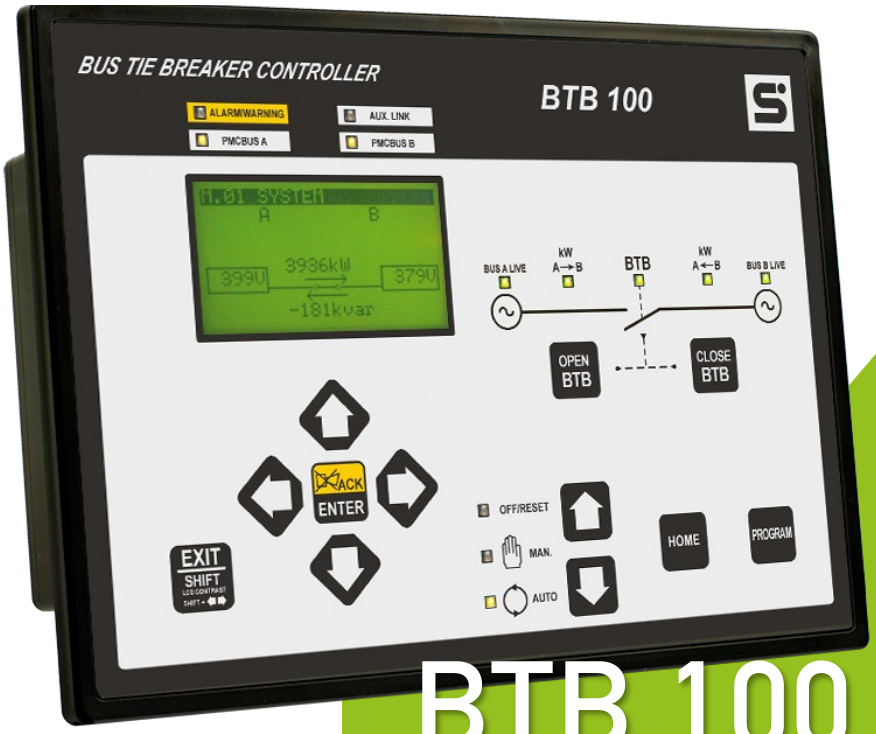
SICES®
Empowering your control



BTB 100

Bus Tie Breaker manager

Microprocessor-based controller aimed for the bus tie breakers management. Used in conjunction with MC100 and other SICES controllers, it allows the simple setup of complex applications having multiple Mains or/and multiple Bus Tie Breakers.

BTB100 can be connected to the following SICES controllers:

- DST4602
- GC500, GC500Plus, GC500Mains
- DST4601PX
- MC100

MADE IN ITALY

General info

BTB100 is an advanced controller basically studied for synchro/parallel power applications.

*BTB100 can control the closing of a **tie breaker (BTB) by means of a synchronization operation.***

It manages the synchronization between two bus A or B, based on a signal received or on an automatic logic, which considers the number of gensets connected on the bus.
The synchronization is achieved via CANBUS (in case BTB100 is used with SICES controllers), but it is also possible to control the synchronization of the gensets by analogue devices. In this case, it is necessary to add an additional device in order to separate the analogue load sharing line when the tie breaker is opened.

*BTB100 is able to **measure the current on the tie breaker** by means of a dedicated current transformer.*
*In addition, it can measure the **active and reactive power** exchanged on the bus, showing the flowing direction on the display and by the LEDs on the front panel.*

*It embeds also the energy counters for active and reactive energy, partial, total and separate for directions (A→B and B→A). They allow to **measure the import/ export energy on the bus.***

*If current transformers are connected to BTB100, **some protections for the tie breaker** are available with possibility to set warning or shutdown.*
In detail:
Instantaneous overcurrent (50)
Time dependent overcurrent (51)
Phase overcurrent with voltage restraint/control (50V/51V)

On the same bus you can connect:
***Up to 8 BTB100** for the tie breakers management*
***Up to 4 MC100** for the Mains/General circuit breakers*
***Up to 16 GC500Plus or up to 24 DST4602** for the gensets control*

BTB100 is equipped with N.1 RS232 and N.1 RS485 (not isolated) serial ports with Modbus RTU protocol.
*Using these interfaces, it is possible to **remotely control and manage the BTB from a control room.***

Measures

Bus Voltages:
L1-L2, L2-L3, L3-L1
True RMS measure
Lx-N max. voltage < 300Vac cat. IV
High voltage pulse: 6KV 1.2/50 us
Measurable voltage: 25.000V Max (by means external TV)

Currents:
L1, L2, L3, N
True RMS measure
Nominal max. current: 5Aac
Overload measurable current : 4 x 5Aac (sinusoidal)
Max. nominal current: 6000A (by external CT)

Mains Voltages:
L1-L2, L2-L3, L3-L1
True RMS measure
Lx-N max. voltage < 300Vac cat. IV
High voltage pulse: 6kV 1.2/50 us
Max. measurable voltage: 25.000V (by external TV)

Mains and Bus Frequency meter:
Resolution: 0.1 Hz.
Accuracy: ± 50ppm, ±35ppm/°C (typical)

