

The Comrod family of CAPAS® Automatic Payload Alignment Systems are designed to meet the challenges faced by public safety, defence and demanding industrial users. CAPAS® systems enables quick and effective deployment of communication or sensor assets in extreme environments without exposing personnel to unnecessary danger.

The CAPAS-RT Rotator Tilt System accomplishes this by allowing computer controlled tilt and rotation for payloads. The compact design allows the system to be used in a wide range of applications, and the rotator itself does not require a rotary joint for continuous rotation.

The powerful drive system coupled with the integrated magnetic compass ensures fast and accurate positioning. CAPAS-RT supports both closed loop and open loop alignment, or a combination of both.

In closed loop alignment mode the system is controlled by a radio transceiver to optimize received signal strength and minimize bit error rate. In open loop mode the system can utilize input from the Comrod TCT Planning System for quick initial positioning. Closed loop feedback from the radio can then further optimize the alignment within a fraction of a degree.

The CAPAS-RT is fully rugged per MIL-STD-810, and is suitable for a wide range of deployable masts, including Comrod TM, LMT and ULM series.



The CAPAS-RT rotator/tilter enables precise control of rotation and tilt angle.

Features

Power Supply	18 to 54 VDC (MIL-STD 1275E)
Alignment Modes	Closed loop mode with radio transceiver control Open loop mode with magnetic compass Hybrid mode
Planning Tool (Optional)	Comrod TCT Mission Planning System
Pointing Accuracy	~ 0.5 degree relative to base
Rotating Speed ⁽¹⁾	> 10° per second (without payload, with power supply of 28V-2A)
Mechanical Limits	Rotation axis: Infinite. Tilt axis: +/- 15° Arbitrary limits can be defined in software.
Torque ⁽²⁾	Azimuth: >50Nm Dynamic (with power supply of 28V-2A), >200Nm Static (survival) Elevation: >100Nm Dynamic (with power supply of 28V-2A), >400Nm Static (survival)
Payload Capacity ⁽³⁾	20kg in-balance load, 0.5m ² frontal wind area at 25m/s (operational), 33m/s (survival)
Operating Temperature (Ambient)	-40°C to +60°C (-40°F to 140°F)
Dimensions (nominal)	W = 380mm, H = 440mm, D = 290mm (~15 x 17 x 12 in)
Weight	14.5 kg (32 lbs)
Mounting	Lower socket, Ø51mm x 90mm long (Ø2 in x 3.55 in) or Vee Ring Upper payload mounting spigot Ø49.8mm x 135mm (Ø1.93 in x 5.3 in) Adaptors are available for a wide range of payloads and masts

(1) Dependent on power supply and payload weight/area

(2) Dynamic torque is dependant on power supply voltage and current

(3) Represents the value of torque above

Technical Data	
Interfaces	CAN, RS232, RS485 or Ethernet (not all available together)
Vehicle Power	MIL-STD 1275E
EMC/EMI	MIL-STD-461F CE102, RE102, RS103, CS101, CS114, CS115, CS116 and CS117
Operating Temperature	Ambient: -40°C to +60°C (-40°F to 140°F)
Encapsulation	Immersion MIL-STD-810G Method 512.5, Procedure I (IP67) MIL-STD-810G, Method 506.5, Procedure I, for rain and blowing rain
Solar Radiation	MIL-STD-810G, Method 505.5, Procedure I (4 x 24h exposure)
Salt Fog	MIL-STD-810G Method 509.5 (> 96h)
Icing/freezing rain	MIL-STD-810G, Method 521.4 (ice thickness = 6mm)
Sand and Dust	MIL-STD-810G METHOD 510.5 Procedure I and II
Altitude	Operational: MIL-STD-810G: Method 500.5, Procedure II, 4572 m (15000 ft) at 57.2 kPa Storage: MIL-STD-810G: Method 500.5, Procedure I, 12192 m (40000 ft) at 18.8 kPa
High temperature	Operation: MIL-STD-810G, Method 501.5, Procedure II , 60°C Storage: MIL-STD-810G, Method 501.5, Procedure I, 71°C
Low temperature	Operation: MIL-STD-810G, Method 502.5, Procedure II, - 40°C Storage: MIL-STD-810G, Method 502.5, Procedure I, -51°C
Humidity	MIL-STD-810G, Method 507.5, Procedure II, Aggravated
Vibration *	MIL-STD-810G, Method 514.6C Table 514.6C-VI. Composite wheeled vehicle vibration exposures figure 514.6C-3 * MIL-STD-801G, Method 514.6D, Ground Vehicle Category 20, Wheeled/Tracked/Trailer, Procedure I/III *
Shock *	MIL-STD-810G, Method 516.6, Procedure I, functional Shock, 12g 11ms *

* Unit without payload. Permanent mount required for high shock/vibration environments

