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# LEVITY

## ESCI.NEMO

**E**lectrical **S**atellite for **C**ommercial  
**I**nnovations.

**N**ext **E**arth-**M**oon **O**rbiter

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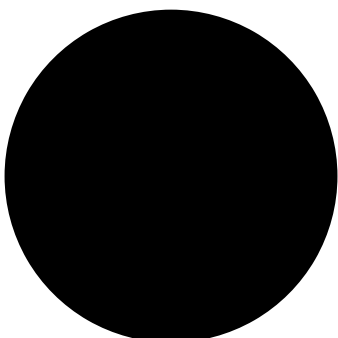
## THE MULTIPURPOSE MICROSATELLITE PLATFORM

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**CONTACT**

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## Technical Performance and Specifications

### → ESCI.NEMO's PAYLOAD ENVELOPE

ESCI.NEMO's payload deck offers generous volume and interfaces to accommodate dedicated payload(s) and satellites on the standardized top payload deck or using individual adapters.

<b>DIMENSIONS</b>	970x970x370mm <sup>3</sup> / ~32U CubeSat Volume
<b>MASS</b>	50kg (To Moon Orbit)
<b>MECHANICAL INTERFACE</b>	Universal Top Payload Deck [Adapter or Dispensers possible]
<b>POWER INTERFACE</b>	3 5 12 28VDC   10 10 10 25A
<b>DATA INTERFACE</b>	Spacewire @ 50Mbit/s   RS422/485   ETHERNET   CAN   PPS Time Synchronization

### → PAYLOAD-INTERFACE-BOX

The payload interface box is the universal electrical interface between BUS and P/L. It can house individual PCBs to enable unique power and data compatibility and accommodate further functional P/L electronics.

<b>POWER INTERFACE</b>	Forwarding or DCDC transformation of nominal BUS supply
<b>DATA INTERFACE</b>	Forwarding or Conditioning of Housekeeping & Scientific Data
<b>DEDICATED ELECTRONICS</b>	Additional Custom Functionality (e.g Data Storage)

### → PAYLOAD SPECIFICATIONS

Although ESCI.NEMO's payload accommodation is designed to be the best-fit-for-all, some restrictions may apply.

<b>CoM-CONFORMITY</b>	P/L placement must stay within Center of Mass Envelope
<b>P/L-MASS</b>	Adapters restrict available P/L Mass
<b>POWER</b>	All-Time Guaranteed (Shadow): 100W Nominal Guaranteed (Sun): 400W Peak Sustained Power (Sun): 700W

→ DATA TRANSMISSION

ESCI.NEMO's COM System offers S/C command and -monitoring as well as reception of data to be relayed via patched S-Band antennas. Main data is transferred to Earth via the pointing X-Band parabolic antenna.

<b>S-BAND RECEIVED</b>	Telecommand / Relay Data Input @ 8kbps
<b>S-BAND TRANSMITTED</b>	Status & Housekeeping @ 10kbps
<b>X-BAND TRANSMITTED</b>	Payload Data Transmission @ 2-50Mbps [Lunar-GEO Distance]

→ THE ESCI.NEMO PLATFORM

ESCI.NEMO is designed for maximum efficiency at a small formfactor. Bus and propulsion system provide competitive performance at a low cost, using COTS products wherever possible.

<b>DIMENSIONS</b>	1x1x1.2m <sup>3</sup> [folded solar arrays]   Wingspan 5m
<b>MASS</b>	85kg Dry   100kg Wet   150kg including P/L
<b>PROPULSION SYSTEM</b>	2x 6mN Thrust   Up to 4000s Isp   14kg Propellant   3.5km/s
<b>POWER SYSTEM</b>	1200W Solar Generator   750Wh Li-Ion Battery
<b>AOCS</b>	3-Axis Stabilization   4 Reaction Wheels & 12 Resistojets
<b>DATA HANDLING</b>	50MHz On Board Computer   SpaceWire   RS422/RS485

