



**63W U Bracket type Medical power supply > MUU61**

**MUU61 series**

V1.4

The MUU61 series of AC/DC switching mode power supplies provide 63 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 UL/c-UL(UL 60601-1:2nd Edition), TUV/T-mark(IEC 60601-1:2nd Edition) and CE marking conformity assessment. All units are 100% burned in and tested.



**63W U Bracket Medical Grade Power Supply**

**FEATURES:**

- \* Wide Operating Voltage, 80 to 275 VAC, 47 to 63 Hz
- \* Internal EMI filter
- \* Multi Output
- \* Power Fail Detect (Optional)
- \* Crowbar Mode Over Voltage Protection
- \* Class I system
- \* 5 year warranty

**APPLICATIONS:**

- \* Medical Equipment
- \* Patient Monitor
- \* Ultrasound system
- \* Blood chemistry analyzer
- \* Medical Image

**GENERAL SPECIFICATION:**

- \* **Short Circuit Protection:** Auto Recovery
- \* **Cooling:** Free Air Convection
- \* **Protection Classes:** Class I
- \* **Safety:** UL/c-UL(UL 60601-1:2ndEdition), TUV/T-mark(IEC 60601-1:2ndEdition)

**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			63	W
Iil	Low Line Input Current	Full Load, Vin=100VAC		1.6		A
Iih	High Line Input Current	Full Load, Vin=240VAC		0.8		A
Irl	Low Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=100VAC			35	A
Irh	High Line Input Inrush Current	Full Load, 25°C, Cool start, Vin=240VAC			70	A
Ik	Safety Ground Leakage Current	Vin=240VAC, Fi=60Hz			0.15	mA
η	Efficiency	Full Load, Vin=230VAC, Detail to see Rating Chart	See Rating Chart			
ΔVoi	Line Regulation	Full Load, Vin=100~120VAC or 200~240VAC			1	%
OVP	Over Voltage Protection		112		132	%
OLP	Over Load Protection	Recovers automatically after fault condition is removed	110		150	%
ttr	Time of Transient Response	Io=Full Load to Half Load, Vin=110VAC			4	ms
thu	Hold-Up Time	Full Load, Vin=110VAC	See Rating Chart			
ts	Start-up time	Full Load, Vin=100~240VAC			2	s
Ris	Insulation Resistance		50			MΩ
Tc	Temperature Coefficient	All Condition			±0.04	%/°C
HV	Dielectric Withstanding Voltage (P-S)	Primary to Secondary, limit current <10mA			4000	VAC
Vpg	Dielectric Withstanding Voltage (P-G)	Primary to PE, limit current <10mA			1500	VAC
EMI	EMC Emission	Compliance to EN55011 (CISPR11), EN60601-1-2	B			Class

**Environmental:**

Symbol	Characteristic	Condition	Min.	Typ.	Max.	Unit
To	Operating Temperature	Detail to see Fig.2 (Derate linearly from 100% load at 50°C to 50% 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		0		95%	RH
ESDa	Electro Static Discharge	Air Discharge, IEC61000-4-2			8	kV
ESDc	Electro Static Discharge	Contact Discharge, IEC61000-4-2			6	kV
MTBF	Mean Time Between Failure	Operating Temperature at 25°C, Calculated per MIL-HDBK-217F	200k			h
ELEV	Operating Altitude (Elevation)	All condition			3000	m
VBR	Vibration	10 ~ 500Hz, 10min./1cycle, 60min. each along X, Y, Z axes			5	G
VsI	Surge Voltage	Line-Neutral			1	kV
Vsg	Surge Voltage	Line-PE & Neutral-PE			2	kV



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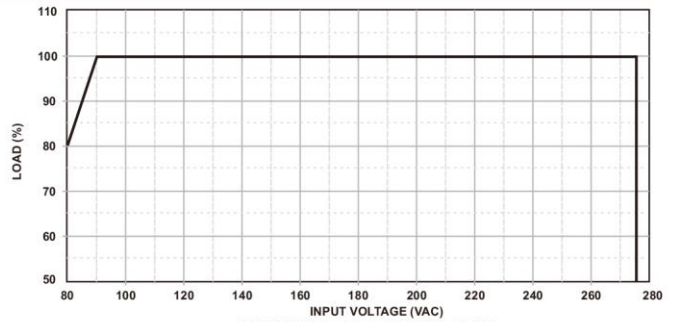
**MUU61 series**

