



PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

ELETECH S.r.l.

Via Gracia Lorca, N°29, 23871, Lomagna (LC) Italy

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Electrical Testing
(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Initial Accreditation Date:

October 5, 2019

Issue Date:

October 5, 2019

Expiration Date:

November 30, 2021

Tracy Szerszen
President/Operations Manager

Accreditation No.:

101188

Certificate No.:

L19-503

Perry Johnson Laboratory
Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjilabs.com



Certificate of Accreditation: Supplement

ELECTECH S.r.l.

Via Garcia Lorca N°29, 23871, Lomagna (LC) Italia
 Contact Name: Nicola Papini Phone: 039/999121

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Emission of harmonic currents Mains Harmonic emissions	EN 61000-3-2:2014 IEC 61000-3-2:2014	50 Hz to 2 000 Hz 220 V to 240 V Single phase: 50 Hz to 60 Hz 380 V to 400 V Three phases: 50 Hz to 60 Hz
		EMC / EMC tests: Emission of voltage fluctuations / flicker Mains /voltage fluctuations emission	EN 61000-3-3:2013 IEC 61000-3-3:2013	220 V to 240 V Single phase: 50 Hz to 60 Hz 380 V to 400 V Three phases: 50 Hz to 60 Hz
		EMC / EMC tests: Radio interference emission /Conducted emissions; LISN Method and Annex B method in place of radiated emissions	EN 55016-1-2 (2014) + A1 (2018) CISPR 16-1-2 (2014) + A1 (2017) EN 55016-2-1 (2014) + A1 (2017) CISPR 16-2-1 (2014) + A1 (2017) EN 55011 (2016) + A1 (2017) CISPR 11 (2015) + A1 (2016) EN 55014-1 (2017) CISPR 14-1 (2016) + COR1 (2016) EN 55015 (2013) + A1 (2015) CISPR 15 (2013) +IS1+IS2 (2013) ETSI EN 301489-1 v.2.2.1 (2019) ETSI EN 301489-3 v2.1.1 (2019)	9 kHz to 30 MHz



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Radio interference emission /Conducted emissions; LISN Method and Annex B method in place of radiated emissions	ETSI EN 301489-7 v1.3.1 (2005) EN 61326-1 (2013) IEC 61326-1 (2012) EN 60601-1-2 (2015) IEC 60601-1-2 (2014) EN 50121-3-2 (2015) + A1 (2019) EN 50121-4 (2016) + A1 (2019) EN 61000-6-4 (2007) + A1 (2011) IEC 61000-6-4 (2006) + A1 (2010) EN 61000-6-3 (2007) + A1 (2011) IEC 61000-6-3 (2006) + A1 (2010) EN 60974-10 (2014) + A1 (2015) IEC 60974-10 (2014) + AMD1 (2015)	9 kHz to 30 MHz
		EMC / EMC tests: Emission of irradiated radio Interference Radiated Disturbances Emissions; Electric Field; Magnetic Field; LLA Magnetic field	EN 55016-1-2 (2014) + A1 (2018) CISPR 16-1-2 (2014) + A1 (2017) EN 55016-1-1 (2010) + A (2010) + A2 (2014) CISPR 16-1-1 (2010) + A (2010) + A2 (2014) EN 55016-1-4 (2010) + A1 (2012) + A2 (2017) CISPR 16-1-4 (2010) + A1 (2012) + A2 (2017) EN 55016-2-3:201 CISPR 16-2-3:2016	150 kHz to 6 GHz



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Emission of irradiated radio Interference Radiated Disturbances Emissions; Electric Field; Magnetic Field; LLA Magnetic field	EN 55011 (2016) + A1 (2017) CISPR 11 (2015) + A1 (2016) EN 55014-1 (2017) CISPR 14-1 (2016) + COR1 (2016) EN 55015 (2013) + A1 (2015) CISPR 15 (2013) +IS1+IS2 (2013) EN 55032 (2015) + AC (2016) CISPR 32 (2015) +COR1 (2016) ETSI EN 301489-1 V.2.2.1 (2019) ETSI EN 301489-3 v2.1.1 (2019); ETSI EN 301489-7 v1.3.1 (2005) EN 61326-1 (2013) IEC 61326-1 (2012) EN 60601-1-2 (2015) IEC 60601-1-2 (2014) EN 50121-3-2 (2015) + A1 (2019) EN 50121-4 (2016) + A1 (2019) EN 61000-6-4 (2007) + A1 (2011) IEC 61000-6-4 (2006) + A1 (2010) EN 61000-6-3 (2007) + A1 (2011) IEC 61000-6-3 (2006) + A1 (2010)	150 kHz to 6 GHz



