

This series of outdoor frequency sources provide a clean signal and are designed for antenna mounting.

A strong set of monitor and control functions support powerful remote control. A contact closure summary alarm is provided for fault monitoring.

STANDARD FEATURES

- 0 dBm nominal output
- 125 kHz frequency step size
- Small-sized weather resistant enclosure
- RS422, RS485 and 10/100 Base-T Ethernet
- Automatic 5/10 MHz internal/external reference selection
- Electronic adjust of internal reference frequency
- Low phase noise
- Mute function on alarm or external mute input command
- Elapsed time and event log after power turn on
- CE Mark



MODEL NUMBERS

Output (GHz)	Model Number
0.95-2.4	FSE-00950240
3.4-6.8	FSE-03400680
3.4-14.8	FSE-03401480
10.7-14.8	FSE-10701480
17.2-22	FSE-17202200
17.2-31	FSE-17203100
27-31	FSE-27003100

OPTIONS

- Output signal monitor
- 1 kHz step size
- Higher output power
- Reference clean-up loop and improved stability
- 30 dB level adjust in 0.2 dB steps

SPECIFICATIONS

Frequency range	Refer to model number table						
Frequency step size	125 kHz (1 kHz optional)						
Output level	0 dBm \pm 1 dB at 23°C , center band						
Return Loss (50 ohms)	10 dB minimum						
Amplitude response	2 dB peak-to peak nominal						
Amplitude stability	\pm 0.25 dB/day maximum at constant temperature \pm 1 dB/operating temperature range						
Spurious outputs	-65 dBc						
Inband	-65 dBc						
Out of band	-65 dBm maximum/rated bandwidth \pm 20%						
Maximum Phase Noise (dBc/Hz) –	Offset (Hz)						
With Maximum Reference Phase Noise:	LO Frequency	10	100	1K	10K	100K	1M
10 Hz: -120 dBc/Hz	Below 20 GHz	-40	-65	-74	-84	-91	-91
100 Hz: -145 dBc/Hz	At 20 GHz and above	-36	-60	-70	-80	-87	-87
1 kHz: -160 dBc/Hz							
Frequency Stability	\pm 5 x 10 ⁻⁸ , -40° to 60°C (reference 25°C)						
Frequency Aging	5 x 10 ⁻⁹ /Day after 24 hours on time						
Automatic Reference Configuration	External 5 or 10 MHz at +4 \pm 3 dBm. If external reference is below +1 dBm nominal, the converter will automatically lock to the internal reference.						
Output Mute	60 dB minimum on summary alarm or mute command.						

REMOTE CONTROLS

Serial Interface	RS485/RS422
Ethernet Interface	10/100Base-T Ethernet
	<ul style="list-style-type: none"> • HTTP-based web server • SNMP 1.0 configuration • Alarm reporting via SNMP Trap • Telnet access • Password protection

INDICATORS and ALARMS

Status Indicator	Red LED: Alarm, Yellow LED: External Reference
Power ON Indicator	Green LED
Summary Alarm	Contact closure/open for DC voltage

Note: All specifications are at maximum output power unless otherwise noted.

OPTIONS

- 36-1. Output RF signal monitor -20 dBc nominal.
- 36-2. Signal Frequency Step Size..... 1 kHz
- 36-3. Higher output power
 28-3A..... +10 dBm minimum output power
 28-3B..... +20 dBm minimum output power
- 36-4. Reference Clean-up Loop and Improved Frequency Stability Reference oscillator acts as an analog phase lock with a 0.1 Hz nominal loop bandwidth. Typical loop suppression of the external reference is as follows:
 28 dB at 1 Hz offset;
 65 dB at 10 Hz offset and
 100 dB at 100 Hz offset
 Frequency Stability:
 $\pm 5 \times 10^{-9}$, -40 to 60°C
 Frequency Aging:
 1×10^{-9} per day after 24 hours operation preceded by 10 days operation
- 36-5. Output level adjust 30 dB in 0.2 dB steps uninterrupted signal output

