Labo	oratory	Campus, Sy. No. 129/4 Karnataka Location 1: Laboratory B Zone, Phase-II, Whitefield	g, Kalyani Platina Campus, Sy	efield, B ous, Sy. N	angalore, o. 129/4, EPIP
Accr	editation Standard	ISO/IEC 17025: 2005			
Disc	ipline	Electrical Testing	lss	ue Date	05.08.2016
Certi	ficate Number	T- 1431	Val	lid Until	04.08.2018
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		ge of Testing / is of Detection
		LOCAT	FION: 1		
I.	DOMESTIC ELECT	RICAL APPLIANCES			
1.	Microwave Oven, Blenders, Food mixers, food processors, Mincers appliances	Marking test	IEC 60335-1 (Edition 5.2): 2016 05, Clause. 7 IEC 60335-2-25 (Edition 6.2): 2015-11, Clause. 7 IS 302-1: 2008, Clause. 7 IS 302-2-25: 2014, Clause. 7	6- Quali	tative
		Protection against electric shock	IEC 60335-1 (Edition 5.2): 2016 05, Clause. 8 IEC 60335-2-25 (Edition 6.2): 2015-11, Clause. 8 IS 302-1: 2008, Clause. 8 IS 302-2-25: 2014, Clause. 8	6- Quali	tative
		Power Input and current	IEC 60335-1 (Edition 5.2): 2016 05, Clause. 10 IEC 60335-2-25 (Edition 6.2): 2015-11, Clause. 10 IS 302-1: 2008, Clause. 10 IS 302-2-25: 2014, Clause. 10	1 A to max 0.1 W	600 V AC/DC 20 A AC/DC 7 to 12 kW to 1000 g
		Heating test/Temperature rise	IEC 60335-1 (Edition 5.2): 2016 05, Clause. 11 IEC 60335-2-25 (Edition 6.2): 2015-11, Clause. 11 IS 302-1: 2008, Clause. 11 IS 302-2-25: 2014, Clause. 11		το 400 °C to 60 MΩ

Labo	pratory	UL India Lab, UL India F Campus, Sy. No. 129/4, Karnataka Location 1: Laboratory Bu Zone, Phase-II, Whitefield Location 2: OAK Building Phase-II, Whitefield, Bang	EPIP Zone, Phase-II, W uilding, Kalyani Platina Ca , Bangalore, Karnataka , Kalyani Platina Campus,	hitefie	ld, Ba Sy. No	ngalore, o. 129/4, EPIP
Accreditation Standard		ISO/IEC 17025: 2005				
Disc	ipline	Electrical Testing Issue		Issue	Date	05.08.2016
Certi	ficate Number	T- 1431	,	Valid l	Jntil	04.08.2018
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	on		e of Testing / s of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers appliances	Leakage Current (At operating Temperature)	IEC 60335-1 (Edition 5.2): 2 05, Clause. 13 IEC 60335-2-25 (Edition 6.2 2015-11, Clause. 13 IS 302-1: 2008, Clause. 13 IS 302-2-25: 2014, Clause. 1	2):	0.1 mA	A to 10 mA
		Electric Strength (At operating temperature)	IEC 60335-1 (Edition 5.2): 2 05, Clause. 13 IEC 60335-2-25 (Edition 6.2 2015-11, Clause. 13 IS 302-1: 2008, Clause. 13 IS 302-2-25: 2014, Clause. 1	2):	0.1 V t	to 10 kV AC/DC
		Transient Voltage	IEC 60335-1 (Edition 5.2): 2 05, Clause. 14 IEC 60335-2-25 (Edition 6.2 2015-11, Clause. 14 IS 302-1: 2008, Clause. 14 IS 302-2-25: 2014, Clause. 1	2):	1 A to max 0.1 W	600 V AC/DC 20 A AC/DC to 12 kW o 1000 g
		Moisture resistance	IEC 60335-1 (Edition 5.2): 2 05, Clause. 15 IEC 60335-2-25 (Edition 6.2 2015-11, Clause. 15 IS 302-1: 2008, Clause. 15 IS 302-2-25: 2014, Clause. 1	2):		C to 150 °C o 98 % RH

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Accr	editation Standard	ISO/IEC 17025: 2005				
Disci	ipline	Electrical Testing		Issue	Date	05.08.2016
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificati against which tests are performed	on		e of Testing / s of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers appliances	Leakage current (After Humidity test)	IEC 60335-1 (Edition 5.2): 1 05, Clause. 16 IEC 60335-2-25 (Edition 6.2 2015-11, Clause. 16 IS 302-1: 2008, Clause. 16 IS 302-2-25: 2014, Clause.	2):	0.1 mA	A to 10 mA
		Electrical strength (After Humidity Test)	IEC 60335-1 (Edition 5.2): 1 05, Clause. 16 IEC 60335-2-25 (Edition 6.2 2015-11, Clause. 16 IS 302-1: 2008, Clause. 16 IS 302-2-25: 2014, Clause.	2):	0.1 V 1	to 10 kV AC/DC
		Overload protection test	IEC 60335-1 (Edition 5.2): 2 05, Clause. 17 IEC 60335-2-25 (Edition 6.2 2015-11, Clause. 17 IS 302-1: 2008, Clause. 17 IS 302-2-25: 2014, Clause.	2):		600 V AC/DC 20 A AC/DC
		Endurance	IEC 60335-1 (Edition 5.2): 2 05, Clause. 18 IEC 60335-2-25 (Edition 6. 2015-11, Clause. 18 IS 302-1: 2008, Clause. 18 IS 302-2-25: 2014, Clause.	.2):	1 A to max	600 V AC/DC 20 A AC/DC 00 cycles

Laboratory UL India Lab, UL India Pvt. Ltd., Laboratory Building, Kalyani Plati Campus, Sy. No. 129/4, EPIP Zone, Phase-II, Whitefield, Bangalore Karnataka Location 1: Laboratory Building, Kalyani Platina Campus, Sy. No. 129/4, Zone, Phase-II, Whitefield, Bangalore, Karnataka Location 2: OAK Building, Kalyani Platina Campus, Sy. No 129/4, EPIP Zo Phase-II, Whitefield, Bangalore, Karnataka					angalore, o. 129/4, EPIP	
Accr	editation Standard	ISO/IEC 17025: 2005				
Disc	ipline	Electrical Testing		Issue	Date	05.08.2016
Certificate Number Last Amended on		T- 1431		Valid	Valid Until 04.08.2018	
		18.10.2016		Page	Page 4 of 77	
S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed		Rang Limit	e of Testing / s of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers appliances	Abnormal operation	IEC 60335-1 (Edition 5.2): 05, Clause. 19 IEC 60335-2-25 (Edition 6 2015-11, Clause. 19 IS 302-1: 2008, Clause. 19 IS 302-2-25: 2014, Clause.	.2):		o 400 °C to 60 MΩ
		Stability and Mechanical hazards	IEC 60335-1 (Edition 5.2): 05, Clause. 20 IEC 60335-2-25 (Edition 6 2015-11, Clause. 20 IS 302-1: 2008, Clause. 20 IS 302-2-25: 2014, Clause.	.2):	0.15 J 5 ° to 9	
		Mechanical Strength	IEC 60335-1 (Edition 5.2): 05, Clause. 21 IEC 60335-2-25 (Edition 6 2015-11, Clause. 21 IS 302-1: 2008, Clause. 21 IS 302-2-25: 2014, Clause.	.2):	0.2 J to 1 N to	o 1 J 300 N

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Accreditation Standard		ISO/IEC 17025: 2005				
Discipline Certificate Number Last Amended on		Electrical Testing	le	ssue I	Date	05.08.2016
		T- 1431	v	alid U	lid Until 04.08.201	
		18.10.2016	Page			5 of 77
S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	n		e of Testing / of Detection
	Microwave Oven, Blenders, Food	Construction	IEC 60335-1 (Edition 5.2): 20 05, Clause. 22	016-	0.22 ° to 10 ° 1 N to 50 N	
	mixers, food processors, Mincers appliances		IEC 60335-2-25 (Edition 6.2) 2015-11, Clause. 22 IS 302-1: 2008, Clause. 22 IS 302-2-25: 2014, Clause. 22		0.1 mn	n to 10 mm
		Internal Wiring (Flexing)	IEC 60335-1 (Edition 5.2): 20 05, Clause. 23	016-	0.5 kgf	to 50 kgf
			IEC 60335-2-25 (Edition 6.2) 2015-11, Clause. 23 IS 302-1: 2008, Clause. 23 IS 302-2-25: 2014, Clause. 23			
		Cord grip and Cord guard	IEC 60335-1 (Edition 5.2): 20 05, Clause. 25	016-	1 V to	600 V AC/DC
					1 A to max	20 A AC/DC
			IEC 60335-2-25 (Edition 6.2) 2015-11, Clause. 25):		to 50 Hz
			IS 302-2:25: 2014, Clause. 25 IS 302-2:25: 2014, Clause. 25	5	0.02 m	m to 20 mm

Laboratory UL India Lab, UL India Pvt. Ltd., Laboratory Building, Kalyani Plat Campus, Sy. No. 129/4, EPIP Zone, Phase-II, Whitefield, Bangalore Karnataka Location 1: Laboratory Building, Kalyani Platina Campus, Sy. No. 129/4, Zone, Phase-II, Whitefield, Bangalore, Karnataka Location 2: OAK Building, Kalyani Platina Campus, Sy. No 129/4, EPIP Z Phase-II, Whitefield, Bangalore, Karnataka					
Accreditation Standard		ISO/IEC 17025: 2005			
Discipline Certificate Number Last Amended on		Electrical Testing	Issue	e Date	05.08.2016
		T- 1431	Valid	Until	04.08.2018
		18.10.2016 Page		ļ	6 of 77
S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers appliances	Terminal for external conductors	IEC 60335-1 (Edition 5.2): 2016- 05, Clause. 26	0.02 m	nm to 50 mm
			IEC 60335-2-25 (Edition 6.0): 2010-09 IS 302-1: 2008, Clause. 26 IS 302-2-25: 2014, Clause. 26		
		Provision for earthing	IEC 60335-1 (Edition 5.2): 2016- 05, Clause. 27	1 A to	60 A
			IEC 60335-2-25 (Edition 6.2): 2015-11, IS 302-1: 2008, Clause. 27 IS 302-2-25: 2014, Clause. 27	0.5 s to 600 s 0.01 Ω to 0.60 Ω	
		Screws and Connections	IEC 60335-1 (Edition 5.2): 2016- 05, Clause. 28 IEC 60335-2-25 (Edition 6.2): 2015-11, IS 302-1: 2008, Clause. 28 IS 302-2-25: 2014, Clause. 28	2 kgf c	em to 26 kgf em
		Creepage distances and clearances	IEC 60335-1 (Edition 5.2): 2016- 05, Clause. 29 IEC 60335-2-25 (Edition 6.2): 2015-11, Clause. 29 IS 302-1: 2008, Clause. 29 IS 302-2-25: 2014, Clause. 29	0.2 mr	n to 20 mm

