DDSPAxx

Poduct Overview

DDS (Direct Digital Synthesizers) models offer high frequency accuracy and stability and extremely fast switching times less than 100ns. They will be preferred to VCOs when high stability and accuracy is necessary. They can be modulated (amplitude) from an analog or digital external signal. The frequency is externally controlled by a digital signal (15 to 31 bits). An external power amplifier will be required to generate the RF power levels required by the AO device.

Features

- Variable frequency [10...400MHz]
- AM control (Analog or TTL) – High stability
- FM control (Analog) – High Resolution
- Rack with 2 outputs (XY deflection, Common REF)
- RoHS

SPECIFICATIONS (T=25°C)

Parameter	Units	DDSPAxx
Carrier frequency	MHz	10 to 400
Frequency Stability	ppm/°C	Nom +/- 1
Frequency step / Accuracy	KHz/Hz	LR: 15.259 KHz (15 bits) MR: 59.6 Hz (23 bits) HR: 0.23 Hz (31 bits)
Commutation/sweeping time	ns	≤ 40 (LR) - ≤ 64 (MR) - ≤ 80 (HR)
Output RF Power (@1dB compression)	dBm	Nom – 30 to 0 (to be associated with AA Amplifier)
Power supply	VDC / VAC	24, nom 0.25A (OEM version) / 110-230, Laboratory version
Frequency Input Control	Digital	Digital 15 bits (LR), 23 bits (MR), 31 bits (HR) + 1 bit Enable/disable
Modulation Input Control AM	V	Analog 0-5 / 50 Ω Option 8 bits digital (256 levels)
Rise Time / Fall time (10-90%)	ns	< 25 (+typ 25ns conversion for DAC 8 bits) @digital <3 @200MHz @analog
Harmonics	dBc	H2 > 30, H3 > 20
Input / Output impedance	Ω	50
VSWR		< 1.2/1
Extinction Ratio	dB	Nom 45 (for F<250MHz) Option High extinction on request
Input / Output Connectors		HD44 / SMA (OEM)
Size / Weight		OEM: 129 x 61 x 28 mm3 (OEM) / 275 g Lab version: 19", 2U nom 4 Kgs (Lab version)
Heat Exchange		Conduction through baseplate for OEM version
Operating Temperature	°C	10 to 40 (max Tcase 50, OEM version)
Storage Temperature	°C	-40 to +70 Non condensing
PHASE LOCKED Versions		Option: 2 DDS outputs with common Reference for high stability frequency difference

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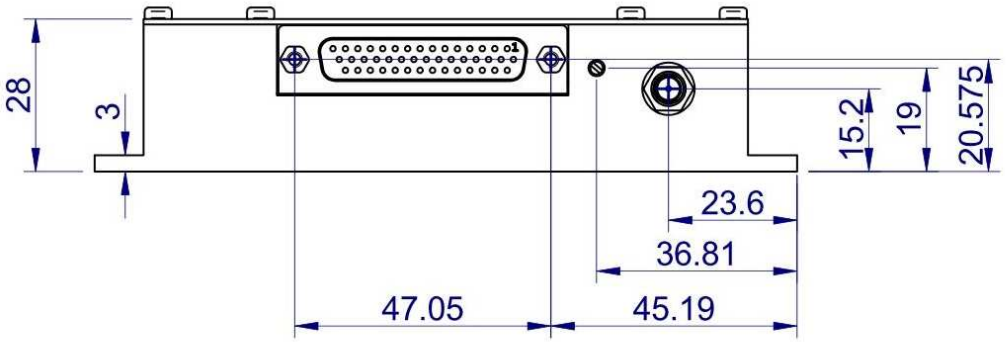
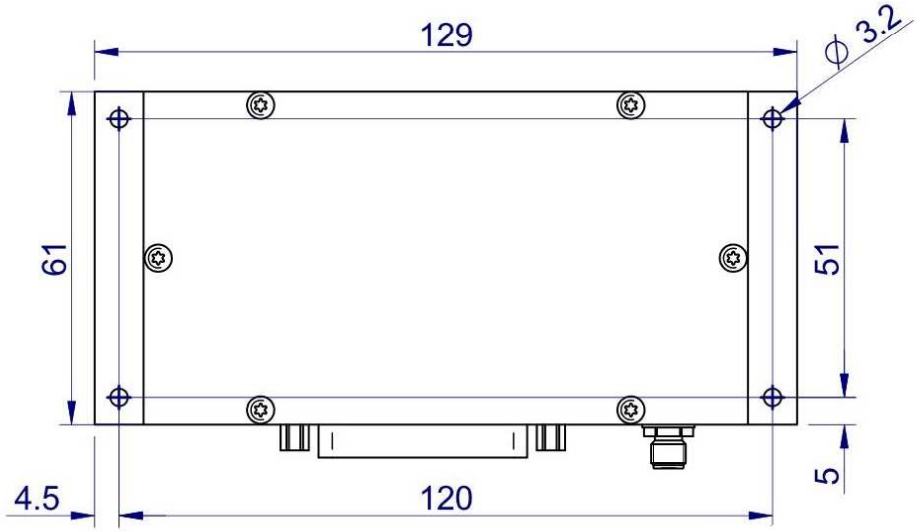
DDSPAxx

OUTLINE DRAWING, mm (DDSPAxx 24VDC)





DDSPA – OEM version

DDSPA 1X – Laboratory version

DDSPA 2X – Laboratory version

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