## **Schedule of Accreditation**

issued by

**United Kingdom Accreditation Service** 

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK



## DETAIL OF ACCREDITATION

**Note:** Where EN Standards have exact equivalents in IEC, or BS EN Standards, these are also included in the accreditation.

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
Adjustable Speed Electrical Power Drive Systems	<ul> <li><u>1. EMC TESTS</u></li> <li>1.1 CIVIL EMC TESTS (Emissions)</li> <li>1.1.1 – Conducted Emissions</li> <li>9 kHz – 30 MHz (LISN / AMN)</li> </ul>	CISPR 11:2019
	<ul> <li>1.2 CIVIL EMC TESTS (Immunity)</li> <li>1.2.1 – Electrostatic Discharge Immunity</li> <li>2 kV to 16.5 kV</li> </ul>	IEC 61000-4-2:2008
	1.2.2 – Electrical Fast Burst Transient Immunity 0.25 kV to 5 kV 5 kHz / 100 kHz 3 – 690 Vac / 3x 32 A	IEC 61000-4-4:2012
	1.2.3 – Voltage Surge Immunity 0.25 kV to 5 kV 1.2 / 50 (8/20) μs 2 Ω / 12 Ω 3 – 690 Vac / 3x 32 A	IEC 61000-4-5:2014 IEC 61000-4-5:2017



Schedule, but limited to those referred basic standards that are explicitly listed in Sections 1.1 to

1.2.8

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UKAS TESTING 21541	Siemens plc
Accredited to ISO/IEC 17025:2017	Issue No: 003 Issue date: 28 August 2024
	Testing performed at main address only

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
Adjustable Speed Electrical Power Drive Systems	2. ENVIRONMENTAL TESTS 2.1 CLIMATIC 2.1.1 – Low Temperature (Cold) Steady State & Cyclic Min temp: -40 °C Tolerance on temp = $\pm$ 1 °C Max Chamber Size: 1 x 1 x 1 m	IEC 60068-2-1:2007
	2.1.2 – Dry Heat Steady State & Cyclic Max temp: +80 °C Tolerance on temp = $\pm 1$ °C Max Chamber Size: 2 x 2 x 1.95 m	IEC 60068-2-2:2007
	2.1.3 – Damp Heat (Humidity) Max temp: +180 °C Max rh: 98 % Tolerance on rh = $\pm$ 1 % Max Chamber Size: 1 x 1 x 1 m	IEC 60068-2-78:2013 (Steady State) IEC 60068-2-30: 2005 (Cyclic)
	2.2 DYNAMIC 2.2.1 – Shock (on shock machine) Half sine only Max mass: 100 kg (incl. fixture) Max acceleration/range: 25 g Max pulse duration: 30 ms Max velocity change: 1.8 m/sec Max size/Max specimen mounting area: 600 x 600 x 600 mm	IEC 60068-2-27:2008

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As listed in section 2 above	2 – DYNAMIC TESTS (cont'd) 2.2.2 – Vibration (Sinusoidal) Including Sine Dwell At ambient temperature only Freq range: 0.001 to 3000 Hz Peak/RMS thrust: 19.6 kN Max pk/pk displacement: 51 mm Max load/mass: 100 kg (incl. fixture) Max size: 600 x 600 x 600 mm Slip table size: 0.6 x 0.6 m	IEC 60068-2-6:2007
	2.3 – Environmental Tests	IEC 61800-5-1:2007 +A1:2016 (clause 5.2.6.3.1, 5.2.6.3.2, 5.2.6.4) IEC 61800-5-1:2022 (clause 5.2.6.3.2, 5.2.6.3.3, 5.2.6.3.4, 5.2.6.3.5, 5.2.6.4)
	These Functional and Product specific standards are included in this Schedule, but limited to those referred basic standards that are explicitly listed in Sections 2.1.1 to 2.2.2	IEC 61800-5-2:2016 (clause 9.1 – 9.6)

