		ANULL.	नोधन		TES	T CERTIFICAT	Έ			
Yadav Mea	surements		TC-6594	Issued by YADAV ME Plot no. F-3 Kaladwas, I Tel: 0091-29 Email: Yada website: ww	y: EASUREMI 73-375 RIIC Jdaipur-Raja 94-2650127, IV.measuren VW.yadavme r L131000P	ENTS PRIVATE LIMI O Bhamashah Industri asthan-313003, INDIA 28, Fax: 0091-294-265 hents@ymllabs.com asurements.com 2003PTC018450	<b>TED</b> al Area, 0129		IBC-MRA	
					. 03 1909KJ	2003F1C018430				
Certif	icate Nu	mber: YMPL/2	2021-2022/1800/1/	1/32		ULR-1C65942	2000000592F		P	age 1 of 17
1a.	Tested	l for:			SOUTH 1 Dr Lat Africa	AFRICAN BUREA egan Road, Groen	U OF STANDAI kloof   Private B	RDS   ⊢ ag x19	IEAD OFFICE 1, Pretoria, 0001	, South
1b.	Submi	tted by:			SOUTH 1 Dr Lat Africa	AFRICAN BUREA egan Road, Groen	U OF STANDA kloof   Private B	RDS   H ag x19	IEAD OFFICE 1, Pretoria, 0001	, South
1c.	Test C	ertificate as pe	er:		IEC 620	55-31:2005 Amen	d 1			
1d.	Locatio	on of testing:			YADAV Plot no. Udaipur	MEASUREMENTS F-373-375 RIICO -Rajasthan-313003	S PRIVATE LIMI Bhamashah Ind 3, INDIA	TED ustrial A	Area, Kaladwas ,	
2.	Refere	ence: Ser Date (	Customer order vice Request form of receipt of the ins Condition of item or	number: number: strument: n receipt:	Nil 2021-20 January Satisfac	22/1800/1 31, 2022 tory				
3.	Test ce	ertificate:	Date of Date of	of issue: f testing:	April 30 From	2022 April 25, 2022	То	Apri	l 26, 2022	
4.	Descrip	otion of equipn	nent under test:							
			Number of sa	mple(s):	5					
			Nature of sa	mple(s):	1 Phase	2 wire ac static er	nergy meter			
			Турє	e/Model:	M190R5	SF				
			Meter c	onstant:	1000 p/l	‹Wh				
				Unit:	kWh					
			Serial Nu	mber(s):	1900003	35,19000047,1900	0060,19000066	,19000	085	
			Reference voltaç	ge(Vref):	230V					
			Basic Cu	rrent(lb):	20A					
		Rate	d maximum currer	nt(Imax):	80A					
			Reference Fre	equency:	50Hz					
			Accurac	cy class:	2					
			Insulatio	on Class	Protectiv	e Class-II				
		Load Swit	tching Utilization C	ategory:	#UC2					

Checked by :	Varsha Tiwari	Approved by :	Scientist 2
			Sunay Dixit



Checked by :	Varsha Tiwari	Approved by :	Sunay Dixit

		MI1111	न्तोधन को	TEST CERTIFICATE			
		Hac-mRA		Issued by: YADAV MEASUREMENTS PRIVATE LIMITED Plot no. F-373-375 RIICO Bhamashah Industrial Area, Kaladwas ,Udaipur-Rajasthan-313003, INDIA Tel: 0091-294-2650127,28, Fax: 0091-294-2650129	ilac-mr.		
Y	'adav Measurements			Email: Yadav.measurements@ymllabs.com	"Mulululu	TE	STING
		1	IC-6594	CIN number: U31909RJ2003PTC018450		2	2437
	Certificate Nu	mber: YMPL/2021-2	022/1800/1/1	ULR-TC659422000000592F		Page 3	of 17
	TESTS QUANTITIES OF ACCURA	OF INFLUENCE (UNDER THE CLAUS	SE	AMBIENT TEMPERATURE VARIATION	-	ND	NA
			2	VOLTAGE VARIATION	-	ND	NA
			3	FREQUENCY VARIATION	-	ND	NA
			4	REVERSED PHASE SEQUENCE	_	ND	NA
			5	VOLTAGE UNBALANCE	-	ND	NA
			6	DC AND EVEN HARMONICS IN THE A.C.CURRENT CIRCUIT	-	ND	NA
			7	HARMONICS COMPONENTS IN THE CURRENT AND VOLTAGE CIRCUITS	-	ND	NA
			8	ODD HARMONICS IN THE A.C.CURRENT CIRCUIT	-	ND	NA
			9	SUB HARMONICS IN THE A.C.CURRENT CIRCUIT	-	ND	NA
			10	CONTINUOUS MAGNETIC INDUCTION OF EXTERNAL ORIGIN (1000 AMP-TURNS)	_	ND	NA
			11	MAGNETIC INDUCTION OF EXTERNAL ORIGIN 0.5 MILLI TESLA	-	ND	NA
			12	ELECTROMAGNETIC RF FIELDS	-	ND	NA
			13	OPERATION OF ACCESSORIES	-	ND	NA
			14	CONDUCTED DISTRUBANCES, INDUCED BY RADIO-FREQUENCY FIELDS	-	ND	NA
			15	FAST TRANSIENT BURST	-	ND	NA
			16	DAMPED OSCILLATORY WAVES IMMUNITY	-	ND	NA
	TEST C REQ	)F ELECTRICAL QUIREMENTS	1	TEST OF POWER CONSUMPTION	-	ND	NA
			2	TEST OF INFLUENCE OF SUPPLY VOLTAGE	-	ND	NA
			3	TEST OF INFLUENCE OF SHORT TIME OVER CURRENTS	-	ND	NA
			4	TEST OF INFLUENCE OF SELF HEATING	-	ND	NA
			5	TEST OF INFLUENCE OF HEATING	-	ND	NA
			6	ABNORMAL VOLTAGE CONDITIONS	-	ND	NA

