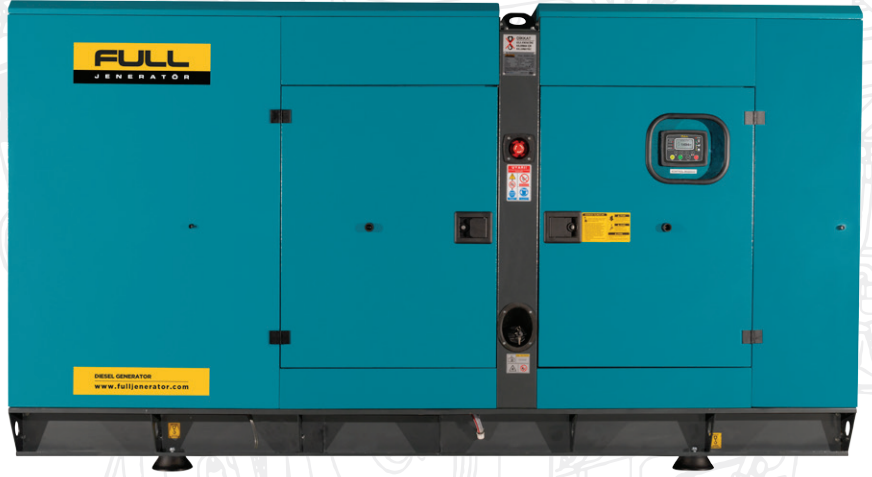




# FC 110

## Diesel Generator



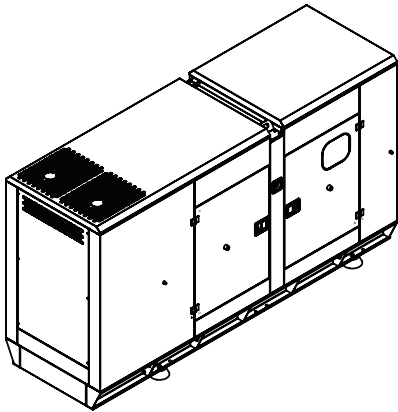
### GENERAL SPECIFICATIONS

|                |               |     |
|----------------|---------------|-----|
| Stand By Power | kVA           | 110 |
|                | kW            | 88  |
| Prime Power    | kVA           | 100 |
|                | kW            | 80  |
| Frequency      | Hz            | 50  |
| Cooling System | Water Cooling |     |

- 1) Standby power: The max power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage. Overloading isn't permissible.
- 2) Prime Power: The maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load. Average load should be 70%. The generator can be overloaded 10% for 1 hour per 12 hrs.

### DIMENSIONS & WEIGHT

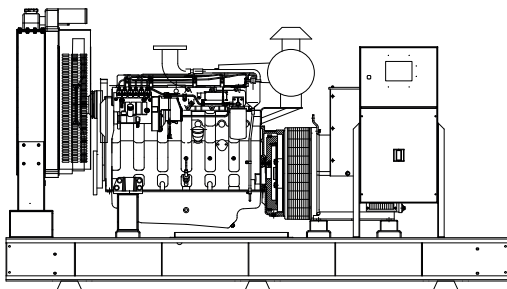
#### WITH CANOPY



| Length<br>L (mm) | Width<br>W (mm) | Height<br>H (mm) | Weight<br>(Kg) | Fuel Tank<br>Capacity |
|------------------|-----------------|------------------|----------------|-----------------------|
| 2800             | 1000            | 1500             | 1375           | 195                   |

#### OPEN TYPE

| Length<br>L (mm) | Width<br>W (mm) | Height<br>H (mm) | Weight<br>(Kg) | Fuel Tank<br>Capacity |
|------------------|-----------------|------------------|----------------|-----------------------|
| 2350             | 1000            | 1450             | 1181           | 195                   |



