

## Gen set control unit

# DST4400

### AUTOMATIC MAINS FAILURE GENSET CONTROLLER

- **Three-phases AMF automatic genset controller**
- **True RMS readings on generator voltages and currents**
- **Additional current measurement for neutral or differential protection (OPTION)**
- **Active, Reactive and apparent power measurement**
- **8 fully programmable digital input**
- **Up to 6 programmable digital output**
- **RS232 interface port with MODBUS RTU protocol**
- **J1939 and MTU MDEC CAN interface (OPTION)**
- **Real Time Clock**
- **Engine speed measurement by pick-up or W**
- **GSM and PSTN modem management**
- **SMS communication**



DST4400 is microprocessor controller for Single Automatic Mains Failure gensets.

All the functions, controls and signals which are typically available in bigger and expensive devices, are in built in a small dimension controller.

By means the comfortable key selector switch DST4400 can be used for AMF either Manual gensets.

The wide range of measures, engine and electrical protections allow the use of DST4400 in a wide range of applications.

Most important electrical measures are True RMS values; this values alongside the power measures are obtained by means of fast sample acquisition.

**DST4400 can be equipped with J1939 interface (as option)** that make available a huge number of engine measures, status and diagnostic codes and messages. In addition, J1939 simplifies the engine-panel interface.

Regarding to the communication interfacing, one serial port **RS232 interface with MODBUS** protocol is available. As option it can be possible to require an additional serial port RS485 or RS232.

DST4400 comprises a real time clock (without back-up supply) and acoustic alarm in order to quickly advice the operator in case of alarm or shutdown.

DST4400 is a **Multilanguage device** with several languages available on the LCD display.

In detail it's possible to chose among Italian, English, French, Spanish, German, Portuguese, Russian and Chinese.



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# Technical characteristics

## Measures

### Mains Voltages

L1-L2, L2-L3, L3-L1

Lx-N max. voltage < 300Vac cat. IV

### Generator Voltages:

L1-L2, L2-L3, L3-L1, True RMS measure.

Lx-N max. voltage < 300Vac cat. IV

### Generator Currents:

L1, L2, L3, True RMS measure.

Nominal max. current: 5Aac

Overload measurable current : 4 x 5Aac (sinusoidal)

### Generator Frequency meter:

Resolution = 0.1 Hz.

Accuracy =  $\pm 50\text{ppm}$ ,  $\pm 35\text{ppm}/^\circ\text{C}$  (typical)

### Battery Voltmeter:

Resolution = 0.1V

### Oil Pressure Gauge:

VDO 0-10 Bar, VDO 0-5 Bar, Veglia 0-8 Bar

optional 0-10V input (MTU)

### Water Thermometer:

VDO, Veglia, BERU (optional 0-10V input)

### Fuel Level:

VDO, Veglia

### Engine revolution counter:

By W. Programmable frequency/revolution ratio.

Same input can be used by pick-up signal.

Measures available by J1939 bus (if installed option J1939)

## Computed Measures

Active, Reactive and Apparent power

Power factor: Total and phase by phase

Active and reactive energy counter

Hour counter,

Hour counter for maint./rental

Start Counter

## Engine Protections

Overspeed,

Coolant temperature by ON/OFF

Coolant temperature by analogue (warning available)

Oil pressure by ON/OFF,

Oil pressure by analogue (warning available)

Fuel level (warning available)

Belt break

Maximum deliverable power

Overcrank

Start failure

Fuel. Finished

## Generator Protections

Underfrequency (81U)

Overfrequency (81O)

Undervoltage (27)

Overvoltage (59)

Power direction (32)

Time dependent overcurrent (51)

Instantaneous overcurrent (50)

Phase sequence

Current and Voltage unbalance

Rated conditions failure.

Differential protection 51N (as option)

## Inputs, outputs and aux. functions

Embedded alarm horn.

8 programmable digital inputs

2 relays (3A) outputs

2 relays (3A) fuel valve and start

2 SPDT (10A) relays for power changeover management

RS232 serial port, engine diagnostic code (if option J1939 installed)

Periodical test

As option:

Additional serial port RS232 or RS485 (not insulated)

Additional 16 digital INPUT and 16 OUTPUT by-means DITEL

### Communication:

N.1 Serial port RS232 Modbus RTU

GSM and PSTN modem management

Automatic call in case of alarm

As option:

Converter insulated RS232/485 Modbus RTU

Remote communication via SMS with additional GSM/GPRS/

GPS modem

Ethernet connection by means additional electronic module

"Gateway Modbus TCP/IP RTU"

Supervision software for remote control available

## Other Technical data

Supply voltage: 7...32 Vdc

Power consumption: typical less than 3W

Nominal Gen-Set frequency: 50 or 60 Hz

LCD: transfective with LED backlight.

Operating temperature:  $-20^\circ\text{C}$  to  $60^\circ\text{C}$

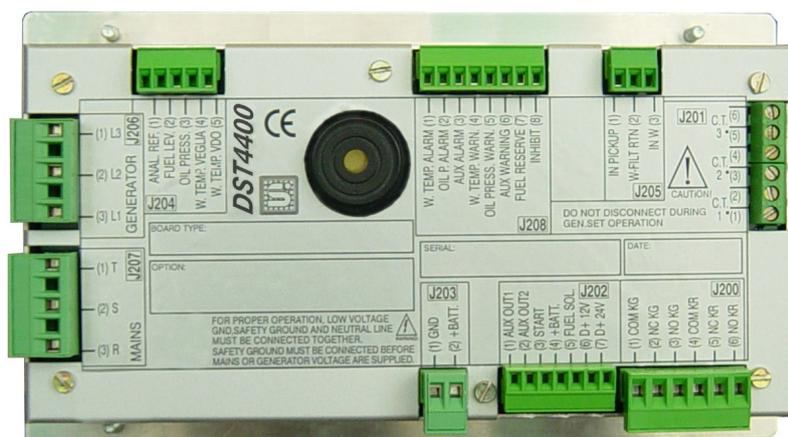
Weight: less than 700g

Overall dimension: 210x121x60 mm

Panel mounting: by means stud-bolt.

EMC: conform to EN61326-1.

Safety: built in conformity to EN61010-1



Back side of DST4400