

MPDSnCmXxx – MPDSExxPnCmX-HRxx



Product Overview

The MPDSnCmX is a serie of multi outputs drivers based on DDS (Direct Digital Synthesizers) which offer high frequency accuracy and stability. Each DDS operates with a common clock reference so that they provide phase locked output signals when driven at same frequency. The frequency and power are driven through USB/RS232 communication. External control signals allow user for fast AM control of the channels/outputs. Embedded power amplifiers up to 4 watts per output. For higher power, AA will provide external power amplifiers.

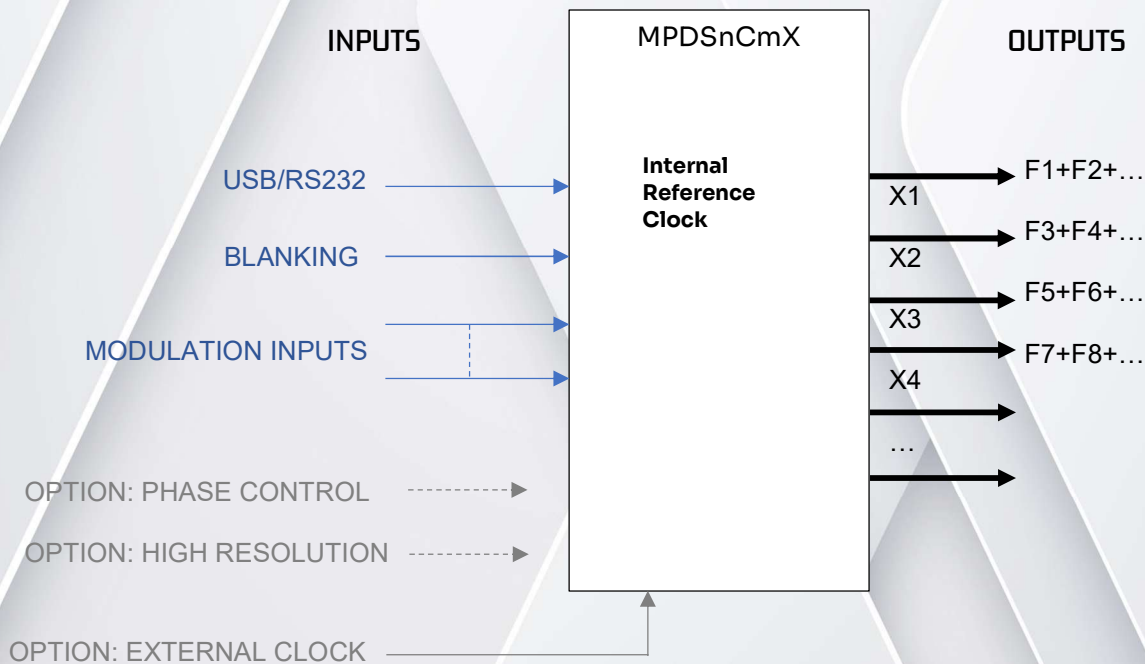
FEATURES

- Phase Locked Outputs
- Multi Outputs, Multi channels
- Analog AM controls + USB/RS232 (FM+AM)
- RoHS

Applications

High stability low frequency shifters, Multi-transducers AOMs/AODs, Multi modulators...

SYNOPTIC



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CONFIGURATIONS

Number of outputs →	2	4	8
Number of channels ↓			
1	MPDS1C2X Option E Option P Option HR	MPDS1C4X Option E Option P Option HR	MPDS1C8X Option E Option P
2	No	MPDS2C4X Option E Option P Option HR	MPDS2C8X Option E Option P

Option E: External reference clock
 Option P: Phase control
 Option HR: Frequency high resolution (0.31Hz)

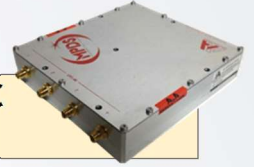
SPECIFICATIONS (T=25°C)



Parameter	Units	MPDS1C2X – version 2 OUTPUTS
Number of outputs (X)		2
Reference clock		Internal Common Reference
Frequency range (MHz)	MHz	in [20-275]
Frequency Stability	ppm/°C	Nom +/- 1
Frequency Accuracy / frequency step	KHz	nom 1 (Option HR on request 0.31 Hz)
Power/Frequency		USB/RS232
Output RF Power (@1dB compression)	W	1 up to 4 watts/output with embedded amplifier (more power with external amp)
Power Supply OEM version	VDC	24 – nom 1.5A / 4W / output
External Modulation Input Controls (AM)	V	Analog 0-5/10kΩ (1 control per output)
External Blanking input Control (AM)	V	Digital TTL/1 KΩ (1 control per output)
Rise Time/Fall time (10-90%) < 4 watts	ns	< 10 (TTL), < 15 (Analog) @100MHz
Output Impedance	Ω	50
VSWR		< 1.5/1
Extinction Ratio	dB	>50 (analog), >55 (TTL), >70 (analog+TTL)
Input / Output Connectors		DB15, USB / SMA
Size / Weight	mm ³	83x120x27.7 (1MODD20005)
Heat Exchange		Conduction through baseplate for OEM versions
Operating Temperature	°C	10 to 40 (max Tcase 50°C)
Storage Temperature	°C	-40 to +70 Non condensing