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		MILLIN.	न्त्रोधन		TEST CERTIFICATE		annu.		
		ilac-mra	And	A REAL PROPERTY AND A REAL	Issued by: YADAV MEASUREMENTS PRIVATE LIMITED Plot no. F-373-375 RIICO Bhamashah Industrial Area, Kaladwas ,Udaipur-Rajasthan-313003, INDIA		Hac-MR		
٢	adav Measurements	The Andrew Contraction	TC-6	594	Tel: 0091-294-2650127,28, Fax: 0091-294-2650129 Email: Yadav.measurements@ymllabs.com website: www.yadavmeasurements.com CIN number: U31909RJ2003PTC018450				2437
	Certificate Number: YMPL/2021-2022/1800/1/1732         ULR-TC65942200000592F         Page 4 of 17								
TEST FOR ELECTROMAGNETIC 1		1	RADIO INTERFERENCE SUPPRESSION		-	ND	NA		

TEST FOR ELECTROMAGNETIC COMPATIBILITY	1	RADIO INTERFERENCE SUPPRESSION	-	ND	NA
	2	TEST OF IMMUNITY TO ELECTRICAL FAST TRANSIENTS/BURSTS	-	ND	NA
	3	TEST OF IMMUNITY TO ELECTROSTATIC DISCHARGES	-	ND	NA
	4	TEST OF IMMUNITY TO RADIATED RF ELECTROMAGNETIC FIELDS	-	ND	NA
	5	TEST OF IMMUNITY TO CONDUCTED DISTURBANCES, INDUCED BY RF FIELDS	-	ND	NA
	6	DAMPED OSCILLATORY WAVE TEST	-	ND	NA
	7	SURGE IMMUNITY TEST	-	ND	NA
TEST OF THE EFFECT OF CLIMATIC INFLUENCES	1	DRY HEAT TEST	-	ND	NA
	2	COLD TEST	-	ND	NA
	3	DAMP HEAT CYCLIC TEST	-	ND	NA
MECHANICAL TESTS	1	VIBRATION TEST	-	ND	NA
	2	SHOCK TEST	-	ND	NA
	3	SPRING HAMMER TEST	-	ND	NA
	4	TESTS OF PROTECTION AGAINST PENETRATION OF DUST AND WATER	-	ND	NA
	5	RESISTANCE TO HEAT AND FIRE	-	ND	NA
TEST OF FUNCTIONAL PERFORMANCE	1	COLLECTION OF CONSUMPTION-BASED CHARGES	-	ND	NA
	2	COLLECTION OF STANDING CHARGES	-	ND	NA
	3	INTERRUPTION AND RESTORATION OF THE LOAD	-	ND	NA
	4	CORE FUNCTIONAL TESTS WITHIN VOLTAGE AND TEMPERATURE RANGE LIMITS	-	ND	NA
	5	FUNCTIONAL TESTS WITHIN THE LIMIT RANGE OF OPERATION WITH VOLTAGE	-	ND	NA
	6	FUNCTIONAL TESTS WITHIN THE LIMIT RANGE OF OPERATION WITH TEMPERATURE	-	ND	NA
	7	PREPAYMENT MODE - TOKEN HANDLING AND DATA INTEGRITY REQUIREMENTS	-	ND	NA

