

CL BUC

BLOCK-UP-CONVERTER

Highlights

- Competitive pricing
- Output power: 10W, 20W, 25W, 45W, 50W
- Available in C Band and Extended C Band
- One Year Warranty (Negotiable)
- Operating temperatures: -40 C to +55 C
- Synthesized L.O.
- Operating Voltage : AC or DC
- Compatible with Vsat HUB Gilat Sky EdgePro II
- Compatible with Twistable Flexible waveguide Type WR-137
- Compatible with Redundancy Controller Belcom A1122
- Relative Humidity up to 100% condensing

CL BUC Models Overview

Model	Output Power (W)	Operating Voltage	Nominal Gain (dB)	Power Consumption(W)		Weight(Kg)		Dimensions (L x W x H, mm)
				DC	AC	DC	AC	
CL BUC-10	10	48V / 24V	60	80	NA	6.5	NA	268x212x110
CL BUC-20	20	48V / AC	63	170	185	7.0	10.2	DC: 268x212x110, AC:268x228x195
CL BUC-25	25	48V / AC	63	220	240	7.0	10.2	DC: 268x212x110, AC:268x228x195
CL BUC-45	45	48V / AC	66	380	400	11.5	11.5	268x228x245
CL BUC-50	50	48V / AC	67	380	400	11.5	11.5	268x228x245



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Electrical

input impedance	50Ω
input VSWR	02:01

Available Bands

C-Band

Input frequency	950-1825MHz
Output frequency	5.85-6.725GHz
L.O frequency	4.900GHz
Output power(at 1 dB GC)	See table technical specifications
Gain(Nominal)	See table technical specifications

Gain Flatness

Over any 1 MHz band	±0.2 dB max
Over any 36 MHz band	±0.75 dB max
Over full Band band	4 dB PTP max
Gain stability over temperature (at constant frequency)	4 dB PTP max
Reference signal - External 10MHz	-10dBm to +7dBm
Spectrum sense	Non inverting
Frequency accuracy (PPM)	Same as Reference

Phase Noise

At 1 KHz offset	75 dBc/Hz
At 10 KHz offset	81 dBc/Hz
At 100 KHz offset	95 dBc/Hz

Leakage and Spurious Signals (Up to 1dB compression point)

In-band	-55 dBc max, -60dBc typical
Harmonics	-20 dBm max
In RX band	-140 dBm/4KHz max
Wideband noise in Rx band	-160 dBm/Hz max
3rd order intercept point(IP3)	P1dB + 7 dB min

Stability

The unit will not oscillate under any condition of load, temperature or DC supply	
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Protection	
- Thermal runaway protection	
- No damage by any combination of load reflections	
-DC supply spike protection	
- Missing 10MHz reference shuts transmitter to -60dBc min	
Power supply voltage(at the input of the BUC)	
DC	37-60V (18-30V optional)
AC	90-250V (50-60 Hz)
Power consumption	See table Available Models and Configurations
Mechanical	
IF + reference input.	N type (female)
RF output	CPR137 grooved
Weight	See table Mechanical specifications
Finish	White polyurethane paint
Environmental	
Operation Temperature	- 40°C to + 55°C
Sealing	Moisture sealing by O-ring
	Weather-proof
Vibration	5-350Hz 0.0015g ² /Hz
	350-500Hz-6dB/oct
	500Hz 0.00074g ² /Hz
Shock	10g @ 10m s (half sine)



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Available Models and Configurations

