

SENTRY

Outdoor Digital IF Conversion Suite

S-ODU-ADCDAC

The **SENTRY** outdoor-rated RFoIP/L-band converter delivers digitization at the edge, right next to the satellite terminal for maximum efficiency. Built for rugged environments, it offers ingress protection, extended temperature range, and optional GPS with precision reference timing. Remote operation and all-optical control ensure isolated, secure performance, while the unit supports both bidirectional and unidirectional signal conversion—transforming analog L-band signals into DIFI-compliant packetized data and back with ease.

950-2160 MHz operating range

Dual 100GbE QSFP28 over LC/UPC DUPLEX

LNB Power: 600 mA continuous / 750 mA peak per Input

Optional enhanced temperature, shock, and vibration

IP 67 rating

Up to 1GHz instantaneous bandwidth

DIFI 1.1 (IEEE-ISTO Std 4900-2021)

High stability frequency reference options



250 Airport Road • Indiana, PA 15701 • (800) 839-3658 • (724) 349-1412 • Fax: (724) 349-1421

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Specifications	
Operating Frequency:	950-2150 MHz
# of Ports:	8
Configurations	8 ADC, 8 DAC, or 4 ADC + 4 DAC
ADC Resolution	4-16 bits
DAC Resolution	4-16 bits
DAC Memory Bandwidth (max total shared DAC data rate when buffering)	40 Gb/s
Max Data Rate from Dual QSPF28	200 Gb/s
Return Loss:	12dB
Insertion Loss:	±2 dB max
Impedance:	50Ω
OIP3	20 dBm
P1dB:	10 dBm
Thermal Noise Figure	20 dB
Gain	-8 dB to +8 dB in 0.5 dB steps
RF Connectors:	N
Data Connectors:	LC-Duplex
Phase Noise	Passes MIL-STD-188-164C C2 Requirements for Transmit (4.2.11) and Receive (4.3.8)
Harmonics:	-65 dBc
Spurious:	-60 dBc, @PSAT
Isolation (INPUT to INPUT):	55 dB min.
No Damage Signal Level:	+24 dBm
LNB Voltage	0, 12–24V in 0.1V steps w/ 22k tone on/off
LNB Current	600 mA continuous / 750 mA peak
LNB protection	Short Circuit Protection with Automatic Reset
LNB Status Reporting	Under Current (<50 mA), Short, and Normal
RF monitor port	-20 dB
10MHz max level (unity gain)	+5 dBm

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Standard Internal Reference (TCXO)	
Frequency Stability vs. Temperature Reference to +25°±2°C (-40 ~ +85°C)	±2.5 ppm
Frequency Stability (Aging)	±1.0 ppm Per Year at +25°C ± 2°C
Optional Internal Reference (OCXO) PN: S-ODU-OCXO-10MHz	
Frequency Stability vs. Temperature	±2.00 ppb 0° C to +50°C ±10.00 ppb -40° C to +75°C
Frequency Stability (Aging)	±1.0 ppb daily ±100 ppb 1 st year ±500 ppb 10 Years
Phase Noise	@ 1 Hz offset -88 dBc @ 10 Hz offset -118 dBc @ 100 Hz offset -138 dBc @ 1,000 Hz offset -143 dBc @ 10,000 Hz offset -148 dBc
Optional Internal Reference (GPSDO) PN: S-ODU-GPSDO-10MHz	
Allan Variance	1sec <8 ppb 10 sec <10 ppb 100sec <15 ppb 1000 sec <15 ppb
Phase Noise	1Hz -90 dBc 10Hz -120 dBc 100Hz -145 dBc 1kHz -151 dBc 10kHz -153 dBc 100kHz -155 dBc
Power Requirements:	80-264 VAC, 2A max
Power Consumption:	140W (4 LNB max)
Remote Control:	Web, TCP/IP, SNMP
Operating Temperature	-40 – 60C
Mechanical:	9.840" x 5.910" x 11.850"
Weight:	18 lbs.

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Outdoor Digital IF Conversion Suite

Ordering Options and Configurations

Ordering Information

S-ODU-ADC4DAC4-N50-2	2 bi-directional channel (expandable to 4 channel) analog IF to digital converter and digital to analog IF converter in IP rated outdoor enclosure with 50 Ohm type-N connectors. 600 MHz instantaneous bandwidth (expandable to 1 GHz with license).
S-ODU-ADC8-N50-4	4 channel (expandable to 8 channel) analog IF to digital converter in IP rated outdoor enclosure with 50 Ohm type-N connectors. 600 MHz instantaneous bandwidth (expandable to 1 GHz with license).
S-ODU-DAC8-N50-4	4 channel (expandable to 8 channel) digital to analog IF converter in IP rated outdoor enclosure with 50 Ohm type-N connectors. 600 MHz instantaneous bandwidth (expandable to 1 GHz with license).

Product Options

-M	Military option with ruggedized MIL-STD-38999 connectors and shock and vibration performance IAW MIL-STD-810H
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Additional Build Options

S-RFIP-CK-ADC	Channel key to unlock an additional 2 ADC channels
S-RFIP-CK-DAC	Channel key to unlock an additional 2 DAC channels
S-RFIP-CK-ADCDAC	Channel key to unlock an additional 2 bi-directional channels
S-ODU-RFIP-FK-1GHZ	Feature key to unlock 1GHz operation
S-ODU-OCXO-10MHz	Optional internal 10MHz reference (OCXO)
S-ODU-GPSDO-10MHz	Optional internal 10MHz reference (GPS disciplined oscillator)
S-ODU-GPS-HEAD	GPS head for operation with Sentry series products
S-ODU-FIBER-CTLR	Fiber monitor and control – LC/APC
S-ODU-FIBER-10MHz	Analog fiber 10 MHz reference frequency inputs – FC/APC
S-ODU-RFIP-REDUN-AC	Optional Redundant AC power supply
S-ODU-AC.CABLE-[ver]	12' AC power cable. Contact sales with specific ISO Country Codes and Plug Type
S-ODU-AC.CABL-[ver]-M	Military power cable. Contact sales with specific ISO Country Codes and Plug Type

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