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	annin and a summer	IT RATIO				
	HAC-MRA	A REAL PROPERTY OF	YADAV MEASUREMENTS PRIVATE LIMITED Plot no. F-373-375 RIICO Bhamashah Industrial Area,	ilac-MR		
		NOIA - CHANK	Kaladwas ,Udaipur-Rajasthan-313003, INDIA Tel: 0091-294-2650127,28, Fax: 0091-294-2650129			
Yadav Measurements		$\Box$	Email: Yadav.measurements@ymllabs.com	" Malahahahahahahahahahahahahahahahahahaha		K A S STING
	TC-6	594	CIN number: U31909RJ2003PTC018450		2	2437
Certificate Nu	mber: YMPL/2021-2022	/1800/1/ <sup>.</sup>	1732 ULR-TC659422000000592F		Page 5	of 17
TEST OF ACCURAC	TIME KEEPING Y REQUIREMENTS	1	TEST OF SYNCHRONOUS CLOCK ON A.C. SUPPLY	-	ND	NA
		2	TEST OF SYNCHRONOUS CLOCK ON OPERATION RESERVE	-	ND	NA
		3	TEST OF CRYSTAL-CONTROLLED CLOCKS ON A.C. SUPPLIES	-	ND	NA
		4	TEST OF CRYSTAL-CONTROLLED CLOCKS ON OPERATION RESERVE	-	ND	NA
		5	TEST OF ACCURACY OF CRYSTAL-CONTROLLED CLOCKS WITH TEMPERATURE	-	ND	NA
		6	EFFECT OF SHORT INTERRUPTIONS ON SYNCHRONOUS CLOCKS	-	ND	NA
		7	EFFECT OF VOLTAGE DIPS ON SYNCHRONOUS CLOCKS	-	ND	NA
		8	EFFECT OF SHORT INTERRUPTIONS ON CRYSTAL-CONTROLLED CLOCKS	-	ND	NA
		9	EFFECT OF VOLTAGE DIPS ON CRYSTAL-CONTROLLED CLOCKS	-	ND	NA
		10	HARMONICS IN THE VOLTAGE WAVEFORM	-	ND	NA
		11	TEST OF SYNCHRONOUS CLOCK ON A.C. SUPPLY FREQUENCY	-	ND	NA
		12	TEST OF CRYSTAL-CONTROLLED CLOCKS ON A.C. SUPPLY FREQUENCY	-	ND	NA
LOAD SWIT	CHING CAPABILITY	1	PERFORMANCE REQUIREMENTS FOR LOAD SWITCHING UTILISATION CATEGORY UC1	-	ND	NA
		2	PERFORMANCE REQUIREMENTS FOR LOAD SWITCHING UTILISATION CATEGORIES UC2, UC3, AND UC4	DR3	D	С
PERFORMAN FOR LO UTILISATION UC:	ICE REQUIREMENTS AD SWITCHING N CATEGORIES UC2, 3, AND UC4	1	NORMAL OPERATION	-	ND	NA
		2	ELECTRICAL ENDURANCE	DR3	D	С
		3	LINE TO LOAD VOLTAGE SURGE WITHSTAND	-	NA	NA
		4	FAULT CURRENT MAKING CAPACITY	DR3	D	С
		5	SHORT-CIRCUIT CURRENT CARRYING CAPACITY	DR3	D	С
		6	MINIMUM SWITCHED CURRENT	DR3	D	С
		7	DIELECTRIC STRENGTH	DR3	D	С

6. Notes/Remarks

6.1) Remarks (if any):

a) "#" Information as provided by customer.

b) In meter prepayment facility not available so normal operation test is not performed.

6.2) Notes:

Checked by : Varsha Tiwari	Approved by :	Sunay Dixit



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#### ULR-TC659422000000592F

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Checked by : Varsha Tiwari	Approved by : Sunay Dixit



