



MA series 40-60-90 KW 400Hz LOAD BANK



The Intesys **MA series** Load Banks are a rugged instrument used to test, maintain and performance-prove 400Hz generators. Applications include **Aircraft Power Generators testing**.

These Load Banks are completely self-contained, freestanding units which include:



- All resistive load elements
- Load control devices
- Digital instruments with RS 485 Modbus port
- Load element circuit protection
- Cooling system
- Control power supply
- Overheat and fan fail detection system
- IP 20 enclosure
- (Optional) GenTest software for an external PC for step-by-step testing procedure, data

acquisition and storing, report printing



Local, Manual Control Panel

Multifunctional 400 Hz AC Power Meter

Measurement of current, voltage, frequency (360-440Mhz) active, reactive and apparent, power, power factor, active and reactive energy, harmonic distortion and harmonics



Precision measured values with error limits of 0.25% for U and I
RS 485 interface with Modbus RTU
Front panel dimensions: 144 x 144 mm
Continuous recording of selected measured values for load profile and statistical purposes (optional)
Interference recording function with high speed recording of events and pre-event history (optional)
Electrically isolated current inputs

DC digital voltmeter and ammeter

DC current digital meter 50 Adc f.s., RS 485 interface with Modbus RTU, 48x96mm, 0,2% f.s. accuracy
DC voltage digital meter 50 Vdc f.s., RS 485 interface with Modbus RTU, 0,2% f.s. accuracy

RPM digital meter + optical sensor

RPM digital meter 4000 RPM f.s., RS 485 interface with Modbus RTU, 48x96mm, 0,2% f.s. accuracy
Optical sensor to detect a reflecting tag applied to the rotor fan of the motor.



Cable length 3 mt

Phases rotation indicator

Phase indicator lights, A, B, C
Phase rotation indicators, ABC, CBA

Other controls

Load step control switches with short circuit trips
AC power inlet
Fan/control power switch and fan fail indicator (done by a differential pressure switch)
Over temperature indicator

Features

Capacity

40KW, 60KW, 90KW, 120KW; 1.0 power factor

Voltage

200Y/115V AC, 3-phase, 4-wire
28 Vdc, 25 and 45 A

Frequency

400 Hertz

AC Load Steps

3-phase balanced load steps, via load selector switches: 30%, 60%, 100% and 125% of nominal power

3-phase unbalanced load test: 1/3 power on every phase

28 Vdc Load Steps

Nominal load: 25 A
Overload: 45 A

Duty Cycle

Continuous

Ambient Temperature

0-50°C operating temperature, -15°C - +66°C storage temperature

Control Power

Auxiliary external 230 Vac, 50 Hz
(Optional) Derived from power source under load

Load Elements

Open wire, helically wound, chromium alloy, load element, 5% tolerance, 2% balance, .995 p.f., (low inductance) Ceramic insulated terminals
Insulation test: 2500 Vac, 50 Hz, 1 minute

Load Control

Load control power circuit breakers

Element Circuit Protection

Load step circuit breakers with overload/short circuit trips

Power Connection

Standard aircraft power inlet, male

Cooling

Vertical forced air by an axial fan

System Protection

High exhaust temp sensor and cooling fan airflow switch, with alarm

Enclosures

Electric box: iron, color RAL 7032
Resistors enclosure: IP 20, aluminium structure, with bolt-on access stainless panels, top and bottom screened ventilation openings, rubber feet, casters (optional), two stationary and two swivel

Basic Dimensions

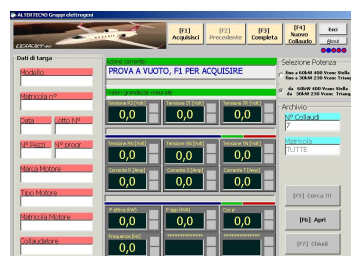
(WxDxH) 800x1000x1100

Basic Weight

70 KG

Options

GenTest software for 400 Hz Gensets testing



Graphical page with real time electric values

Database of tests with retrieving and reprinting of a single test selected by date and serial number

Print of a standard report with customer's

logo

Step by step control:

- Voltage shifting control
- Genset instrument precision control (Vac, Aac, Vdc, Adc, F)
- Frequency versus Engine RPM control
- Emergency circuits control: overfrequency, underfrequency, overvoltage and undervoltage
- Correct phases rotation control
- Overtemperature protection control
- Underpressure protection control
- Battery charging Vdc and Adc output control
- Frequency self-adjusting system control
- Residual undulation of 28Vdc power source at 1200 Hz

Intesys Srl – Load Banks, Testing Systems

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