



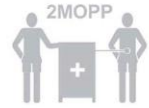
80~125W Open Frame type Medical power supply < MBU123

The MBU123 series of AC/DC switching mode power supplies provide 123 Watts of continuous output power. All supplies are UL94V-1 min compliant. All models meet FCC Part-18 class B and CISPR-11 EN55011 class B emission Limits and are designed to comply with ANSI/AAMI ES 60601-1: 2005(UL/cUL 3rd Edition), EN 60601-1:2006 (TUV/T-mark 3rd Edition) and new CE requirements. All units are 100% burned in and tested.



FEATURES:

- * Wide Operating Voltage, 80 to 275 VAC, 47 to 63 Hz
- * Dual Output (5V Standby Output)
- * Remote On/Off control
- * Surge±3kV
- * Meet Medical Safety 3rd Edition
- * 2MOPP
- * Class I system
- * Active Power Factor Correction
- * Hold-Up Time over 50ms
- * 3~5 year warranty



APPLICATIONS:

- * Medical Equipment
- * Patient Monitor, X-ray Monitor
- * Blood Pressure system
- * Portable medical devices

GENERAL SPECIFICATION:

- * **Short Circuit Protection:** Auto Recovery
- * **Cooling:** Free Air Convection
- * **Flammability Rating:** UL94V-1
- * **Protection Classes:** Class I
- * **Meet Safety:** ANSI/AAMI ES 60601-1:2005(UL/cUL 3rd Edition), EN 60601-1:2006 (TUV/T-mark 3rd Edition)

APPROVALS:

Electrical Characteristics:

Symbol	Characteristic	Condition	Min.	Typ.	Max.	Unit
Vins	Safety Approval Input Voltage Range	Safety Approval & Specification in Label	100		240	VAC
Vin	Input Operate Voltage Range	Detail to see Fig.1 (Derate linearly from 100% load at 90VAC to 80% load at 80VAC)	80		275	VAC
Fi	Input Frequency	Sine wave	47		63	Hz
Po	Output Power Range	See Rating Chart			125	W
PF	Power Factor	Vin=90 ~ 264VAC	0.95		0.99	
Iil	Low Line Input Current	Full Load, Vin=100VAC			1.70	A
Iih	High Line Input Current	Full Load, Vin=240VAC			1.00	A
Irl	Low Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=115VAC			35	A
Irh	High Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=230VAC			65	A
Ik	Leakage Current	Vin=230VAC, Fi=60Hz, Earth leakage current			0.1	mA
η	Efficiency	Full Load, Vin=230VAC, Detail to see Rating Chart		86		%
ΔVoi	Line Regulation	Full Load, Vin=100~120VAC or 200~240VAC			1	%
OLP	Over Load Protection	Recovers automatically after fault condition is removed	113		150	%
ttr	Time of Transient Response	Full Load, Vin=110VAC			4	ms
thu	Hold-Up Time	Full Load, Vin=100VAC, Detail to see Rating Chart	50			ms
ts	Start-up time	Full Load, Vin=100~240VAC			1.5	s
Ris	Insulation Resistance	Primary to Secondary, 500VDC, 25°C/ 70% RH	50			MΩ
Tc	Temperature Coefficient	All Condition			±0.04	%/°C
Vps	Dielectric Withstanding Voltage	Primary to Secondary	5656			VDC
Vpg	Dielectric Withstanding Voltage	Primary to PE	2800			VDC
EMI	EMC Emission	Compliance to EN55011 (CISPR11), EN61000-3-2,-3	B			Class

Environmental:

Symbol	Characteristic	Condition	Min.	Typ.	Max.	Unit
To	Operating Temperature	Detail to see Fig.2 (Derate linearly from 100% load at 60°C to 75% load at 70°C)	-10		70	°C
Ts	Storage Temperature	10 ~ 95% RH	-40		85	°C
Ho	Operating Humidity	non-condensing	0		95%	RH
Hs	Storage Humidity	See Rating Chart	0		95%	RH
Vsg	Surge Voltage	All Condition	3			kV
Vesa	Electro Static Discharge - Air	Air Discharge, IEC61000-4-2	8			kV
Vesc	Electro Static Discharge - Contact	Contact Discharge, IEC61000-4-2	4			kV
MTBF	Mean Time Between Failure	Operating Temperature at 50°C, Calculated per MIL-HDBK-217F	200k			h
ELEV	Operating Altitude (Elevation)	All condition			5000	m
VBR	Vibration	10 ~ 500Hz, 10min./1cycle, 60min. each along X, Y, Z axes	2			G