#### ULR-TC659422000000592F

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Yadav Mea	surements	PRIVATE LIMITED mashah Industrial Area, 313003, INDIA x: 0091-294-2650129 gymllabs.com hents.com rTC018450	
Certif	icate Number: YMPL/2021-2022/1800/1/1732 U	ILR-TC659422000000592F Pa	ige 11 of 17
Sr. No.	Requirement as per specification	Measured Values/Observations	Conclusion
8	LOAD SWITCHING CAPABILITY		
8.1	PERFORMANCE REQUIREMENTS FOR LOAD SWITCHING UT AND UC4 (Clause No7.9.4 of IEC 62055-31:2005)	ILISATION CATEGORIES UC2, UC3,	Conform
	performance capabilities that meet the requirements for load switching utilisation category UC2, UC3, or UC4, such a payment meter shall comply with the relevant requirements of Annex C.	performance capabilities that met the requirements for load switching utilisation category UC2 and meter comply with the relevant requirements of Annex C.	
9	PERFORMANCE REQUIREMENTS FOR LOAD SWITCHING UTI	[(Refer sr no. 9.1 to 9.5 of this report). ILISATION CATEGORIES UC2, UC3,	
	AND UC4		
9.1	ELECTRICAL ENDURANCE (Clause NoC.3 of IEC 62055-31:20	005)	Conform
	The test shall be carried out on a new sample under the following conditions:	The test was carried out on a new sample under the following conditions:	
	<ul> <li>a) Payment meter in normal operating condition;</li> <li>b) Room temperature at reference conditions;</li> <li>c) 1 m length cable with current carrying capacity of Ic;</li> <li>d) Supply voltage at Uc;</li> <li>e) Load current at Ic and PF = 1.0; and</li> <li>f) Number of operating cycles equal to 5 000, with 10 s make time and 20 s break time.</li> <li>Repeat the test using the same sample, but with the following changes:</li> <li>Load current at Ic, and PF = 0.5 inductive.</li> </ul>	Satisfactory Satisfactory Satisfactory The payment meter was satisfactorily operated at (Uc=1.15Vref, Ic=Imax and PF = UPF) with a linear resistive load for 5000 contiguous make-and-break operations with 10 s make time and 20 s break time. The payment meter was satisfactorily operated at (Uc=1.15Vref, Ic=Imax and PF = 0.5 inductive) with a inductive load for 5000 contiguous make-and-break operations with 10	
	During and after the test the following requirements shall be met: a) The load switch shall show no signs of malfunction, sticking of contacts or reluctance to latch; b) The contacts shall open on the first attempt; c) After the test it shall meet the requirements of C-7: test for minimum switched current;	<ul> <li>buring and after the test the following requirements shall be met:</li> <li>a) The load switch was show no signs of malfunction, sticking of contacts or reluctance to latch;</li> <li>b) The contacts was open on the first attempt;</li> <li>c) After the test meter met the requirements of C-7: test for minimum switched current;</li> <li>(For detail refer Test 9.4 of this report)</li> </ul>	
	d) After the test it shall meet the requirements of 7.3 and its	d) After the test meter met the requirements of	

subclauses: test for power consumption;

Apparent power consumption in each current circuit shall not exceed (0.08%Un x Imax)VA.

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consumption;

Power consumption test:

Un= 230V and Imax= 80A is applied.

Observed max power consumption in current

7.3 and its sub-clauses: test for power



Certifi	Cate Number: YMPL/2021-2022/1800/1/1/32	ULR-1C65942200000592F Pa	ige 12 of 17
Sr. No.	Requirement as per specification	Measured Values/Observations	Conclusion
	e) After the test it shall meet the requirements of C-8: test for dielectric strength; and	circuit is 6.489 VA which is less than 14.72 VA (0.08%Un x Imax). e) After the test meter met the requirements of C-8: test for dielectric strength; and (For detail refer Test 9.5 of this report)	
	f) When the payment meter is returned to normal operating conditions, it shall operate correctly and there shall be no change in any of the memory registers, except for those that are expected to change.	<ul> <li>f) When the payment meter was returned to normal operating conditions, it was operate correctly and there was no change in any of the memory registers, except for those that are expected to change.</li> <li>(Test performed on meter sr. no. 19000085)</li> </ul>	
9.2	FAULT CURRENT MAKING CAPACITY (Clause NoC.5 of	IEC 62055-31:2005)	Conform
	The payment meter shall be capable of making into simulated fault currents as given in this Clause.	This test was carried out on a new payment meter Sr. no. 19000060	
	Perform the test on a new payment meter sample under the following conditions:		
	a) climatic conditions at reference values;	Climatic conditions were maintained at reference values.	
	b) payment meter in the normal operating condition;	Payment meter in the normal operating condition.	
	c) voltage source at Uc;	voltage source at Uc=1.15 Un.	
	d) 3 pre-lusing operating cycles at ic and PF = 1,0 at 10 s intervals:	1.0 at 10 s intervals.	
	e) prospective test current at 2,5 kA r.m.s. for utilisation category UC2;	Prospective test current is 2.5 kA r.m.s. for UC2.	
	f) prospective test current at 3 kA r.m.s. for utilisation category UC3;		
	g) prospective test current at 4,5 kA r.m.s. for utilisation category UC4;	-	
	h) power factor of test current shall be inductive in accordance with Table 16 of IEC 61008-1; i) frequency at reference value:	Power factor of test current were maintained between 0.85 - 0.90 inductive. Frequency = 50 Hz	
	j) current tolerance +5 percent and -0 percent;	Satisfactory.	
	k) voltage tolerance +5 percent and -5 percent;	Satisfactory.	
	I) power factor tolerance +0,00 and -0,05.	Satisfactory.	
	Cause the payment meter to close the load switch contacts into the above prospective test current and to remain in the closed position.	Payment meter closed the load switch contacts into the above prospective test current and to remain in the closed position.	
	The test current shall be maintained to flow up to the first zero point crossing of the current, at which point, the test equipment shall disconnect the voltage source.	Test current is maintained to flow up to first zero point crossing of current at which point, test equipment is disconnected the voltage	
	Repeat the test 3 times on the same sample with a minimum delay of 1 min between each test.	Test is repeated for 3 times with an interval of 5 min.	
Checke	<b>d by</b> : Varsha Tiwari	Approved by : Sunay Dixit	
1			



