

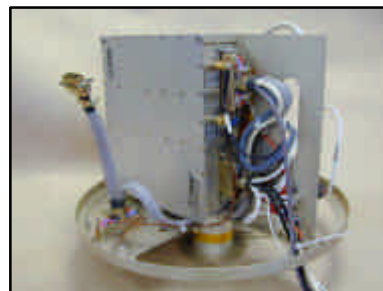
# INMARSAT GONDOLA

## Telemetry and Telecommand through INMARSAT

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- The INMARSAT C gondola enables the management of stratospheric balloons for long duration flights (several dozens days).
- An automatic processor manages the separation of the automatic end of flight imposed by the air safety regulations.
- The INMARSAT system is used for the transmission of the telemetry and the telecommands. This communication network is based on four geostationary satellites covering each one the oceanic regions of the earth. So this nacelle can be used on the totality of the surface of the globe with the exception of the poles.
- The earth ground station is limited to laptop equipped with a modem.



Automatic Processor – INMARSAT Mobile Phone

### Key features

Low Weight – Low Size

Fully Automatic

Fully Operational Gondola

Flight Proven

Worldwide Coverage

No Need for Ground Station

Extended Operating Temperature



**ELTA**

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Characteristics of the system	
Operational Telemetry : 1 daily file containing the recorded parameters every 16 min :	Date, UT Time, Air pressure, 2 Gas temperatures, 2 Air temperatures, 3 Equipment temperatures, GPS Position (Latitude, Longitude, Altitude), 3 Battery voltages, Telecommand Acknowledges , Timer status.
Scientist Telemetry	To be defined with customer
Operational Telecommand : 3 customizable daily windows for the reception of Telecommands (except these windows, the system is in sleep mode to optimize consumption)	Timer programming, TC and TM Windows programming, action on 3 relays, immediate end of flight separation.
Scientist Telecommand	To be defined with customer
Automatic Separation	End of flight timer customizable in seconds on 12 days. 100 customizable zones of separation in latitude and longitude 1 level of separation customizable in pressure
GPS	12 parallel channels, 1575.42 MHz, Max. Speed 515 m/s Dating WGS84
Pressure Measurement	0 / 1020 mBar – 0.1 mBar Resolution – 1 mBar Accuracy
Equipment Temperature Measurement	-55°C / +125°C; ± 0.5°C Accuracy in the range –10°C / +85°C
Air / Gas Temperature Measurement	-55°C / +125°C; ± 1°C Accuracy in the range of –10°C / +85°C
TT3022C Mobile	Omnidirectional Antennas, Operating Transmitting Frequency : 1626,5 à 1660,5 MHz, Operating Receiving Frequency : 1525.0 à 1559.0 MHz, G/T : -23 dB/K, EIRP : 14 dBW @ 5° Elevation, Data rate 600 Baud

Electrical characteristics							
Voltage	10 - 28 VCC						
Consumed Power @ 9 V : during a listening window	<table border="0"> <tr> <td>Sleep Mode</td> <td>36 mW</td> </tr> <tr> <td>TC Waiting</td> <td>1.35W max</td> </tr> <tr> <td>TM Transmitting</td> <td>74 W</td> </tr> </table>	Sleep Mode	36 mW	TC Waiting	1.35W max	TM Transmitting	74 W
Sleep Mode	36 mW						
TC Waiting	1.35W max						
TM Transmitting	74 W						

Physical characteristics					
Size	380 x 320 x 320 mm				
Weight	4.4 Kg without battery and envelope				
Operating temperature	-40°C / +60°C				
Interfaces	<table border="0"> <tr> <td>Out</td> <td>3 Digital Relays 5A</td> </tr> <tr> <td>serial</td> <td>8,n,1 - 2400 Baud</td> </tr> </table>	Out	3 Digital Relays 5A	serial	8,n,1 - 2400 Baud
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 ELTA reserves the right at any time without notice to change specifications

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