*PC software (Windows 10+) is provided for set up
 *SDK (Protocole) is provided for Third Party Interface development

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Parameter	Units	MPDS1C4X / MPDS2C4X Versions 4 OUTPUTS
Number of outputs (X)		2 to 4
Number of channels per output ©		1 or 2 per output
Reference clock		Internal Common Reference
Frequency range (MHz)	MHz	Max 20-275
Frequency Stability	ppm/°C	Nom +/- 1
Frequency Accuracy / frequency step	KHz	nom 1
Frequency control		USB/RS232
Output RF Power (@1dB compression)	W	Up to 4 watts/output with embedded amplifier (more power with external amp)
Power Supply OEM version	VDC	24 – nom 1A / 4W / output
External Modulation Input Controls (AM)	V	Analog 0-5/50 Ω (1 control per channel)
External Blanking input Control (AM)	V	TTL/1 KΩ (1 control per output)
Rise Time/Fall time (10-90%) < 4 watts	ns	< 10 (TTL), < 15 (Analog) @100MHz
Output Impedance	Ω	50
VSWR		< 1.5/1
Extinction Ratio	dB	>45 (analog), >50 (TTL), >70 (analog+TTL)
Input / Output Connectors		DB25, USB / SMA
Size / Weight	mm ³	129 x 138 x 27.7
Heat Exchange		Conduction through baseplate for OEM versions Stand alone (fan integrated) for laboratory versions
Operating Temperature	°C	10 to 40 (max Tcase 50°C)
Storage Temperature	°C	-40 to +70 Non condensing

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MPDSnCxXx – MPDSExxPnCmX-HRxx



Parameter	Units	MPDS1C8X / MPDS2C8X Versions 8 OUTPUTS
Number of outputs (X)		5 to 8
Number of channels per output ©		1 or 2 per output
Reference clock		Internal Common Reference
Frequency range (MHz)	MHz	Max 20-275
Frequency Stability	ppm/°C	Nom +/- 1
Frequency Accuracy / frequency step	KHz	nom 1
Frequency control		USB/RS232
Output RF Power (@1dB compression)	W	Up to 4 watts/output with embedded amplifier (more power with external amp)
Power Supply OEM version	VDC	24 – nom 1A / 4W / output
External Modulation Input Controls (AM)	V	Analog 0-5/50Ω (1 control per channel)
External Blanking input Control (AM)	V	TTL/1 KΩ (1 control per output)
Rise Time/Fall time (10-90%) < 4 watts	ns	< 10 (TTL), < 15 (Analog) @100MHz
Output Impedance	Ω	50
VSWR		< 1.5/1
Extinction Ratio	dB	>45 (analog), >50 (TTL), >70 (analog+TTL)
Input / Output Connectors		DB25, USB / SMA
Size / Weight	mm ³	249 x148 x27.7
Heat Exchange		Conduction through baseplate for OEM versions Stand alone (fan integrated) for laboratory versions
Operating Temperature	°C	10 to 40 (max Tcase 50°C)
Storage Temperature	°C	-40 to +70 Non condensing