### ENGINE

| Engine                    | CUMMINS   |         |                   |
|---------------------------|-----------|---------|-------------------|
| Engine Model              |           |         | 6BT5.9-G2         |
| Number of Cylinders       |           |         | 6 Inline          |
| Injection System          |           |         | Direct            |
| Compression Ratio         |           |         | 17.3 : 1          |
| Bore                      |           | mm      | 102               |
| Stroke                    |           | mm      | 120               |
| Displacement              |           | lt      | 5.9               |
| Air Intake                |           |         | Turbo Aftercooler |
| Speed (RPM)               |           | rpm     | 1500              |
| Oil Capacity              |           | lt      | 16.4              |
| Standby Power             |           | kW / hp | 92 / 123          |
| Prime Power               |           | kW / hp | 86 / 115          |
| Fuel Type                 |           |         | Euro Diesel       |
| Governor System           |           |         | Electronic        |
| Cooling System            |           |         | Water Cooling     |
| Coolant Capacity          |           | lt      | 7.9               |
| Fuel Consumption (lt / h) | Full Load |         | 22.3              |
|                           | %75 Load  |         | 16.9              |
|                           | %50 Load  |         | 11.3              |

### ALTERNATOR

|                              |  |     |           |
|------------------------------|--|-----|-----------|
| Frequency                    |  | Hz  | 50        |
| Power                        |  | kVA | 110       |
| Voltage                      |  | V   | 230 / 400 |
| Nb of Phases                 |  |     | 3         |
| Aut. Voltage Regulator (AVR) |  |     | AS440     |
| Voltage Regulation           |  |     | ±1%       |
| Insulation Class             |  |     | H         |
| Protection Standard          |  |     | IP22-IP23 |
| Power Factor                 |  | Cos | 0.8       |

### TECHNICAL SPECIFICATIONS

#### ENGINE

- CUMMINS heavy duty diesel engine
- 12V / 24V starter and charge alternator
- Replaceable air, fuel and oil filters
- Mechanical governor control
- Tropical type radiator
- Flexible fuel hose
- Oil drain valve and extension hose
- Industrial type silencer and steel compensator
- Maintenance-free starter battery
- Water jacket heater
- 1500 rpm engine speed

#### ALTERNATOR

- IP 21-23 Protection Standard
- H Insulation Class
- 50 Hz Frequency
- 4 pole brushless synchronous type alternator
- Automatic Voltage Regulator (AVR)
- 400/230V AC Output Voltage - 1500 rpm

#### SOUND PROOF CANOPY AND CHASSIS

- Convenient design for easy lifting and carrying
- High standard sound proof canopy design
- Modular design with easily removable nuts - bolts
- Lockable doors
- Transparent window for watching Control Panel
- Electrostatic powder painted, providing protection against harsh weather conditions
- Emergency STOP button
- Fuel tank inside the chassis
- Anti-vibration wedges (engine - chassis and chassis - ground)

#### OPTIONAL

- Thermal magnetic CB (for automatic models)
- Super Silent Canopy
- Mobile Generator Sets
- Automatic fuel filling system
- Synchronization panel
- 3 Pole and 4 Pole ATS (Automatic Transfer Switch)
- Fuel Heater, Oil Heater
- External fuel tank and automatic fuel filling system
- Fuel - water separator filter
- Remote monitoring and control system





# FC 110

## Diesel Generator

### CONTROL PANEL

# D 300

## Web based Next Generation Controller



### SPECIFICATIONS

- Diesel and gas genset support
- 400Hz operation support
- 400 event logs, full snapshot
- All parameters front panel editable
- 3 level configuration password
- 128x64 graphical LCD display
- Downloadable languages
- Waveform display of V & I
- Harmonic analysis of V & I
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- 6 configurable digital outputs
- 3 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual "speed fine adjust" on selected ECUs
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarms
- Battery back-up real time clock
- Idle speed control
- Battery charge run enabled
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem diagnostics display
- Configurable through USB, RS-232 and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring
- Mobile genset support
- Automatic GSM geo-location
- GPS connectivity (RS232)
- Easy USB firmware upgrade
- IP65 rating with optional gasket

### MEASUREMENTS

- Mains & genset PN/PP voltages
- Mains & genset frequency
- Mains & genset phase currents
- Mains & genset neutral currents
- Mains & genset, phase & total, kW, kVA, kVAR, pf
- Engine speed
- Battery voltage

### FUNCTIONALITIES

- AMF unit
- ATS unit
- Remote start controller
- Manual start controller
- Engine controller
- Remote display panel

### COMMUNICATION

- USB Device
- RS-232 (2400-57600baud)
- J1939-CANBUS
- Geo-locating through GSM
- GPS support (RS-232)
- Internet Central Monitoring
- SMS message sending
- E-mail sending
- Free PC software: Rainbow Plus
- Modbus RTU
- Modbus TCP/IP