



## MTU ONSITE ENERGY CONTROL PANELS

When you are looking for standard or custom-built UL and NFPA-110 compliant control panels, MTU Onsite Energy is your source. Whether you need a basic control panel for starting and stopping your generator or a digital monitor with Modbus interface, MTU Onsite Energy has the right control panel for you. Our control panels can also be easily retrofitted to your existing engine generator set.

A Tognum Group Company

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# DGC-2020 DIGITAL GENSET CONTROLLER

MTU Onsite Energy's Digital Genset Controller (DGC-2020) is a highly advanced integrated genset control system. The DGC-2020 is perfectly focused, combining rugged construction and microprocessor technology to offer a product that will hold up to almost any environment and be flexible enough to meet your application's needs. This device provides genset control, transfer switch control, metering, protection and programmable logic in a simple, easy to use, reliable, and cost effective package.



## STANDARD FEATURES (LEVEL 1)

- // UL listed, CSA approved, CE compliant
- // NFPA-110 Compliant
- // Windows based software for optional remote operation
  - Programming and setup software—intuitive and powerful
  - Remote control and monitoring—programmable logic
  - USB communications
- // Generator Metering
- // Engine Monitoring
- // Genset Control
- // Emergency Stop
- // Engine Protection
- // Generator Protection (27, 32, 40Q, 59, 81O, 81U)
- // Automatic Transfer Switch Control
- // Event Recording
- // Suitable for use on rental gensets with Hi/Lo line sensing or single or three phase sensing override
- // SAE J1939 Engine ECU communications
- // Multilingual capability
- // Remote communications to the RDP-110 Remote Annunciator
- // 16 programmable contact inputs
- // 15 Contact outputs
- // Wide Ambient Temperature range
- // Expandable I/O capability via J1939 CANBUS
- // HALT (Highly Accelerated Life Tests) tested
- // IP 54 Front Panel rating with integrated gasket
- // Battery Backup for Real Time Clock

## OPTIONAL PRODUCT FEATURES

### Level 2

- // Includes all Level 1 Features
- // Generator Protection (47, 51)
- // RS-485 Communication Port

### Level 3

- // Includes all Level 1 and Level 2 Features
- // Auto Synchronizer

## EXPANSION HUBS

- // Load Share Module (LSM) enhances control of the kW load sharing of multiple engine generator sets
- // Contact Expansion Module (CEM) extends the contact input and output capabilities adding 10 inputs and 24 form C contacts
- // Analog Extension Module (AEM) provides additional inputs and outputs on a remote auxiliary device
- // 4-Relay Board provides 4, 10 amp form C relays
- // ModBus RTU-TCP Gateway provides network connectivity

## FUNCTIONS

### Genset Protection

- // Generator
  - Undervoltage (27) / Overvoltage (59)
  - Underfrequency (81U) / Overfrequency (81O)
  - Phase Imbalance (47)
  - Generator Overcurrent (51)
- // Engine Alarms (Shutdowns)
  - Low Oil Pressure
  - High Coolant Temperature & Low Coolant Level
  - Low Fuel Level
  - Overspeed & Overcrank & Engine Sender Unit Failure
  - Fuel Leak/Fuel Sender Failure
  - Battery Charger Failure
- // Engine Pre-Alarms (Warnings)
  - Low Oil Pressure
  - High Coolant & Low Coolant Temperature
  - Battery Overvoltage
  - Weak Battery & Battery Charger Failure
  - Engine Sender Unit Failure & Engine kW Overload
  - Maintenance Interval Timer
  - Low Coolant Level
  - High Fuel Level, Low Fuel Level & Fuel Leak Detect
  - Critical Low Fuel Shutdown

### Genset Metering

- // Generator parameters include voltage, current, Hz, real power (watts), apparent power (VA), and power factor
- // Engine parameters include oil pressure, coolant temperature, RPM, battery voltage, fuel level, engine run time, and various J1939 supported parameters

### Engine Control

- // Cranking Control: Cycle or Continuous (Fully Programmable)
- // Engine Cool down: Smart Cool down function saves fuel and engine life
- // Successful Start Counter
- // Timers:
  - Engine Cool down & Engine Maintenance
  - Pre-Alarm Time Delays for Weak/Low Battery Voltage
  - Alarm Time Delay for Overspeed & Sender Failure
  - Arming Time Delays after Crank Disconnect:
    - Pre-crank Delay
    - Continuous or Cycle Cranking Time Delay
- // Event Recording: Thirty critical events provide a record that is date and time stamped
- // Transfer Switch Control (Mains Failure): Monitoring utility mains to determine the voltage is suitable for the loads

# 45 SERIES CONTROL PANEL

## HIGHLIGHTS

- // 6 light engine control package
- // 3 analog meters
- // 6 engine monitoring gauges
- // Cyclic cranking and an adjustable cranking timer