*PC software (Windows 10+) is provided for set up

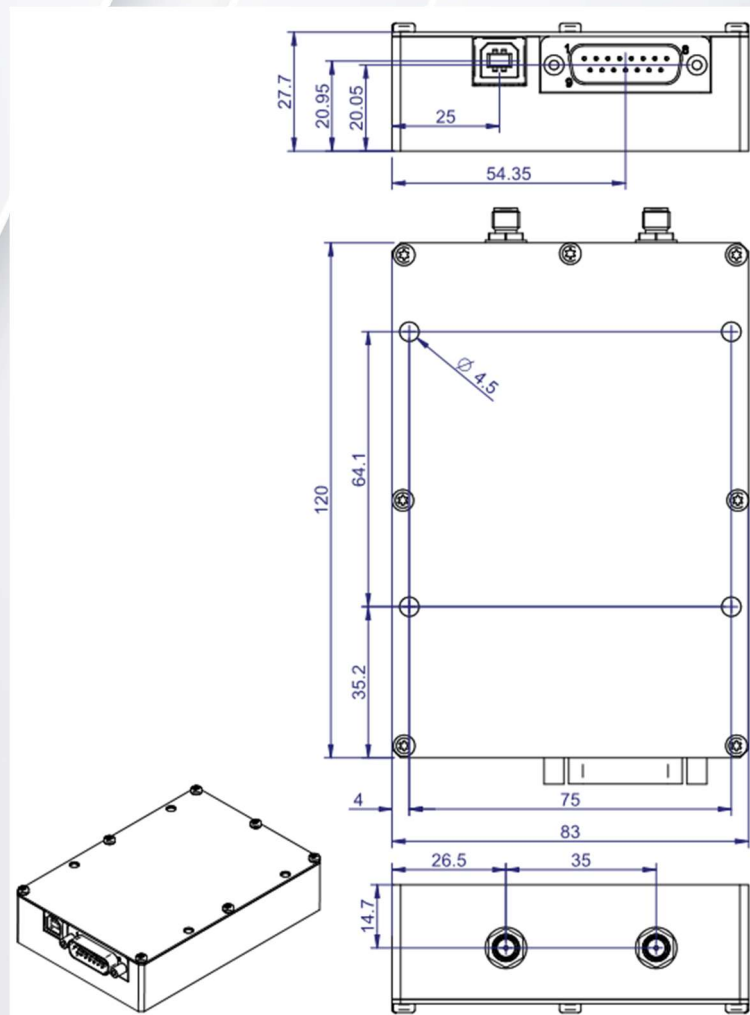
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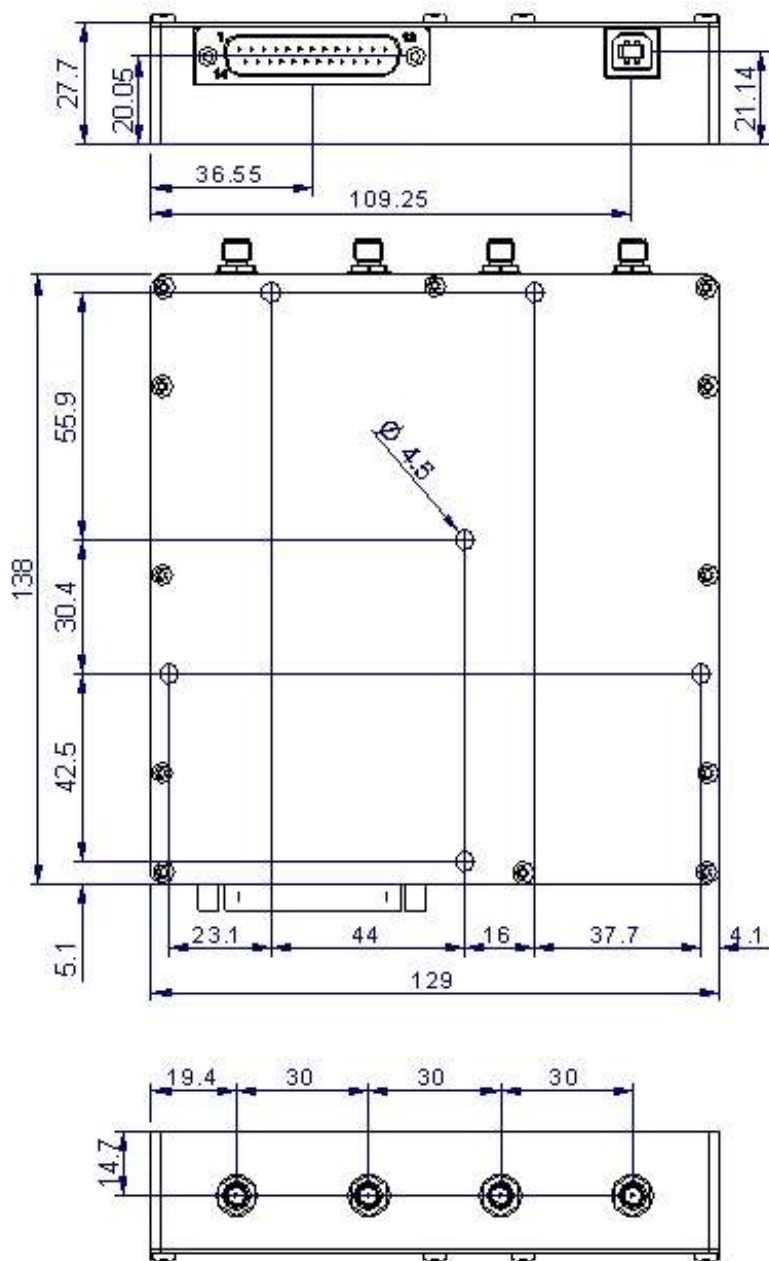
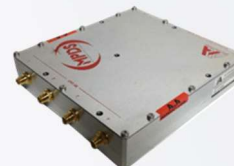
OPTIONAL VERSIONS

MPDS P nCxX	PHASE CONTROL Phase accuracy/Phase step Phase control	0.022 degrees (16384 steps over 2π) USB/RS232
MPDS E xxnCmX	EXTERNAL CLOCK External user reference clock Frequency range	5 to 500MHz (SMA connector) Clock dependent in 20-40 to 20-500MHz
MPDSnCxX- HR	HIGH FREQUENCY RESOLUTION Frequency step	0.31Hz

OUTLINE DRAWING, mm



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