

"We always know who we're working for"

# PRECISION ELECTRONICS LIMITED

**Product Catalog** 





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### **WHO WE ARE**

Precision Electronics Limited since its formation in 1979 has consistently delivered complex and highly reliable Products and Solutions. With a range spanning Tactical Infrastructure solutions including Telescopic Masts, Tripods & Pedestals; Power solutions for Telecom, Healthcare & Battery Electric Vehicles; and Box Build Manufacturing Services including Precision Machining, Sheet Metal, Electronic Assembly & System Assembly; PEL is honored to serve customers in Telecom, Hi-tech, Security, Government and Automotive.

100K+
PRODUCTS
DEPLOYED

40
PRODUCTS
DEVELOPED

45+
YEARS OF LEGACY

100+
PROJECTS
EXECUTED

### **OUR CORE VALUES**

At Precision Electronics Limited, we take great pride in offering high quality products and solutions with the highest degree of accuracy and quality standards to customers that demand it. We are committed to satisfy product RELIABILITY & AVAILABILITY and forge a partnership of TRUST with our customers.







### Certifications

Quality Certifications and Industry Standards Compliance









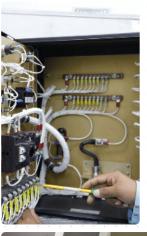
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# LLX20TL5













### PRODUCTION CAPABILITIES

The production process at Precision Electronics Limited is characterized by meticulous attention to detail, stringent quality control measures, and a focus on efficiency and reliability. This is possible due to in-house State-of-the-art facilities for:

- Mechanical fabrication (CNC Turning, Milling)
- Mechanical Assembly (Welding, Drilling, Fastening, Shaping)
- Electronic Production (SMT pick & place, thru-hole)
- Wiring Harness
- Turnkey Box Build/ System Assembly & Testing

### SECONDARY PROCESS CAPABILITIES

- Chromate conversion yellow / colorless as perMIL-DTL-5541F
- Electro-less Nickel (MIL-C-26074D)+ Electro-deposited Tin (MIL-T-10727C)
- Anodizing(MIL-A-8625): Hard and Regular
- Zinc Plating
- Black Oxide
- Passivation
- Powder coating
- PU Paint



### **VALIDATION CAPABILITIES**

We undertake MIL-STD testing and ESS testing in-house to ensure product reliability and quality.















### **OUR PRODUCTS**

We are a leading OEM engaged in the Design, Development, and Manufacturing of various Telescopic Masts, Tripods, Pedestals, and a wide range of Power Electronics and Data Interconnectivity solutions for Security, Telecom and Oil & Gas customers.











