



# ETL Systems

New technologies  
in RF distribution

Model Number:  
HWK-G1S-11 & HWK-G1S-11C

# Hawk Series Dual 8 x 8 Extended L-band Matrix with gain control 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 combining (fan-in) or distributive (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. Model number is dependant upon full matrix module configuration. 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

**Gain Control** to balance input and output signals

**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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RF Parameters		
Routing	Distributive	Combining
Frequency Range	500 to 2450 MHz (Extended L-band)	
Capacity	Up to 2 Matrix Cards– each 8 x Input and 8 x Output.	
Configurations	2 x Distributive (D88D88) / 2 x Combining (C88C88) / 1 x Distributive & 1 x Combining (D88C88) / Single 8 x8 Module (D88 or C88)	
Switching Time	< 50ms (From receipt of a command to implementation of path change)	
Gain (dB)	Min Gain 0±1 Max Gain 5±1 Gain control at input ports	Min Gain 0±1 Max Gain 5±1 Gain control at output ports.
Gain Control Steps (dB)	0.5±0.15	0.5±0.15
Gain Flatness (dB)	±1.5	±1.5
Any 36 MHz	±0.25	±0.25
Input Return Loss (dB)	Typ. 20 Min 18	18 16
Output Return Loss (dB)	Typ. 20 Min 18	18 16
Isolation (dB)	Input-Input 60 Output-Output 60 Input-Output 55<2150 MHz 50>2150 MHz	60 60 55<2150 MHz 50>2150 MHz
Input RF Power	+20 dBm. Absolute Maximum.	
Input & Output ports	50Ω SMA (All ports DC Blocked)	
Noise Figure (dB) max @ all gain settings	16	<850MHz = 30 <1500MHz = 26 >1500MHz = 24
1dB GCP (dBm) Output power, @ all gain settings	<850 MHz -5 dBm <1500 MHz 0 dBm >1500 MHz +4 dBm	+12 dBm +10 dBm +8 dBm
OIP3 (dBm) @ all gain settings	<850 MHz 8 <1500 MHz 12 >1500 MHz 16	32 28 22
Group Delay	<1.0 ns	<1.0 ns
AC Input	85-264Vac 50/60Hz	
AC Consumption	150W	
PSU Redundancy	Dual redundant and alarmed Diode OR. Hot swappable	
Matrix Card	Distributive & Combining options: Field replaceable	
Spec Version	1.2	1.2
System Control		
Local Control	HMI touch screen: Field replaceable	
Remote Control & Monitoring	Ethernet via RJ45, 10BaseT/100/1000BaseTx. ETL TCP/IP, SNMP & Web browser interface.	
CPU	Field replaceable	
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	10,000 feet AMSL (Operational) 30,000 feet 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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