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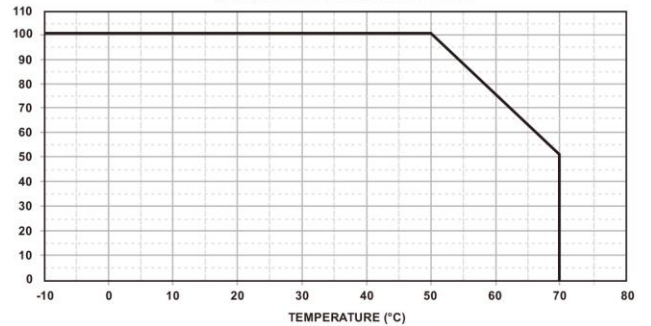
**63W U Bracket Medical Grade Power Supply**

**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. The ripple is measured from peak to peak with a bandwidth-limit of 20MHz (Measured at the output connector with a 0.1uF ceramic capacitor and a 47uF electrolytic capacitor).
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. Efficiency is measured at rated load, and nominal line.

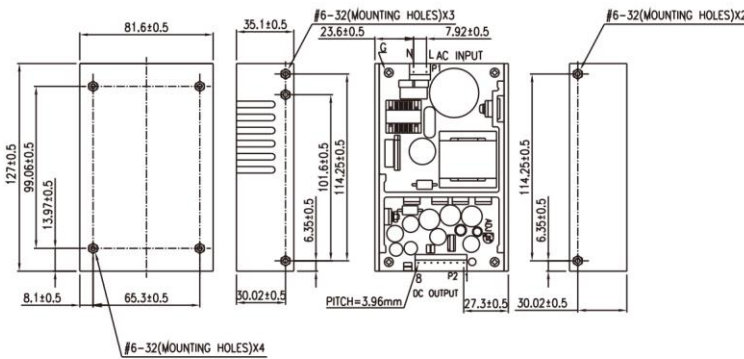


(FIG.1) INPUT VOLTAGE DERATING CURVE



(FIG.2) TEMPERATURE DERATING CURVE

**MECHANICAL DIMENSIONS: ( UNIT: mm [inch] )**



**PACKING :**

1. Dimensions are shown in inches or mm.
2. Net weight: 425g approx.
3. Input connector mates with Molex housing 09-50-3031 and Molex 2478 series crimp terminal.
4. Output connector mates with Molex housing 09-50-3081 and Molex 2478 series crimp terminal.

**PIN CHART**

MODEL	PIN	1	2	3	4	5	6	7	8 (Optional)
MUU61-2XX	Vo2	Vo1	Vo1	COM	COM	N/C	N/C	N/C	PFD
MUU61-215	N/C	Vo1	Vo1	COM	COM	Vo3	N/C	N/C	PFD
MUU61-3XX	Vo2	Vo1	Vo1	COM	COM	Vo3	N/C	N/C	PFD
MUU61-4XX	Vo2	Vo1	Vo1	COM	COM	Vo3	Vo4	N/C	PFD

Note: Vo1:Output#1 Vo2:Output#2 Vo3:Output#3 Vo4:Output#4



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**Rating Chart: (Multi Output)**