Labo	pratory	Campus, Sy. No. 129/4 Karnataka Location 1: Laboratory E Zone, Phase-II, Whitefield	g, Kalyani Platina Campus,	hitefie	eld, Ba Sy. No	angalore, o. 129/4, EPIP
Accreditation Standard Discipline Certificate Number Last Amended on		ISO/IEC 17025: 2005				
		Electrical Testing	I	lssue	Date	05.08.2016
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		18.10.2016		Page		7 of 77
S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	on		e of Testing / s of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers	Resistance to Heat, Fire and Tracking (Glow wire Test)	IEC 60335-1 (Edition 5.2): 2 05, Clause. 30 IEC 60335-2-25 (Edition 6.2		10 °C	to 850 °C
	appliances		2015-11, Clause. 30 IS 302-1: 2008, Clause. 30 IS 302-2-25: 2014, Clause. 3	,		
		Resistance to Heat, Fire and Tracking	IEC 60335-1 (Edition 5.2): 2 05, Clause. 30	2016-	35 mm	n (Needle burner)
		(Needle flame Test)			0.4 s to	o 60 s
			IEC 60335-2-25 (Edition 6.2 2015-11, Clause. 30	2):	2 mm,	12 mm
			IS 302-1: 2008, Clause. 30 IS 302-2-25: 2014, Clause. 3	30	0.58 g	C to 700 °C copper slug ne Gas 99 %
		Resistance to Heat, Fire and Tracking (Ball pressure test)	IEC 60335-1 (Edition 5.2): 2 05, Clause. 30	2016-	1 °C to	o 150 °C
			IEC 60335-2-25 (Edition 6.2 2015-11, IS 302-1: 2008, Clause. 30 IS 302-2-25: 2014, Clause. 3	,	1 N to 0.01 m	20 N nm to 10 mm

Labo	oratory	UL India Lab, UL India I Campus, Sy. No. 129/4, Karnataka Location 1: Laboratory Bu Zone, Phase-II, Whitefield Location 2: OAK Building Phase-II, Whitefield, Bang	EPIP Zone, Phase-II, V uilding, Kalyani Platina C , Bangalore, Karnataka , Kalyani Platina Campus	Whitefie ampus,	eld, Ba , Sy. No	ngalore, 5. 129/4, EPIP
Accreditation Standard Discipline		ISO/IEC 17025: 2005				
		Electrical Testing	Electrical Testing		Date	05.08.2016
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	Microwave Oven, Blenders, Food	Resistance to rusting	IEC 60335-1 (Edition 5.2): 05, Clause. 31	2016-	15 °C	to 35 °C
	Blenders, Food mixers, food processors, Mincers appliances		IEC 60335-2-25 (Edition 6 2015-11, IS 302-1: 2008, Clause. 31 IS 302-2-25: 2014, Clause.			o 100 °C RH Max
		Radiation hazards	IEC 60335-1 (Edition 5.2): 05, Clause. 32	2016-	0.1 mV	CD N Method W/cm2 to
			IEC 60335-2-25 (Edition 6 2010-09 IS 302-1: 2008, Clause. 32 IS 302-2-25: 2014, Clause.		12.5m	W/cm2
		Marking	IEC 60335-1 (Edition 5.2): Clause. 7 IEC 60335-2-14 (Edition 6 2016-06, Clause. 7		Qualita	ative
		Protection against access to live parts	IEC 60335-1 (Edition 5.2): 05, Clause. 8 IEC 60335-2-14 (Edition 6 2016-06, Clause. 8		Qualita	ative

Labo	oratory	UL India Lab, UL India F Campus, Sy. No. 129/4, Karnataka Location 1: Laboratory Bu Zone, Phase-II, Whitefield Location 2: OAK Building Phase-II, Whitefield, Bang	EPIP Zone, Phase-II, W uilding, Kalyani Platina Ca , Bangalore, Karnataka , Kalyani Platina Campus	/hitefie	eld, Ba	angalore, o. 129/4, EPIP
Accr	editation Standard	ISO/IEC 17025: 2005				
Disc	ipline	Electrical Testing		lssue	Date	05.08.2016
Certificate Number Last Amended on		T- 1431	T- 1431 V		Until	04.08.2018
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificati against which tests are performed	on		e of Testing / s of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers appliances	Power Input and current	IEC 60335-1 (Edition 5.2): 1 05, Clause. 10	2016-	1 V to 600 V AC/DC 1 A to 20 A AC/DC max 0.1 W to 12 kW 1.5 g to 1000 g	
			IEC 60335-2-14 (Edition 6.) 2016-06, Clause. 10	0):	1 A to max 0.1 W	600 V AC/DC 20 A AC/DC to 12 kW o 1000 g
		Heating /Temperature rise	IEC 60335-1 (Edition 5.2): 2 05, Clause. 11 IEC 60335-2-14 (Edition 6.0 2016-06, Clause. 11		2 °C to	o 400 °C
		Leakage Current (At operating Temperature)	IEC 60335-1 (Edition 5.2): 2 05, Clause. 13 IEC 60335-2-14 (Edition 6.9 2016-06, Clause. 13		0.1 m/	A to 10 mA
		Electric Strength (At operating temperature)	IEC 60335-1 (Edition 5.2): 2 05, Clause. 13 IEC 60335-2-14 (Edition 6.9 2016-06, Clause. 13		0 .1 kV AC/D	V to 10 kV C

Labo	oratory	Campus, Sy. No. 129/4, Karnataka Location 1: Laboratory B Zone, Phase-II, Whitefield	, Kalyani Platina Campus,	nitefiel	ld, Ba Sy. No	ngalore, p. 129/4, EPIP
Accr	editation Standard	ISO/IEC 17025: 2005				
Disci	ipline	Electrical Testing	ŀ	ssue [Date	05.08.2016
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificatio against which tests are performed			e of Testing / s of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers appliances	Transient Voltage	IEC 60335-1 (Edition 5.2): 2 05, Clause. 14 IEC 60335-2-14 (Edition 6.0		1 A to max 0.1 W	600 V AC/DC 20 A AC/DC to 12 kW o 1000 g
		Moisture resistance/Spill Over test	2016-06, Clause. 14 IEC 60335-1 (Edition 5.2): 2 05, Clause. 15 IEC 60335-2-14 (Edition 6.0) 2016-06, Clause. 15			C to 150 °C o 95 % RH
		Leakage current (After Humidity test)	IEC 60335-1 (Edition 5.2): 2 05, Clause. 16 IEC 60335-2-14 (Edition 6.0) 2016-06, Clause. 16		0 .1 m	A to 10 mA
		Electrical strength (After Humidity Test)	IEC 60335-1 (Edition 5.2): 2 05, Clause. 16 IEC 60335-2-14 (Edition 6.0) 2016-06, Clause. 16		0.1 kV AC/D0	7 to 10 kV C
		Overload protection of transformers and associated	IEC 60335-1 (Edition 5.2): 2 05, Clause. 17	016-	1 V to	600 V
		circuits	IEC 60335-2-14 (Edition 6.0) 2016-06, Clause. 17):	1 A to	20 A

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Accreditation Standard		ISO/IEC 17025: 2005					
Disc	ipline	Electrical Testing		Issue	Date	05.08.2016	
Certificate Number Last Amended on		T- 1431	Valid L			Until 04.08.2018	
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificati against which tests are performed			e of Testing / s of Detection	
	Microwave Oven, Blenders, Food mixers, food processors, Mincers	Abnormal operation	IEC 60335-1 (Edition 5.2): 05, Clause. 19 IEC 60335-2-14 (Edition 6. 2016-06, Clause. 19		1 V to 1 A to	600 V 20 A	
	appliances	Stability and Mechanical hazards	IEC 60335-1 (Edition 5.2): 05, Clause. 20 IEC 60335-2-14 (Edition 6. 2016-06, Clause. 20		0.15 J 0 to 90		
		Mechanical Strength	IEC 60335-1 (Edition 5.2): 05, Clause. 21 IEC 60335-2-14 (Edition 6. 2016-06, Clause. 21		0.15 J	to 1 J	
		Construction	IEC 60335-1 (Edition 5.2): 05, Clause. 22	2016-	0.22 °	to 10 °	
			IEC 60335-2-14 (Edition 6. 2016-06, Clause. 22	0):	1 N to	50 N	
			2010-00, Clause. 22		0.1 mr	n to 10 mm	
		Internal Wiring (Flexing)	IEC 60335-1 (Edition 5.2): 05, Clause. 23 IEC 60335-2-14 (Edition 6. 2016-06, Clause. 23		0 to 50) kgf	

Laboratory UL India Lab, UL India Pvt. Ltd., Laboratory Building, Kalyani Platin Campus, Sy. No. 129/4, EPIP Zone, Phase-II, Whitefield, Bangalore, Karnataka Location 1: Laboratory Building, Kalyani Platina Campus, Sy. No. 129/4, E Zone, Phase-II, Whitefield, Bangalore, Karnataka Location 2: OAK Building, Kalyani Platina Campus, Sy. No 129/4, EPIP Zon Phase-II, Whitefield, Bangalore, Karnataka					Bangalore, No. 129/4, EPIP
Accr	editation Standard	ISO/IEC 17025: 2005			
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		nge of Testing / hits of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers appliances	Supply connection, and external flexible cables and Cord	IEC 60335-1 (Edition 5.2): 20 05, Clause. 25 IEC 60335-2-14 (Edition 6.0) 2016-06, Clause. 25	: 1 A max 0.1	to 600 V AC/DC to 20 A AC/DC Hz to 50 Hz 2 mm to 20 mm
		Terminal for external conductors	IEC 60335-1 (Edition 5.2): 20 05, Clause. 26 IEC 60335-2-14 (Edition 6.0) 2016-06, Clause. 26		2 mm to 50 mm
		Provision for earthing	IEC 60335-1 (Edition 5.2): 20 05, Clause. 27 IEC 60335-2-14 (Edition 6.0) 2016-06, Clause. 27		to 60 A to 600 s
		Screws and Connections	IEC 60335-1 (Edition 5.2): 20 05, Clause. 28 IEC 60335-2-14 (Edition 6.0) 2016-06, Clause. 28		gf cm to 26 kgf cm.
		Creepage distances and clearances	IEC 60335-1 (Edition 5.2): 20 05, Clause. 29 IEC 60335-2-14 (Edition 6.0) 2016-06, Clause. 29		mm to 10 mm

Laboratory UL India Lab, UL India Pvt. Ltd., Laboratory Building, Kalyani Plat Campus, Sy. No. 129/4, EPIP Zone, Phase-II, Whitefield, Bangalore Karnataka Location 1: Laboratory Building, Kalyani Platina Campus, Sy. No. 129/4, Zone, Phase-II, Whitefield, Bangalore, Karnataka Location 2: OAK Building, Kalyani Platina Campus, Sy. No 129/4, EPIP Z Phase-II, Whitefield, Bangalore, Karnataka					angalore, o. 129/4, EPIP
Accr	editation Standard	ISO/IEC 17025: 2005			
Discipline		Electrical Testing	Is	sue Date	05.08.2016
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificatior against which tests are performed		e of Testing / s of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers	Resistance to Heat, Fire and Tracking (Glow wire Test)	IEC 60335-1 (Edition 5.2): 20 05, Clause. 30 IEC 60335-2-14 (Edition 6.0): 2016-06, Clause. 30		to 850 °C
	appliances	Resistance to Heat, Fire and Tracking (Needle flame Test)	IEC 60335-1 (Edition 5.2): 20 05, Clause. 30 IEC 60335-2-14 (Edition 6.0): 2016-06, Clause. 30	: 0.4 s t 2 mm	n (Needle burner) to 60 s n,12 mm C to 700 °C
				0.58 g	g copper slug ne Gas 99 %
		Resistance to Heat, Fire and Tracking (Ball pressure test)	IEC 60335-1 (Edition 5.2): 20 05, Clause. 30	016- 1 °C t	o 150 °C
		Theorem (Buil pressure test)	IEC 60335-2-14 (Edition 6.0): 2016-06, Clause. 30	: 1 N to	20 N
			,		nm to 10 mm in to 60 min
		Resistance to rusting	IEC 60335-1 (Edition 5.2): 20 05, Clause. 31	016- 15 °C	to 35 °C
			IEC 60335-2-14 (Edition 6.0): 2016-06, Clause. 30		o 100 °C
					to 90 % RH to 10 min