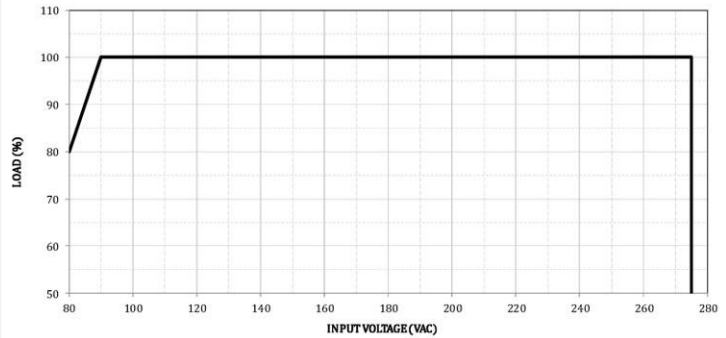
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SPECIFICATION NOTE :

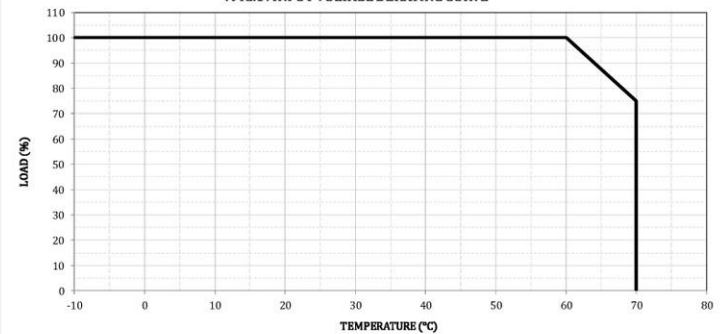
1. Output can provide up to peak load when the power supply starts up. Continuous staying in more than rated load is not allowed.
2. At factory, in 60% rated load condition, each output is checked to be within voltage accuracy.
3. Line regulation is defined by changing $\pm 10\%$ of input voltage from nominal line at rated load.
4. Load regulation is defined by changing $\pm 40\%$ of measured output load from 60% rated load.
5. Ripple & noise is measured by using 20MHz bandwidth limited oscilloscope at ambient temperatures of 25°C, and terminated each output with a 0.47uF capacitor at rated load and nominal line.
6. Hold up time is measured from the end of the last charging pulse to the time which the main output drops down to low limit of main output at rated load and nominal line.
7. The specifics for testing the energy efficiency of this Series are outlined in a separate document titled "Test Method for Calculating the Energy Efficiency of Single-Voltage Open Frame AC-DC and AC-AC Power Supplies (August 11, 2004)," which is available on the ENERGY STAR Website.

PACKING :

1. Net weight: 550g approx.
2. Dimension: 152.4*88.9*37mm
3. Input connector mates with Molex housing 09-52-4054 and Molex 2478 series crimp terminal.
4. Output connector mates with Molex housing 09-52-4134 and Molex 2478 series crimp terminal.
5. Remote control connector mates with Molex housing