# **TEST CERTIFICATE**

YADAV MEASUREMENTS PRIVATE LIMITED Plot no. F-373-375 RIICO Bhamashah Industrial Area, Kaladwas ,Udaipur-Rajasthan-313003, INDIA Tel: 0091-294-2650127,28, Fax: 0091-294-2650129 Email: Yadav.measurements@ymllabs.com website: www.yadavmeasurements.com CIN number: U31909RJ2003PTC018450



#### Page 13 of 17 Certificate Number: YMPL/2021-2022/1800/1/1732 ULR-TC65942200000592F Sr. No. Measured Values/Observations Conclusion Requirement as per specification Plot a graph of the voltage and the test current waveform Refer Annexure - A for graph of the voltage and during each test and verify that the test was executed as is the test current wave forms. reauired. During and after the test the following requirements shall be During and after the following test the requirements shall be met: met: a) contacts shall open on the first attempt after each make a) The load switch was show no signs of cycle; malfunction, sticking of contacts or reluctance to latch; b) the load switch shall show no signs of malfunction, b) The contacts was open on the first attempt; sticking or welding of contacts or reluctance to latch; c) after the test it shall meet the requirements of Clause c) After the test meter met the requirements of C.7: test for minimum switched current: C.7: test for minimum switched current: (For detail refer Test 9.4 of this report) d) after the test it shall meet the requirements of 7.3 and its d) After the test meter met the requirements of subclauses: test for power consumption; 7.3 and its sub-clauses: test for power consumption; Apparent power consumption in each current circuit shall Power consumption test: not exceed (0.08%Un x Imax)VA. Vref=230V and Imax=80A is applied. Observed max power consumption in current circuit is 4.248 VA which is less than 14.72 VA (0.08%Vref x Imax). e) After the test meter met the requirements of e) after the test it shall meet the requirements of Clause C.8: test for dielectric strength; C.8: test for dielectric strength; and (For detail refer Test 9.5 of this report) f) when the payment meter is returned to normal operating f) When the payment meter was returned to conditions, it shall operate correctly and there shall be no normal operating conditions, it was operate change in any of the memory registers, except for those correctly and there was no change in any of that are expected to change. the memory registers, except for those that are expected to change. (Test performed on meter sr. no. 19000060) SHORT-CIRCUIT CURRENT CARRYING CAPACITY (Clause No.-C.6 of IEC 62055-31:2005) 9.3 Conform The payment meter shall withstand simulated short-circuit currents as may be experienced under short-circuit conditions in a payment meter installation. Test 1 shall be carried out on a new payment meter sample The test 1 was carried out on the sample B under the following conditions: (Meter Sr. No. 19000047) under the required conditions: a) climatic conditions at reference values; Climatic conditions were maintained at reference values. b) series connection of a voltage source, the payment meter Voltage source in series with meter, load to under test, load to produce the required test current and a produce the required test current and a test test switch; switch; Checked by: Varsha Tiwari Approved by : Sunay Dixit



