

## FEATURES

- Modular, scalable, launcher telemetry system
- High quality interfaces with full range of data acquisition modules available
- Ethernet based networked units
- Programmable telemetry, timing & sequencing parameters
- Built-in Ethernet to CCSDS encoding
- RF transmission over dual 10 W S-Band transmitters
- Optional full HD Video with H.265 compression
- Qualified for launcher and space environment operation
- Integrated EGSE / Ground station for end-to-end launcher telemetry system from sensor to screen

## RLT-TLM-x - OVERVIEW

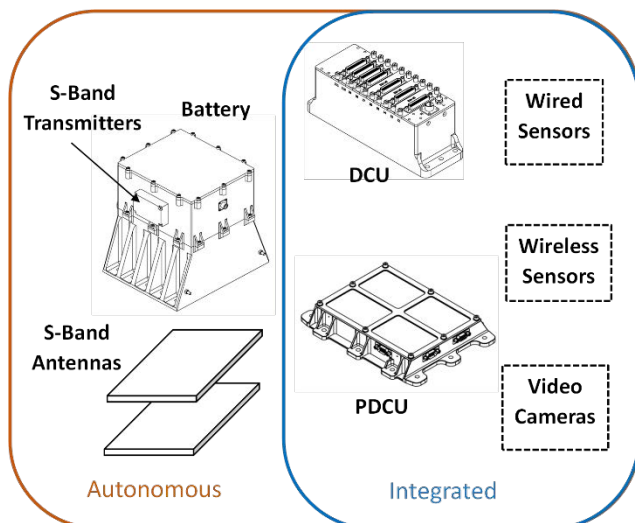
The **RLT-TLM-x** telemetry system from Réaltra Space Systems Engineering is low cost, modular fully qualified, end to end telemetry kit for use on a wide range of launch vehicle types.

**RLT-TLM-x** is a modular and scalable telemetry system that is designed to be operated in full autonomous mode, independent of the launch vehicle on-board systems but also has options for full integration with the launcher avionics system.

The **RLT-TLM-x** is intended to be used as the primary telemetry system for small launchers or a secondary telemetry system for large launchers.

## Applications

- On-Board housekeeping sensor data
- Launcher stage & booster separation events
- Faring and payload separation events
- Upper stage engine firing events
- On-board technology maturation in-flight
- experiment monitoring
- Engineering design validation data/video
- Propulsion system monitoring
- Primary telemetry system for small launchers
- Secondary telemetry system for large launchers
- End-to-end launcher telemetry including ground reception & decoding & display



Autonomous and Integrated Versions of RLT-TLM-x



Réaltra provides the Video Telemetry system for Ariane 5 and Ariane 6

## SPECIFICATIONS

Parameter	Value	Units	Notes
<b>Mass</b>			
DCU*	2.19	<b>Kg</b>	DCU with BCU, 6 user modules & 3 spare slots
PDCU	1.20	<b>Kg</b>	Integrated and Autonomous variants
Battery**	7.69	<b>Kg</b>	Integrated TLM (+2 x TX mass for Autonomous TLM)
Transmitter***	0.14	<b>Kg</b>	Autonomous TLM has 2 x Transmitter units
Antenna	0.55	<b>Kg</b>	Autonomous TLM has 2 x Antenna units
Camera	0.335	<b>Kg</b>	TLM has max of 6 x Camera. Including LED
<b>Dimensions (LxWxH)</b>			
DCU	243.0 x 80.0 x 97.0	<b>mm</b>	Excludes mating connectors
PDCU	245.0 x 192.0 x 37.8	<b>mm</b>	Integrated and Autonomous variants
Battery	167.2 x 200.2 x 223.1	<b>mm</b>	Excludes 2 x Transmitter mounted on Battery
Transmitter	76.2 x 50.8 x 20.3	<b>mm</b>	2 x Transmitter units are mounted on Battery
Antenna	184.9 x 129.3 x 10.3	<b>mm</b>	Autonomous TLM has 2 x Antenna units
Camera	135.0 x 67.0 x 40.0	<b>mm</b>	Including LED
<b>Power Consumption</b>			
DCU	23.6	<b>W</b>	DCU with BCU, 6 user modules & 3 spare slots
PDCU	5.6	<b>W</b>	Integrated and Autonomous variants
Transmitter	45	<b>W</b>	Autonomous TLM Kit incorporates 2 x VTX units
Camera	10.0	<b>W</b>	TLM has max of 6 x Camera. Including LED
<b>Operating Temp</b>	-40 to +70	<b>°C</b>	Qualified over this range in vacuum
<b>Random Vibration</b>	25	<b>gRMS</b>	Camera tested to of 31.1 gRMS
<b>Shock</b>	5,000	<b>g</b>	Shock applied in each axis
<b>Vacuum</b>	1 x 10 <sup>-6</sup>	<b>mBar</b>	Covering full operating temperature range