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Emission of irradiated radio Interference Radiated disturbances Emissions; Electric Field; Magnetic Field; LLA Magnetic field	EN 60974-10 (2014) + A1 (2015) IEC 60974-10 (2014) + AMD1 (2015)	150 kHz to 6 GHz
		EMC / EMC tests: Immunity to electrostatic discharge	EN 61000-4-2 (2009) IEC 61000-4-2 (2008) EN 61326-1 (2013) IEC 61326-1 (2012) EN 60601-1-2 (2015) IEC 60601-1-2 (2014) EN 55014-2 (2015) CISPR 14-2 (2015) EN 61547 (2009) IEC 61547 (2009) EN 61000-6-1 (2019) IEC 61000-6-1 (2016) EN 61000-6-2:2019 IEC 61000-6-2 (2016) EN 55035 (2017) CISPR 35 (2016) EN 50121-3-2 (2015) + A1 (2019) EN 50121-4 (2016) + A1 (2019) EN 50130-4 (2011) + A1 (2014) EN 60335-1 (2012) + A1 + A2 + A11 + A13 + A14 (§19.11.4.1 to §19.11.4.7) IEC 60335-1 (2010) + AMD1 (2013) + AMD2 (2016) (§19.11.4.1 to §19.11.4.7) ETSI EN 301489-1 v.2.2.1 (2019)	Contact discharge: ±2 kV a ± 30 kV Air discharge: ±2 kV a ± 30 kV



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Immunity to electrostatic discharge	ETSI EN 301489-3 v2.1.1 (2019) ETSI EN 301489-7 v1.3.1 (2005) EN 60974-10 (2014) + A1 (2015) IEC 60974-10 (2014) + AMD1 (2015) EN 61000-6-5 (2015) IEC 61000-6-5 (2015)	Contact discharge: ± 2 kV a ± 30 kV Air discharge: ±2 kV a ± 30 kV
		EMC / EMC tests: Radiated RF immunity	EN 61000-4-3(2006) + A1(2008) + A2(2010) IEC 61000-4-3 (2006) + A1(2007) + A2(2010) EN 61326-1 (2013) IEC 61326-1 (2012) EN 60601-1-2 (2015) IEC 60601-1-2 (2014) EN 55014-2 (2015) CISPR 14-2 (2015) EN 61547 (2009) IEC 61547 (2009) EN 61000-6-1 (2019) IEC 61000-6-1 (2016) EN 61000-6-2:2019 IEC 61000-6-2 (2016) EN 55035 (2017) CISPR 35 (2016) EN 50121-3-2 (2015) + A1 (2019) EN 50121-4 (2016) + A1 (2019) EN 50130-4 (2011) + A1 (2014)	80 MHz to 6 GHz Level 1 V/m to 30 V/m Amplitude Modulation/ Pulse Modulation



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Radiated RF immunity	EN 60335-1 (2012) + A1 + A2 A11 + A13 + A14 (§19.11.4.1 to §19.11.4.7) IEC 60335-1 (2010) + AMD1 (2013) + AMD2 (2016) (§19.11.4.1 to §19.11.4.7) ETSI EN 301489-1 v2.2.1 (2019) ETSI EN 301489-3 v2.1.1 (2019) ETSI EN 301489-7 v1.3.1 (2005) EN 60974-10 (2014) + A1 (2015) IEC 60974-10 (2014) + AMD1 (2015) EN 61000-6-5 (2015) IEC 61000-6-5 (2015)	80 MHz to 6 GHz Level 1 V/m to 30 V/m Amplitude Modulation/ Pulse Modulation
		EMC / EMC tests: Immunity to Fast Transients / Bursts	EN 61000-4-4 (2012) IEC 61000-4-4 (2012) EN 61326-1 (2013) IEC 61326-1 (2012) EN 60601-1-2 (2015) IEC 60601-1-2 (2014) EN 55014-2 (2015) CISPR 14-2 (2015) EN 61547 (2009) IEC 61547 (2009) EN 61000-6-1: (2019) IEC 61000-6-1 (2016) EN 61000-6-2:2019 IEC 61000-6-2 (2016) EN 55035 (2017) CISPR 35 (2016)	250 V to 5.5 kV 5 ns to 50 ns 5 kHz to 100 kHz



