MiX SAT COMMS (IRIDIUM)

The MiX Sat Comms solution provides customers with a cost effective means of tracking vehicles using the leading Iridium SBD satellite system when operating in areas of poor or non-existent GSM coverage.

Panic and other critical events can also be sent over the satellite network to ensure communication between office and driver in cases of emergency.

MiX Sat Comms (Iridium) uses the leading Iridium satellite system that relies on a sophisticated global constellation of 66 cross-linked Low Earth Orbit (LEO) satellites – the world's largest commercial constellation.

FM Sat Comms consists of the following components:

Iridium Transceiver Antenna • OBC Support: FM33xxi, FM35xxi, FM36xxi, FM37xxi, FM38xxi, MiX 4000, MiX 6000
MiX Fleet Manager Connection • MiX Sat Comms Airtime Contract

FEATURES

COMMANDS TO VEHICLE	The following fixed command type messages are available from the MiX Fleet Manager Software via satellite: • Request a position. • Start / stop active tracking. • Temporarily increase and permanently change the vehicle's daily satellite message limit. • Set Immobilization function
VEHICLE TRACKING	Active tracking points can be configured to optionally include driver identification and be sent via satellite communication using least cost routing: • Configurable in-trip active tracking points. • Configurable out of trip tracking points.
LEAST COST ROUTING	All communication can be configured to dynamically determine the most cost effectiv communication method (GSM vs. Satellite) to reduce costs. Data communication and costs can be managed via configuration: • Define default transport type • Configure satellite queue time threshold and AVL minumum delay • Set message limits and override daily limits over-the-air
ACTIVE EVENTS	An active event can be sent immediately via the satellite modem when recorded using least cost routing and optionally include a position as well as initiate active tracking. Active event priorities can be configured as follows: • Critical (limited), an event configured to obey the daily limit • Critical: an event configured to not obey the daily limit i.e. panic alerts
IRIDIUM SBD	Sophisticated global constellation of 66 cross-linked Low Earth Orbit (LEO) satellites allowing for the following: • Communicate globally with mobile assets • Low latency for mission critical application • Global coverage including extreme polar regions • Simple and predictable airtime usage via MiX insight reports

TECHNICAL SPECIFICATION - **IRIDIUM TRANSCEIVER ANTENNA**

PHYSICAL SPECIFICATIONS

Dimensions (Length/Width/Height)	123mm / 79mm / 30mm
Weight	205 g
Mounting	Screw mount: Drill 15mm hole and secure with mounting nut Side Mount: Secure with 4 small screws and adhesive Magnetic mount: Add optional magnet feet

COMMUNICATIONS – IRIDIUM

Transmitter Frequency	1616 – 1626.5 MHz
Polarization	RHCP
Duplexing Method	TDD (Time Domain Duplex)
Multiplexing Method	TDMA/FDMA
Transmitter Power	1.6W
Maximum Message Size	Rx 240 bytes Tx 370 bytes
Latency	<20 sec (type)
Start-up delay	<20 sec cold start, <8s warm start

DATA INTERFACE

Type	1 Serial RS-232C
Default Baud Rate	19200
Flow Control	Software
Connector	Direct connect or pigtail M12-8M male (3-wire RS232C)
Connector	M12/8P female connector

POWER

External Power Source	9—32 VDC regulated

Power Consumption	0.5A power on current; 0.3A operation; 200uA power down
Reverse Voltage Protection	32V

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40C to +85C
Storage Temperature	-40C to +85C
Low Pressure Storage	Up to 16hrs at 40,000 ft.
Humidity	SAE J1455 (test conditions avail.)
Cyclic Humidity	4 days @ -40 to 85C
Thermal Shock	36 4hr cycles; -40 to 85C
Shock	SAE J1455
Vibration	SAE J1555
Protection	IP67

PART NUMBER LIST

PART NUMBER	PRODUCT DESCRIPTION
P0005MT	Iridium Edge Satellite Terminal
A0009MT	Iridium Edge Harness 5M
A0010MT	Iridium Edge Magnet Mount

PART NUMBER LIST

REGULATORY APPROVALS	TEST SPECIFICATION	
CE	EMC Tests	ETSI EN 301 489-20 V1.2.1 (2002-11) ETSI EN 301 489-1 V2.1.1 (2017-02) EN 550022 :2010/AC :2011 EN61000-4-2 : 2009 (Electrostatic Discharge) EN61000-4-3 : 2010 (Radiated RF Immunity) EN61000-4-4 : 2012 (Electrical Fast Transient) EN61000-4-6 : 2014 (Conducted RF Immunity) EN61000-4-8 : 2010 (Magnetic Immunity) EN55022:2010/AC :2011

	Safety	EN60950-1:2006/A2:2013 EN623311:2008
	RoHS	RoHS 2:2011/65/EU
FCC	FCC 47 CFR Part 25 (Contains a modular approved device: FCC ID Q639603N) FCC 47 CFR Part 15, Subpart B	
Industry Canada (ISED Canada)	ISED RSS 170. (Contains Modular approved device: IC 4629A-09603N) ICES-003, Issue 5 : 2012	
Australia/NZ	AS/NZS CISPR 22 (2009) + A1:2010 ACMA HES Standard (2014)	
REACH	REACH 1907/2006	

ENVIRONMENTAL SPECIFICATION

TEST NAME	TEST REFERENCE	TEST DESCRIPTION
Vibration Testing	SAE J1555, Section 4.10	5 hours on each axis as per figures 6,7 and 8 in SAE J1455
Shock	SAE J1455	Drop 1m onto concrete in 3 perpendicular orientations (3 drops)
Immersion Testing	SAE J1455, Section 4.3.3.2	3 dunks Cable mated when dunked
Fungus Testing	SAE J1455, Section 4.6.3	Duration of 30 days
Humidity	SAE J1455, Section 4.2	Temperature Range : -40 to 85C Relative Humidity : 90% Number Cycles : 30 Duration of Cycle : 8 hours
Chemical Splash Resistance	SAE J1455, Section 4.4.3.2	Brush method
Salt Spray Resistance	SAE J1455, Section 4.3.3.1	Duration of 96 hours
Dust and Steam Cleaning	SAE J1455, Section 4.5.3	At level 4
Low Pressure Storage	SAE J1455, Section 4.9.3	At -40C for 48 hours