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Accr	editation Standard	ISO/IEC 17025: 2005				
Disci	pline	Electrical Testing		lssue l	Date	05.08.2016
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	Microwave Oven, Blenders, Food mixers, food processors, Mincers appliances	Radiation hazards	IEC 60335-1 (Edition 5.2): 05, Clause. 32 IEC 60335-2-14 (Edition 6 2016-06, Clause. 30		Qualita	ative
II.	TRANSMISSION LI	NE EQUIPMENT AND ACCESS	SORIES			
1.	LT panel, Distribution board and bus duct	Dielectric Properties	IEC 61439-1 (Edition 1.0): 2009-01	:	500 V AC/DC	to 3.8 kV
	and bus duct		IEC 61439-5 (Edition 2.0): 2011-08	:	Power	frequency,
			Clause. 9.1, 10.9, 11.9		Upto 3 55 mA	A capacity .8 kV AC/DC , 10 s to 60 s 4 kV, 1.2/50 μs e
		Temperature Rise limit	Clause. 9.2, 10.10		phase /	
		Short Circuit Protection and Short Circuit Withstand	Clause. 9.3		200 A 0.1 s	to 10 kA, 690 V,

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed		ge of Testing / its of Detection			
	LT panel, Distribution board and bus duct	Resistance to corrosion (Damp Heat and Salt mist for	IEC 61439-1 (Edition 1.0): 2009-01	10 °	p heat – C to 50 °C, 6 RH			
		enclosures and metallic parts)	IEC 61439-5 (Edition 2.0): 2011-08 Clause. 10.2.2	Salt	Mist Upto 35 °C			
		Verification of Thermal Stability of Enclosures	Clause. 10.2.3.1	10 °	C to 75 °C			
		Verification of resistance of insulating materials to normal heat	Clause. 10.2.3.2	10 °	C to 75 °C			
		Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Clause. 10.2.3.3	100	°C to 960 °C			
		Mechanical impact	Clause. 10.2.6	0.2 J	to 1 J			
		Degree of protection of assemblies	Clause. 10.3	IP11	to IP67			
		Verification of resistance to static load	IEC 61439-1 (Edition 1.0): 2009-01 IEC 61439-5 (Edition 2.0): 2011-08 Clause. 10.2.101.1.1		to 1200 N			

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed		ge of Testing / ts of Detection	
	LT panel, Distribution board and bus duct	Verification of resistance to shock load	Clause. 10.2.101.1.2	5 kg	to 50 kg	
		Test applicable to PE ND As designed for operation at ambient temperatures of between 40 °C and -25 °C	Clause. 10.2.101.2.1	From	40 °C to (-)25 °C	
		Test applicable to PE ND As designed for operation in an arctic climate	Clause. 10.2.101.2.2	Down	perature -0 n to (-)55 °C e – Upto 1500 N	
		Verification of mechanical strength of doors	Clause. 10.2.101.3	5 N t	o 500 N	
		Verification of resistance to axial load of metal inserts in synthetic material	Clause. 10.2.101.7	5 N t	o 800 N	
		Verification of resistance to mechanical shock impacts induced by sharp edged Objects	Clause. 10.2.101.8		5 kg, itative	
		Marking	Clause. 10.2.7	Qual	tative	
		Clearances and Creepage Distances	Clause. 10.4	1 mm	n to 300 mm	

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed		nge of Testing / its of Detection
	LT panel, Distribution board	Mechanical Operations	Clause. 10.13	Qua	litative
	and bus duct	Dielectric Properties	IEC 61439-1 (Edition 1.0): 2009-01 IEC 61439-2 (Edition 2.0): 2011-08 Clause. 9.1, 10.9, 11.9	AC/ Pow 200 Upt	rer frequency, mA capacity o 3.8 kV AC/DC
					nA, 10 s to 60 s ο 14 kV, 1.2/50 μs ulse
		Temperature Rise limit	Clause. 9.2, 10.10	phas Upt Pha	o 2000 A AC single se / three phase, o 5000 A AC Single se 50 Hz tinuous
		Short Circuit Protection and Short Circuit Withstand	Clause. 9.3	200 0.1	A to 10 kA, 690 V, s
		Resistance to corrosion (Damp Heat and Salt mist for enclosures and metallic parts)	Clause. 10.2.2	50 °	np heat - 10 °C to C, 95 % RH Mist Upto 35 °C
		Verification of Thermal Stability of Enclosures	Clause. 10.2.3.1	10 °	C to 75 °C

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	LT panel, Distribution board and bus duct	Verification of resistance of insulating materials to normal heat	Clause. 10.2.3.2		10 °C	to 75°C
		Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Clause. 10.2.3.3		100 °C	C to 960 °C
		Mechanical impact	Clause. 10.2.6		0.2 J to	o 1 J
		Degree of protection of assemblies	Clause. 10.3		IP11 to	o IP67
		Marking	Clause. 10.2.7		Quali	tative
		Clearances and Creepage Distances	Clause. 10.4		1 mm	to 300 mm
		Mechanical Operations	Clause. 10.13		Qualit	ative
		Dielectric Properties	IEC 61439-1 (Edition 1.0): 2009-01			to 3.8 kV, 50 Hz
			IEC 61439-6 (Edition 1.0): 2012-05 Clause. 9.1, 10.9		I KV t Impuls	o 8 kV, 1.2/50 μs se

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed		ge of Testing / ts of Detection
	LT panel, Distribution board and bus duct	Temperature Rise limit	Clause. 9.2, 10.10	phase Upto Phase	2000 A AC single e / three phase, 5000 A AC Single e 50 Hz inuous
		Short Circuit Protection and Short Circuit Withstand	Clause. 9.3	200 A 0.1se	A to 10 kA, 690 V,
		Resistance to corrosion (Damp Heat and Salt mist for enclosures and metallic parts)	Clause. 10.2.2	10 °C 95 %	p heat – C to 50 °C, RH Mist Upto 35 °C
		Verification of Thermal Stability of Enclosures	Clause. 10.2.3.1	10 ° C	C to 75 °C
		Verification of resistance of insulating materials to normal heat	Clause. 10.2.3.2	10 °C	C to 75 °C
		Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Clause. 10.2.3.	100 °	°C to 960 °C
		Mechanical impact	Clause. 10.2.6	0.2 J	to 1 J

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	LT panel, Distribution board and bus duct	Degree of protection of assemblies	Clause. 10.3	IPI	1 to IP67		
	and bus duct	Ability to withstand mechanical loads	Clause. 10.2.101	10	N to 150 N		
		Resistance of the enclosure to crushing	Clause. 10.2.101.3	10	N to 150 N		
		Thermal cycling test	Clause. 10.2.102	Up	to 80 °C		
		Marking	Clause. 10.2.7	~	alitative isual)		
		Clearances and Creepage Distances	Clause. 10.4	1 n	nm to 300 mm		
		Mechanical Operations	Clause. 10.13	Qu	alitative test		
2.	Compression and mechanical connectors	Heat Cycle test	IEC 61238-1, (Edition 2): 2003-05 Clause. 6.3	10	A to 2000 A		
		Electrical Resistance Measurement	Clause. 6.2.1	1 n	nΩ to 10 Ω		
		Short Circuit test	Clause. 6.3.4	200 0.1	0 A to 10 kA, 690 V, s		

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	Compression and mechanical connectors	Tensile Force – Mechanical Tests	Clause. 7	5 N to	9800 N
3.	Rewirable type	Visual examination	IS 2086: 1993	Quali	tative
	electric fuses	Test for dimensions	(RA 2004) (Edition 4.1) Clause. 9.1 Clause. 9.2	1 mm	to 300 mm
		Test for mechanical endurance	Clause. 9.3	Quali	tative
		Test for Mechanical Strength	Clause. 9.4	75 g t	o 200 g
		Test for withdrawal force	Clause. 9.5	5 N to	o 160 N
		Test for temperature-rise	Clause. 9.6	single phase 100 A	to 5000 A AC Phase 50 Hz
		Insulation resistance	Clause. 9.7	100 k	Ω to 2000 MΩ
		High Voltage Test	Clause. 9.8	0.5 kV	V to 3.8 kV
		Test for breaking capacity	Clause. 9.9	200 A 690 V	to 10 kA at

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specifica against which tests are performed			e of Testing / s of Detection	
	Rewirable type electric fuses	Test for water absorption	Clause. 9.10		Qualitative		
		Temperature cycle test (for ceramic material)	Clause. 9.11.1		From () to 100 °C	
III.	SWITCHGEAR EQU	JIPMENT					
1.	Electronics relay, Pneumatic relay	Input test	UL508 (17th Edition): 2003	5	Upto 6	000 V AC/DC	
	i neumatic relay		IEC 60947-1 (5 th Edition): 2007-06		3 A M	ax	
		Temperature test	UL508 (17th Edition): 2003	5		50 A AC single	
			IEC 60947-1 (5 th Edition): 2007-06		phase / three phase, 50 Hz Continuous		
		Overload test	UL508 (17th Edition): 2003	5	Upto 3 UPF	0 A, 280 V AC,	
			IEC 60947-1(5 th Edition): 2007-06		-	0 A, 48 V DC	
		Endurance test	UL508 (17th Edition): 2003	5		00 A, 690 V AC, to 1.0 PF	
			IEC 60947-1(5 th Edition): 2007-06			0 A, 48 V DC	

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	Electronics relay,	Dielectric voltage withstand	UL508 (17th Edition): 2005		Upto 3	3.8 kV AC/DC
	Pneumatic relay	test	IEC 60947-1(5 th Edition): 2 06 Clause. 7.2.3	2007-	Power frequency, 200 mA capacity Upto 3.8 kV AC/DC 55 mA 10 s to 60 s	A capacity 3.8 kV AC/DC
		Crossover potential test I	UL508 (17 th Edition): 2005 IEC 60947-1(5 th Edition): 2007-06			500 V AC/DC, 400 Hz
		Under/over voltage test	UL508 (17 th Edition): 2005 IEC 60947-1(5 th Edition): 2007-06			500 V AC/DC, 400 Hz
		Crossover potential test II	UL508 (17 th Edition): 2005 IEC 60947-1(5 th Edition): 2007-06			500 V AC/DC, 400 Hz
		Tripping limits and characteristics	IEC 60947-2 (Edition 4.1): 05 Clause. 8.3.3.1	2009-	single phase, 100 A	to 5000 A AC Phase 50 Hz