Model	Output Power @ PldBcp (W)	Input Frequency (MHz)	Output Frequency (GHz)	LO Frequency (GHz)	Input Voltage	Power Feed Options	M&C	Power Consumption (W)	Weight (Kg)
CL BUC-10	10	950 - 1825	5.850 - 6.725	4.900	48VDC standard 24VDC or 90-230VAC	DC Via IFL cable: standard. DC Via external connector: optional	Optional	DC: 90 AC: 100	DC - 7.2 AC - 12
CL BUC-20	20	950 - 1825	5.850 - 6.725	4.900	48VDC or 90-230VAC	DC via IFL cable or AC via external connector		DC: 170 AC: 190	
CL BUC-25	25	950 - 1825	5.850 - 6.725	4.900		DC via external connector: optional		DC: 210 AC: 230	
CL BUC-45	45	950 - 1825	5.850 - 6.725	4.900	AC via external connector Or DC via external connector: optional	DC: 380 AC: 400		12	
CL BUC-50	50	950 - 1525	5.850 - 6.425	4.900					



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Technical Specifications

Gain and Power	Gain [dB] (Nominal)	Power [Watt @ 1dBcp] (minimum over operating conditions)	Output Power at 1dB Com Pression Point
CL BUC-10	60	10	40 dBm min
CL BUC-20	63	20	43 dBm min
CL BUC-25	63	25	43.9 dBm min
CL BUC-45	66	45	46.5 dBm min
CL BUC-50	67	50	46.9 dBm min
Gain Stability:			
Gain Variations over full band	±2dB		
Gain variations over 36MHz	1.5dB PTP		
Gain Variation over Temp (-40 to +55°C)	4dB		
Phase Noise:			
100Hz Offset	-60 dBc/Hz		
1KHz Offset	-70 dBc/Hz		
10KHz Offset	-80 dBc/Hz		
100KHz Offset	-90 dBc/Hz		
1MHz Offset	-100 dBc/Hz		
External Reference signal frequency	10 MHz		
Reference signal level requirement	-10 to +10 dBm		
External Reference Phase Noise Requirements:			
10Hz Offset	-110 dBc/Hz max		
100Hz Offset	-120 dBc/Hz max		
1KHz Offset	-130 dBc/Hz max		
10KHz Offset	-140 dBc/Hz max		

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Spectral Purity

Intermodulation distortion at 6dB	
Spurious @ P1 dB	
Harmonics @P1dBcp - 3dB	
Transmit Noise (In-band)	
CL BUC-10	-90 dBm/Hz max
CL BUC-20/25	-84 dBm/Hz max
CL BUC-40/50	-81 dBm/Hz max
Receive band noise	-163 dBm/Hz max
Input Impedance	50 Ω
Input VSWR	2:1 max
Output VSWR	2.5:1 max



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Interfaces	
RF Output Connector	CPR-137 Grooved
RF Input Connector	N Type
Power Supply Connector (where applicable)	CL BUC-10/20/25-DC - Receptacle 3 pin male 13A sealed CL BUC-45/50-DC - Receptacle 4 pin male with PE CL BUC 10/20/25/40/50-AC - Receptacle 3 pin male with PE
M&C Connector (optional)	Size 14, 15 contacts male
<u>M&C Interface functions (optional, see Appendix E):</u>	
Input:	
Mute Control	
Output:	
Status	
Output RF Power monitoring	
Fan Rotation Indications (CL BUC40/50 S/N 200 and up)	
General Fault	
RF Reflected Power Monitoring	
High Temperature Alarm	
Un-locked PLL Alarm	
Output Mismatch Alarm	

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CL BUC-10/20/25 DC Mechanical Specifications:

Dimensions (W x L x H)	212 x 268 x 110 mm
Weight	7.2 kg

CL BUC-20/25/45/50 AC and CL BUC-45/50 DC Mechanical Specifications:

Dimensions (W x L x H)	228 x 268 x 238 mm
Weight (Kg)	12 kg
Finish:	White polyurethane paint

Ambient Environmental Conditions

Operating Temperature	-40 to +55°C
Storage Temperature	-55 to +85°C
Cooling System (integrated) (20/25/40/50W)	Forced air
Relative Humidity	100%
Altitude	3000 m max