Certifi	cate Number: fmPL/2021-2022/1800/1/1/32	ULR-1C039422000000392F	-aye 14 01 17
Sr. No.	Requirement as per specification	Measured Values/Observations	Conclusion
	c) payment meter in the normal operating condition;	Payment meter was in normal operation	ng
	d) 3 pre-fusing operating cycles at Ic and PF =1.0 at 10 s	3 pre-fusing operating cycles at Ic=Imax at	nd
	intervals:	PF = 1.0 at 10 s intervals.	
	e) load switch contacts in the closed position;	Load switch contact was in closed position.	
	f) voltage source at Uc;	voltage source at Uc=1.15Un.	
	g) prospective test current at 4,5 kA r.m.s. for utilization	Prospective test current applied at 4.5	(A
	category UC2;	r.m.s. for utilization category UC2;	
	h) prospective test current at 6 kA r.m.s. for utilization		
	category UC3;		
	i) prospective test current at 10 kA r.m.s. for utilization		
	category UC4;		
	j) power factor of test current shall be inductive in	Power factor of test current were maintaine	ed
	accordance with Table 16 of IEC 61008-1;	between 0.65 - 0.70 inductive.	
	k) test switch closing at zero voltage crossover;	Test Switch closed at zero voltage crossover.	
	I) test switch opening at the first subsequent zero voltage	Test switch opened at the first subsequent ze	ro
	crossover, thus remaining in the closed position for one half	voltage crossover, thus remain in the close	d
	cycle of the supply voltage;	position for one half cycle of the supply voltage.	
		5 5011	
	m) frequency at reference value;	Frequency = 50 Hz.	
	n) current tolerance +5 percent and -0 percent;	Satisfactory.	
	b) voltage tolerance +5 percent and -5 percent,	Salislacioly.	
		Salislaciory.	
	Repeat the test 3 times on the same sample with an interval	Test is repeated for 3 times with an interval of	1
	of at least 1 min between each test.	min.	
	Plot a graph of the voltage and the test current waveform	Refer Annexure-B for graph of the voltage an	nd
	during each test and verify that the test was executed as is	the test current wave forms.	
	required.		
	During and after the test the following requirements shall be	During and after the test the observations wa	as
	met:	as followed :	
	a) it is permissible that the contacts may weld or burn	There were signs of weld of contact.	
	away;	Current address of motor pot and an averal	
	b) the surroundings of the payment meter shall not be	Surroundings of meter not endangered.	
	c) protection against indirect contact shall remain assured:	Protection against indirect contact remain	ad
		assured	
	Test 2 shall be carried out on a new sample under the	Test 1 is passed but the requirements of Test	2
	following conditions:	are not met, Test 2 performed on sample C.	
	the same conditions as for Test 1 shall apply, except that	The test 2 was carried out on the sample	c
	the prospective test current shall be 2,5 kA r.m.s. for	(Meter Sr. No. 19000047) under the require	ed
	utilisation category UC2, 3 kA r.m.s. for utilisation category	conditions:	
	UC3 and 4,5 kA r.m.s. for utilisation category UC4.	Prospective test current applied at 2.5	(A
		r.m.s. for utilization category UC2;	
Checke	d by : Varsha Tiwari	pproved by : Sunav Dixit	
	-		



	met:	the test current wave forms.		
	a) the load switch shall show no signs of malfunction,	The load switch showed no signs of		
	sticking or welding of contacts or reluctance to latch;	malfunction, sticking or welding of contacts or		
		reluctance to latch.		
	b) contacts shall open on the first attempt;	The Contact was open in first attempt.		
	·/····································			
	a) after the test it shall meet the requirements of Clause	After the test mater met the requirements of		
	C) aller the test it shall meet the requirements of clause	After the test meter met the requirements of		
	C.7: test for minimum switched current;	C.7. test for minimum switched current.		
		(For detail refer lest 9.4 of this report)		
	d) after the test it shall meet the requirements of 7.3 and its	After the test meter met the requirements of		
	subclauses: test for power consumption;	7.3 and 7.3.2: test for power consumption.		
		Power consumption test:		
	Apparent power consumption in each current circuit shall	Un=230V and Imax=80A is applied.		
	not exceed (0.08%Un x Imax)VA.	Observed max power consumption in current		
		circuit is 4 146 VA which is less than 14 72 VA		
		(0.08%] ln x lmax)		
		(0.00 /0011 X IIIIdX).		
	a) after the test it shall must the requirements of Clause	After the test mater met the requirements of		
	e) after the test it shall meet the requirements of Clause	After the test meter met the requirements of		
	C.8: test for dielectric strength;	C.8: test for dielectric strength.		
		(For detail refer Test 9.5 of this report)		
	f) when the neuropet meter is not used to neuropeters	The neumant mater is returned to neurol		
	t) when the payment meter is returned to normal operating	The payment meter is returned to normal		
	conditions, it shall operate correctly and there shall be no	operating condition, it operate correctly and		
	change in any of the memory registers, except for those	there was no change in any of the memory		
	that are expected to change.	registers, except for those that are expected to		
		change.		
		(Test 1 performed on meter sr. no. 19000066		
		and Test 2 performed on meter sr. no.		
		19000047)		
9.4	MINIMUM SWITCHED CURRENT (Clause NoC.7 of IEC 62055-31:2005) Conform			
	The test is carried out under the following conditions:	The test is carried out under the following		
	Ŭ	conditions:		
	a) payment meter in normal operating condition.	a) Payment meter in normal operating		
		condition		
	h) test voltage at LIC:	b) Test voltage at Vc:		
	b) test voltage at 0c,	a) Test surrent at minimum switched surrent		
		c) lest current at minimum switched current		
		value and $PF = 1.0$ ; and		
	d) 10 operating cycles at approximately 10s closed and 20s	d) 10 operating cycles at approximately 10s		
	open.	closed and 20s open.		
	The following requirements shall be met:	The observations was as following :		
	a) test current shall successfully conduct each time the	a) Test current was successfully conduct each		
	contacts are in the closed position;	time the contacts was in the closed position:		
		and		
Checke	d by : Varsha Tiwari	Approved by : Sunav Dixit		
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111111111 offisia and		TES	T CER	<b>TIFICATE</b>	AMUR.			
Hac-MRA		Issued by: YADAV MEASUREMENTS PRIVATE LIMITED Plot no. F-373-375 RIICO Bhamashah Industrial Area, Kaladwas, Udaipur-Rajasthan-313003, INDIA		HAC-MRA				
Yadav Measurements		Kaladwas, Udaipur-Rajastnan-313003, INDIA Tel: 0091-294-2650127,28, Fax: 0091-294-2650129 Email: Yadav.measurements@ymllabs.com website: www.yadavmeasurements.com CIN number: U31909RJ2003PTC018450						
Certifi	cate Nu	mber: YMPL/20	21-2022/1800/1/	1732	ULR	TC659422000000592F	Ра	ge 16 of 17
Sr. No.		Require	ment as per spe	ecification		Measured Values/Obser	vations	Conclusion
	b) test contact	current shall suc ts are in the oper	cessfully break e position.	each time the	b) tin	Test current was successf ne the contacts was in the open	ully break each position.	