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		ge of Testing / ts of Detection
	Electronics relay, Pneumatic relay	Dielectric properties	Clause. 8.3.3.2	AC/E Powe 200 r 500 V AC/E	er frequency , nA capacity / to 3.9 kV
		Mechanical operation and operational performance capability	Clause. 8.3.3.3		9 A to 315 A, 690 V
		Verification of dielectric withstand	Clause. 8.3.3.5	AC/E Powe 200 r 500 V AC/E	er frequency , nA capacity / to 3.9 kV
		Verification of temperature- rise	Clause. 8.3.3.6	single phase 100 A Singl 50 H2	A to 5000 A AC e Phase

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection
	Electronics relay, Pneumatic relay	Overload performance (where applicable)	Clause. 8.3.3.4	From Upto 6	9 A to 315 A, 590 V
		Rated service short-circuit breaking capacity	Clause. 8.3.4	200 A	to 10 kA, 690 V
		Operational performance capability	Clause. 8.3.3.3	9 A to Upto 6	315 A, 590 V,
2.	Switch Fuse Units	Temperature-rise	IEC 60947-3 (Edition 3.1): 201: 04 Clause. 8.3.3.1	single phase, 100 A	to 5000 A AC Phase 50 Hz
		Temperature-rise Verification	Clause. 8.3.3.6	single phase, 100 A	to 5000 A AC Phase 50 Hz
		Dielectric properties	Clause. 8.3.3.2	AC/D Power 200 m 500 V AC/D	frequency, A capacity to 3.9 kV

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	Switch Fuse Units	Leakage current	Clause. 8.3.3.5	0.05 r	mA to 5 mA
		Rated making and breaking capacities (overload)	Clause. 8.3.3.3	AC, U	o 600 A, 690 V JPF o 30 A, 48 V DC
		Operational performance	Clause. 8.3.4	three	o 2500 A, 690 V, phase, 50 Hz, of to 1.0 pf
		Rated short-time withstand current	Clause. 4.3.6.1	200 A 0.1 s	to 10 kA, 690 V,
		Rated short-circuit making capacity	Clause. 4.3.6.2	200 A	to 10 kA, 690 V
		Rated conditional short-circuit current	Clause. 4.3.6.4	200 A	to 10 kA, 690 V
		Strength of actuator Mechanism	Clause. 8.3.3.7	10 N	to 600 N
		Overload test	Clause. 8.3.7.1	AC, U	o 600 A, 690 V JPF o 30 A, 48 V DC
		Mechanical operation test	Clause. 8.1.3.2	N A	

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3.	Contactors and Auxiliary Contacts	Verification of temperature rise	IEC 60947-4-1 (Edition 1): Amd. 1, Amd. 2: 1990-07-15 IEC 60947-4-1 (Edition 2): Amd. 1, Amd. 2: 2000-11-28 IEC 60947-4-1: 2002 Amd. 2: 2005 IEC 60947-4-1 (Edition 3): 2 IS/IEC 60947 (Part 4/ Sec I): 2000 Clause. 9.3.3.3	phase 50 Hz Contin 2009				
		Temperature Test	UL 508, (Edition 17) Revisions through and Including Sept 19, 2008					
		Verification of operation and operating limits	IEC 60947-4-1 (Edition 1): Amd. 1, Amd. 2: 1990-07-15 IEC 60947-4-1 (Edition 2): Amd. 1, Amd. 2: 2000-11-28 IEC 60947-4-1: 2002- Amd. 2 2005 IEC 60947-4-1 (Edition 3): 2 IS/IEC 60947 (Part 4/Sec I): 2 Clause. 9.3.3.1 and 9.3.3.2	Upto 2 phase (-)5, 2 2:	660 V AC / DC : 2000 A AC single 0, 40 °C			

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	Contactors and Auxiliary ContactsOvervoltage and Under voltage TestUL 508, (Edition 17) Revisions through and		UL 508, (Edition 17) Revisions through and	Upto 6	560 V AC / DC
	Auxiliary Contacts	Test	Including Sept 19, 2008	(-)5, 2	0, 40 °C
		Verification of mechanical properties of terminals	IEC 60947- 4-1 (Edition 1): Amd. 1, Amd. 2: 1990-07-15 IEC 60947- 4-1 (Edition 2): Amd. 1, Amd. 2: 2000-11-28 IEC 60947- 4-1: 2002- Amd. 2: 2005 IEC 60947- 4-1 (Edition 3): 20 IS 60947 (Part 4/Sec I): 2000 IEC 60947-1 Clause. 8.2.4		e Upto 50 Nm
		Secureness and Pullout Test (Mechanical sequence) Verification of the performance of terminal assemblies	UL 1059 (Edition 4): 2006 Revisions including Dec 15, 20	06 Mass 2	e Upto 100 Nm 22.7 kg Upto 600 N
		Strain relief test	UL 508 (Edition 17): 2008 Revisions through and	Upto 1	100 °C
			Including Sept 19, 2008	Upto 6 1 min	500 N

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	Contactors and Auxiliary Contacts	Verification of degrees of protection of enclosed contactors and starters	IEC 60947- 4-1 (Edition 3): 2 IS 60947 (Part 4/Sec I): 2000 IEC 60947-1 Annexure C	009 IP66		
		Verification of dielectric properties	IEC 60947- 4-1 (Edition 1): Amd. 1, Amd. 2: 1990-07-15 IEC 60947- 4-1 (Edition 2): Amd. 1, Amd. 2: 2000-11-28 IEC 60947- 4-1: 2002 Amd. 2: 2005 IEC 60947- 4-1 (Edition 3): 20 IS 60947 (Part 4/Sec I): 2000 Clause. 9.3.3.4	Powe Upto Impu	9 3.9 kV AC / DC, er frequency 9 15 kV, 1.2/50 μs Ilse	
		Dielectric Voltage-Withstand Test	UL 508 (Edition 17): 2008 Revisions through and including Sept 19, 2008	Powe Powe 200 i	9 3.9 kV AC / DC, er frequency er frequency , mA capacity 10 kV AC/DC	

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection
Contactors and Auxiliary Contacts		Verification of ability to withstand overload currents	IEC 60947- 4-1 (Edition 1): Amd. 1, Amd. 2: 1990-07-15 IEC 60947- 4-1 (Edition 2): Amd. 1, Amd. 2: 2000-11-28 IEC 60947- 4-1: 2002 Amd. 2: 2005 IEC 60947- 4-1 (Edition 3): 20 IS 60947 (Part 4/Sec I): 2000 Clause. 9.3.5		700 A AC
		Crossover lead di-electric test I	UL 508 (Edition 17): 2008 Revisions through and Including Sept 19, 2008	1	500 V AC, 100 Hz DC,
		Crossover lead di-electric test II	UL 508 (Edition 17): 2008 Revisions through and Including Sept 19, 2008		500 V AC, 100 Hz DC,
		Calibration test (Overload relays)	UL 508 (Edition 17): 2008Revisions through and Including Sept 19, 2008	Upto 2	2000 A
		Breakdown of component test	UL 508 (Edition 17): 2008 Revisions through and Including Sept 19, 2008	Upto 6 300 V	500 V AC, DC,

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection	
	Contactors and Auxiliary Contacts	Secondary circuit test	UL 508 (Edition 17): 2008 Revisions through and includir Sept 19, 2008		100 V, 200 V A	
		Leakage current test	UL 508 (Edition 17): 2008 Revisions through and includir Sept 19, 2008		10 mA	
		Verification of rated making and breaking capacities, change-over ability and reversibility, where applicable	IEC 60947- 4-1 (Edition 3): 20 IS 60947 (Part 4/Sec I) : 2000 Clause. 9.3.3.5		2500 A, 690 V, phase, 50 Hz, UPF	
		Overload Test	UL 508 (Edition 17): 2008 Revisions through and		2500 A, 600 V, phase, 50 Hz,	
			Including Sept 19, 2008	0.35 t	o 1.0	
		Verification of conventional operational performance	IEC 60947- 4-1 (Edition 3): 20 IS 60947 (Part 4/Sec I): 2000 Clause. 9.3.3.6		2500 A, 690 V, phase, 50 Hz, o 1.0	
		Endurance Test	UL 508 (Edition 17): 2008 Revisions through and Including Sept 19, 2008	three	2500 A, 600 V, phase, c, 0.35 to 1.0	
		Performance under short-circuit conditions	IEC 60947- 4-1 (Edition 3): 20 IS 60947 (Part 4/Sec I): 2000 Clause. 9.3.4	009 200 A	to 10 kA, 690 V	

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificatio against which tests are performed		ge of Testing / ts of Detection
4.	Auxiliary Contacts, Add on Blocks, Frontle Blocks,	Verification of operation and operating limits	IEC 60947-5-1 (Edition 2): Amd. 1, Amd. 2: 1997-10-30		600 V AC/ DC : 100 A ac single / se
	Manual Push Buttons		IEC 60947-5-1 (Edition 3): 2013 IS 60947 (Part 5/Sec I): 2003 Clause. 8.3.3.2		20, 40 °C
		Overvoltage and Under voltage Test	UL 508 (Edition 17): 2008 Revisions through and Including Sept 19, 2008	•	660 V AC / DC 20, 40 °C
		Verification of temperature rise	IEC 60947-5-1 (Edition 2): Amd. 1, Amd. 2: 1997-10-30 IEC 60947-5-1 (Edition 3): 20 11-12 IS 60947 (Part 5/Sec 1): 2003 Clause 8.3.3.3	phase 003- 50 Hz	50 A AC single / three phase, z
		Temperature Test	UL 508 (Edition 17): 2008 Revisions through and Including Sept 19, 2008	1	50 A AC single / three phase,
		Verification of dielectric properties	IEC 60947-5-1 (Edition 2): Amd. 1, Amd. 2: 1997-10-30 IEC 60947-5-1 (Edition 3): 20	Powe	3.9 kV AC/DC r frequency , nA capacity
			11-12 IS 60947 (Part 5/Sec 1): 2003 Clause. 8.3.3.4	B Upto Impul	15 kV, 1.2/50 μs lse

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificatior against which tests are performed		e of Testing / s of Detection
	Auxiliary Contacts, Add on Blocks, Frontle Blocks, Manual Push	Dielectric Voltage-Withstand Test	UL 508 (Edition 17): 2008 Revisions through and Including Sept 19, 2008	Power	3.9 kV AC/DC frequency , A capacity
	Manual Push Buttons	Verification of rated making and breaking capacities under normal conditions	IEC 60947-5-1 (Edition 2): Amd. 1, Amd. 2: 1997-10-30 IEC 60947-5-1 (Edition 3): 20 11-12 IS 60947 (Part 5/Sec 1): 2003	100 A 003- DC: 1	10 V to 600 V, 20 V to 600 V,
		Verification of mechanical properties of terminals	Clause. 8.3.3.5.2 IEC 60947-5-1 (Edition 2): An 1, Amd. 2: 1997-10-30 IEC 60947-5-1 (Edition 3): 20 11-12 IS 60947 (Part 5/Sec 1): 2003 IEC 60947-1 Clause. 8.2.4	-	e Upto 15 Nm
		Secureness and Pullout Test (Mechanical sequence)	UL 1059 (Edition 4): 2006 Revisions including Dec15, 20		e Upto 15 Nm
		Verification of the performance of terminal assemblies			9 kg Upto 50 N
		Measurement of clearances and creepage distances	IEC 60947-5-1 (Edition 2): Amd. 1, Amd. 2: 1997-10-30 IEC 60947-5-1 (Edition 3): 20 11-12 IS 60947 (Part 5/Sec 1): 2003 Clause. 7.1.3		to 300 mm