Battery Voltmeter:
Resolution: 0.1V

Computed Measures

Active power meter
Reactive power meter
Apparent power meter
Power factor: Total and phase by phase
Active and reactive energy counter both (A→B and B→A)

Inputs and outputs

N.18 Programmable isolated digital Inputs
N.14 Programmable Relays (1A) Outputs
N.2 Relays (8A)
N.2 SPDT (10A) Relays for dual circuit breaker management
N.6 Analogue Inputs 0...10V
N.2 Outputs PWM

Communication

N.1 RS232 Serial port with Modbus RTU protocol
N.1 Additional RS232 or RS485 serial port with Modbus RTU protocol
N.2 CANBUS PMCBUS interfaces

AS OPTION:
Converter RS485/232 Modbus
Gateway as Ethernet interface
Modem GSM/GPRS

Embedded functions

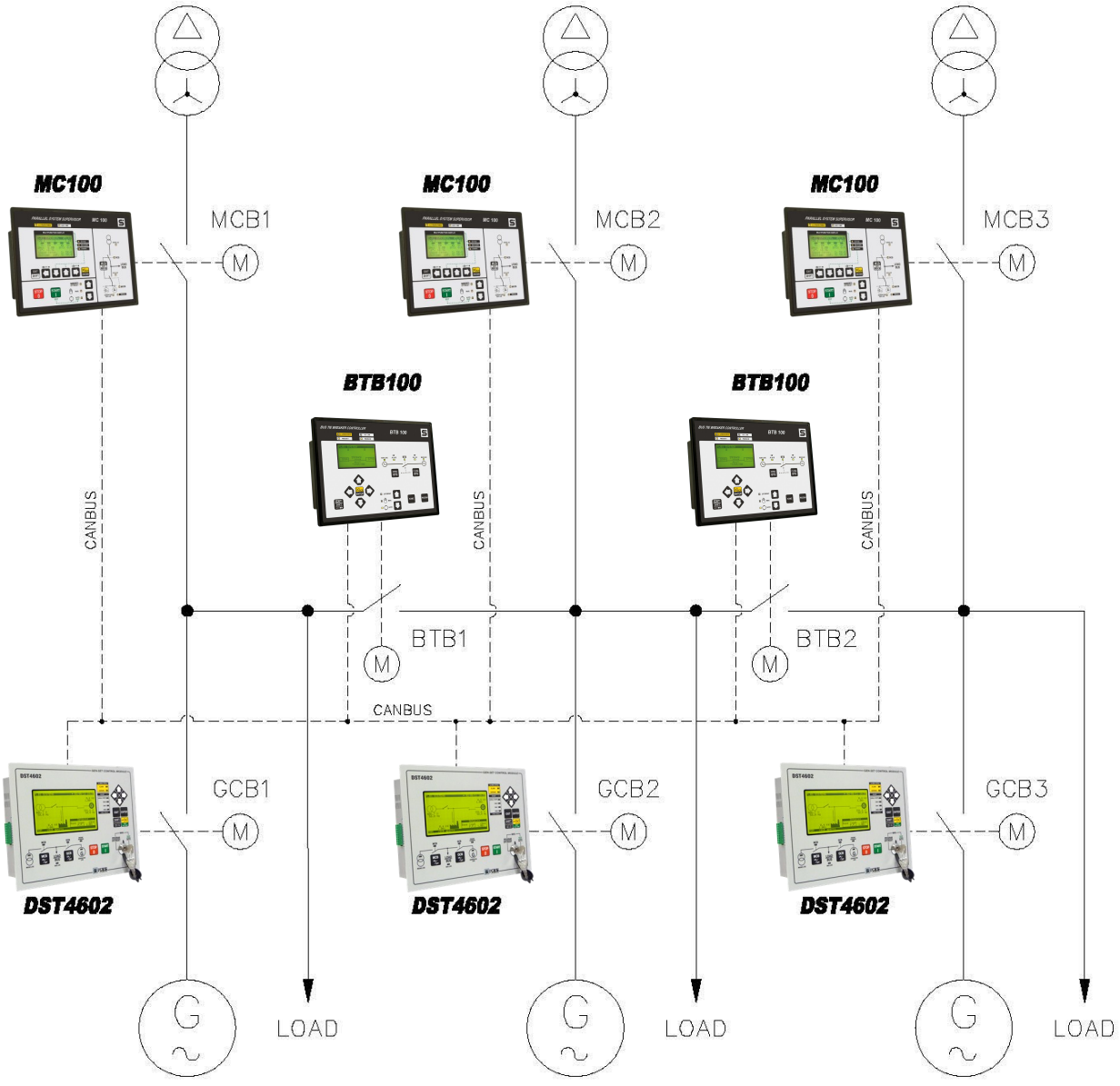
- Voltage matching in synchronizing operation
- Automatic bus synchronization
- Automatic selection of the synchro direction (to be enabled in the application)
- Events data recording
- Embedded alarm horn
- Isolated CAN interface for PMCBUS applications
- Multilanguage device (EN, FR, IT, RU, PT)

