

MotorTest Line

Safety, Surge and Functional Tests

Motortest Line is a hardware and software system for end-of-line testing of single- and three-phase asynchronous electric motors.



Main features

- Dielectric Strength Test
- Insulation Resistance Test
- Ohmic Resistance Test with Temperature Compensation
- Functional Test
- Surge Test and Winding Reversal Control
- Partial Discharges
- Maximum motor power: 10 KVA
- Automatic bridging (star or delta connection)
- Power supply from the mains, variable power supply or inverter
- Computers and software in the LabVIEW environment
- acquisition of measurements from the instruments
- automatic setting of thresholds and power supplies

Dielectric strength test to ground

Adjustable test voltage: 0 - 3000 Vac,
 class 2. Tripping current: 0.2 to 16 mA class 3

Insulation Resistance Test

Fixed test voltage: 500 Vdc Measuring range: 2 -
 200 M-ohm Calibration control: n. 2 4mm sockets

Option: Adjustable test voltage 0 - 800Vdc (0-10V
 analog signal)

Ohmic Resistance Test

Range 0.05 – 500 Ohm, class 0.5 Temperature
 compensation 0 - 50 °C, class 1

Surge test (short coil check)

Adjustable test voltage: 500 - 2500 Vp, class 2
 Tripping current: 0.2 to 16 mA, class 3 Measuring
 range: 0.3 - 3000 mH, class 1

- **(Opt) Winding Reversal Control** (start-end)
 during the Surge Test (only on motors
 without jumpers)
- **(Opt) Partial Discharge Test (PD or
 microdischarge or Corona Effect)** during
 the Surge test with indication of the number
 of micro-discharges, range from 0 - 250

Functional test (only with 50 or 60 Hz sinusoidal power supply)

Instrument with backlit liquid crystal display,
 10000 points (4 digits), digit height 12
 mm

Voltage measurement: 80 to 500 Vac
 three-phase, 50 to 290 Vac single-
 phase, class 0.2



- Current measurement: direct max 16 A class
 0.2, or from TA Frequency: from 47 to 63 Hz
 +/- 0.15 Hz Power: precision class 0.5 Power
 supply: 230 Vac 50 Hz Serial communication
 with PC and Intesys MotorTEST-Line software
 Reading update: 1.1 seconds Front size 96x96
 mm

Functional test with motors powered by inverter

Power, voltage, and current measurement by
 reading the inverter parameters via digital
 communication between the control PC and our
 inverter. Customer-specific inverters can be used
 and installed.

Power supply of the engines under test Star or delta connection

The system allows the
 connection of the motor both
 with and without jumpers; in this
 second case In this case, the
 star or delta connection of the
 motor is performed automatically from the device
 according to the programming made in the SW. It
 is also possible to set from the SW **Star/Delta
 starter** in order to limit the inrush current in higher
 power motors.



Power supply types

The motor's power input is
 independent and this allows it to
 work in different modes:

- **with direct power
 supply** from the electrical
 grid
- with power supply regulated by a motorized
 electromechanical variator with control
 integrated in our software
- **with three-phase solid-state power
 supply** which performs 3 functions: regulator,
 stabilizer and 50/60 Hz frequency converter
- **with inverter for variable speed motors** The
 inverter we supply is already integrated with
 both our hardware and our MotorTEST-Line
 software. It is possible to use a customer's
 inverter.



19" rack type measurement and control cabinet of 32 units on wheels. The device is made with

modular technique, i.e. with functional modules (simplifies maintenance operations).

Exit for connection to the motor under test on industrial connector.

Exit for connection to the line control PLC on industrial connector and with clean relay contacts.

The measurement and control section is powered by 230Vac which is in turn buffered by a UPS to avoid sudden shutdowns which could be harmful to the PC and Windows.

MotorTEST-Line management

software developed in LabVIEW environment, easy to use with the possibility of presetting repetitive control data (e.g. measurement tolerances and dielectric strength voltages and currents).

- The control tolerances of each data can be set as desired
- Storage of the statistical data file with one row of data for each test performed (exportable to Excel, Access, Lotus, etc.)
- Storage of the Batch Test Certificate

The system is supplied with CE certificate of conformity, Calibration Certificate, Software and Operating Manual in Italian or English

Test stations with protection, connectors and quick-connect terminals

Test station with single- or double-sliding guard, level 4 safety, motor connection with push-button terminals suitable for stripped wires and eyelets, OK and KO lights, and autostart signal generated by closing the guard. Quick-fit connectors for six-pole bases and spring-loaded terminals for quick connection of individual cables are available.

