SONAbeam 52-M from fSONA. Getting Connected was Never Easier.

SONAbeam™'s Free Space Optical (FSO) technology uses invisible light beams to deliver high-speed optical communications that offer fiber-like data rates and availability with the simplicity of a wireless solution.

SONAbeam™ eliminates the substantial costs of digging up streets and sidewalks to install a fiber link. Unlike other wireless solutions, SONAbeam™ is immune to electro-magnetic (EM) or radio-frequency (RF) interference and because it does not radiate RF energy, costly spectrum licenses are not required. Plus, SONAbeam™'s narrow, highly-directional transmission prevents eavesdropping or interception.

Utilizing advanced FSO technology at the eye-safe 1550 nm wavelength, fSONA has created the most powerful FSO technology ever brought to market. Our rugged, reliable and robust SONAbeam™ systems are uniquely able to leverage your legacy architecture investments and create vast new connectivity and revenue opportunities.

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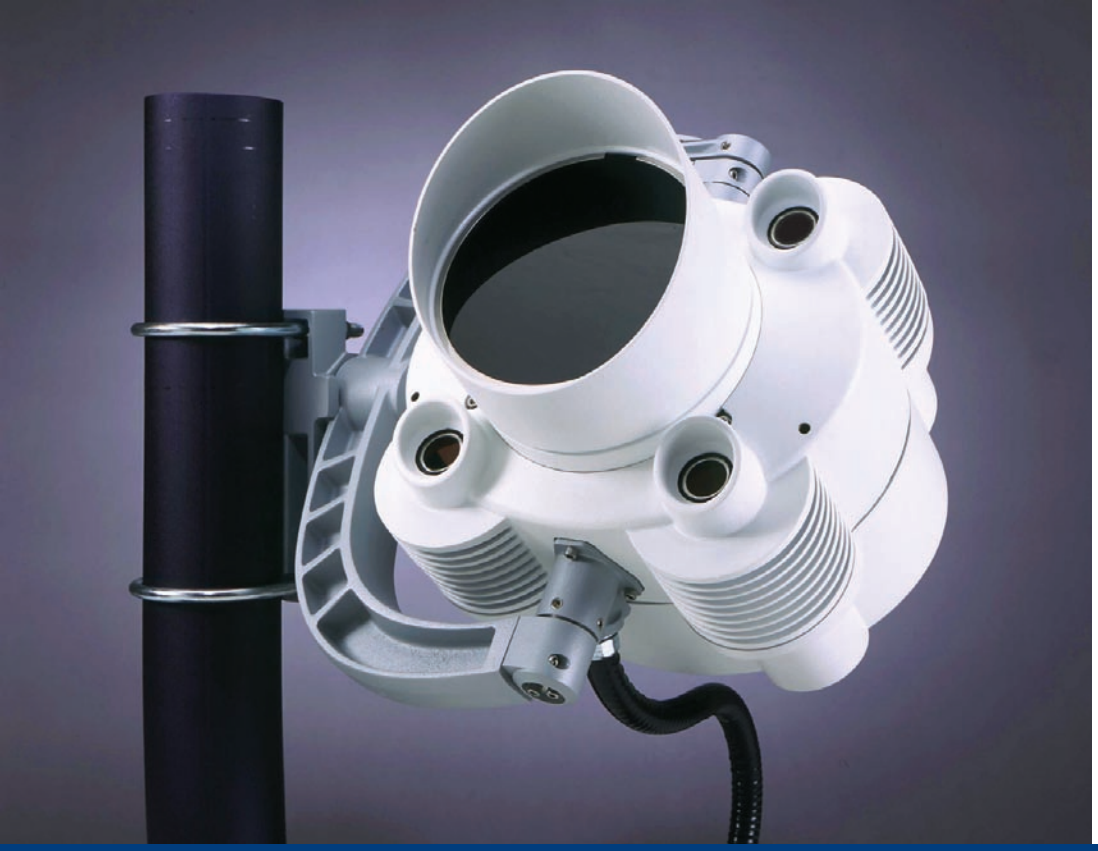
fSONA OPTICAL WIRELESS



SONAbeam™ 52-M

Free-Space Optical

Transmission rates	31 to 62 Mbps (datarate transparent) E3, DS3, OC-1/STM-0
Range: 3 dB/km (clear air)	300 m to 7700 m (980 ft to 4.8 mi)
10 dB/km (extreme rain)	300 m to 3125 m (980 ft to 1.9 mi)
Laser output power	640 mW peak (4 x 160 mW)
Free-space wavelength	1550 nm
Transmitter type	Directly modulated laser diode
Receive aperture	20 cm (8 in) diameter (effective clear)

Mechanical / Electrical / Environmental

Operating temperature	-40 to 60°C (-40 to 140°F)
Solar filters	2 spatial, 2 spectral
Pointing stability	120 km/h (75 mp/h) operating > 160 km/h (100 mp/h) survivability
Environmental seal	Water-tight, IP66 + NEMA-4 rated
Dimensions (W*H*D)	Cm: 41 x 41 x 46 (in: 16 x 16 x 18)
Weight - kg (lbs)	Head: 20 (44); PCA: 8 (17); Yoke: 8 (17)
Input voltage Optional AC	-48 V (-40 to -57 VDC); External AC supply available, 85-260 VAC (50/60 Hz)
Power consumption	Transceiver: 55 W, max; Heaters: 200 W, max

Carrier-Class Reliability and Durability

Interior heating	To 30°C (86°F) prevents optics fogging, snow/sleet accumulation
Laser cooling	Active solid state cooling to 25°C (77°F), even in desert conditions
Redundant transmitters	4 independent lasers, drivers, coolers and cooler controllers
Adaptive power control	Adjusts laser power to changing weather conditions
Power supply	Carrier-grade, 2 million hour MTBF for DC
Structure	Cast aluminum housing, yoke & mount
Service life	15 years

Fiber-Optic Interface

Interface type	SM or MM fiber, SC terminated
Fiber xmtr wavelength	1310 nm nominal (1280 nm to 1335 nm)
Fiber rcvr wavelength	1310 nm nominal (1280 nm to 1335 nm)
Fiber xmtr output power	-15 dBm (min), -8 dBm (max)
Fiber rcvr input power	-31 dBm (min), -8 dBm (max)

Element Management and Control

Management interface	Serial (DB9 or RJ-45) or Ethernet (RJ-45, IP addressable)
SNMP	Embedded Agent v.1
GUI control program	SONAbeam™ Terminal Controller STC v.3
Command line interface	Via RS232 or IP address
Historical logging	Internal data and event logging
Key parameters monitored	Receive signal strength, Power supply currents and voltages, Laser currents, Laser powers (APC levels), Laser temperatures, Internal temperature and humidity, Clock recovery / sync status, Network interface signal status

Certifications and Classifications

	USA/Canada	*Europe*
Laser Safety	CDRH 21 CFR including Laser Notice 50, Class 1M ANSI Z136.1 & Z136.6, Class 1	IEC 60825-1 Class 1M
EMC	FCC - Part 15 / ICES - 003	EN55022 - emissions EN55024 - immunity
Electrical	UL 60950 /CSA 60950	EN60950 (CB scheme)

Printed specifications subject to change. Please refer to our website for current information.