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Immunity to Fast Transients / Bursts	EN 50121-3-2 (2015) A1 (2019) EN 50121-4 (2016) + A1 (2019) EN 50130-4 (2011) + A1 (2014) EN 60335-1 (2012) + A1 + A2 + A11 + A13 + A14 (§19.11.4.1 to §19.11.4.7) IEC 60335-1 (2010) + AMD1 (2013) + AMD2 (2016) (§19.11.4.1 to §19.11.4.7) ETSI EN 301489-1 v.2.2.1 (2019) ETSI EN 301489-3 v2.1.1 (2019) ETSI EN 301489-7 v1.3.1 (2005) EN 60974-10 (2014) + A1 (2015) IEC 60974-10 (2014) + AMD1 (2015) EN 61000-6-5 (2015) IEC 61000-6-5 (2015)	250 V to 5.5 kV 5 ns to 50 ns 5 kHz to 100 kHz
		EMC / EMC tests: Immunity to Surge	EN 61000-4-5:2014 + A1 (2017) IEC 61000-4-5:2014 + A1 (2017) EN 61326-1 (2013) IEC 61326-1 (2012) EN 60601-1-2 (2015) IEC 60601-1-2 (2014) EN 55014-2 (2015) CISPR 14-2 (2015)	500 V to 4 kV 1.2/50 (8/20) µs



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Immunity to Surge	EN 61547 (2009) IEC 61547 (2009) EN 61000-6-1 (2019) IEC 61000-6-1 (2016) EN 61000-6-2 (2019) IEC 61000-6-2 (2016) EN 55035 (2017) CISPR 35 (2016) EN 50121-3-2 (2015) + A1 (2019) EN 50121-4 (2016) + A1 (2019) EN 50130-4 (2011) + A1 (2014) EN 60335-1 (2012) + A1 + A2 + A11 + A13 + A14 (§19.11.4.1 to §19.11.4.7) IEC 60335-1 (2010) + AMD1 (2013) + AMD2 (2016) (§19.11.4.1 to §19.11.4.7) ETSI EN 301489-1 v.2.2.1 (2019) ETSI EN 301489-3 v2.1.1 (2019) ETSI EN 301489-7 v1.3.1 (2005) EN 60974-10 (2014) + A1 (2015) IEC 60974-10 (2014) + AMD1 (2015) EN 61000-6-5 (2015) IEC 61000-6-5 (2015)	500 V to 4 kV 1.2/50 (8/20) µs



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Conducted RF Immunity	EN 61000-4-6 (2014) + AC (2015) IEC 61000-4-6 (2013) EN 61326-1 (2013) IEC 61326-1 (2012) EN 60601-1-2 (2015) IEC 60601-1-2 (2014) EN 55014-2 (2015) CISPR 14-2 (2015) EN 61547 (2009) IEC 61547 (2009) EN 61000-6-1 (2019) IEC 61000-6-1 (2016) EN 61000-6-2 (2019) IEC 61000-6-2 (2016) EN 55035 (2017) CISPR 35 (2016) EN 50121-3-2 (2015) + A1 (2019) EN 50121-4 (2016) + A1 (2019) EN 50130-4 (2011) + A1 (2014) EN 60335-1 (2012) + A1 + A2 + A11 + A13 + A14 (§19.11.4.1 to §19.11.4.7) IEC 60335-1 (2010) + AMD1 (2013) + AMD2 (2016) (§19.11.4.1 to §19.11.4.7) ETSI EN 301489-1 v.2.2.1 (2019) ETSI EN 301489-3 v2.1.1 (2019)	150 kHz to 230 MHz Level 1 V to 10 V Amplitude Modulation



