

TEST AND MEASUREMENT LABORATORY

Qualification, Standard Conformity, Product Safety and Reliability

The **DATASENSOR** Test and Measurement Laboratory is a modern and equipped center for the verification of conformity to the European Normatives EN and International IEC of all products listed in the catalogue. The overcoming of the necessary verifications is compulsory for the issue of the Declaration of Conformity and the apposition of the CE mark, required from the Directives 2004/108/CEE (EMC), 73/23/CEE (Low Voltage), 98/37/CEE (Machinery). The laboratory can be used by the Customer to verify the application limits and reliability of the **DATASENSOR** products.

Photoelectric sensors

The tests are performed in the **DATASENSOR** laboratory as required by product normative: **EN 60947-5-2**: Low voltage switchgear and controlgear. Control circuit devices and switching elements. Proximity switches.

Safety Light Curtains

The pre-compliance tests can be performed in **DATASENSOR** laboratory, as required by product normatives: **EN 61496-1** Safety of machinery. Electro sensitive protective equipment (ESPE).

General requirements and tests. **IEC 61496-2** Particular requirements for equipment using active opto-electronic protective device (AOPD)

Electromagnetic Compatibility (EMC)

In the **DATASENSOR** Laboratory are performed measures of:

- electrostatic discharges immunity (ESD)
- radiated and conducted RF immunity
- electrical fast transient/burst immunity (EFT, Surge)
- voltage dips, short interruptions and voltage variations immunity
- radiated and conducted emission

Electrical Safety and Environmental Tests

In the **DATASENSOR** Laboratory are performed:

- dielectric strenght test
- insulation resistance test
- IP test up to the degree IP-x7 and IP69K

- climatic test from -40°C to +180°C, thermal shock and relative humidity
- vibrations test and free fall test
- ambient light rejection test
- electric cables bending and traction test

Quality Verification

DATASENSOR works according to ISO 9001 and ISO 14001 Quality System. Test Laboratory operates according to UNI CEI EN ISO/IEC 17025: General requirements for the competence of testing and calibration laboratories.





TESTS	NORMATIVES	TEST EQUIPMENT
Electrostatic discharge immunity	EN 61000-4-2	ESD Generator SCHAFFNER NSG 435
Radiated, radio-frequency, electromagnetic field immunity	EN 61000-4-3	RF Signal Generator PMM 3000 RF Amplifier FRANKONIA EMV FLH10 EM-CELL SCHAFFNER Applicative software PMM
Electrical fast transient/burst immunity	EN 61000-4-4	Burst Generator SHAFFNER BEST EMC-2 Burst Generator EM TEST AG EFT5 Capacitive Coupling Clamp SCHAFFNER CDN 126 Capacitive Coupling Clamp EM TEST AG HFK
Surge immunity	EN 61000-4-5	Surge generator SHAFFNER BEST EMC-2
Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	RF Signal Generator PMM 3000 RF Amplifier FRANKONIA EMV FLL25 Coupling Decoupling Network SCHAFFNER CDN M2-16 EM Injection Clamp FCC F203I PMM Applicative software
Voltage dips, short interruptions and voltage variation immunity test	EN 61000-4-11	Dip Generator SHAFFNER BEST EMC-2
Industrial, scientific and medical (ISM) radio-frequency equipment. Radio disturbance characteristics. Limits and methods of measurement	EN 55011	RF Receiver AFJ ER55-CR Artificial Mains Network LISN PMM L2-16 SCHAFFNER EM-CELL AFJ Applicative software
Limits and methods of measurement of radio disturbance characteristics of information technology equipment (ITE)	EN 55022	RF Receiver AFJ ER55-CR Artificial Mains Network LISN PMM L2-16 SCHAFFNER EM-CELL AFJ Applicative software
Electronic equipment for use in power installations	EN 50178	Electrical Safety Tester SEFELEC SMG 50
Safety of information technology equipment (ITE)	EN 60950	Electrical Safety Tester SEFELEC SMG 50