Additional technical data

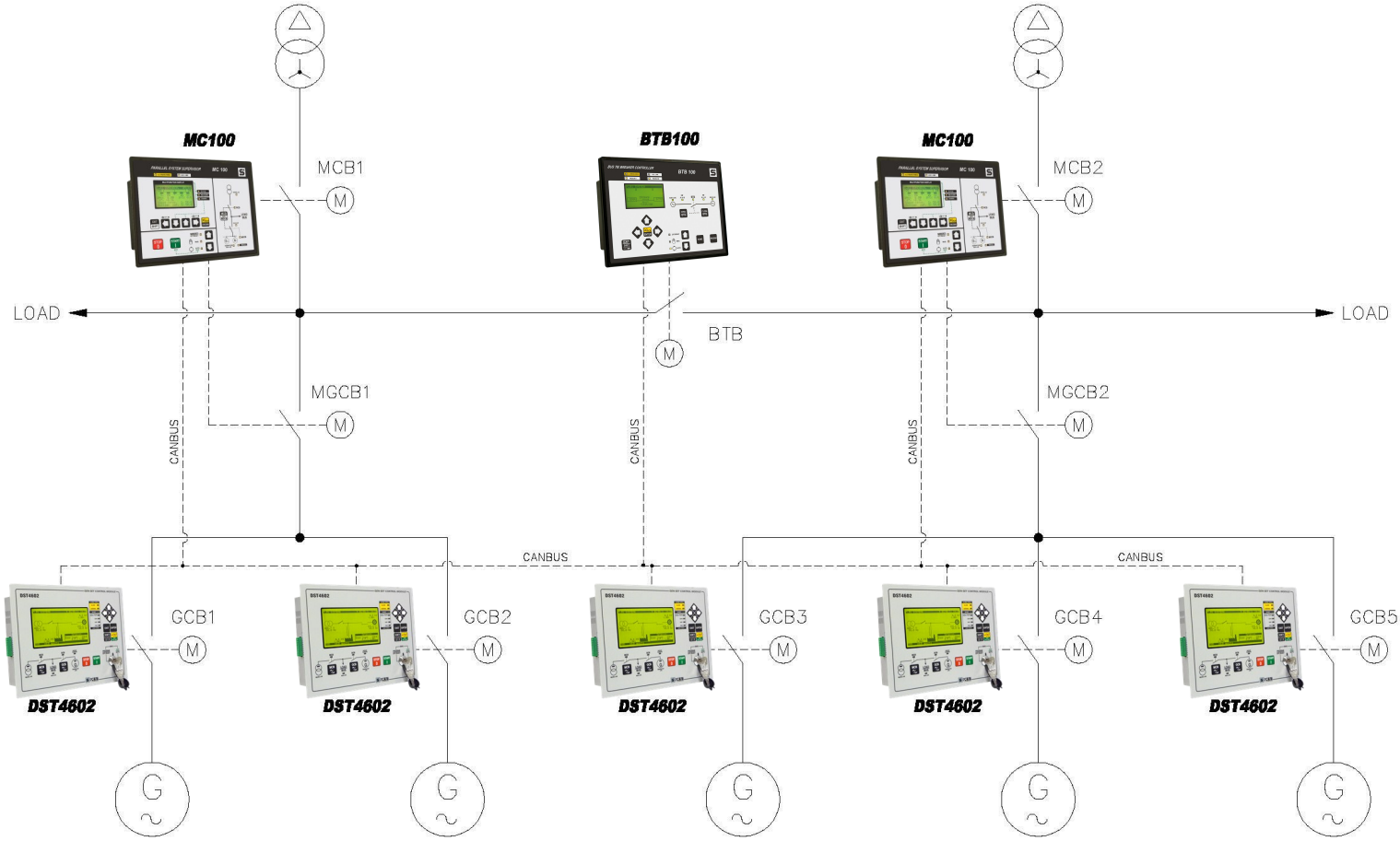
Supply voltage: 7…32 Vdc
Power consumption: about 3W with LCD Lamp Saving active
LCD: transflective with LED backlight
Operating temperature: -25 °C to 70 °C
Protection degree: IP55
Weight: 1200g
Overall dimension: 247x177 (LxH) mm
Panel cut-out: 218x159 (LxH) mm
Graphic display: 70x38 (LxH) mm - 128x64 pixel

EMC: conform to EN61326-1
Safety: built in conformity to EN61010-1

A tropicalized version for harsh environment is available on demand.



SICES®
Empowering your control



S.I.C.E.S. SRL
Società Italiana Costruzioni Elettriche Sumirago

Via Molinello 8B
21040 - Jerago con Orago (VA) ITALY

T +39 0331 212941
F +39 0331 216102

www.sices.eu
sales@sices.eu

SICES BRASIL Ltda

Avenida Portugal, 1174
Condomínio Empresarial ONIX
06696-060 / ITAPEVI (SP)

T +55 11 4193 2008

www.sicesbrasil.com.br
contato@sicesbrasil.com.br

Member of CISQ Federation RINA ISO 9001 · ISO 14001 BS OHSAS 18001

CE