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		ge of Testing / s of Detection
	Auxiliary Contacts, Add on Blocks, Frontle Blocks, Manuel Push	Spacings	UL 508 (Edition 17): 2008 Revisions through and includi Sept 19, 2008		to 300 mm
	Manual Push Buttons	Verification of limitation of rotation of a rotary switch	IEC 60947-5-1 (Edition 2): Amd. 1, Amd. 2: 1997-10-30 IEC 60947-5-1 (Edition 3): 20 11-12 IS 60947 (Part 5/Sec 1): 2003 Clause. 8.2.6		
		Verification of degrees of protection of enclosed contactors and starters	IEC 60947-5-1 (Edition 3): 20 IS 60947 (Part 5/Sec 1): 2003 Annex C of IEC 60947-1		to IP67
		Verification of actuation force or moment	IEC 60947-5-1 (Edition 3): 20 11-12 IS 60947 (Part 5/Sec I): 2003 Clause. 8.2.5	003- 10 N	
		Overload and Endurance, Pilot duty	UL 508 (Edition 17): 2008 Revisions through and includi Sept 19, 2008		660 V, 12 A 132 V, 60 A
		Verification of rated making and breaking capacities under abnormal conditions : Overload and endurance tests	IEC 60947-5-1 (Edition 2): Amd. 1, Amd. 2: 1997-10-30	AC - 100 A	- 110 V to 600 V,

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificati against which tests are performed			e of Testing / s of Detection	
	Auxiliary Contacts, Add on Blocks, Frontle Blocks, Manual Push Buttons	(Auxiliary devices)	IEC 60947-5-1 (Edition 3): 11-12 IS 60947 (Part 5/Sec 1): 200 Clause. 8.3.3.5.3		DC – 1 10 A	20 V to 600 V,	
	Duttons	Breakdown of component test	UL 508 (Edition 17): 2008 Revisions through and inclu Sept 19, 2008	ıding	Upto 6 DC,	500 V AC, 300 V	
		Performance under conditional short-circuit current	IEC 60947-5-1 (Edition 3): 11-12 IS 60947 (Part 5/Sec 1): 200 Clause. 8.3.4		Upto 1	0 kA, 690 V	
5.	Electrical Connector,	Dielectric Tests	IEC 60947-7-1 (Edition 1): 1: 1989-11-15	Amd.	Upto 3	.8 kV AC/DC	
	Terminal Blocks for copper conductors, fuse terminal blocks		IEC 60947-7-1 (Edition 2): 07-23 IEC 60947-7-1 (Edition 3):			frequency, A capacity	
	luse tel linnar blocks		04-20	2007	55 mA	5 kV, 1.2/50 μs	
		Dielectric Voltage-Withstand Test	UL 1059(Edition 4): 2006 Revisions including Dec 15 Clause. 24	, 2006	Upto 3	9.9 kV	

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	Electrical Connector, Terminal Blocks for copper conductors, fuse terminal blocks	Verification of Voltage drop	IEC 60947-7-1 (Edition 1): 1: 1989-11-15 IEC 60947-7-1 (Edition 2): 07-23 IEC 60947-7-1 (Edition 3): 04-20 Clause. 7.2.4	: 2002-		500 A AC and DC source
		Voltage drop test	UL 1059 (Edition 4): 2006 Revisions including Dec 1: Clause. 50.2		Upto 1	00 A DC
		Temperature rise	IEC 60947-7-1 (Edition 1): 1: 1989-11-15 IEC 60947-7-1 (Edition 2): 07-23 IEC 60947-7-1 (Edition 3): 04-20 Clause. 7.2.1	: 2002-	phase 50 Hz Contin	500 A AC single / three phase, nuous °C to 400 °C
		Temperature test	UL 1059 (Edition 4): 2006 Clause. 31			500 A AC single / three phase,
		(It is same as temperature rise test)	Revisions including Dec 1	5, 2006	50 Hz	– Continuous
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection	
	Electrical Connector, Terminal Blocks for copper conductors, fuse terminal blocks	Verification of mechanical Characteristics	IEC 60947-7-1 (Edition 1): 198 11-15 Amd. 1 IEC 60947-7-1 (Edition 2): 200 07-23 IEC 60947-7-1 (Edition 3): 200 04-20 Clause. 8.3.3)2-	20 N	
		Secureness and Pullout Test	UL 1059 (Edition 4): 2006 Revisions including Dec 15, 20		e Upto 100 Nm	
		(Mechanical sequence)	Revisions meruding Dec 15, 20		22.7 kg	
		Verification of the performance of terminal assemblies		Force	Upto 600 N	
		Verification of creep age and clearances	IEC 60947-7-1 (Edition 1): 198 11-15 Amd. 1 IEC 60947-7-1 (Edition 2): 200 07-23 IEC 60947-7-1 (Edition 3): 200 04-20 Clause. 8.4.2)2-	to 300 mm	
		Spacings	UL 1059 (Edition 4): 2006 Revisions including Dec 15, 20 Clause. 47		to 300 mm	
		Solid wire tightening test	UL 1059 (Edition 4): 2006 Revisions including Dec 15, 20	Upto 1 006	5 Nm	

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection		
	Electrical Connector, Terminal Blocks for	Tab pull test	UL 1059 (Edition 4): 2006 Revisions including Dec 15, 2006 Clause. 14	Upto 5	50 N		
	copper conductors, fuse terminal blocks	Mold stress relief test	UL 1059 (Edition 4): 2006 Revisions including Dec 15, 2006 Clause. 16	Upto 1	00 °C		
		Verification of thermal Characteristics	IEC 60947-7-1 (Edition 2): 2002- 07-23 IEC 60947-7-1 (Edition 3): 2009- 04-20 Clause. 8.5	· ·	lle flame test a flame height)		
		Short time current sequence test	UL 1059 (Edition 4): 2006 Revisions including Dec 15, 2006	Upto 6	500 A AC source		
		Aging test	IEC 60947-7-1 (Edition 1): 1989- 11-15 Amd. 1	Upto 1	00 °C		
		(for screwless-type terminal blocks only)	IEC 60947-7-1 (Edition 2): 2002- 07-23				
			IEC 60947-7-1 (Edition 3): 2009- 04-20 Clause. 8.4.7				
		Heat cycling test (Spring force type terminal block)	UL 1059 (Edition 4): 2006 Revisions including Dec 15, 2006	Upto 6	500 A AC source		

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	Electrical Connector, Terminal Blocks for copper conductors, fuse terminal blocks	Verification of thermal Characteristics	IEC 60947-7-1 (Edition 1): 19 11-15 Amd. 1 IEC 60947-7-1 (Edition 2): 20 07-23 IEC 60947-7-1 (Edition 3): 20 04-20 Clause. 8.5	002-	litative	
		Conditioning test (Spring force type terminal block)	UL 1059 (Edition 4): 2006 Revisions including Dec 15, 2		o 600 A	
		Dielectric Tests	IEC 60947-7-2 (Edition 3.0): 2009 Clause. 7.2.2	AC/ Pow 200 500 AC/	rer frequency , mA capacity V to 3.9 kV DC 55 mA o 15 kV, 1.2/50 μs	
		Temperature rise	Clause. 7.2.1	sing pha	A to 600 A AC le phase / three se, Hz – Continuous	
		Verification of Voltage Drop	Clause. 7.2.4	sing pha	A to 600 A AC le phase / three se, Iz Continuous	

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	Electrical Connector, Terminal Blocks for	Short-time withstand current	Clause. 4.3.2	200 A V, 0.1	to 10 kA at 690 s
	copper conductors, fuse terminal blocks	Verification of mechanical characteristics	Clause. 8.3.3	1 N to	o 20 N
		Verification of mechanical characteristics	IEC 60947-7-3 (Edition 2.0): 2009 Clause. 8.3.3	1 N to	o 20 N
		Attachment of the fuse terminal block on its support	Clause. 8.3.3	1 N to	o 20 N
		Mechanical properties of clamping units of a fuse terminal block	Clause. 8.3.3	Quali	tative
		Testing for damage to and accidental loosening of conductors of a fuse terminal block (flexion test)	Clause. 8.3.3	(0.5 k	g to 50 kg)
		Pull-out test	IEC 60947-1 Clause. 8.3.3.3	5 N to	o 600 N
		Verification of rated cross- section and rated connecting capacity	Clause. 8.3.3.4	Quali	tative

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6	МСВ	Mechanism	IEC 60898-1: 2003 (Edition 1 (include Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 8.1.2	.2) Qual	itative	
		Clearances and creepage distances	IEC 60898-1: 2003 (Edition 1 (include. Amd. 1: 2002 + Amd 2003) IS/IEC 60898-1: 2002 Clause. 8.1.3		n to 300 mm	
		Non-interchangeability	IEC 60898-1: 2003 (Edition 1 (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 8.1.6	.2) Qual	itative	
		Test of dielectric properties	IEC 60898-1: 2003 (Edition 1 (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.7	Powe mA o Upto 55 m	6.2 kV, 1.2/50 μs	

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	МСВ	Dielectric voltage - Withstand	UL 1077 (Edition 6): 2009 Including Revisions through 5, 2009	h Oct	DC, P 200 m	to 2.5 kV AC / ower frequency, A capacity 2.5 kV AC/DC,
		Indelibility of marking	IEC 60898-1: 2003 (Edition (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.3	n 1.2)	Qualit	ative
		Test of reliability of screws, current-carrying parts and connections	IEC 60898-1: 2003 (Edition (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.4	n 1.2)	Upto 5	5 Nm
		Test of reliability of terminals for external conductors	IEC 60898-1: 2003 (Edition (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.5	n 1.2)	Upto 1	100 N
		Test of protection against electric shock	IEC 60898-1: 2003 (Edition (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002	n 1.2)		n Probe o 240 V

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	МСВ	Resistance to mechanical impact	IEC 60898-1: 2003 (Edition 1 (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.13.2	1.2)	Upto 5 Mecha	50 N nical impact only
		Test of resistance to heat	IEC 60898-1: 2003 (Edition 1 (Include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.14	1.2)	Upto 1 Ball P	25 °C ressure test
		Test of temperature-rise and measurement of power	IEC 60898-1: 2003 (Edition 1 (Include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002	1.2)	Upto 125 A AC single phase / three phase, 50 Hz – Continuous	
		Temperature Test	UL 1077 (Edition 6): 2009 Including Revisions through 5, 2009	Oct	phase	25 A AC single / three phase, – Continuous
		Resistance to abnormal heat and to fire	IEC 60898-1: 2003 (Edition 1 (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause 9.15	1.2)		C to 960 °C wire test only

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	МСВ	Resistance to rusting	IEC 60898-1: 2003 (Editio (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.16	on 1.2)	Upto 1	25 °C
		Resistance to mechanical shock	IEC 60898-1: 2003 (Editio (Include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.13	on 1.2)	20 N	
		Test of resistance to heat	IEC 60898-1: 2003 (Editio (Include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.14	on 1.2)		to 125 °C ressure test
		28 day test AC	Clause. 9.9		Upto 1	25 A
		Test of tripping characteristic	Clause. 9.10			2500 A AC) and 25 °C
		Calibration, recalibration test	UL 1077 (Edition 6): 2009 Including Revisions throug 5, 2009			2500 A AC and 25 °C

