</a>
Intel AIN8	8 Analog inputs and 1 pulse/frequency input in a small unit	<a href="#">I-AIN8</a>
IntelAIN8TC	8 Thermocouple Analog inputs in a small unit	<a href="#">I-AIN8TC</a>
IS-AIN8	8 Analog inputs packed in a rugged metal unit	<a href="#">IS-AIN8</a>
IGS-PTM	8 Binary inputs, 8 Binary outputs, 4 Analog inputs and 1 Analog output in a unit	<a href="#">IGS-PTM</a>
IGL-RA15	15 Binary LED output (3 colors) packed in a rugged metal unit	<a href="#">IGL-RA15</a>
I-AOUT8	8 Analog outputs packed in a rugged metal unit	<a href="#">I-AOUT8</a>
InternetBridge-NT	Multiple Internet connections (PC and Modbus) to all controllers on CAN2 or RS485	<a href="#">IB-NT</a>
I-LB+	Direct connection (PC) to all controllers on CAN2 or RS485	<a href="#">I-LB+</a>

**Note:** You can find all related manuals and materials for IntelIMains<sup>NTC</sup> BaseBox at

<http://www.comap.cz/products/detail/intelimains-ntc-basebox>

## Related products

Product	Description	Order code
IntelIVision 5	Color 5.6" display for monitoring and control	<a href="#">INTELIVISION 5</a>
IntelIVision 5 RD	Color 5.6" display for monitoring and control (RS485 isolated and backlit buttons)	<a href="#">INTELIVISION 5 RD</a>
IntelIVision 8	Color 8" display for advanced monitoring, control & trending, USB capable	<a href="#">INTELIVISION 8</a>
IntelIVision17T	Color 17" display for complete monitoring and control of multiple controllers	<a href="#">INTELIVISION 17T</a>

## Functions and protections

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

Examples are below. Other functions can be found in the IM-NT Reference guide.

Description	ANSI code	Description	ANSI code	Description	ANSI code
Synchronism check	25	Voltage asymmetry and phase sequence	47	Vector shift	78
Undervoltage	27	Temperature monitoring	49T	AC reclosing	79
Overload	32	Overcurrent	50	Overfrequency	81H
Load shedding	32P	Overcurrent (IDMT)	51	Underfrequency	81L
Undercurrent	37	Power factor	55	ROCOF	81R
Current unbalance	46	Overvoltage	59		

## Certificates and standards

▶ EN 60068-2-6 ed.2:2008	▶ IEC 60255-21-2	▶ IEC 60255-22-4	
▶ EN 60068-2-27 ed.2:2010	▶ IEC 60255-11	▶ IEC 60255-22-5	
▶ EN 60068-2-30, May 2000	▶ IEC 60255-22-1	▶ IEC 60255-22-6	
▶ EN 60068-2-64	▶ IEC 60255-22-2	▶ IEC 60255-25	
▶ EN 61010-1:2003	▶ IEC 60255-22-3	▶ IEC 60255-5	
▶ IEC 60255-21-1			
List of standards is available on: <a href="https://webstore.iec.ch/">https://webstore.iec.ch/</a>			