(FIG.1) INPUT VOLTAGE DERATING CURVE

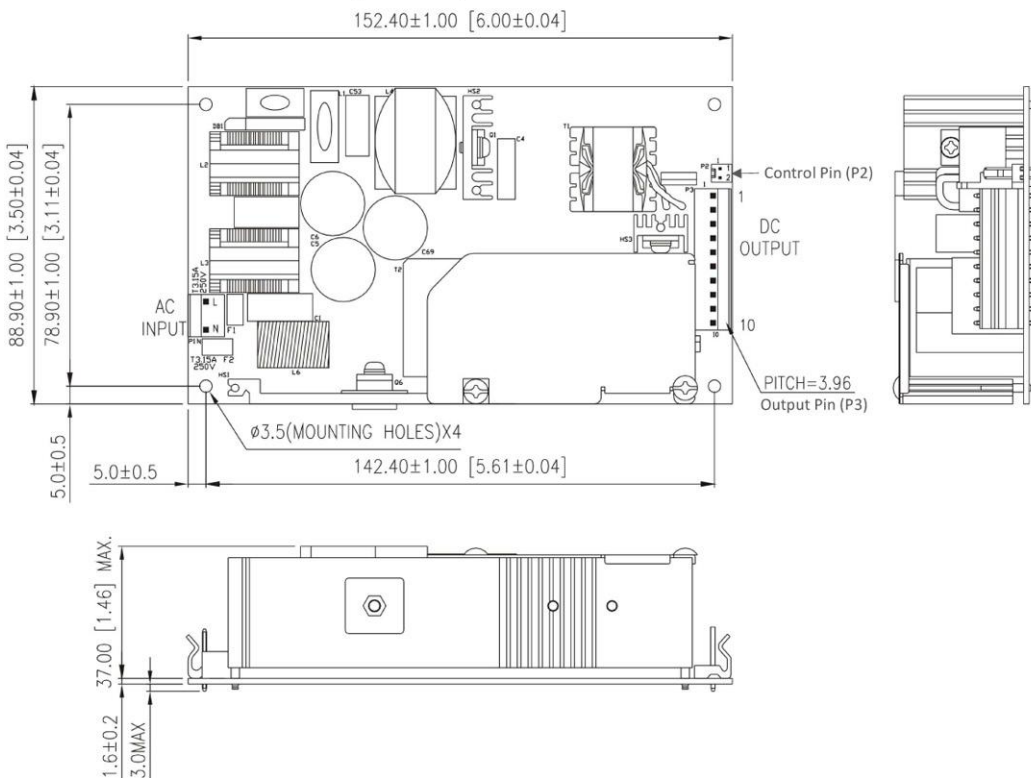


(FIG.2) TEMPERATURE DERATING CURVE

Quality Guarantee Table

Code	Warranty	Burn-In Time	Moisture	Material Tracking
s	2 years	4h		NO
h	3 years	4h		NO
m	5 years	4h		YES
M	5 years	4h	YES	YES
Remark:		MBU100-105A mA0120		
		Quality Guarantee Code		

MECHANICAL DIMENSIONS: (UNIT: mm)



Pin Chart:

Control Pin (P2):	
1	Vsb (+5VDC)
2	Remote On/Off

Output Pin (P3)	
1	Remote On/Off
2	Vsb (+5VDC)
3	COM
4	COM
5	COM
6	COM
7	Vo
8	Vo
9	Vo
10	Vo



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Rating Chart: (Multi Output)