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Accr	editation Standard	ISO/IEC 17025: 2005				
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificatio against which tests are performed	on		e of Testing / s of Detection
	МСВ	Test of mechanical and electrical endurance	IEC 60898-1: 2003 (Edition (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.11	1.2)	Upto 1	25 A, 480 V
		Overload Test	UL 1077 Ed. 6, Including Revisions through 5, 2009	Oct	Upto 1 690 V three p 0.35 to	bhase 50 Hz,
		Performance at reduced short- circuit currents	IEC 60898-1: 2003 (Edition (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.12	1.2)	Upto 1	0 kA, 690 V
		Short circuit performance at 1500 A	IEC 60898-1: 2003 (Edition (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.12.11.3	1.2)	690 V	, 1500 A
		Service short-circuit capacity (ics)	IEC 60898-1: 2003 (Edition (include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.12.11.4.2	1.2)	Upto 1	0 kA, 690 V

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificatio against which tests are performed		ange of Testing / imits of Detection
	МСВ	Performance at rated short- circuit capacity (icn)	IEC 60898-1: 2003 (Edition 1 (Include. Amd. 1: 2002 + Amd. 2: 2003) IS/IEC 60898-1: 2002 Clause. 9.12.11.4.3	1.2) U	Jpto 10 kA, 690 V
7.	RCCB	Marking	IEC 61008-1: 2002 Edition 2 (Include. Amd. 1: 2002) IEC 61008-1: 2010 (Edition 3 IS 12640 (Part 1): 2008 Clause. 6		Qualitative
		Mechanism	Clause. 8.1.2	Ç	Qualitative
		Clearance and creepage distances	Clause. 8.1.3	1	mm to 300 mm
		Non-interchangeability	Clause. 8.1.6	Ç	Qualitative
		Indelibility of marking	Clause. 9.3	1	min
		Test of reliability of screws, current-carrying parts and connections	Clause. 9.4	U	Jpto 5 Nm
		Test of reliability of terminals for external conductors	Clause 9.5	U	Jpto 100 N
		Test of protection against electric shock	Clause. 9.6		2 mm Probe 0 V to 240 V

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed		ge of Testing / its of Detection
	RCCB	Verification of Resistance to Mechanical impact	Clause. 9.12	Upto	50 N
		Test of resistance to heat	Clause. 9.13	Upto	• 150 °C
		Dielectric properties	Clause. 9.7	Pow mA Upto 55 m Upto Impu Insu	15 kV, 1.2/50 μs
		Test of temperature-rise	Clause. 9.8	phas	0 125 A AC single e / three phase, z – Continuous
		Verification of mechanical and electrical endurance	Clause. 9.10	Upto	125 A,440 V
		Resistance to abnormal heat and to fire	Clause. 9.14	100	°C to 960 °C
		Verification of trip-free mechanism	Clause. 9.15		o 125 A ,690 ree phase 50 Hz)

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificatio against which tests are performed		e of Testing / s of Detection
	RCCB	Verification of the operation of the test device at the limits of rated voltage	Clause. 9.16		125 A ,690 V, bhase 50 Hz,
		Verification of the behaviour of RCCBs functionally dependent on line voltage	Clause. 9.17	Qualit	ative
		Verification of behaviour of RCCBs in case of current surges caused by impulse voltages	Clause. 9.19	Upto 2 100 kl	wave Surge : 200 A (0,5 μs/ Hz) Current : Upto 3000 A μs)
		Verification of resistance of the insulation against high impulse voltages	Clause. 9.20		ge Surge : 3 kV (1,2/50 μs)
		Verification of the correct operation at residual currents with d.c. components	IEC 61008-1: 2002 Edition 2. (include. Amd. 1: 2002) IEC 61008-1: 2010 (Edition 3 IS 12640 (Part 1): 2008 Clause. 9.20	1	300 mA
		Verification of reliability	Clause. 9.22	Upto 3	300 mA
		Climatic test	Clause. 9.22.1	Upto 3	300 mA

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	RCCB	Test for Reliability at 40 °C	Clause. 9.22.2		
		Verification of ageing of electronic components	Clause. 9.23		50 °C 300 mA
8.	RCBO	Marking	IEC 61009-1: 2003 Edition 2 (Include. Amd. 1: 2002) Clause. 6	2.1 Quali	tative
		Mechanism	IEC 61009-1: 2010 (Edition IS 12640 (Part 2): 2008 Clause. 8.1.2	3.0) Quali	tative
		Clearance and creepage distances	Clause. 8.1.3	1 mm	to 300 mm
		Non-interchangeability	Clause. 8.1.6	Quali	tative
		Indelibility of marking	Clause. 9.3	60 s	
		Test of reliability of screws, current-carrying parts and connections	Clause. 9.4	Upto	50 Nm
		Test of reliability of terminals for external conductors	Clause. 9.5	Upto	50 N

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed		ge of Testing / ts of Detection
	RCBO	Test of protection against electric shock	Clause. 9.6		m Probe to 240 V
		Verification of Resistance to Mechanical impact	Clause. 9.13	Upto	50 N
		Test of resistance to heat	Clause. 9.14	Upto	125 °C
		Clearance and creepage distances	Clause. 8.1.3	1 mm	n to 300 mm
		Dielectric properties	Clause. 9.7	Powe mA c Upto 55 m Upto Impu	8 kV, 1.2/50 μs lse ation resistance
		Test of temperature-rise	Clause. 9.8	phase	125 A AC single e / three phase, z – Continuous
		Verification of mechanical and electrical endurance	Clause. 9.10	inclu	125 A,440 V des standard rement

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection	
	RCBO	Resistance to abnormal heat and to fire	Clause. 9.15		C to 960 °C wire test	
		Verification of Resistance to Mechanical impact	Clause. 9.13		50 N Mechanical ct test only	
		Verification of trip-free mechanism	Clause. 9.11	Upto 6	590 V, 50 Hz,	
		Verification of the operation of the test device at the limits of rated voltage	Clause. 9.16		25 A, 480 V bhase,50 Hz	
		Verification of the behaviour of RCBOs functionally dependent on line voltage	Clause. 9.17	Qualit	ative	
		Verification of behaviour of RCBOs in case of current surges caused by impulse voltages	Clause. 9.19	Upto 2 (0,5 µs Curren	vave Surge : 200 A s/100 kHz) nt Surge : 3000 A (8/20 μs)	
		Verification of resistance of the insulation against high impulse voltages	Clause. 9.20		ge Surge : 3 kV (1,2/50 μs)	
		Verification of the correct operation at residual currents with D.C. components	Clause. 9.21	10 mA	to 300 mA	

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	RCBO	Verification of reliability	Clause. 9.22		10 mA	to 300 mA
		Climatic test	Clause. 9.22.1		Upto 3 60 °C	300 mA,
		Test for reliability at 40 °C	Clause. 9.22.2		phase/ 50 Hz Contin	
		Verification of ageing of	Clause. 9.23		(-)10 °	C to 70 °C
		electronic components			Upto 300 mA	
		Performance at service short- circuit capacity	Clause. 9.12.11.4 b		Upto 1	0 kA, 690 V
		Verification of the Coordination at the rated Conditional short-circuit current (Inc)	Clause. 9.12.11.4 c		Upto 1	0 kA, 690 V
		Verification of the rated making and breaking capacity (IM)	Clause. 9.12.13		Upto 1	0 kA, 690 V

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
9.	Electronic air break switches	Electric strength test	AS/ NZS 3133: 2013+ Amd. 1 Clause. 13.4 Clause. 13.4	(0.1 kV	to 3 kV AC/DC
		Insulation resistance test	AS/ NZS 3133: 2013+ Ame Clause. 13.3			IΩ to 500 MΩ to 500 V DC
		Endurance test	AS/ NZS 3133: 2013+ Ame Clause. 13.5	L	AC	600 A, 690 V 30 A, 48 V DC
		Heating test/Temperature rise	AS/ NZS 3133: 2013+ Ame Clause. 13.2			0 100 °C Ω to 60 MΩ
		Humidity test	AS/ NZS 3133: 2013+ Ame Clause. 13.1.10			70 °C to 20 °C o 98 % RH
		Leakage current	AS/ NZS 3133: 2013+ Ame Clause. A4.2	d. 1 (0.05 m	A to 3 mA
		Impulse test	AS/ NZS 3133: 2013+ Am Clause. A4.3		Upto 8 Impuls	kV, 1.2/50 μs e
		Degree of protection of assemblies	AS/ NZS 3133: 2013+ Ame Clause. 13.12	d. 1	IP11to	IP20
		Mechanical strength of actuating member	AS/ NZS 3133: 2013+ Ame Clause. A4.4	d. 1	Force	Upto 60 N

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			of Testing / of Detection
10.	Residual Current device	Insulation resistance test	AS/ NZS 3190: 2011 Clause. 8.2			Ω to 500 MΩ to 500 V DC
		Electric strength test	AS/ NZS 3190: 2011 Clause. 8.3	(0.1 kV	to 3 kV AC/DC
		Impulse test	AS/ NZS 3190: 2011 Clause. 8.5		Upto 8 Impulse	kV, 1.2/50 μs e
		Current surge test	AS/ NZS 3190: 2011 Clause. 8.6			t Surge : 000 A (8/20 μs)
		Earthing connection	AS/ NZS 3190: 2011 AS/ NZS 3100: 2009, Clause. 8.5		60 A 12 V A	C / DC
		Cord anchorage	AS/ NZS 3190: 2011 AS/ NZS 3100: 2009, Clause. 8.6]	Force U	Jpto 60 N
		Screw thread and fixings	AS/ NZS 3190: 2011 AS/ NZS 3100: 2009, Clause. 8.7	(0.2 kgf	cm to 10 kgf cm
		Heating test	AS/ NZS 3190: 2011 Clause. 8.7		1	25 A AC single three phase,
		Tripping test	AS/ NZS 3190: 2011 Clause. 8.8	:	50 Hz -	- Continuous

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	Residual Current device	Endurance test	AS/ NZS 3190: 2011 Clause. 8.14		o 50 A, 690 V AC o 30 A, 48 V DC
		Short-time through-current withstand test	AS/ NZS 3190: 2011 Clause. 8.15	200 A 690 N	a to 10 kA at
		Climatic test	AS/ NZS 3190: 2011 Clause. A2		70 °C 300 mA
		Verification of ageing of electronic components	AS/ NZS 3190: 2011 Clause. 8.19		70 °C 300 mA
		Reliability	AS/ NZS 3190: 2011 Clause. 8.18	Upto	300 mA
		Insulation resistance test	IEC 60669-1 I NT 1: 2012 (Edition 3.2)	0.02	M Ω to 500 M Ω
			IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) Clause. 16	250 N	7 to 500 V DC

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection	
	Residual Current device	Electric strength test	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) Clause. 16	0.1 kV	7 to 3 kV AC/DC	
		Impulse test	IEC 60669-1 I NT 1: 2012.02.0 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) IEC 60669-2-1 Clause. 26.1.2	1 Upto 8 Impul	3 kV, 1.2/50 μs se	

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		ange of Testing / mits of Detection
	Residual Current device	Current surge test	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) IEC 60669-2-1 Clause. 26.1.	Ur	urrent Surge : oto 3000 A (8/20 μs)
		Earthing connection	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0)	60) A