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Conducted RF Immunity	ETSI EN 301489-7 v1.3.1 (2005) EN 60974-10 (2014) + A1 (2015) IEC 60974-10 (2014) + AMD1 (2015) EN 61000-6-5 (2015) IEC 61000-6-5 (2015)	150 kHz to 230 MHz Level 1 V to 10 V Amplitude Modulation
		EMC / EMC tests: Immunity to magnetic fields at network frequency	EN 61000-4-8 (2010) IEC 61000-4-8 (2009) EN 61326-1 (2013) IEC 61326-1 (2012) EN 60601-1-2 (2015) IEC 60601-1-2 (2014) EN 55014-2 (2015) CISPR 14-2 (2015) EN 61547 (2009) IEC 61547 (2009) EN 61000-6-1 (2019) IEC 61000-6-1 (2016) EN 61000-6-2:2019 IEC 61000-6-2 (2016) EN 55035 (2017) CISPR 35 (2016) EN 50121-3-2 (2015) + A1 (2019) EN 50121-4 (2016) + A1 (2019) EN 50130-4 (2011) + A1 (2014)	16.7 or 50 or 60 Hz 0 A/m to 100 A/m



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Immunity to magnetic fields at network frequency	EN 60335-1 (2012) + A1 + A2 + A11 + A13 + A14 (§19.11.4.1 to §19.11.4.7) IEC 60335-1 (2010) + AMD1 (2013) + AMD2 (2016) (§19.11.4.1 to §19.11.4.7) ETSI EN 301489-1 v.2.2.1 (2019) ETSI EN 301489-3 v2.1.1 (2019) ETSI EN 301489-7 v1.3.1 (2005) EN 60974-10 (2014) + A1 (2015) IEC 60974-10 (2014) + AMD1 (2015) EN 61000-6-5 (2015) IEC 61000-6-5 (2015)	0 A/m to 100 A/m 16.7 or 50 or 60 Hz
		EMC / EMC tests: Immunity to Voltage Dips, Interruptions and Variations	EN 61000-4-11 (2004) + A1(2017) IEC 61000-4-11 (2004) + A1(2017) EN 61326-1 (2013) IEC 61326-1 (2012) EN 60601-1-2 (2015) IEC 60601-1-2 (2014) EN 55014-2 (2015) CISPR 14-2 (2015) EN 61547 (2009) IEC 61547 (2009) EN 61000-6-1 (2019) IEC 61000-6-1 (2016) EN 61000-6-2 (2019) IEC 61000-6-2 (2016)	Residual Voltage: 0 % to 100 %



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Electrical ^F	Electric and Electronic Equipment	EMC / EMC tests: Immunity to Voltage Dips, Interruptions and Variations	EN 55035 (2017) CISPR 35 (2016) EN 50121-3-2 (2015) + A1 (2019) EN 50121-4 (2016) + A1 (2019) EN 50130-4 (2011) + A1 (2014) EN 60335-1 (2012) + A1 + A2 + A11 + A13 (§19.11.4.1 to §19.11.4.7) IEC 60335-1 (2010) + AMD1 (2013) + AMD2 (2016) (§19.11.4.1 to §19.11.4.7) ETSI EN 301489-1 v.2.2.1 (2019) ETSI EN 301489-3 v2.1.1 (2019) ETSI EN 301489-7 v1.3.1 (2005) EN 60974-10 (2014) + A1 (2015) IEC 60974-10 (2014) + AMD1 (2015) EN 61000-6-5 (2015) IEC 61000-6-5 (2015)	Residual Voltage: 0 % to 100 %
	Domestic Appliances	EMC / EMC tests: Interference power measurements	EN 55016-1-3 (2006) + A1 (2016) CISPR 16-1-3 (2004) + A1 (2016) EN 55016-2-2 (2011) CISPR 16-2-2 (2010) EN 55014-1 (2017) CISPR 14-1 (2016) + COR1 (2016)	30 MHz to 300 MHz



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Accreditation is granted to the facility to perform the following testing:

1. The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Outside Micrometer^F would mean that the laboratory performs this testing at its fixed location.