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Adjustable Speed Electrical Power Drive Systems	3. ELECTRICAL SAFETY TESTS 3.1 – Temperature Rise	IEC 61800-5-1:2007 +A1:2016
		(clause 5.2.3.8) IEC 61800-5-1:2022 (clause 5.2.3.10)
	3.2 – Voltage Withstand (AC / DC)	IEC 61800-5-1:2007 +A1:2016 (clause 5.2.3.2)
		IEC 61800-5-1:2022 (clause 5.2.3.4)
		IEC 60060-1:1989 (section 4&5)
		IEC 60060-1:2010 (clause 5&6)
		IEC 61180:2016 (clause 5&6)
	3.3 – Impulse Voltage Withstand	IEC 61800-5-1:2007 +A1:2016 (clause 5.2.3.1)
		IEC 61800-5-1:2022 (clause 5.2.3.2)
		IEC 60060-1:1989 (section 6)
		IEC 60060-1:2010 (clause 7)
		IEC 61180:2016 (clause 7)

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As listed in section 3 above	3 – ELECTRICAL PRODUCT SAFETY TESTS (cont'd)	
	3.4 – Energy Efficiency CDM Losses	IEC 61800-9-2:2017 (clause 7.7)
	3.5 – Insulation Resistance	IEC 60146-1-1:2009 (clause 7.2.3)
	3.6 – Electrical Product Safety Tests	IEC 61800-5-1:2007 +A1:2016 (clause 5.2.3.8, 5.2.3.2)
	These Functional and Product specific standards are included in this Schedule, but limited to those referred basic standards that are explicitly listed in Sections 3.1 to 3.5	IEC 61800-5-2:2016 (clause 9.1 – 9.6)
As listed in sections 1 – 3	4. FACILITIES at CONGLETON	
	4.1 – Facilities for EMC Testing	
	Bench Laboratories, ranging from 18 x 10 m	
	Shielded Room A: 3 x 3 x 3 m Max EUT Size: 1.2 x 0.6 x 2 m Max EUT Weight: 25 kg	
	4.2 – Facilities for Environmental Testing	
	Freezer/Oven A (Design&Enviromental/Temperature): Enclosure size: 2.0 x 2.0 x 2.0 m Temp range: -40 °C to 80 °C Max EUT Size: 0.5 x 0.5 x 1 m Max EUT Weight: 50 kg	
	Freezer/Oven B (Design&Enviromental/Temperature): Enclosure size: 2.0 x 2.0 x 2.0 m Temp range: -20 °C to 80 °C Max EUT Size: 0.5 x 0.5 x 1 m Max EUT Weight: 50 kg	

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	4 – FACILITIES (cont'd)	
	Freezer/Oven C (Tas/Temperature): Enclosure size: 2 x 2 x 1.95 m Temp range: -20 °C to 80 °C Max EUT Size: 0.5 x 0.5 x 1 m Max EUT Weight: 50 kg	
	Freezer/Oven D (Design&Enviromental/Temperature& Humidity): Enclosure size: 1 x 1 x 1 m Temp range: -40 °C to 180 °C Humidity range: 10 rh to 98 rh Max EUT Size: 0.8 x 0.5 x 0.5m Max EUT Weight: 30 kg	
	Freezer/Oven E (Weiss/Temperature&Humidity): Enclosure size: 1 x 1 x 1 m Temp range: -40 °C to 180 °C Humidity range: 10 rh to 98 rh Max EUT Size: 0.8 x 0.5 x 0.5 m Max EUT Weight: 30 kg	
	Shock & Vibration Machine (ETS/Electro Dynamic): Sine Force: 2000 kgf (19.6 kN) Random Force: 2000 kgf (19.6 kN) Shock Force (6 ms, ½ Sine): 4000 kgf (39.2 kN) Frequency Range: DC – 3000 Hz Max Acceleration (Bare Table): 100 g Max Velocity: 1.8 m/s Max Displacement (Pk-Pk): 51 mm	
	4.3 – Facilities for Electrical Product Testing:	
	Bench Laboratories, ranging from 18 x 10m	
	4.4 – Shared Facilities	
	Storage Area: Carousel, Shelving	

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	4 – FACILITIES (cont'd)	
	Power Supplies Available:	
	≤ 240 Vac 72 A, 1 phase 50 Hz 240 Vac 63 A, 1 phase 50 Hz	
	415 Vac 40 A (90 kVA), 3 phase 50 Hz 0.1 Vac to 500 Vac, 3 phase 0 Hz to 5 kHz (30 kVA) 0.1 to 424 Vdc 70 A	
	Dimensions = Length (I) x Width (w) x Height (h)	
END		