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Accr	editation Standard	ISO/IEC 17025: 2005			
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificati against which tests are performed		ge of Testing / its of Detection
	Residual Current device	Earthing connection	IEC 60669-2-6: 2012-01-01 (Edition 1.0) IEC 60669-2-1 Clause. 11	60 A	
		Cord anchorage	IEC 60669-1 I NT 1: 2012	12 V	AC / DC
			(Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) IEC 60669-1 Clause. 11		e Upto 60 N
		Screw thread and fixings	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0)		kgf cm to 10 kgf cm

Labo	oratory	Campus, Sy. No. 129/4 Karnataka Location 1: Laboratory B Zone, Phase-II, Whitefield Location 2: OAK Building	Lab, UL India Pvt. Ltd., Laboratory Building, Kalyani Platina Sy. No. 129/4, EPIP Zone, Phase-II, Whitefield, Bangalore, a 1: Laboratory Building, Kalyani Platina Campus, Sy. No. 129/4, EPIP Ise-II, Whitefield, Bangalore, Karnataka 2: OAK Building, Kalyani Platina Campus, Sy. No 129/4, EPIP Zone, Whitefield, Bangalore, Karnataka			
Accr	editation Standard	ISO/IEC 17025: 2005				
Disc	ipline	Electrical Testing		Issue [Date	05.08.2016
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	Residual Current device	Screw thread and fixings	IEC 60669-2-5: 2013-10-0 (Edition 1.0) IEC 60669-2-6: 2012-01-0 (Edition 1.0) IEC 60669-1 Clause. 22		0.2 kg	f cm to 10 kgf cm
		Heating test	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-0 (Edition 3.0) IEC 60669-2-3: 2006-08-0 (Edition 1.0) IEC 60669-2-4: 2004-05-0 (Edition 1.0) IEC 60669-2-5: 2013-10-0 (Edition 1.0) IEC 60669-2-6: 2012-01-0 (Edition 1.0) IEC 60669-1 Clause. 17	1 1 1		50 A AC single / three phase,

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Accr	editation Standard	ISO/IEC 17025: 2005				
Disc	ipline	Electrical Testing		Issue	Date	05.08.2016
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	Residual Current device	Endurance test	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) IEC 60669-1 Clause. 18	l l		50 A, 690 V AC 30 A, 48 V DC
		Short-time through-current withstand test	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) IEC 60669-2-1 Clause. 101	l l l	200 A 690 V	to 10 kA at

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Accr	editation Standard	ISO/IEC 17025: 2005				
Disc	ipline	Electrical Testing		Issue	Date	05.08.2016
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificati against which tests are performed	on		e of Testing / s of Detection
	Residual Current device	Touch current test	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) IEC 60669-2-5 Clause. 10.2		0.1 mA	A to 10 mA
		Marking test	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) IEC 60669-1 Clause. 8		0.1 s to	o 60 s

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Accr	editation Standard	ISO/IEC 17025: 2005				
Discipline		Electrical Testing		Issue	Date	05.08.2016
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed		-	e of Testing / s of Detection
	Residual Current device	Protection against access live parts	IEC 60669-1 I NT 1: 2012 (Edition 3.2) IEC 60669-1: 2007-01-01 (Edition 3.2) IEC 60669-2-1: 2015-03-0 (Edition 3.0) IEC 60669-2-3: 2006-08-0	-	Qualit	ative

IEC 60669-2-1: 2015-03-01 (Edition 3.0) IEC 60669-2-3: 2006-08-01 (Edition 1.0) IEC 60669-2-4: 2004-05-01 (Edition 1.0) IEC 60669-2-5: 2013-10-01 (Edition 1.0) IEC 60669-2-6: 2012-01-01 (Edition 1.0) IEC 60669-1 Clause. 10

IV. DOMESTIC ELECTRONIC APPLIANCE & ACCESSORIES

1.	Electrical and Electronic (Static) Energy	Impulse Voltage Test	IS 13779: 1999 (RA 2002), with Amd. 1,2,3 & 4, Clause. 12.7.6.2	0.5 kV to 6 kV, 1.2/50 μs
	Meters/Prepayment			
	Meters and Tariff		IS 14697: 1999 (RA 2004),	
	and Load Control		Clause. 12.7.6.2	
	Equipment (Energy			
	meter)		CBIP 325: 2015,	
			Clause. 5.4.6.2	
			IEC 62052-11 (1 st Edition) [.]	

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Accr	editation Standard	ISO/IEC 17025: 2005				
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter)	AC High Voltage test	IS 13779: 1999 (RA 2002) Amd. 1,2,3 & 4, Clause. 12.7.6.3 IS 14697: 1999 (RA 2004) Clause. 12.7.6.3 CBIP 325: 2015, Clause. 5.4.6.2 IEC 62052-11 (1 st Edition) 02, Clause. 7.3.3 IEC 62053-21 (1 st Edition) 01, Clause. 7.4 IEC 62053-22, (1 st Edition) 2003-01, Clause. 7.4 IEC 62053 -23, (1 st Edition) 2003-01, Clause. 7.4	: 2003- : 2003-):	1.0 kV 50/60 J 0 to 60	
		Insulation Resistance test	IS 13779: 1999 (2007) with Amd. 1,2,3 & 4, Clause. 12.7.6.4 IS 14697: 1999 (RA 2004) Clause. 12.7.6.4 CBIP 325: 2015, Clause. 5.4.6.2			2 to 2000 MΩ to 1000 V DC

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Test on Limits of error	IS 13779: 1999 (RA 2002) (2007) with Amd. 1, 2, 3 & 4, Clause. 11.1 IS 14697: 1999 (RA 2004), Clause. 11.1 CBIP 325: 2015, Clause. 5.4.6.2 IEC 62053-21, (1 st Edition): 2003-01, Clause. 8.1 IEC 62053-22 (1 st Edition): 2003-01, Clause. 8.1,8.5 IEC 62053 -23 (1 st Edition) 2003-01,	Phase	e phase & Three 57.7 V to 380 V, , 50 Hz
		Test of Meter Constant	Clause. 8.1, 8.5 IS 13779: 1999 (RA 2002) with Amd. 1,2,3 & 4, Clause. 12.15 IS 14697: 1999 (RA 2004), Clause. 12.14 CBIP 325: 2015, Clause. 5.6.6 IEC 62053-22 (1 st Edition): 2003- 01, Clause. 8.4 IEC 62053-23 (1 st Edition): 2003- 01, Clause. 8.4	Phase	e phase & Three 57.7 V to 380 V, , 50 Hz

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Accr	editation Standard	ISO/IEC 17025: 2005				
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Interpretation of test results	IS 13779: 1999 (RA 2002) Amd. 1, 2, 3 & 4, Clause. 1 IS 14697: 1999 (RA 2004), Clause. 12.15 IEC 62053-21 (1 st Edition): 01, Clause. 8.6 IEC 62053-22 (1 st Edition): 01, Clause. 8.6 IEC 62053 -23 (1 st Edition) 2003-01, Clause. 8.6	2.16 : 2003- : 2003-	Phase	phase & Three 57.7 V to 380 V, , 50 Hz
		Test of Starting Condition	IS 13779: 1999 (RA 2002) Amd. 1, 2, 3 & 4, Clause. 1 IS 14697: 1999 (RA 2004), Clause. 12.13 CBIP 325: 2015, Clause. 5. IEC 62053-21 (1 st Edition): 01, Clause. 8.3 IEC 62053-22 (1 st Edition): 01, Clause. 8.3 IEC 62053 -23 (1 st Edition): 2003-01, Clause. 8.3	2.14 6.5 : 2003- : 2003-	Phase	phase & Three 57.7 V to 380 V, , 50 Hz

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Test of No Load Condition	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3& 4, Clause. 12.13 IS 14697: 1999 (RA 2004), Clause. 12.12 CBIP 325: 2015, Clause. 5.6.4 IEC 62053-21 (1 st Edition): 2003- 01, Clause. 8.3 IEC 62053-22 (1 st Edition): 2003- 01, Clause. 8.3 IEC 62053 -23 (1 st Edition): 2003-01, Clause. 8.3	Phase	e phase & Three 57.7 V to 380 V, , 50 Hz
		Ambient temperature influence	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. 12.12 IS 14697: 1999 (RA 2004), Clause. 12.11 CBIP 325: 2015, Clause. 5.6.3 IEC 62053-21 (1 st Edition): 2003- 01, Clause. 8.2 IEC 62053-22 (1 st Edition): 2003- 01, Clause. 8.2 IEC 62053 -23 (1 st Edition): 2003- 01, Clause. 8.2	Phase 120 A Ambia 0.1 °C Cham 62 mm	n x 62 mm x 62 m x 100 mm x

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificatior against which tests are performed		e of Testing / s of Detection
	Electrical and Electronic (Static) Energy	Repeatability of error	IS 13779: 1999 (RA 2002) wit Amd. 1, 2, 3 & 4, Clause. 12.1	17 Phase	e phase & Three 57.7 V to 380 V, , 50 Hz
	Meters/Prepayment Meters and Tariff and Load Control		IS 14697: 1999 (RA 2004), Clause. 12.16 CBIP 325: 2015, Clause. 5.6.9		, 30 112
	Equipment (Energy meter	Influence Quantities Voltage Variation	IS 13779: 1999 (RA 2002) wit Amd. 1, 2, 3& 4, Clause. 12.1 (Table 17)	1, Phase	e phase & Three 57.7 V to 380 V, 50 Hz
		Frequency Variation	IS 14697: 1999 (RA 2004), Clause. 12.10		
		Waveform 10 % of third harmonic	CBIP 325: 2015, Clause. 5.6.2	2	
		Reverse Phase Sequence	IEC 62053-21 (1 st Edition): 20 01, Clause. 8.2	003-	
		Voltage unbalance	01, 014000 0.2		
		DC component in ac current circuit	IEC 62053-22 (1 st Edition): 20 01, Clause. 8.2	003-	
		Continuous magnetic induction of external origin			

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Magnetic induction of external orign-0.5 mT Influence Quantities Auxiliary Voltage Phase of Auxiliary Supply voltage by 120 °	IEC 62053 -23 (1 st Edition) 2003-01, Clause. 8.2 IS 14697: 1999 (RA 2004), Clause. 12.10 (Table 13)		Phase	phase & Three 57.7 V to 380 V, 50 Hz
		Test of Power Consumption test	IS 13779: 1999 (RA 2002) Amd. 1, 2, 3 & 4, Clause. 1 IS 14697: 1999 (RA 2004) Clause. 12.7.1 CBIP 325: 2015, Clause. 5. IEC 62053-21 (1 st Edition): 01, Clause. 7.1 IEC 62053-22 (1 st Edition): 01, Clause. 7.1 IEC 62053 -23 (1 st Edition) 2003-01, Clause. 7.1	2.7.1 , .4.1 : 2003- : 2003-	Upto 6 For Cu Consu	mption: 500 V,(P A09)

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Influence of Supply voltage	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. 12.7.2 IS 14697: 1999 (RA 2004), Clause. 12.7.2 CBIP 325: 2015, Clause. 5.4.2 IEC 62052-11 (1 st Edition): 2003- 02, Clause. 7.1.2 IEC 62053-21, (1 st Edition): 2003-01, Clause. 8.2 IEC 62053-22 (1 st Edition): 2003- 01, Clause. 8.2 IEC 62053 -23 (1 st Edition): 2003-01, Clause. 8.2		ac, 110 Vac, time: 50 ms, 9 ms,
		Test of Influence Short time Over currents	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. 12.7.3 IS 14697: 1999 (RA 2004) , Clause. 12.7.3 CBIP 325: 2015, Clause. 5.4.3 IEC 62053-21 (1 st Edition): 2003-01, Clause. 7.2 IEC 62053-22 (1 st Edition): 2003- 01, Clause. 7.2 IEC 62053 -23 (1 st Edition): 2003-01, Clause. 7.2	50 Å to Time S	t Current Range: o 3000 A, 5 V, Setting: to 1000 ms.

