

# RUAG UDM

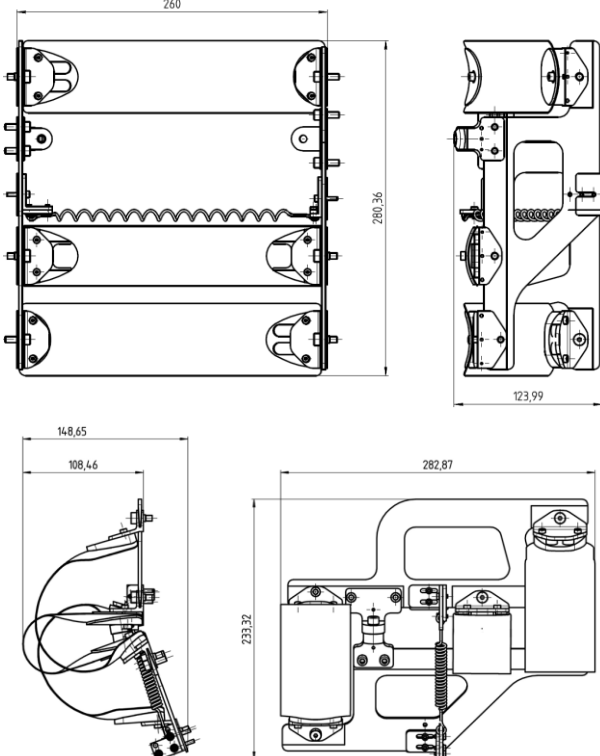
## Ultra Light Deployment Mechanism

RUAG's UDM operates a single axis passive deployment single shot with a deployment angle between 0° and 200°. Developed for advanced antenna systems it features a very high stiffness, thermal stability in deployed configuration while very low mass as well as a wide temperature range.

The RUAG Ultra Light Deployment Mechanism is a single axis mechanism, able to deploy structures passively after HDRM release. Developed as a passive working deployment mechanism, the used materials titanium and CFRP facilitate the ultra light weight and the passive generated deployment torque. This mechanism is suitable for the deployment of solar arrays, antennas, reflectors and many applications more. Furthermore a damped configuration is available that reduces the latching-shock and passively control the deployment torque.



Figure 1: UDM left; Damped-UDM (DUDM) right



<b>Performance</b>	
<b>Mechanical Properties</b>	
System Mass	0.650 kg
Deployment/ Travel angle	0 to 200°
Deployment Torque at 200°	> 8.0 Nm
Mech. Accuracy	< 0.003°
Deployed Stiffness XYZ	> 5.0e04 N/m
Deployed Stiffness rot. XYZ	> 3.0e04 Nm/rad
Envelope deployed	285 x 125 x 265 mm <sup>3</sup>
Envelope stowed	285 x 235 x 150 mm <sup>3</sup>
Temperature Range	Non- op. [-150°C; +150°C]
	Operational [-60°C; +80°C]
<b>Damped Configuration</b>	
Static Torque at 150° - 20°	> 2.5 Nm
End-shock	< 100 g
Mech. Accuracy	< 0.02 °
Technology Readiness Level	TRL 5 reached in 2018