MODEL NO.	Output Voltage	Output Current			Maximum	Ripple & Noise	Total Regulation	Typ. Efficiency	Consumption	No Load	Hold-Up Time	O.V.P.		Protection Mode	Safety & Certificate								
		min.	max.	peak								min.	max.		CEC-LEVEL	UL/CUL	TUV-GS	CCC	PSE	GB report	FCC	CE	Other Safety
		(VDC)	(A)	(A)								(A)	(W)										
MBU123-102A . ⁽¹⁾ A0050	(SB)+5.0	0	3.00	3.30	80	50m ±5	±5	75	0.3	50	5.60	6.60	Hiccup	√	√	√	√	√	√	√			
	+5.0	0	13.00	14.30		50m ±5							Latch										
MBU123-103A . ⁽¹⁾ A0060	(SB)+5.0	0	3.00	3.30	80	50m ±5	±5	76	0.3	50	6.72	7.92	Hiccup	√	√	√	√	√	√	√			
	+6.0	0	10.83	11.92		60m ±5							Latch										
MBU123-103A . ⁽¹⁾ A0070	(SB)+5.0	0	3.00	3.30	100	50m ±5	±5	77	0.3	50	7.84	9.24	Hiccup	√	√	√	√	√	√	√			
	+7.0	0	12.14	13.36		70m ±5							Latch										
MBU123-104A . ⁽¹⁾ A0080	(SB)+5.0	0	3.00	3.30	100	50m ±5	±5	78	0.3	50	8.96	10.56	Hiccup	√	√	√	√	√	√	√			
	+8.0	0	10.63	11.69		80m ±5							Latch										
MBU123-104A . ⁽¹⁾ A0090	(SB)+5.0	0	3.00	3.30	110	50m ±5	±5	79	0.3	50	5.6	6.6	Hiccup	√	√	√	√	√	√	√			
	+9.0	0	10.56	11.61		90m ±5							Latch										
MBU123-104A . ⁽¹⁾ A0100	(SB)+5.0	0	3.00	3.30	110	50m ±5	±5	80	0.3	50	11.20	13.20	Hiccup	√	√	√	√	√	√	√			
	+10.0	0	9.50	10.45		100m ±5							Latch										
MBU123-105A . ⁽¹⁾ A0110	(SB)+5.0	0	3.00	3.30	110	50m ±5	±5	86	0.3	50	12.32	14.52	Hiccup	√	√	√	√	√	√	√			
	+11.0	0	8.64	9.50		100m ±5							Latch										
MBU123-105A . ⁽¹⁾ A0120	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	13.44	15.84	Hiccup	√	√	√	√	√	√	√			
	+12.0	0	9.00	9.90		100m ±5							Latch										
MBU123-105A . ⁽¹⁾ A0130	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	14.56	17.16	Hiccup	√	√	√	√	√	√	√			
	+13.0	0	8.31	9.14		100m ±5							Latch										
MBU123-105A . ⁽¹⁾ A0140	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	14.56	17.16	Hiccup	√	√	√	√	√	√	√			
	+14.0	0	8.31	9.14		100m ±5							Latch										
MBU123-106A . ⁽¹⁾ A0150	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	16.80	19.80	Hiccup	√	√	√	√	√	√	√			
	+15.0	0	7.20	7.92		100m ±5							Latch										
MBU123-106A . ⁽¹⁾ A0160	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	17.92	21.12	Hiccup	√	√	√	√	√	√	√			
	+16.0	0	6.75	7.43		100m ±5							Latch										
MBU123-107A . ⁽¹⁾ A0170	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	19.04	22.44	Hiccup	√	√	√	√	√	√	√			
	+17.0	0	6.35	6.99		100m ±5							Latch										
MBU123-107A . ⁽¹⁾ A0180	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	20.16	23.76	Hiccup	√	√	√	√	√	√	√			
	+18.0	0	6.00	6.60		100m ±5							Latch										
MBU123-107A . ⁽¹⁾ A0190	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	21.28	25.08	Hiccup	√	√	√	√	√	√	√			
	+19.0	0	5.68	6.25		100m ±5							Latch										
MBU123-107A . ⁽¹⁾ A0200	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	22.40	26.40	Hiccup	√	√	√	√	√	√	√			
	+20.0	0	5.40	5.94		100m ±5							Latch										
MBU123-107A . ⁽¹⁾ A0210	(SB)+5.0	0	3.00	3.30	123	50m ±5	±5	86	0.3	50	23.52	27.72	Hiccup	√	√	√	√	√	√	√			
	+21.0	0	5.14	5.65		100m ±5							Latch										
MBU123-108A . ⁽¹⁾ A0220	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	24.64	29.04	Hiccup	√	√	√	√	√	√	√			
	+22.0	0	5.00	5.50		100m ±5							Latch										
MBU123-108A . ⁽¹⁾ A0230	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	25.76	30.36	Hiccup	√	√	√	√	√	√	√			
	+23.0	0	4.78	5.26		100m ±5							Latch										
MBU123-108A . ⁽¹⁾ A0240	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	26.88	31.68	Hiccup	√	√	√	√	√	√	√			
	+24.0	0	4.58	5.04		100m ±5							Latch										
MBU123-108A . ⁽¹⁾ A0250	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	28.00	33.00	Hiccup	√	√	√	√	√	√	√			
	+25.0	0	4.40	4.84		100m ±5							Latch										
MBU123-108A . ⁽¹⁾ A0260	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	29.12	34.32	Hiccup	√	√	√	√	√	√	√			
	+26.0	0	4.23	4.65		100m ±5							Latch										
MBU123-108A . ⁽¹⁾ A0270	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	30.24	35.64	Hiccup	√	√	√	√	√	√	√			
	+27.0	0	4.07	4.48		100m ±5							Latch										
MBU123-109A . ⁽¹⁾ A0280	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	31.36	36.96	Hiccup	√	√	√	√	√	√	√			
	+28.0	0	3.93	4.32		100m ±5							Latch										
MBU123-109A . ⁽¹⁾ A0290	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	32.48	38.28	Hiccup	√	√	√	√	√	√	√			
	+29.0	0	3.79	4.17		100m ±5							Latch										
MBU123-109A . ⁽¹⁾ A0300	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	33.60	39.60	Hiccup	√	√	√	√	√	√	√			
	+30.0	0	3.67	4.03		100m ±5							Latch										
MBU123-109A . ⁽¹⁾ A0310	(SB)+5.0	0	3.00	3.30	125	50m ±5	±5	86	0.3	50	34.72	40.92	Hiccup	√	√	√	√	√	√	√			
	+31.0	0	3.55	3.90		100m ±5							Latch										

REMARK: ● Approved for Medical, ○ Approved for I.T.E., √ Meet Medical Safety

⁽¹⁾ Please refer Quality Guarantee Table



80~125W Open Frame type Medical power supply < MBU123

Rating Chart: (Multi Output)