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Accr	editation Standard	ISO/IEC 17025: 2005			
Disci	ipline	Electrical Testing	lssu	e Date	05.08.2016
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	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Test of Influence of Self Heating	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. 12.7.4 IS 14697: 1999 (RA 2004), Clause. 12.7.4 CBIP 325: 2015, Clause. 5.4.4 IEC 62053-21 (1 st Edition): 2003-01, Clause. 7.3 IEC 62053-22 (1 st Edition): 2003-01, Clause. 7.3 IEC 62053 -23 (1 st Edition):	Phase	e phase & Three 57.7 V to 380 V, , 50 Hz
		Test of Influence of Heating Test of Immunity to earth fault	2003-01, Clause. 7.3 IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. 12.7.5 IS 14697: 1999 (RA 2004), Clause. 12.7.5 CBIP 325: 2015, Clause. 5.4.5 IEC 62052-11 (1 st Edition): 2003- 02, Clause. 7.2 IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. 12.8	Phase 120 A Ambi Single Phase	e phase & Three 57.7 V to 380 V, 50 Hz ent to 70 ° e phase & Three 57.7 V to 380 V, 50 Hz
			IEC 62052-11 (1 st Edition): 2003- 02, Clause. 7.4		

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Accr	editation Standard	ISO/IEC 17025: 2005			
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Dry Heat test	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3& 4, Clause. 12.6.1 IS 14697: 1999 (RA 2004), Clause. 12.6.1 CBIP 325: 2015, Clause. 5.3.1 IEC 62052-11 (1 st Edition): 2003- 02, Clause. 6.3.1	0.1 °C Cham 100 m 80 mm	ent to 150 °C/ C resolution ber Size: nm x 100 mm x n
		Cold	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. 12.6.2		°C to ambient / C resolution
			IS 14697: 1999 (RA 2004), Clause. 12.6.2 CBIP 325: 2015 Clause. 5.3.2 IEC 62052-11 (1 st Edition): 2003- 02, Clause. 6.3.2	100 m 80 mm	ber Size: nm x 100 mm x n
		Damp Heat Cyclic	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. 12.6.3 IS 14697: 1999 (RA 2004), Clause. 12.6.3 CBIP 325: 2015, Clause. 5.3.3 IEC 62052-11, (1 st Edition): 2003-02, Clause. 6.3.3	0.1 °C 30 %	°C to (+)100 °C/ C resolution , to 98 %RH ber Size: um x 100 mm x n

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Accreditation Standard		ISO/IEC 17025: 2005					
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	on		e of Testing / s of Detection	
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Spring Hammer	IS 13779: 1999 (RA 2002) v Amd. 1, 2, 3& 4, Clause. 12 IS 14697: 1999 (RA 2004), Clause. 12.3.3 CBIP 325: 2015, Clause. 5.2 IEC 62052-11 (1 st Edition): 02, Clause. 5.2.2.1	.3.3 2.1	0.1 Nr	n to 2 Nm	
	meter	Protection against penetration of dust and water	IS 13779: 1999 (RA 2002) v Amd. 1, 2, 3& 4, Clause. 12 IS 14697: 1999 (RA 2004), Clause. 12.5			to IPX7 to IP6X	
			Clause: 12.5 CBIP 325: 2015, Clause: 5.2 IEC 62052-11 (1 st Edition): 02, Clause: 5.9.		Pressu 0.5 kg 2.5 kg	$/cm^2$ to	
		Resistance of Heat and fire	IS 13779: 1999 (RA 2002) v Amd. 1, 2, 3& 4, Clause. 12 IS 14697: 1999 (RA 2004), Clause. 12.4 CBIP 325: 2015, Clause. 5.2 IEC 62052-11 (1 st Edition): 2003-02, Clause. 5.8	.4	550 °C 60 s	C to 960 °C and	

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Accr	editation Standard	ISO/IEC 17025: 2005				
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		e of Testing / s of Detection	
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Heat Deflection	IS 13779: 1999 (RA 2002) (1 st Revision), (2 nd Reprint): 2007 includes Amd. 1, 2, 3 & 4, Clause. 6.4 IS 14697: 1999 (RA 2004), Clause. 6.4 CBIP 325: 2015, Clause. 4.2.2.3 IEC 62052-11 (1 st Edition): 2003- 02, Clause. 5.4	0.16 r	°C to 150 °C, nm to 200 mm	
		Clearances and Creepage distances	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. No. : 6.6 IS 14697: 1999 (RA 2004), Clause. 6.6 CBIP 325: 2015, Clause. 4.2.2.5 IEC 62052-11 (1 st Edition): 2003- 02, Clause. 5.6		nm to 200 mm	
		General and Construction requirements	IS 13779: 1999 (RA 2002) with Amd. 1, 2, 3 & 4, Clause. 6.0 IS 14697: 1999 (RA 2004), Clause. 6.0 CBIP 325: 2015, Clause. 4.2 IEC 62052-11 (1 st Edition): 2003- 02, Clause. 5.0		nm to 200 mm	

Labo	oratory	Campus, Sy. No. 129/4, Karnataka Location 1: Laboratory Bu Zone, Phase-II, Whitefield, Location 2: OAK Building,	UL India Lab, UL India Pvt. Ltd., Laboratory Building, Kalyani Platina Campus, Sy. No. 129/4, EPIP Zone, Phase-II, Whitefield, Bangalore, Karnataka Location 1: Laboratory Building, Kalyani Platina Campus, Sy. No. 129/4, EPIP Zone, Phase-II, Whitefield, Bangalore, Karnataka Location 2: OAK Building, Kalyani Platina Campus, Sy. No 129/4, EPIP Zone, Phase-II , Whitefield, Bangalore, Karnataka					
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed		ge of Testing / its of Detection			
	Electrical and Electronic (Static) Energy Meters/Prepayment Meters and Tariff and Load Control Equipment (Energy meter	Marking of Meters	IS 13779: 1999 (RA 2002) wi Amd. 1, 2, 3 & 4, Clause. 7.0 IS 14697: 1999 (RA 2004), Clause. 7.0 CBIP 325: 2015, Clause. 4.2.2.11 IEC 62052-11 (1 st Edition): 20 02, Clause. 5.12	-	litative			
		Conformance to protocol implementation as per DLMS/COSEM base standard, IEC 62056 by CTT tool	IEC 62056, IS 15959: 2011, Amd. 1: 2014 Amd. 2: 2015 Annexure K-1 (a), Category A, B, C and C3		defined in standard			
		Conformance to Protocol Implementation of specific requirements related to : All Mandatory Parameters All data Types	IEC 62056, IS 15959: 2011, Amd. 1: 2014 Amd. 2: 2015 Annexure K-1 (b), Category A, B, C and C3		defined in standard			
		All Application Associations with Specified Services Association objects with access rights and OBIS Codes						

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed			e of Testing / s of Detection	
V.	ROTATI NG ELECT	RICAL MACHINES					
1.	Induction Motors: Single Phase	No Load	IS 996: 2009 Clause. 16.3.1		100 rpm to 3200 rpm 7.5 W to 5000 W 15 V to 600 V 0.5 A to 20 A		
		Dimensions	IS 996: 2009 Clause. 9		4.0 mr	n to 200 mm n to 1000 mm	
		Torque	IS 996: 2009 Clause. 12.1.1, 12.4, IS 7572: 1974		1 kg to	o 50 kgm	
		Momentary overload	IS 996: 2009 Clause. 12.1.2		1kg to 5 s to 1	50 kgm 15 s	
		Breakaway starting current	IS 996: 2009 Clause. 12.3		7.5 W	to 5000 W	
		(Locked rotor)			0.5 A t	o 600 V to 100 A o 50 kgm	
		Temperature	IS 996: 2009 Clause. 12.2, IS 7572: 1974		0.1 °C	to 400 °C	
		Insulation resistance	IS 996: 2009 Clause. 12.6			1Ω to 500 MΩ to 1000 V DC	

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Accr	editation Standard	ISO/IEC 17025: 2005						
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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificati against which tests are performed			e of Testing / s of Detection		
	Induction Motors: Single Phase	High voltage	IS 996: 2009 Clause. 12.7, IS 7572: 1974	0	.2 kV	to 5 kV AC/DC		
				2 0 A	00 m .2 kV AC/D	frequency , A capacity V to 10 kV C to 55 mA		
		Leakage current	IS 996: 2009 Clause. 12.9	0	.05 n	nA to 3 mA		
2.	Induction Motors (3 Phase)	Winding Resistance	IS 325: 1996 Amd. 3: 2011 Clause. 22.3.1. (b)	0	.2 m	Ω to 2000 Ω		
		No Load	IS 325: 1996 Amd. 3: 2011 Clause. 23.1	7	.5 W	to 4000 W		
				1	5 V t	om to 3600 rpm to 600 V to 20 A		
		Reduced voltage running up (Squirrel Cage Motor)	IS 325: 1996 Amd. 3: 2011 Clause. 23.2	1	5 V t	o 600 V 50 Hz		
		(Squiffer Cage Motor)	Clause. 23.2			to 600 V 60 Hz om to 3600 rpm		
		Locked rotor	IS 325: 1996 Amd. 3: 2011 Clause. 23.4,	1	5 V t	to 600 V		
			IS 4029: 1967 Clause. 7.3			to 100 A o 50 kgm		

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specificat against which tests are performed		ange of Testing / mits of Detection		
	Induction Motors (3 Phase)	Full load	IS 325: 1996 Amd. 3: 2011 Clause. 23.5, IS 4029: 1967	0.5 10 0.1	V to 600 V 5 A to 100 A 0 rpm to 3600 rpm 1 PF to 1 PF 1 Nm to 28 Nm		
		Temperature rise	IS 325: 1996 Amd. 3: 2011 Clause. 14, IS 12802: 1989	0.1	°C to 200 °C		
		Momentary overload	IS 325: 1996 Amd. 3: 2011 Clause. 13.1		kg to 50 kg m s to 15 s		
		Insulation resistance	IS 325: 1996 Amd. 3: 2011 Clause. 25, IS 4722: 1992 Clause. 30.2		02 MΩ to 2000 MΩ 0 V to 1000 V DC		
		High voltage	IS 325: 1996 Amd. 3: 2011 Clause. 24, IS 4029: 1967	Po 20 0.2 AC	2 kV to 5 kV AC/DC wer frequency , 0 mA capacity 2 kV to 10 kV C/DC mA to 55 mA		
		Over speed	IS 325: 1996 Amd. 3: 2011 Clause. 26		0 rpm to 4320 rpm s to 120 s		