ETL Systems

Excelling in RF Engineering

Model Number:
HWK-10 & HWK-10C

Hawk Series
Dual 8 x 8 Extended L-band Matrix For Uplink & Downlink applications

Typical applications:
- Small Ka/HTS gateway terminals
- LEO gateways
- Oil & Gas
- Deployable VSAT terminals

The 1U Hawk Matrix has capacity for two 8x8 field replaceable matrix cards – which can be the combining HWK-10C (fan-in) or distributive HWK-10 (fan-out) – for uplink and downlink applications. The Hawk can be fitted with any combination of cards depending on application, but is ideally suited for smaller gateways with multiple modems and one or two antennas.
Single 8x16 & 16x8 configurations are also available - please enquire.

Resilience from dual redundant hot -swap power supplies

Local control & monitoring via HMI high resolution touchscreen

500 - 2450 MHz operating frequency range for Ka-band & HTS applications

Field serviceable & replaceable RF Matrix modules & CPU

Flexible Module Configurations providing routing solutions with dual 8 x 8 distribution modules, dual 8 x 8 combining modules or a combination of distributive and combining modules

Compact housed in a 1U high chassis

Remote control & monitoring via RJ45 Ethernet port, 10BaseT/100/1000BaseTx with SNMP & web browser interface

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Technical specifications and operating parameters

RF Parameters			
Routing		HWK-10 - Distributive Any input can be connected to any number of outputs	HWK-10C - Combining Many inputs can be routed to each outputs
Frequency Range		500 to 2450 MHz (Extended L-band)	
Capacity		2 Matrix Cards – each 8 x Input and 8 x Output.	
Configurations		2 x Distributive / 2 x Combining / 1 x Distributive & 1 x Combining	
Switching Time		< 50ms (From receipt of a command to implementation of path change)	
Input & Output Ports		50Ω SMA (All ports DC Blocked)	
Gain		0±1 dB typical, mean across band	0±1 dB typical, mean across band
Gain Flatness		±1.5 dB	±1.0 dB
Any 36MHz		±0.25 dB	±0.25 dB
Input Return Loss		Typical: 20 dB, Minimum: 18 dB	Typical: 18 dB, Minimum: 16 dB
Output Return Loss		Typical: 20 dB, Minimum: 18 dB	Typical: 18 dB, Minimum: 16 dB
Isolation Minimum between any 2 ports	Input-Input	60 dB	60 dB
	Output-Output	60 dB	60 dB
	Input-Output	55 dB <2150MHz, 50 dB >2150MHz	55 dB <2150MHz, 50 dB >2150MHz
Noise Figure		16 dB typical	24 dB typical, with one input routed to one output
1dB GCP Gain Compression Point, output power	<850 MHz	+0 dBm	+12 dBm
	<1500 MHz	+3 dBm	+10 dBm
	>1500 MHz	+5 dBm	+6 dBm
OIP3 3rd order intercept point	<1500MHz	Typical 18 dBm, Minimum 16 dBm	Typical 28 dBm, Minimum 25 dBm
	>1500MHz	Typical 22 dBm, Minimum 20 dBm	Typical 25 dBm, Minimum 20 dBm
Group Delay		<1.0 ns across operational bandwidth	<1.0 ns across operational bandwidth
AC Input / AC Consumption		AC Input: 85-264Vac 50/60Hz AC Consumption: 150W	
Input RF Power		+20 dBm Absolute Maximum.	

System Control & Reliability	
Local Control	HMI capacitive touch screen: Field replaceable
Remote Control & Monitoring	Ethernet via RJ45, 10BaseT/100/1000BaseTx. ETL TCP/IP, SNMP & Web browser interface.
PSU Redundancy	Dual redundant and alarmed Diode OR. Hot swappable
Matrix Card	Field replaceable
CPU	Field replaceable
MTTR	20 minutes (15 minutes to retrieve spare part and 5 mins to replace) Applies to LRUs only and assumed in house stock
MTBF	Chassis, Switch Card & CPU: >250,000

Physical & Environment	
Dimensions	1U high x 600mm deep x 19" wide
Weight / Colour	<10 kg / RAL9003—White (Semi-matte)
Temperature	Operating: 0 to 45˚C / Storage: -20˚C to +75˚C
Location	Indoor use only
Humidity	20 to 90% non-condensing
Altitude	2,000m AMSL (Operational) 8,000m AMSL (Storage) *Above Mean Sea Level*

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

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