## STANDARD FEATURES

- // 6 engine failure lights and five engine shutdowns: high engine temperature/low coolant level, engine overcrank, engine overspeed, fuel leak, low fuel level, and low oil pressure
- // Voltmeter: 3 1/2", 2% accuracy
- // Ammeter: 3 1/2", 2% accuracy
- // Frequency meter: 3 1/2", 55-65 Hz dial type
- // Emergency stop button
- // Combination voltmeter/ammeter selector switch 4 position
- // KASSEC automatic start engine control (12 or 24 volt DC)
- // Battery charging DC voltmeter: 2"
- // Engine coolant temperature gauge: 2"
- // Engine oil pressure gauge: 2"
- // Running time meter: 2", 5 digits
- // Alarm buzzer with silencing switch
- // 3 position mode switch (auto-off-manual)
- // Approximately 30 lbs.
- // Complete package, ready for installation

## OPTIONAL FEATURES

- // NEMA 12 enclosure adder
- // Auxiliary relay for dry contacts (2 max.)
- // Additional engine control lights (2 max.)
  - Low water level shutdown
  - Low battery voltage pre-alarm
  - Charger malfunction pre-alarm
  - Low oil pressure pre-alarm
  - EPS supplying load
  - High engine temperature pre-alarm
  - Low fuel (add switch to fuel tank) pre-alarm
  - Unit not in auto
  - Low coolant temperature pre-alarm

# 50 SERIES CONTROL PANEL

## HIGHLIGHTS

- // 16 light engine control package
- // NFPA-110 compliant
- // Option to add four additional lights
- // Two hooded panel lights with on/off switch
- // Cyclic cranking and an adjustable cranking timer

## STANDARD FEATURES

- // 16 engine failure lights and five engine shutdowns: high engine temperature, low oil pressure, engine overcrank, engine overspeed, unit not in auto, EPS supplying load, low engine temperature, high engine temperature pre-alarm, low oil pressure pre-alarm, low fuel level, low battery voltage pre-alarm, charger malfunction pre-alarm, low water level, fuel lead, and 2 open
- // Voltmeter: 3 1/2", 2% accuracy
- // Ammeter: 3 1/2", 2% accuracy
- // Frequency meter: 3 1/2", 55-65 Hz dial type
- // Combination voltmeter/ammeter selector switch 4 position
- // KASSEC automatic start engine control (12 or 24 volt DC)
- // Battery charging DC voltmeter: 2"



- // Emergency stop button
- // Engine coolant temperature gauge: 2"
- // Engine oil pressure gauge: 2"
- // Running time meter: 2", 5 digits
- // 3 position mode switch (auto-off-manual)
- // Approximately 30 lbs.
- // Complete package, ready for installation

## OPTIONAL FEATURES

- // NEMA 12 enclosure adder
- // Auxiliary relay for dry contacts (2 max.)
- // Additional engine control lights (4 max.)
  - Low water level shutdown
- // Alarm buzzer with silencing switch

# ANNUNCIATOR PANELS

## DIGITAL CONTROL ANNUNCIATOR

MTU Onsite Energy's remote annunciator, the RDP-110, is compatible with the 2020, 45, and 50 Series Control Panels. Using RS485 communications the RDP-110 can receive a signal from the control panel and will display the pre-alarms and alarms from up to 4,000 feet.



## DIGITAL CONTROL FEATURES

- // NFPA-110 and NEC section 700-12 compliant
- // Audible alarm horn rated at 80 db
- // Surface or semi-flush mounting
- // Lamp test and alarm silence switches
- // Analog panel requires 12, 24 volt DC; Digital panel requires 12, 24 volt DC or 120 volt AC power supply input
- // Conduit box with knockouts on top, bottom, and either side
- // Alarm conditions: switch not in auto, low coolant level, high coolant temperature, low oil pressure, overcrank, over-speed, emergency stop, fuel leak, sender failure
- // Pre-alarms: high coolant temperature, low coolant temperature, low oil pressure, low fuel level, battery over-voltage, weak battery, battery failure

## ANALOG CONTROL ANNUNCIATORS

The 6 light annunciator panel pairs with the Series 45 and the 16 light annunciator panel with the 50 control panel. Communicating with the analog KASSEC panel the multiple led lights display critical engine generator set pre-alarms and alarms..



## ANALOG CONTROL FEATURES

- // Available with 6 or 16 LED notification
- // NFPA-110 and NEC section 700-12 compliant
- // Surface or flush mounting
- // Audible signaling for engine pre-alarms and alarms
- // Repetitive alarm
- // 6 Light Alarm: low fuel, fuel leak, high engine temperature, low oil pressure, engine overspeed, and engine overcrank
- // 16 Light Pre-alarms: high engine temperature, low oil pressure, low battery voltage, and charger malfunction
- // 16 Light Alarms: high engine temperature, low oil pressure, engine overspeed, engine overcrank, EPS supplying load, low water temperature, low fuel, low engine temperature, fuel leak, unit not in auto, and 2 open

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