### Notes:

\*The DCU used in the Réaltra telemetry system is compatible with the Curtiss-Wright KAM-500 architecture, configuration software and range of data acquisition modules available off the shelf and many with extensive spaceflight heritage.

\*\*The Réaltra telemetry system detailed here uses a modular 28VDC Li-MnO<sub>2</sub> primary battery qualified for launchers with options for 21Ah, 42Ah or 63Ah capacity. Réaltra also have an option to provide a high performance modular Li-Ion secondary battery within the same packaging design and equivalent energy storage capacities but with recharge capability.

\*\*\*The transmitter used in the Réaltra telemetry system has isolated power inputs.

Detailed technical information and ICD's are available upon request.

WHILE EVERY EFFORT IS MADE TO ENSURE THE ACCURACY OF ALL INFORMATION PROVIDED, RÉALTRA PROVIDES TECHNICAL DATA IN GOOD FAITH "AS IS" WHICH MAY CONTAIN ERRORS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

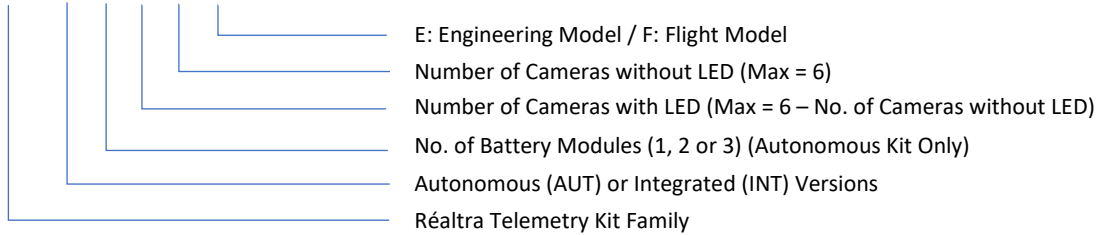
## ELECTRICAL INTERFACE

The **RLT-TLM-x** telemetry system operates from a +28VDC supply through a six-way circular connector on the side of the battery housing or directly to a 9-Way D-Type connector on the PDCU

**ORDERING INFORMATION**

**Part Number:**

**RLT-TLM-X-X-X-X-X**



VIKI - Autonomous Video Telemetry Kit



EGSE for VIKI Launcher Telemetry Kit

The launcher telemetry kit developed by Réaltra Space Systems Engineering has been qualified as the key component for the flight element of the Independent HD Video Telemetry Kit (VIKI) for use on the Ariane 5 and Ariane 6 launch vehicles for ArianeGroup. The Réaltra VIKI system will capture and broadcast HD video from IP cameras located on the Ariane 5 and Ariane 6 launch vehicles that will provide live images of the stage, fairing and payload separation events for engineering and commercial purposes.

To make an enquiry, request a quotation or learn about Réaltra’s other products and services, please contact:



**Réaltra Space Systems Engineering**  
**The Realtime Building,**  
**Clonshaugh Business Park,**  
**Dublin, D17 H262,**  
**Ireland.**



**+353 1 848 6112**



**info@realtra.space**



**www.realtra.space**



**www.linkedin.com/company/realtra**

1. Ariane 5” and “Ariane 6” are Trademarks owned by ArianeGroup SAS.
2. Information in this document is subject to change without notice and becomes contractual only after written confirmation by Réaltra Space Systems Engineering.
3. Manufacturing Partner for Réaltra is Realtime Technologies Ltd. Web: [www.realtime.ie](http://www.realtime.ie)

