CARACAL PAN & TILT SYSTEM

CARACAL,
This small, yet robust, pedestal includes all the benefits of our precision positioning mechanisms incorporated into a small economic package.
Due to its size to weight ratio, the Caracal is capable of supporting payloads up to 40 kg while maintaining perfect precision and movement.
Caracal Tracker can be used whether on an aerostat or hot air balloon, keeping its performance similar to the ones when it's on the ground.

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This small, yet robust, pedestal includes all the benefits of our precision positioning mechanisms incorporated into a small economic package.
Due to its size to weight ratio, the Caracal is capable of supporting payloads up to 40 kg while maintaining perfect precision and movement.
Built-in control electronics and software provide a precise, smooth motion at all speeds, while an integrated slipring allows a continuous rotation of the yaw axis.
Our SELF-LOCK-SYSTEM will guarantee that you save your position even in case of a power off.

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CARACAL PAN & TILT SYSTEM, General Specification

Product Line: CARACAL			
Type	L- Shape		
Payload Type	Antenna / Camera / Radar / Satellite		
Azimuth / Pan movement	Nx360˚ or up to 345˚ (no slip-ring)		
Elevation / Tilt movement	Up to 360˚		
Self-Weight [kg]	~10.5		
Control mode	Speed / Position		
Communication	Ethernet TCP / RS232 / RS422 / Rs485		
Environmental protection	IP65, Humidity, Temperatures & more…		
Version Type	Standard	High-Performance	Superior
Power consumption [V] [A]	24V & 4Amp	36V & 6Amp	48V & 8Amp
max Payload (balanced) [kg]	40	25	15
Max Acceleration [˚/Sec²]	100	100	150
Speed (balanced) [˚/Sec]	0.01-20	0.01-40	0.01-90
Position Accuracy [˚]	±0.1	±0.01	±0.01
Position Sensor Encoder	Incremental	Absolute/ Incremental	Absolute/ Incremental
Resolution [˚]	0.0007	0.0013/ 0.000036	0.0013/ 0.000036
Stabilization systems			
Stabilization Accuracy [˚]	±1	±0.5	±0.1
Stabilization Sensor	IMU / FOG		FOG
Tracker systems			
GPS Stabilization by Datum point	±1	±0.5	±0.1
GPS Units	LLA / UTM		

(*) Payload dependent

(**) mechanics & power dependent

(***) mass, balance & power dependent

- Control Interface, GPS and Stabilization - Optional

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CARACAL PAN & TILT SYSTEM, Environmental Specification

Storage Temperature [˚C]	-40 ~ +70		
Operational Temperature [˚C]	-40 ~ +55		
Humidity [˚C @ %RH]	+32 to +55 @ 95±4		
Salt Fog Exposure			
Salt Solution Concentration [%]	5±1		
Salt Fog PH	6.5 to 7.2		
Salt Fog Fallout Rate [ml/80cm2/hr]	1-3		
Duration [hr]	48		
Temperature [˚C]	+35±2		
Salt Fog Drying Period			
Temperature [˚C]	+25±10		
Duration [hr]	48		
Humidity [%RH]	<50		
Solar Radiation			
Temperature [˚C]	+32 to +49		
Max Intensity [W/m2]	1120		
Cycles	3		
Blowing Dust			
Wind Velocity [m/sec]	8.9		
Dust Concentration [g/m2]	10.6±7		
Relative Humidity [%]	<30		
Temperature [˚C] [*test 1 & test 2]	25	70	
Blowing Rain			
Wind Velocity [m/sec]	18		
Rain Rate [mm/min]	>1.7		
Droplet Size Dia. [mm]	0.5 to 4.5		
Duration [min/face]	30		
No. of Faces	4		
Vibration			
Axes	3 (X,Y,Z)		
Vibration Level [grms]	X=2.4	Y=1.3	Z=3.6
Frequency Range [Hz]	5-500		
Vibration Time per Axis [min]	60		

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Icing	
Ice Thickness [mm]	Ice Thickness [mm]
Temperature [˚C]	Temperature [˚C]
Blowing Sand	
Wind Velocity [m/sec]	18
Sand Concentration [g/m³]	1.1±0.3
Humidity [%RH]	<30
Temperature [˚C]	+55±2
No. of Faces	1
Duration [min/face]	90
Mechanical Shock	
Axes	3 (±X, ±Y, ±Z)
Shock Form	Saw-Tooth
Shocks per Axis	6 (3 each direction)
Pulse Duration [mSec]	11
Total Shocks	18
Shock Amplitude [g]	40

CARACAL PAN & TILT SYSTEM, Stabilized Version

Product Line: CARACAL - Stabilized	
Stabilization Accuracy [˚]	±0.1 - ±1 (*payload & mechanics dependent)
Stabilization Sensor	**IMU:** - Gyro range: ±2,000˚/Sec - Accelerometer range: ±16g - Magnetometer range: ±2.5Gauss **FOG:** - Gyro range: ±490˚/Sec - Accelerometer range: ±10g

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CARACAL PAN & TILT SYSTEM, Tracker Version