PRIMARY POWER REQUIREMENTS

Voltage..... 90-250 VAC
 Frequency..... 47-63Hz
 Consumption 16W typical
 Fuse..... T1.25A

PHYSICAL

Weight 6 pounds (2.7 kg) nominal

Connectors-

RF SMA female compatible

RF Monitor (optional)..... SMA female compatible

External Reference..... SMA female

Status/Control Interface MS3116F14-18P type for
 summary alarm, RS422,
 RS485, and LNA power

Remote Interface RJ-45 female for Ethernet
 RS485 available on
 Status connector

Primary Power FCI clipper series
 CL1M1102

ENVIRONMENTAL

Enclosure rating IP-65

Operating-

Ambient Temperature -40 to 60°C

Altitude Up to 10,000 feet

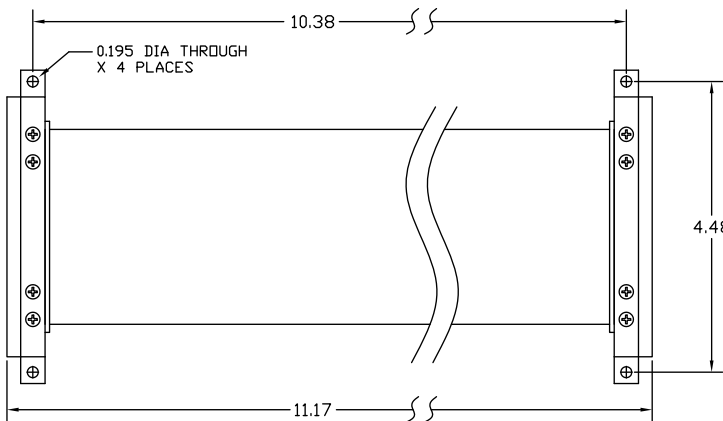
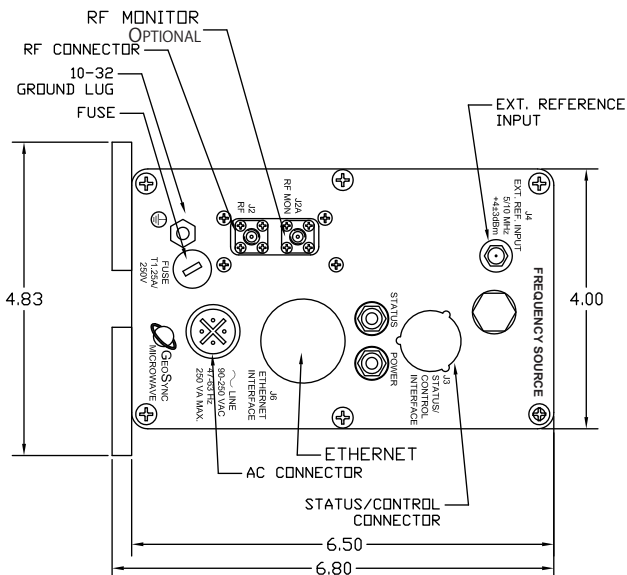
Non-operating-

Ambient Temperature -50 to 70°C

Altitude..... Up to 40,000 feet

Shock and Vibration Normal handling by
 commercial carriers

NOTE: FOR DESCRIPTION OF OPERATION REFER TO TECHNICAL NOTE GS28-TCN



NOTE:
 1. MOUNTING LEGS CAN BE DISASSEMBLED AND REINSTALLED ON WIDE SIDE OF ENCLOSURE (SHOWN INSTALLED ON NARROW SIDE.)
 2. TAPPED 10-32 HOLES AVAILABLE ON SUPPLIED MOUNTING LEGS. FOR DIMENSIONS OF THIS CONFIGURATION PLEASE CONSULT TECH-NOTE.

GeoSync Microwave, Inc. • 400 Oser Avenue, Suite 250 Hauppauge, NY 11788
 Phone: 631 760-5567 • Fax: 631 780-0214

www.geosyncmicrowave.com