		(Test performed on meter sr. no. 19000045, 19000060, 19000085)	
9.5	DIELECTRIC STRENGTH (Clause NoC.8 of IEC 62055-31:	2005)	Conform
	It is not intended that the payment meter should meet the requirements for a mains isolator switch of an installation, but when the load switch contacts are in the open condition, it shall present a minimum level of isolation between the supply input and load output terminals. In the case where the neutral line is not switched, only the current carrying input phase terminals are grouped and connected together, and similarly the current carrying output phase terminals are grouped and connected together. All other terminals are connected to a safety ground reference.	In the submitted meter neutral line is also switched.	
	<ul> <li>In all other cases, the current carrying phase and neutral input terminals are grouped and connected together, and the current carrying phase and neutral output terminals are grouped and connected together. All other terminals are connected to a safety ground reference.</li> <li>Perform the test under the following conditions: <ul> <li>a) with the load switch contacts in the open position;</li> <li>b) the payment meter in the non-operating condition;</li> <li>c) between input circuits grouped and output circuits grouped;</li> <li>d) impulse test voltage at 2 kV peak;</li> </ul> </li> </ul>	<ul> <li>All current carrying phase and neutral input terminals was grouped and connected together; and all current carrying phase and neutral output terminals was grouped and connected together. All other terminals was connected to a safety ground reference.</li> <li>Perform the test under the following conditions: <ul> <li>a) With the load switch contacts in the open position;</li> <li>b) The payment meter in the non-operating condition;</li> <li>c) Between input circuits grouped and output circuits grouped;</li> <li>d) Impulse test voltage at 2 kV peak; and</li> </ul> </li> </ul>	
	<ul> <li>e) a.c. test voltage at 1 kV r.m.s.</li> <li>The impulse voltage test shall be carried out first and the a.c. voltage test afterwards.</li> <li>Apply the impulse voltage test as given in 7.3.2 of IEC 62052-11, but with the test voltage level and between circuits as given above.</li> <li>Apply the a.c. voltage test as given in 7.4 of IEC 62053-21, but with the test voltage level, and between circuits as given above.</li> </ul>	<ul> <li>e) ac test voltage at 1 kV r.m.s.</li> <li>The impulse voltage test shall be carried out first and the ac voltage test afterwards.</li> <li>Applied the impulse voltage test as given in 7.3.2 of IEC 62052-11 , but with the test voltage level and between circuits as given above.</li> <li>Applied the ac voltage test as given in 7.4 of IEC 62053-21, but with the test voltage level, and between circuits as given above.</li> </ul>	
Check	ked by : Varsha Tiwari	pproved by : Sunay Dixit	
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	AMUUL.	नांघन २	TEST CERTIFICATE	
		A LOUR LOR HERING	Issued by:	
	Iac-MRA	Athen and a second	YADAV MEASUREMENTS PRIVATE LIMITED Plot no. F-373-375 RIICO Bhamashah Industrial Area,	
		EL TO MOIA	Kaladwas ,Udaipur-Rajasthan-313003, INDIA	
		भारत	Tel: 0091-294-2650127,28, Fax: 0091-294-2650129	
Yadav Measurements	- annow		Email: Yadav.measurements@ymllabs.com	Mulululu TESTING
		TC-6594	website: www.yadavmeasurements.com	0497
			CIN number: U31909RJ2003PTC018450	2437

