





Two Channel Genus Digital 5000 Series Providing Up To 1GHz IBW in an IP65 Rated Outdoor Chassis

Genus Digital 5000 Series, model DI-G3I-S2-5501-S5, is a full duplex 2 channel converter that digitises and reconstructs IF signals in the L-band range 850 to 2450MHz. The system provides up to 1GHz total instantaneous bandwidth via 2 x 512MHz channels at up to 12 bits bit depth. QSFP28+ IP 100GbE data connectors provide the full duplex operation to the DIFI standard IEEE-ISTO Std 4900-2021. Control & Monitor is via the front panel HMI or remotely via an RJ-45 1GbE ethernet link. The converter is housed in an IP65 rated weatherproof outdoor chassis and benefits from field replaceable modules and dual redundant hot-swap power supplies. IF connectors are SMA 50ohm.

-  **Secure Communications**
with SNMPv3, HTTPS
-  **Remote control & monitoring**
via RJ45 Ethernet via RJ45,
10BaseT/100BaseTx, ETL TCP/
IP protocol,
-SNMPv3 & Web Browser
Interface
-  **Resilience** from dual
redundant hot-swap power
supplies & field serviceable
RF modules & CPU
-Optional Air Conditioning
units for higher operating
temperature



*ODU for indication purposes only





Technical specifications and operating parameters

Digital Parameters		
Rx Capacity	2 Channels ADC	
Tx Capacity	2 Channels DAC	
Instantaneous Bandwidth (MHz)	512MHz per channel (DAC or ADC)	
Sample Rate	4 GSPS per channel, Input sample rate, excluding multirate signal processing	
Sample Depth	*12 bits, As transmitted over digital link	
Digital Data Transport	QSFP28, 100GbE SR4	
Data Protocol	(DIFI) IEEE-ISTO Std 2900-2021	
WAN Synchronization	GPS (10MHz, 1PPS, NMEA timecode) Enquire for other formats	
RF Parameters		
Frequency (MHz)	850 to 2450	
Gain (dB)	0±2 Typical, mean across band	
Gain Flatness (dB)	Full band	±2.0
	500 MHz	±1.5
	Any 36MHz	±0.6
Input Return Loss (dB)	Typ.	17
	Min.	12
Output Return Loss (dB)	Typ.	17
	Min.	12
Noise Figure (dB)	26 Typical	
Phase Noise (dBc/Hz)	Offset	PN
	100Hz	-62
	1kHz	-78
	10kHz	-89
	100kHz	-93
	1MHz	-106
	10MHz	-114

* 8 bits currently available





Technical specifications and operating parameters

RF Parameters	
OIP3 (dBm)	15dBm
SFDR (dBm)	60dBm
GPS Input	Active Antenna (Provided)
Frequency Reference (MHz)	10MHz
Input & Output ports Ω (SMA)	50 Ω SMA
Input RF Power (dBm)	0dBm
PSU Power (Hz)	85-264Vac 50/60 Hz, absolute maximum
PSU Redundancy	Dual Redundant and Alarmed, Diode OR. Hot swap.
AC Consumption (Watts)	~100W
Alarms	Via Ethernet PSU, Fan Status, others TBC
Remote Control & Monitoring	Ethernet (RJ45) on Rear Panel
MTBF (Hours)	91164
Environmental Conditions	
Operating Temperature (°C)	-20°C - +45°C
Storage Temperature (°C)	-40°C to +80°C Not Powered
Humidity (%)	20 to 90% non-condensing Relative to Humidity
Altitude (ft)	10,000 feet AMSL
Physical Dimensions & Parameters	
Weight (kg)	<18kg TBC
Dimensions (mm)	500mm high x 550mm wide x 300mm deep Please confirm size requirements with ETL prior to order
Front Panel Colour	RAL9003 – White (Semi-Matte)

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved specification accuracy.

Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

Note 3: Typical parameters are guide figures and measured data may deviate from the quoted figures. ETL endeavours to exceed the quoted typical parameters where practically possible.

Note 4: This product is Dual Use and subject to Export Control by the UK Government.