Product Line: CARACAL - Tracker	
GPS Stabilization Accuracy [˚]	±0.1 - ±1 (*mechanics and antenna spread dependent)
GPS Sensor	- Updates Rate: 5Hz - Receiver Type: GNSS - Static Accuracy (Heading): 0.3˚ RMS - Static Accuracy (Pitch / Roll): 0.5˚ RMS - Dynamic Accuracy (Heading): 0.3˚ RMS - Dynamic Accuracy (Pitch / Roll): 0.1˚ RMS

CARACAL PAN & TILT SYSTEM, GUI Pannell

Parameter	Specification	Notes
Communication	Ethernet (TCP)	
Operation mode	Manual / Stabilized / Tracker	
Control mode	Speed / Position	
Operation	Manual arrows controlled by user	
Presets	Up to 15 saved points	
Targets	Up to 15 saved GPS targets	Tracker only
Register Status	Online state of system registers	
Software limit switches	User defined software limit switches for both axes	
Homing	Homing position declaration	
Scanning modes	Zigzag, Square and Snake	
IP Setting	Ability changing system IP addresses & port	

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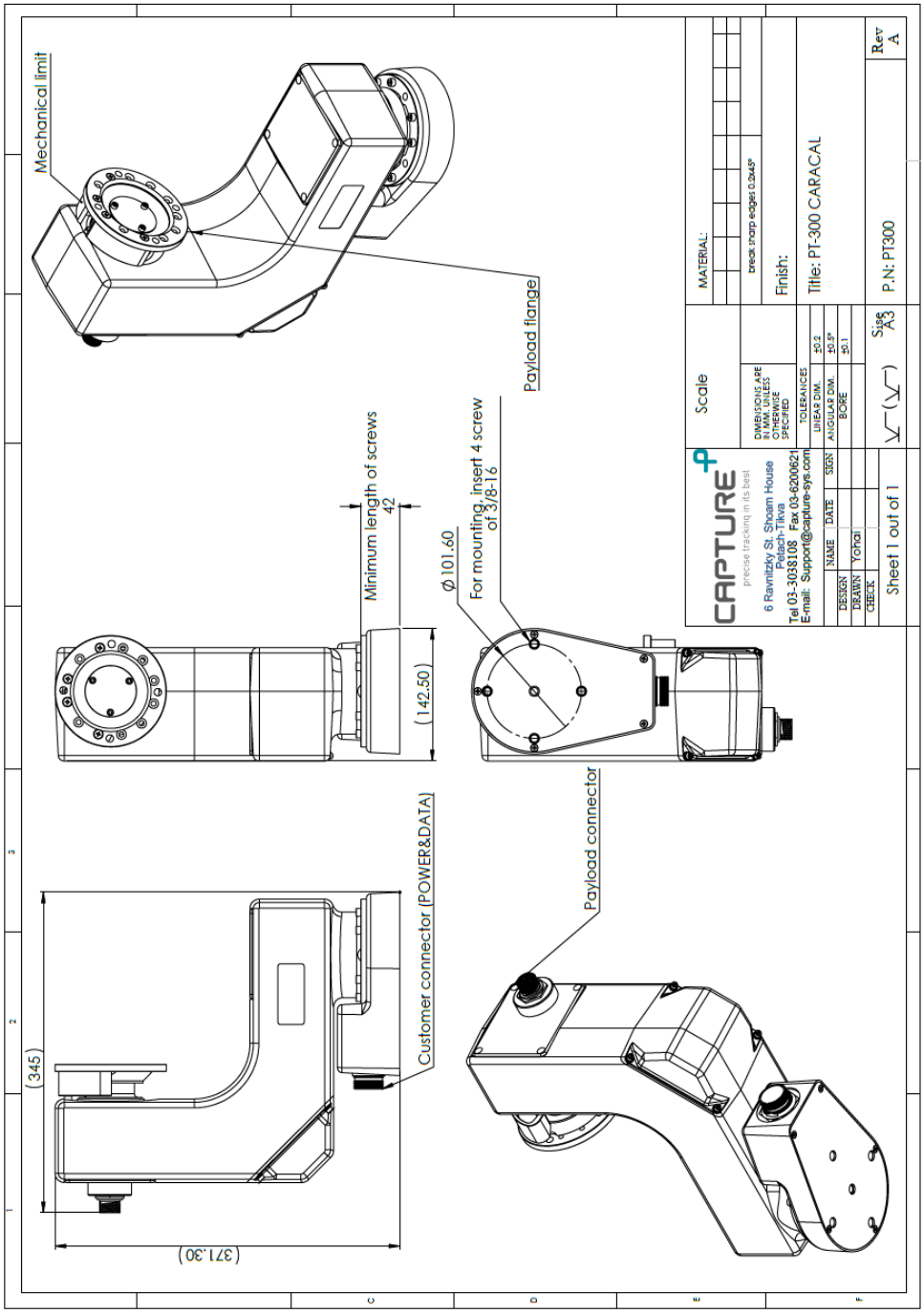
CARACAL PAN & TILT SYSTEM, MICD



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