

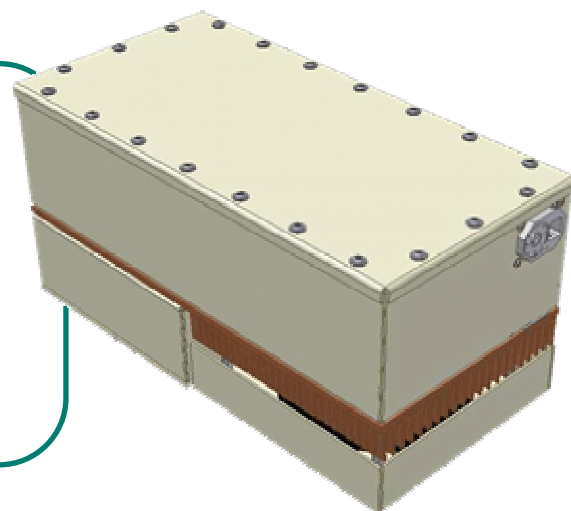
DNT313H/Ka

Ka BAND TWT POWER AMPLIFIER OUTDOOR UNIT

DNT313H/Ka is a helix travelling wave tube amplifier designed for satellite telecommunications in frequency bands from 27.5 to 30 GHz and 30 to 31 GHz.

DNT313H/Ka key benefits:

- ✓ Mature and state of the art technology.
- ✓ High reliability.
- ✓ Full compliance with standard: IESS, EESS, ...
- ✓ Outdoor integration (-40 to + 45°C).
- ✓ Small size, integration on antenna for less RF losses
- ✓ RS485 bus or IP Ethernet RC&M Interface
- ✓ Optional, L band input.



Helix TWT technology permits to benefit from a very large instantaneous bandwidth and allows digital applications with very high bit rates or secured transmissions (spread spectrum, frequency hopping).

The main characteristics of the high voltage power supply, specially optimised for "millimeter wave" tubes, is a very low stored energy (< 2 J), which guarantees an efficient protection of the TWT.

It is housed in a single outdoor watertight box designed to ease its integration on transmit antenna. (it permits to limit radiofrequency losses by optimising the link between the amplifier and the antenna very important at 30 GHz)

The radiofrequency amplification chain is composed of an AsGa transistor preamplifier, a helix TWT, an RF waveguide assembly including an arc detector, a power circulator and a protecting device against mismatch.

A 3 RU 19" drawer remote control panel (DSS1259) designed to be installed in a building for indoor use is available as an additional equipment.

Reference	Frequency (GHz)	Tube output power (W)	Output power (dBW)
DNT313H/Ka/125/01	27.5 – 30 GHz	125	≥ 20
DNT313H/Ka/125/02	30 – 31 GHz		
DNT313H/Ka/175/01	27.5 – 30 GHz	175	≥ 21,4
DNT313H/Ka/175/02	30 – 31 GHz		
DNT313H/Ka/250/01	27.5 – 30 GHz	250	≥ 23
DNT313H/Ka/250/02	30 – 31 GHz		

Les spécifications peuvent changer sans préavis, contacter Sodielec avant toute utilisation pour un projet.
Specification may change without notice, please contact Sodielec before using this information for system design.

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RF CHARACTERISTICS

Gain @ Po – 3 dB	: ≥ 65 dB
Gain variation @ Po – 10 dB :	
> within 500 MHz band	: ≤ 1.5 dB
> within 125 MHz band	: ≤ 1 dB
Slope @ Po – 3 dB	: ≤ 0.04 dB/MHz
Stability @ Po – 10 dB	: ≤ ± 0.25 dB/24h
VSWR	: ≤ 1.3 typ
Noise in Tx	: - 73 dBW / 4 kHz
Harmonics @ Po – 3 dB	: ≤ - 30 dBc
Spurious (AC mains related)	: - 40 dBc
Sum of spurs (f > 370 Hz)	: - 47 dBc
Linearity @ Po – 8 dB :	
DNT313H/Ka/125/01 or /02	: - 32 dBc
DNT313H/Ka/175/01 or /02	: - 29 dBc
DNT313H/Ka/250/01 or /02	: - 26 dBc

GENERAL CHARACTERISTICS

Mains :

1 phase, neutral connected to ground 100 to 260 VAC / 47 to 63 Hz

Consumption:

DNT313H/Ka/125/01 ou /02	: 480 W
DNT313H/Ka/175/01 ou /02	: 650 W
DNT313H/Ka/250/01 ou /02	: 800 W

Power factor : 0.95 typ

Environment:

Temperature :

- > Operation : - 40 to +55°C derated 2°C per 1000ft above sea level
- > Storage : - 40 to +70°C

Humidity : ≤ 95% @ 25°C

Altitude : ≤ 6000 ft

INTERFACES

Cooling :

Air flow : 200 l/s

Connections :

Input	: Waveguide WR28
Output	: Waveguide WR28
Mains	: Amphenol ECTA 133 2+PE 13A
RC&M	
> RS485	: FCI 851 12/14 pins
> Ethernet IP	: Amphenol RJF
Supervision	: FCI 851 12/10 pins

Mechanical :

Height	: 10 inches
Width	: 10 inches
Depth	: 20 inches
Weight	: < 66 lbs

Options lists, accessories and spare parts available for this equipment :

OPTIONS		ACCESSOIRES		SPARE PARTS	
Ref.	Model	Ref.	Model	Ref.	Model
/15	Integral linearizer	DSS1259	Remote control drawer for amplifier		
/12	L band input	TES	Terminal d'Exploitation Sodielec		
/2A	RS485 bus or IP Ethernet RC&M Interface				
/60	French language				
/61	English language				