TESTS	NORMATIVES	TEST EQUIPMENT
Basic environmental testing procedure: dry heat	IEC 60068-2-2	Climatic chamber ANGELANTONI ACS EOS 100T DS software
Basic environ. testing procedure – Damp heat	IEC 60068-2-3	Climatic chamber TABAI Lucifer
Change of temperature	IEC 60068-2-14	Climatic chamber ANGELANTONI ACS EOS 100T DS software 8 channel thermocouple datalogger PICO TC-08
ENVIRONMENTAL STRESS SCREENING		Shock termal chamber BIEMME 360L (1800mm lenght)
Ambient light rejection	IEC 60947-5-2 IEC 61496-2	Incandescent lamp IANIRO Minilite 170Mk Halogen lamp PHILIPS EME-P2/11 500W 3200K Electronic ballast OSRAM Quicktronic Professional 30kHz Fluorescent lamp GE Polylux T8 2x58W 4000K Stroboscopic lamp MONARCH INSTRUMENT Nova Strobe DB Plus,0,5 to 233 Flash/sec 220mJ power Strobe Beacon FEDERAL SIGNAL Corp. FB2PST-240R Xenon lamp 90 flash/min 9J power Luxmeter DELTA OHM HD 8366
Safety of laser products	IEC 60825-1	Optical Power Meter THOR Labs
Environmental testing: vibrations	IEC 60068-2-6	VIBROTEST VM10001
Degrees of protection by enclosures (IP code)	IEC 60529	DS equipment for IP-x5, x-6, x-7 RS Water Fluxometer
IP69K test	DIN 40050-9	IP69K Lavorwash hydro cleaner (80°C, 100 bar)
Cable bending and traction	IEC 60947-5-2	DS bend and cable traction equipment Rebürel dynamometer
Free fall test	IEC 60068-2-32	DS equipment
Telecontrol equipment and systems Transmission protocols (serial outputs)	EN60870-5-101	B&B Electronics 485OT9L Optically Isolated Converter
Output switching control	IEC 60947-5-2 IEC 61496-2	Optical chopper STANFORD RESEARCH SR540 DS interfaces for output switching control

DATASENSOR SpA is a leader in research, development, production and sales of photoelectric sensors and devices for detection, safety, measurement and inspection in industrial automation.

The product offer includes complementary devices like inductive, capacitive and ultrasonic sensors, as well as temperature controllers.

The **DATASENSOR** worldwide presence is guaranteed by sales subsidiaries and a widespread network of local distributors, including selected Qualified Automation Partners (QAPs).

Thanks to its unique technology of the product and production process, **DATASENSOR** can boast international awards and an active partnership with the main companies operating in the world of automation.

INTERNATIONAL BEST FACTORY AWARD 2005



www.datasensor.com

TECHNICAL COMMITTEE

For a continuous improvement of tests is very important the knowledge of the state of the art regarding the International Normative. For this reason **DATASENSOR** is effective member of:

CEI – COMITATO ELETTROTECNICO ITALIANO

SC17B APPARECCHIATURA BASSA TENSIONE
CT44 EQUIPAGGIAMENTO ELETTRICO DELLE MACCHINE INDUSTRIALI
CT66 SICUREZZA DEGLI STRUMENTI DI MISURA, CONTROLLO E DA LABORATORIO
CT76 APPARECCHIATURE LASER
CT210 COMPATIBILITA' ELETTROMAGNETICA



IEC – INTERNATIONAL ELECTROTECHNICAL COMMITTEE

WORKING GROUP 3 CONTROL SWITCHES SC17B
Low voltage switchgear and controlgear
WORKING GROUP 10 ELECTRO-SENSITIVE PROTECTIVE EQUIPMENT TC44
Vision based protective devices



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DATASENSOR GROUP

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