MODEL NO.	Output Voltage	Output Current			Maximum	Ripple & Noise	Total Regulation	Typ. Efficiency	Consumption	No Load	Hold-Up Time	O.V.P.		Protection Mode	Safety & Certificate								
		min.	max.	peak								min.	max.		CEC -LEVEL	UL/CUL	TUV-GS	CCC	PSE	CB report	FCC	CE	Other Safety
		(A)	(A)	(A)								(W)	(V)										
MBU123-109A ⁽¹⁾ A0320	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+32.0	0	3.43	3.78		100m	±5						35.84	42.24	Latch								
MBU123-109A ⁽¹⁾ A0330	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+33.0	0	3.33	3.67		100m	±5						36.96	43.56	Latch								
MBU123-110A ⁽¹⁾ A0340	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+34.0	0	3.23	3.56		100m	±5						38.08	44.88	Latch								
MBU123-110A ⁽¹⁾ A0350	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+35.0	0	3.14	3.46		100m	±5						39.20	46.20	Latch								
MBU123-110A ⁽¹⁾ A0360	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+36.0	0	3.05	3.36		100m	±5						40.32	47.52	Latch								
MBU123-110A ⁽¹⁾ A0370	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+37.0	0	2.97	3.27		100m	±5						41.44	48.84	Latch								
MBU123-110A ⁽¹⁾ A0380	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+38.0	0	2.89	3.18		100m	±5						42.56	50.16	Latch								
MBU123-110A ⁽¹⁾ A0390	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+39.0	0	2.82	3.10		100m	±5						43.68	51.48	Latch								
MBU123-110A ⁽¹⁾ A0400	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+40.0	0	2.75	3.03		100m	±5						44.80	52.80	Latch								
MBU123-111A ⁽¹⁾ A0410	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+41.0	0	2.68	2.95		100m	±5						45.92	54.12	Latch								
MBU123-111A ⁽¹⁾ A0420	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+42.0	0	2.61	2.88		100m	±5						47.04	55.44	Latch								
MBU123-111A ⁽¹⁾ A0430	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+43.0	0	2.55	2.81		100m	±5						48.16	56.76	Latch								
MBU123-111A ⁽¹⁾ A0440	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+44.0	0	2.50	2.75		100m	±5						49.28	58.08	Latch								
MBU123-111A ⁽¹⁾ A0450	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+45.0	0	2.44	2.69		100m	±5						50.40	59.40	Latch								
MBU123-111A ⁽¹⁾ A0460	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+46.0	0	2.39	2.63		100m	±5						51.52	60.72	Latch								
MBU123-111A ⁽¹⁾ A0470	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+47.0	0	2.34	2.57		100m	±5						52.64	62.04	Latch								
MBU123-111A ⁽¹⁾ A0480	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+48.0	0	2.29	2.52		100m	±5						53.76	63.36	Latch								
MBU123-111A ⁽¹⁾ A0490	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+49.0	0	2.24	2.47		100m	±5						54.88	64.68	Latch								
MBU123-111A ⁽¹⁾ A0500	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+50.0	0	2.20	2.42		100m	±5						56.00	66.00	Latch								
MBU123-112A ⁽¹⁾ A0510	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+51.0	0	2.15	2.37		100m	±5						57.12	67.32	Latch								
MBU123-112A ⁽¹⁾ A0520	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+52.0	0	2.11	2.33		100m	±5						58.24	68.64	Latch								
MBU123-112A ⁽¹⁾ A0530	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+53.0	0	2.07	2.28		100m	±5						59.36	69.96	Latch								
MBU123-112A ⁽¹⁾ A0540	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+54.0	0	2.03	2.24		100m	±5						60.48	71.28	Latch								
MBU123-112A ⁽¹⁾ A0550	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+55.0	0	2.00	2.20		100m	±5						61.60	72.60	Latch								
MBU123-112A ⁽¹⁾ A0560	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+56.0	0	1.96	2.16		100m	±5						62.72	73.92	Latch								
MBU123-112A ⁽¹⁾ A0570	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+57.0	0	1.93	2.12		100m	±5						63.84	75.24	Latch								
MBU123-112A ⁽¹⁾ A0580	(SB)+5.0	0	3.00	3.30	125	50m	±5	86	0.3	50			Hiccup	√	√	√	√	√	√	√			
	+58.0	0	1.89	2.09		100m	±5						64.96	76.56	Latch								

REMARK: ● Approved for Medical, ○ Approved for I.T.E., √ Meet Medical Safety

⁽¹⁾ Please refer Quality Guarantee Table