MODEL NO.	Setting Voltage Range (Factory setting, can't be adjusted)	Output Current (Based on the output volt.)		Maximum Output Power	Ripple & Noise	Total Regulation	Typ. Efficiency	Typ. No Load Consumption	Hold-Up Time	Protection Mode																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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	(VDC)	(A)	(A)	(W)	(mVp-p)	(%)	(%)	(W)	(ms)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
*MUU61-200	+3.3	1.4	7.0	59.1	100	±6	73.5	4	16	Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	+12.0	0.6	3.0		100	±5					MUU61-201	+5.0	0.7	7.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5	*MUU61-202	+5.0	0.7	7.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5	*MUU61-203	+5.0	0.7	7.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5	*MUU61-204	+3.3	1.4	7.0	63	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5	*MUU61-215	+5.0	0.7	7.0	48.1	100	±5	73.5	4	16	Hiccup		-24.0	0.2	2.0	100	±5	*MUU61-300	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-300-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	
MUU61-201	+5.0	0.7	7.0	63	100	±5	73.5	4	16	Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	+12.0	0.3	3.0		100	±5					*MUU61-202	+5.0	0.7	7.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5	*MUU61-203	+5.0	0.7	7.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5	*MUU61-204	+3.3	1.4	7.0	63	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5	*MUU61-215	+5.0	0.7	7.0	48.1	100	±5	73.5	4	16	Hiccup		-24.0	0.2	2.0	100	±5	*MUU61-300	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-300-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5												
*MUU61-202	+5.0	0.7	7.0	63	100	±5	73.5	4	16	Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	+15.0	0.45	3.0		100	±5					*MUU61-203	+5.0	0.7	7.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5	*MUU61-204	+3.3	1.4	7.0	63	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5	*MUU61-215	+5.0	0.7	7.0	48.1	100	±5	73.5	4	16	Hiccup		-24.0	0.2	2.0	100	±5	*MUU61-300	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-300-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																													
*MUU61-203	+5.0	0.7	7.0	63	100	±5	73.5	4	16	Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	+24.0	0.4	2.0		100	±5					*MUU61-204	+3.3	1.4	7.0	63	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5	*MUU61-215	+5.0	0.7	7.0	48.1	100	±5	73.5	4	16	Hiccup		-24.0	0.2	2.0	100	±5	*MUU61-300	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-300-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																														
*MUU61-204	+3.3	1.4	7.0	63	100	±6	73.5	3	16	Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	+5.0	0.5	5.0		100	±5					*MUU61-215	+5.0	0.7	7.0	48.1	100	±5	73.5	4	16	Hiccup		-24.0	0.2	2.0	100	±5	*MUU61-300	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-300-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																															
*MUU61-215	+5.0	0.7	7.0	48.1	100	±5	73.5	4	16	Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	-24.0	0.2	2.0		100	±5					*MUU61-300	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-300-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																
*MUU61-300	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	+12.0	0.6	3.0		100	±5						-12.0	0.0	0.8	100	±5	*MUU61-300-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																	
	-12.0	0.0	0.8	100	±5	*MUU61-300-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0		100	±5						+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup						+12.0	0.3	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63		100	±5					73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5		*MUU61-302	+5.0					0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5			-12.0	0.0					0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0		0.6	3.0					100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5		4	16					Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6		6.0	63					100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8		100	±5					MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100		±5						-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup			+24.0					0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100		±6	73.5					5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1		+3.3	1.2					6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0		0.0	0.8					100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0		1.0	100					±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0		100	±5					*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100		±5						-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																							
*MUU61-300-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16		Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	+12.0	0.6	3.0		100	±5						+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																								
	+12.0	0.0	0.8	100	±5	*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0		100	±5						-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup						+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63		100	±5					73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		*MUU61-302-1	+5.0					0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5			+12.0	0.0					0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0		0.45	3.0					100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5		4	16					Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2		6.0	63					100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8		100	±5					*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100		±5						+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup			+12.0					0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100		±6	73.5					4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308		+3.3	0.5					5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3		0.5	5.0					53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2		6.0	63					100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8		100	±5					*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																			
*MUU61-301	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	+12.0	0.3	3.0		100	±5						-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																															
	-5.0	0.0	0.8	100	±5	*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.3	3.0		100	±5						+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup						+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63		100	±5					73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		*MUU61-303	+5.0					0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5			-15.0	0.0					0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0		0.45	3.0					100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5		4	16					Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2		6.0	63					100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8		100	±5					*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100		±5						-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup			+12.0					0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100		±6	73.5					3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6		73.5	3					16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5		4	16					Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2		6.0	63					100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																															
*MUU61-301-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	+12.0	0.3	3.0		100	±5						+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																						
	+5.0	0.0	0.8	100	±5	*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0		100	±5						-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup						+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63		100	±5					73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5		*MUU61-303-1	+5.0					0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5			+15.0	0.0					0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0		0.4	2.0					100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5		5	16					Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2		6.0	59.8					100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8		100	±5					*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100		±5						+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup			+5.0					0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup			+5.0	0.5					5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0		0.6	3.0					100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5		4	16					Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																											
