

### APPLICATIONS

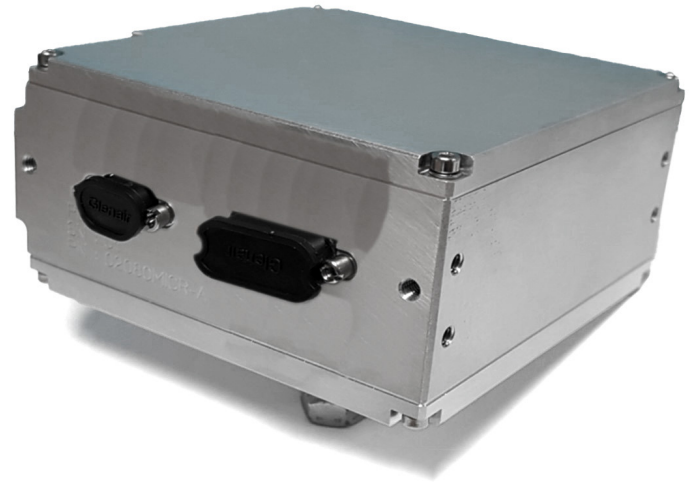
- > Actuators position control
- > Active control of vibrations
- > Space environment (LEO orbit)

### KEY FEATURES

- > All-in-one piezo-driver and controller
- > 2 Channels with push-pull capability
- > PID control with stabilizing filters
- > Integrated SG conditioner
- > 3 space grades
- > Compliant CEDRAT TECHNOLOGIES push-pull FSM, DTT, XT mechanisms

### RELATED PRODUCTS

- > Piezo actuators
- > Piezo mechanisms



NON CONTRACTUAL PICTURE

PARAMETER	TYPICAL VALUE	UNIT
<b>&gt; General</b>		
Function	All-in-one piezo-driver and controller	
Number of control channels	2	
Integrated sensor conditioning	Strain Gages	
Digital communication	HDLC protocol over SPI	
<b>&gt; Digital control</b>		
Control strategy	Tunable PID + Stabilising filters	
Stabilising filters	Tunable lowpass or notch	
List of stabilising filters configurations	No filter 2nd order lowpass filter 2nd order notch filter 2 × 2nd order notch filters 4th order notch filter	
Sampling rate	20	kSps
Digital resolution	16	bits
<b>&gt; Piezo driver</b>		
Number of channels	2 push-pull	
Push-pull rail nominal voltage	On customer request	V
Nominal output voltage range	On customer request	V
Peak output current	0.15	A
RMS output current	0.035	Arms
Voltage amplifier gain	34	V/V
Small signals bandwidth (-1 dB)	> 3.5	kHz
<b>&gt; Strain gages (SG) conditioner</b>		
Number of channels	2	
Reference output voltage	2.5	Vdc

PARAMETER	TYPICAL VALUE	UNIT
Maximum reference output current	2 x 7.5	mA
Typical bridge impedance	350	Ohm
SG amplifier gain	1 000	V/V
Small signals bandwidth (-3 dB)	> 5	kHz

#### > Protections

Overtemperature	Yes
Overload	Yes

#### > Power supply

Recommended supply voltage	+28	Vdc
Supply voltage range	+20 ... +30	Vdc
Supply current	0.2 ... 2.25	Arms
Power consumption	5 ... 28	W

## MISCELLANEOUS

PARAMETER	TYPICAL VALUE	UNIT
Mass	0.8	kg
Dimensions	150 × 100 × 50	mm
Cooling	Conduction via base plate	
Maximum dissipated power (DRIVE Mode)	13	W
Operating temperature range	-15 ... +60	°C
Storage temperature range	-40 ... +85	°C
Warm up time	15	min

## INTERFACES

- > **Power connector (Socket)** M83 513/13-B01NP
- > **COM connector (Plug)** M83 513/10-B01NP

## VERSIONS

PARAMETER	CCBU20-NS-V0	CCBU20-NS-V1	CCBU20-NS-V2
Lifetime in LEO	> 1 year	> 3 years	> 5 years
Manufacturing	IPC class 3	IPC class 3 + IPC 6012	ECSS
EEE	COTS (standard)	COTS (standard) + Rad Tolerant	COTS (Qualified) + Rad Tolerant
Documentation Datapack	CoC / ATR	CoC / ATR	CoC / ATR