Indicators

L1 Indicator	See Section 3.2
L2 Indicator	See Section 3.2

Protections

Over Temperature Shutdown	+80°C (case temperature)
Missing 10MHz reference	Transmission mute



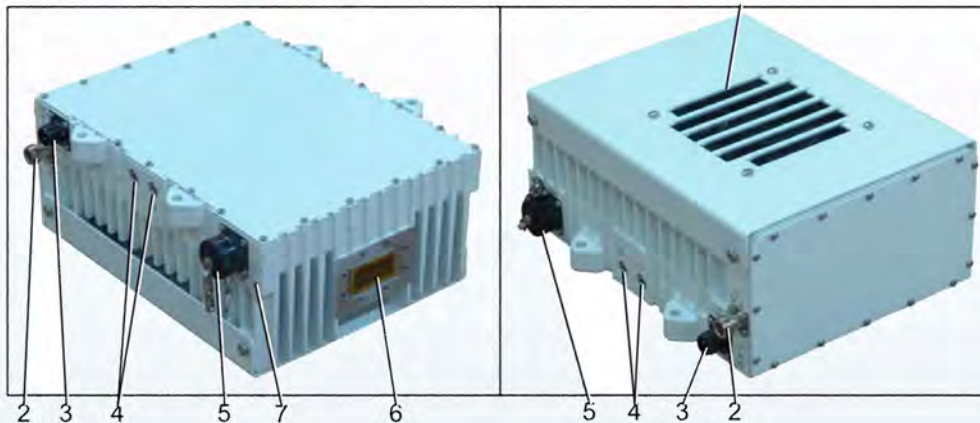
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CL BUC-10/20/25 DC

The following items are located on the BUC outer surface:

1. Fan: Regulates the temperature of the BUC inner space.
2. J1: IF Input Connector
3. J3: External Power Supply Connector (optional)
4. L1, L2 Indicators: Three-state indicators (ON, OFF or blinking), indicate the status of the BUC.
5. J2: M&C Connector (optional).
6. CPR137G Flange: RF output.
7. Ground Terminal Connection



Legend:

1. Fan	5. J2 M&C Connector
2. J1 IF Input Connector	6. CPR137G Flange
3. J3 External Power Supply Connector	7. Ground Terminal Connection
4. L1, L2 Indicators	

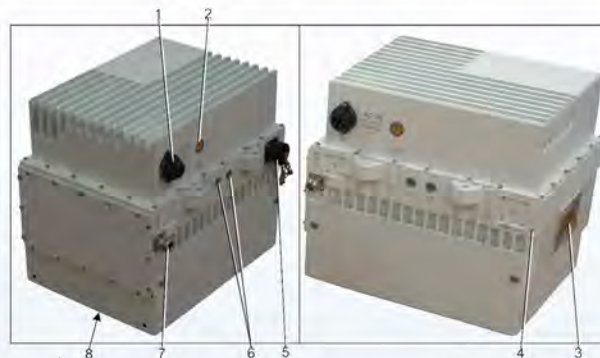
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CL BUC-10/20/25/40/50 AC and CL BUC-40/50 DC

The following items are located on the BUC outer surface:

1. J4: External Power Supply Connector.
2. L3: AC/DC Power Indicator (Orange).
3. CPR137G RF Flange: RF output.
4. Ground Terminal Connection
5. J2: M&C Connector (optional).
6. L1, L2 Indicators: Three-state indicators (ON, OFF or blinking), indicate the BUC status
7. J1: IF Input (IFL) Connector (N-Type): Modem or DC Power Inserter to BUC cable connection.
8. Fan (not shown): Regulates the temperature of the BUC inner space.



Legend:

1.J4 External Power Supply Connector	5.J2 M&C Connector (optionl)
2.L3 AC/DC Power Indicator	6.L1,L2 Indicators
3.CPR137G RF Flange.	7.J1 IF input(IFL) Connector
4.Ground Terminal	8.Fan