*MUU61-302	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	+12.0	0.6	3.0		100	±5						-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																													
	-12.0	0.0	0.8	100	±5	*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+12.0	0.6	3.0		100	±5						+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup						+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63		100	±5					73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5		MUU61-305	+5.0					1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5			-12.0	0.0					0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0		0.4	2.0					100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5		5	16					Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2		6.0	59.8					100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8		100	±5					*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100		±5						-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5			+12.0					0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5			-12.0	0.0					0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0		0.6	3.0					100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																							
*MUU61-302-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	+12.0	0.6	3.0		100	±5						+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																				
	+12.0	0.0	0.8	100	±5	*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0		100	±5						-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup						+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63		100	±5					73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5		*MUU61-305-1	+5.0					1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5			+12.0	0.0					0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0		0.6	3.0					100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5		4	16					Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5		5.0	53.5					100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0		100	±5					*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100		±5	*MUU61-400					+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5			-5.0					0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5			-12.0	0.0					0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																			
*MUU61-303	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	+15.0	0.45	3.0		100	±5						-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0	100	±5		+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																											
	-15.0	0.0	0.8	100	±5	*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup		+15.0	0.45	3.0		100	±5						+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16		Hiccup						+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63		100	±5					73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5		*MUU61-306	+3.3					1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5			-5.0	0.0					0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0		0.6	3.0					100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5		3	16					Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5		5.0	53.5					100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0		63	100					±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100		±5	*MUU61-400-1					+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5			+5.0					0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																															
*MUU61-303-1	+5.0	0.6	6.0	63	100	±5	73.5	4	16		Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	+15.0	0.45	3.0		100	±5						+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0	100	±5		-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																																																		
	+15.0	0.0	0.8	100	±5	MUU61-305	+5.0	1.2	6.0	63	100	±5	73.5	4	16	Hiccup		+24.0	0.4	2.0		100	±5						-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16		Hiccup						+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8		100	±6					73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5		*MUU61-306-1	+3.3					1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5			+5.0	0.0					0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0		0.5	5.0					100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5		3	16					Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4		16	Hiccup						+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0		63	100					±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100		±5	*MUU61-400-2					+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																											
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	+24.0	0.4	2.0		100	±5						-12.0	0.0	0.8	100	±5	*MUU61-305-1	+5.0	1.2	6.0	63	100	±5	73.5	5	16	Hiccup		+24.0	0.4	2.0	100	±5		+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																																																																									
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	+24.0	0.4	2.0		100	±5						+12.0	0.0	0.8	100	±5	*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16	Hiccup		+12.0	0.6	3.0	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																																																																																																
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*MUU61-306	+3.3	1.2	6.0	59.8	100	±6	73.5	5	16		Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	+12.0	0.6	3.0		100	±5						-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																																																																																																																							
	-5.0	0.0	0.8	100	±5	*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0		100	±5						+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16		Hiccup						+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5		100	±6					73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5		*MUU61-400	+3.3					1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5			-5.0	0.0					0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0		0.0	0.8					100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6		3.0	100					±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																																																																																															
*MUU61-306-1	+3.3	1.2	6.0	59.8	100	±6	73.5	4	16		Hiccup																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	+12.0	0.6	3.0		100	±5						+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																																																																																																																																														
	+5.0	0.0	0.8	100	±5	*MUU61-308	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0		100	±5						-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16		Hiccup						+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63		100	±6					73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5		*MUU61-400-1	+3.3					1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5			+5.0	0.0					0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0		0.0	0.8					100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																																																																																																																											
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	+5.0	0.5	5.0		100	±5						-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0	100	±5		+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5	*MUU61-400-2	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																																																																																																																																																																					
	-12.0	0.0	1.0	100	±5	*MUU61-308-1	+3.3	0.5	5.0	53.5	100	±6	73.5	3	16	Hiccup		+5.0	0.5	5.0		100	±5						+12.0	0.0	1.0	100	±5	*MUU61-400	+3.3	1.2	6.0	63	100	±6	73.5	4	16		Hiccup						+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		-5.0	0.0	0.8	100	±5	*MUU61-400-1	+3.3	1.2	6.0	63		100	±6					73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		-12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5		*MUU61-400-2	+3.3					1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5			-5.0	0.0					0.8	100	±5	*MUU61-400-3	+3.3	1.2	6.0	63	100	±6	73.5	4	16	Hiccup		+12.0	0.6	3.0	100	±5		+12.0	0.0	0.8	100	±5		+5.0	0.0	0.8	100	±5																																																																																																																																																																																																																																																																																																																																																																							
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[\*]=MOQ is required. Please contact sales.