Certificate Number: YMPL/2021-2022/1800/1/1732 UI		ULR-TC659422000000592F Pag	ge 17 of 17
Sr. No.	Requirement as per specification	Measured Values/Observations	Conclusion
	During and after the test the following requirements shall be	During and after the test the observations was	
	met:	as following :	
	a) there shall be no flash-over, disruptive discharge or	a) No flash-over, disruptive discharge or	
	puncture;	puncture was observed during the tests ; and	
	b) when the payment meter is returned to normal operating conditions, it shall operate correctly and there shall be no change in any of the memory registers.	<ul> <li>b) When the payment meter was returned to normal operating conditions, it was operate correctly and there was no change in any of the memory registers.</li> <li>(Test performed on meter sr. no.19000047, 19000060, 19000085)</li> </ul>	

\*\*\* End of report \*\*\*

Checked by : Varsha Tiwari	Approved by : Sunay Dixit



ULR-TC659422000000592F

# ANNEXURE – A Clause – C5- Fault current making capacity test on 19000060)



Measured Value		
<b>Voltage</b>	Current	<b>Duration</b>
<u>(Vrms)</u>	<u>(Apk)</u>	<u>(in ms)</u>
<u>267.0</u>	<u>2.135kA</u>	6.28



Measured Value			
<b>Voltage</b>	Current	<b>Duration</b>	
(Vrms)	<u>(Apk)</u>	<u>(in ms)</u>	
<u>264.0</u>	<u>2.25kA</u>	<u>6.01</u>	

Checked by: Varsha Tiwari	Approved by: Sunay Dixit

QF.TP.TEST.2G.01.02



ULR-TC659422000000592F





Measured Value		
Voltage	Current	<b>Duration</b>
<u>(Vrms)</u>	<u>(Apk)</u>	<u>(in ms)</u>
<u>256.0</u>	<u>3.66kA</u>	<u>9.94</u>

Checked by: Varsha Tiwari	Approved by: Sunay Dixit



Certificate Number: YMPL/2021-2022/1800/1/1732 ULR-TC659422000000592F Page 3 of 6 ANNEXURE – B

# <u>Clause – C6.1- Short circuit current carrying capacity test-1 on 19000066)</u>



Measured Value		
<b>Voltage</b>	Current	<b>Duration</b>
<u>(Vrms)</u>	<u>(Apk)</u>	<u>(in ms)</u>
<u>253.0</u>	<u>6.39kA</u>	<u>11.2</u>



	<u>N</u>	Measured Valu	<u>e</u>
	<u>Voltage</u> (Vrms)	<u>Current</u> (Apk)	<u>Duration</u> (in ms)
L L	265.0	2.25kA	6.01

Checked by: Varsha Tiwari	Approved by: Sunay Dixit

QF.TP.TEST.2G.01.02



# 32 ULR-TC659422000000592F Actual shot-3





Measured Value		
Voltage	Current	<b>Duration</b>
<u>(Vrms)</u>	<u>(Apk)</u>	<u>(in ms)</u>
253.0	<u>6.32kA</u>	<u>11.7</u>

Checked by: Varsha Tiwari	Approved by: Sunay Dixit



1732 ULR-TC659422000000592F ANNEXURE – C Page 5 of 6

# <u>Clause – C6.1- Short circuit current carrying capacity test-2 on 19000047)</u> Actual shot-1



Measured Value		
<b>Voltage</b>	Current	<b>Duration</b>
<u>(Vrms)</u>	<u>(Apk)</u>	<u>(in ms)</u>
263.7	<u>3.71kA</u>	<u>10.9</u>

# Actual shot-2



N	Measured Valu	e
<b>Voltage</b>	Current	<b>Duration</b>
(Vrms)	(Apk)	<u>(in ms)</u>
263.7	3.62kA	11.0

Checked by: Varsha Tiwari	Approved by: Sunay Dixit	
		QF.TP.TEST.2G.01.02



# 32 ULR-TC659422000000592F Actual shot-2



Measured Value		
<b>Voltage</b>	Current	<b>Duration</b>
(Vrms)	(Apk)	<u>(in ms)</u>
263.7	3.613kA	11.0

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Checked by: Varsha Tiwari	Approved by: Sunay Dixit