

# MASTER 2.0 CORE

**REFERENCE**

A54Z1

**SOFTWARE**

CRE CONFIG SOFTWARE  
EASY PLC

**ASSOCIATED PRODUCTS**

CABLE A53W1

## Bus tie breaker controller



The MASTER 2.0 CORE is a controller developed to synchronize both sides of a power plant split by a bus tie breaker.

MASTER 2.0 CORE includes:

- Multi bus tie breaker management
- Mains breaker & mains synchronization management
- Load transfer with the mains power
- Three phase mains power failure detection
- Black start & blackout management
- Phase compensation

**FEATURES**

**Benefits:**

MASTER 2.0 CORE is an easy to connect additional unit for power plant application, or simply to manage a mains connection in automatic.

**Compatibility:**

- CANopen devices (I/O expansion)
- GENSYS2.0 RANGE CANbus protocol
- Analog load sharing lines
- Modbus RTU & Modbus TCP/IP

**Control and management:**

- Manual or automatic mode
- Blackout management (black start)
- Adjustable load ramp and timers
- Mains power protection

**Electrical protections:**

- Bus electrical protections: <F, >F, <U, >U,
- Loss of mains power detection & black start: <F, >F, <U, >U, >P, <P, >Q, <Q

**Synchronization:**

- Automatic frequency & phase synchronization (differential frequency meter + synchroscope available on screen)
- Automatic voltage synchronization
- Phase sequence protection

**Information displayed:**

- Bus electrical parameters:
  - Phase-phase voltage (3 phases RMS)
  - Phase-neutral voltage (3 phases RMS)
  - Frequency
- Shore electrical parameters:
  - Phase-phase voltage (3 phases true RMS)
  - Frequency
  - Current
  - Active & reactive power
  - Power factor

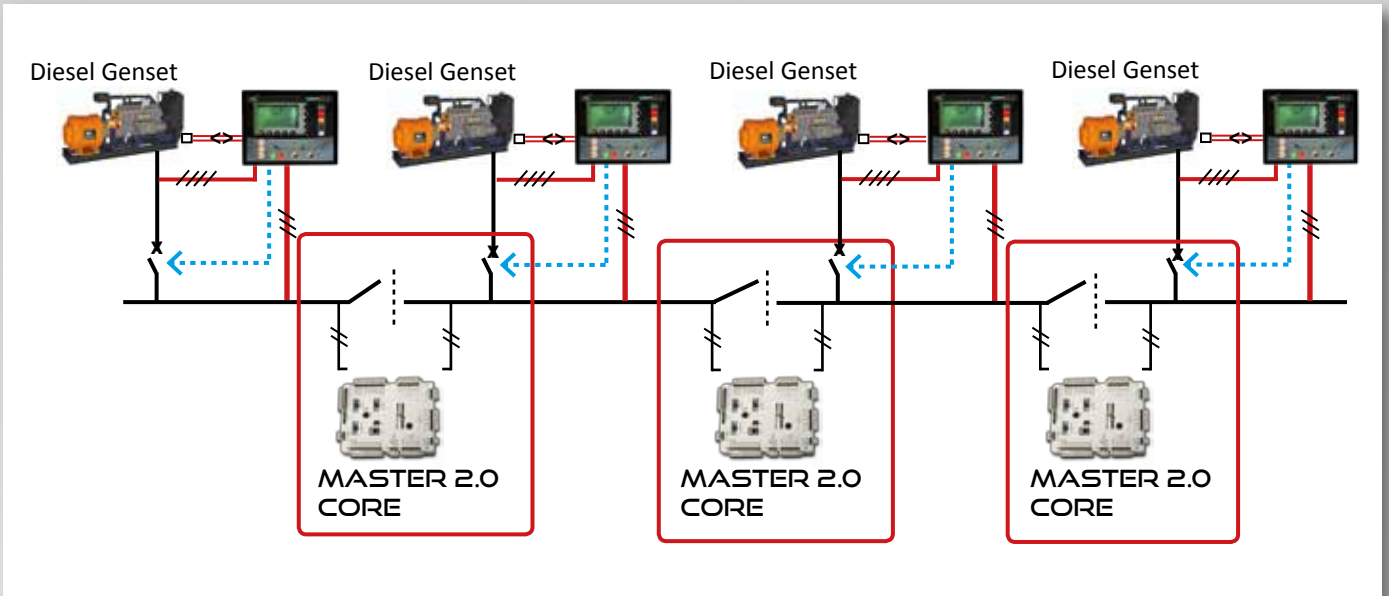
**Events displayed/recorded:**

- 2000 alarms/faults events are recorded on non-volatile memory
- Display last 50 alarms/faults + 50 active alarms/faults
- 50 parameters for user in Info page
- Data logging every 100ms
- SD card data logger with high capacity data backup