**63W U Bracket type Medical power supply > MUU61**

**MUU61 series**

V1.4

**63W U Bracket Medical Grade Power Supply**

**Rating Chart: (Multi Output)**

MODEL NO.	Setting Voltage Range (Factory setting, can't be adjusted)	Output Current (Based on the output volt.)		Maximum Output Power	Ripple & Noise	Total Regulation	Typ. Efficiency	Typ. No Load Consumption	Hold-Up Time	Protection Mode
		min	max							
	(VDC)	(A)	(A)	(W)	(mVp-p)	(%)	(%)	(W)	(ms)	
MUU61-401	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup
	+12.0	0.6	3.0		100	±5				
	-12.0	0.0	0.8		100	±5				
*MUU61-401-1	-5.0	0.0	0.8	63	100	±5	73.5	4	16	Hiccup
	+5.0	0.6	6.0		100	±5				
	+12.0	0.3	3.0		100	±5				
*MUU61-401-2	-12.0	0.0	0.8	63	100	±5	73.5	4	16	Hiccup
	+5.0	0.0	0.8		100	±5				
	+12.0	0.6	6.0		100	±5				
*MUU61-401-3	+12.0	0.3	3.0	63	100	±5	73.5	4	16	Hiccup
	+5.0	0.6	6.0		100	±5				
	-5.0	0.0	0.8		100	±5				
*MUU61-402	+5.0	0.6	6.0	63	100	±5	73.5	4	16	Hiccup
	+12.0	0.3	3.0		100	±5				
	+12.0	0.0	0.8		100	±5				
*MUU61-402-1	-12.0	0.0	0.8	63	100	±5	73.5	4	16	Hiccup
	+5.0	0.6	6.0		100	±5				
	+12.0	0.3	3.0		100	±5				
*MUU61-402-2	-12.0	0.0	0.8	63	100	±5	73.5	4	16	Hiccup
	+5.0	1.2	6.0		100	±5				
	+12.0	0.6	3.0		100	±5				
*MUU61-402-3	-12.0	0.0	0.8	63	100	±5	73.5	4	16	Hiccup
	+5.0	1.2	6.0		100	±5				
	+12.0	0.6	3.0		100	±5				
*MUU61-403	+12.0	0.0	0.8	63	100	±5	73.5	4	16	Hiccup
	+5.0	1.2	6.0		100	±5				
	+12.0	0.6	3.0		100	±5				
*MUU61-403-1	-12.0	0.0	0.8	63	100	±5	73.5	4	16	Hiccup
	+5.0	1.2	6.0		100	±5				
	+12.0	0.6	3.0		100	±5				
*MUU61-403-2	+24.0	0.0	0.8	63	100	±5	73.5	4	16	Hiccup
	+5.0	1.2	6.0		100	±5				
	+12.0	0.6	3.0		100	±5				
*MUU61-403-3	-24.0	0.0	0.8	63	100	±5	73.5	4	16	Hiccup
	+5.0	1.2	6.0		100	±5				
	+12.0	0.6	3.0		100	±5				
*MUU61-404	+24.0	0.0	0.8	63	100	±5	78	4	16	Hiccup
	+5.0	0.6	6.0		50	±5				
	+15.0	0.45	3.0		100	±5				
*MUU61-404-1	-15.0	0.0	0.8	63	100	±5	78	4	16	Hiccup
	+5.0	0.6	6.0		50	±5				
	+15.0	0.45	3.0		100	±5				
*MUU61-404-2	+5.0	0.0	0.8	63	100	±5	78	4	16	Hiccup
	+15.0	0.6	6.0		50	±5				
	+15.0	0.45	3.0		100	±5				
*MUU61-404-3	-5.0	0.0	0.8	63	50	±5	78	4	16	Hiccup
	+5.0	0.6	6.0		100	±5				
	+15.0	0.45	3.0		100	±5				

[\*]=MOQ is required. Please contact sales.