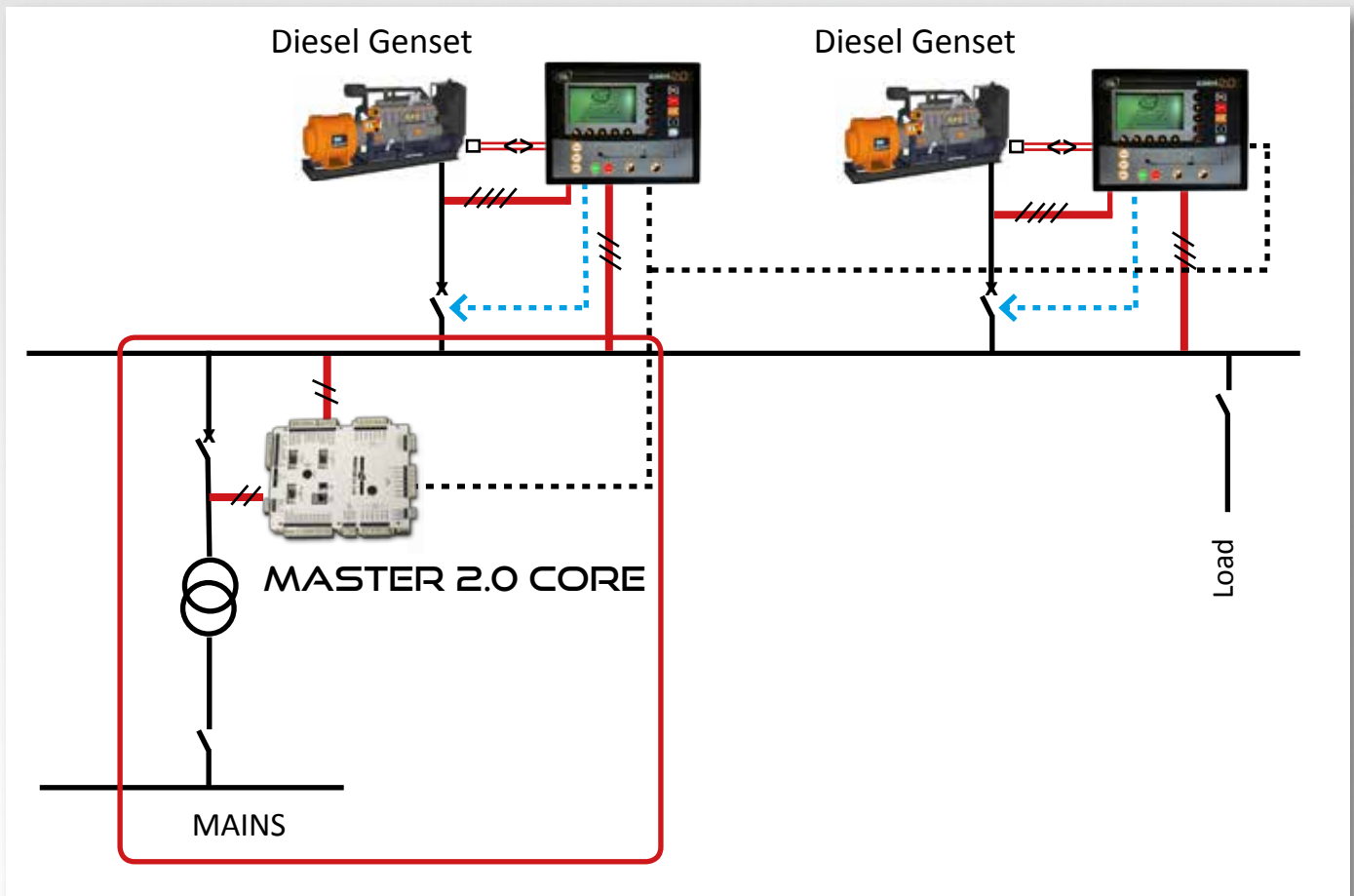
# MASTER 2.0 CORE Bus tie breaker controller

## APPLICATIONS

- Industrial applications with bus tie breaker



- Industrial application with mains connection and load transfer.



## MASTER 2.0 CORE Bus tie breaker controller

### SPECIFICATIONS

#### Inputs, outputs:

- 15 Digital Inputs: NO or NC to ground
- 4 Analogue Inputs: 4-20mA or resistive (0...10000  $\Omega$ )
- 5 Digital Outputs: 0.3A
- 4 Relay Outputs (2 for breaker control): 5A, 230V<sub>AC</sub>
- 2 Analog output: +/-10V<sub>DC</sub> for analog control & parallel lines
- 1 Analogue input : +/-10V<sub>DC</sub> or +/-20mA for power transducer connection or external control

#### Communication ports:

- RS485 for Modbus RTU (read and write)/male Sub-D 9 pins 120  $\Omega$  resistors selected by micro-switch.
- CAN bus for inter-GENSYS connection: male Sub-D 9 pins 120  $\Omega$  resistors selected by micro-switch
- CAN bus dedicated to options I/O extensions: male Sub-D 9 pins 120  $\Omega$  resistors selected by micro-switch
- Ethernet: PC communication/ Modbus TCP
- SD card reader

#### Current, voltage and frequency:

- DC voltage power supply input: 8 to 40V<sub>DC</sub>, 750mA at 12V<sub>DC</sub> and 400mA at 24V<sub>DC</sub>
- AC voltage inputs: 100 to 480V<sub>AC</sub>, 100mA max. Neutral terminal does not need to be connected.
- AC current inputs: 0 to 5A, 1VA
- Each phase is isolated from the others
- AC current overload: 15A during 10s
- Frequency measurement: 45 to 70 Hz – 15V<sub>AC</sub> minimum between phase and neutral

#### Environment:

- Operating temperature: -20°C to +70°C
- Storage temperature: -30 to +80°C
- Humidity: 5 to 95%. Circuits topicalization for normal operation in humid conditions.
- Rear panel protection: IP20

#### Size and weight:

- Size: 248x197x57mm (9.76x7.76x2.24in)
- Mounting: functions in any position
- Weight: 1kg (2.2lb)

#### Certifications:

- European union directives: EN 50081-2, EN 50082-2, 73/23EEC

#### Other:

- Terminals: 2 piece connectors, 2,5mm<sup>2</sup>





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## WIRING DIAGRAM