### **OUR CLIENTS & CUSTOMERS**

### **Defence and Security**















Oil & GAS





















Telecom









### **Export**













### **Indian Corporate**





















































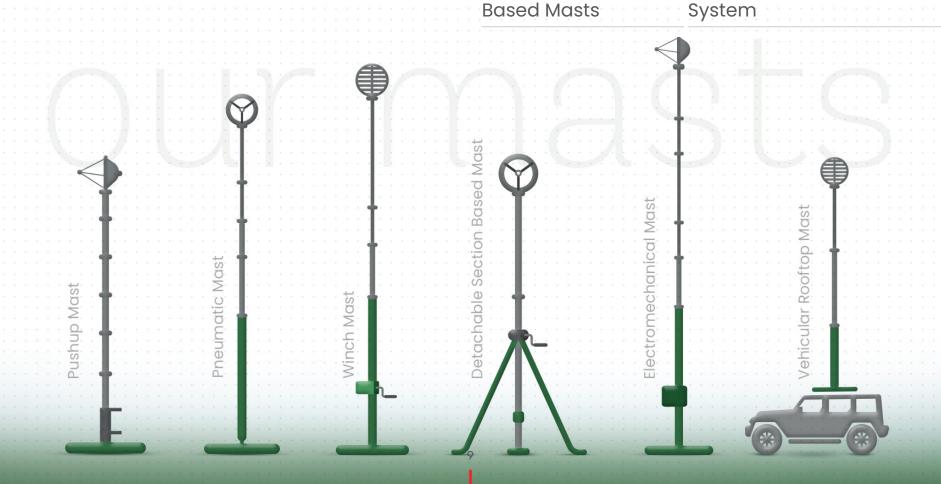


### **OUR MASTS**

PEL provides a wide range of Telescopic Masts to suit every use case related to Line-Of-Sight for payloads ranging from Radio COMs, Radars, Electro-optics, Anti-Drone solutions, Lighting, etc. PEL's Mast portfolio encompasses all technologies including Pneumatic, Winch, Push-Up, Electro-Mechanical & Section based; and support mounting options for ground, building roof-tops and vehicles/trailers. Mast tubes are made from high strength aluminum alloy, FRP or carbon composites. PEL Masts cater demands of man portability, vehicle portability, quick deployment flexibility, high stability, MIL-STDs and various others.

ANJUSERIES Pushup Masts	Z SANJAY SERIES Electromechanical Masts
7 PIYUSH SERIES Pneumatic Masts	PARTHA SERIES  Vehicular Rooftop Masts
7 YOGESH SERIES Winch Masts	PIYUSH SERIES Building Rooftop Tripod Masts
★AILASH SERIES	

**Tactical Lighting** 



Detachable Section



### **PUSH-UP MASTS**

### **ANJU SERIES**

PEL's Anju Series of Push up Masts are a portable mast that can be easily carried as manpack or loaded in the trunk of a small to midsized vehicle. It can be deployed using a light weight Tripod or as drive-on-frame system. Push up masts can be extended to a full height of 11 metres within a few minutes. It has quick lock/release collars to extend the mast manually by pushing up the sections and fixing them into position. Suitable for lightweight elevation requirements of smaller payloads such as cameras, lighting and radio antennae.

**OUR USP'S** 



Designed for MIL STDs



Man Portable



Quick Deployment by 1 person



Maintenance

- · Lightweight construction tubes are made from high strength Aluminum Alloy
- Telescopic Mast sections manually "pushed up" with payload
- · Quick locking mechanism to lock and release collars
- · Heights up to 10 metres
- · Top loads up to 10kg
- · Can be stowed in trunk of small vehicle





Locking Pin



Tilting Adjustment



Locking Pin Pouch







			PUSH	-UP MAS	STS (DRIVE ON	I FRA	ME/ TRIPOD	MAST)				
Model No.	Height	(m)	Head Load	Wind Area	Wind Speed (Operational/	Sway	Approx Weight		Tube Dia	No. of Guy	Weigh	nt (Kg)
Model No.	Retracted	Erected	(kg)	(m²)	Survival) (kmph)	oway	of Mast (Kg)	Sections	Tubo Dia	Ropes	Frame	Tripod
PU10P-4-1.2M-30	1.2	4	10	0.1	60/80	<10	8	5	50.8 - 76.2	-	10	5
PU8P-6-1.4M-30	1.4	6	8	0.1	60/80	<2°	10	6	44.45 - 76.2	-	11	6
PU5P-6-1.4M-30	1.6	6	5	0.1	60/80	<2°	12	6	44.45 - 76.2	3 x 1	12	7
PU5P-8-1.8M-01	1.8	8	5	0.1	80/100	<2°	13	8	31.8 - 76.2	3 x 2	-	8
PU5P-11-1.9M-01	1.9	11	5	0.1	80/100	<2°	14	8	31.8 - 76.2	3 x 2	-	9

Note:

- a. Built-to-Specifications available
- b. Comes in two configurations either Drive-on-Frame or Tripod
- c. Guy ropes optional and typically needed for >6m erected height

### **ANCILLARY**

- Pan-Tilt (5kg)
- Rotator (5kg)

### **SPECIAL ACCESSORIES**

- Payload Adapter
- Earthing Kit: Pipe & Cable
- Lightning Arrestor

### **STANDARD ACCESSORIES**

- Base Plate
- Nails
- Pegs
- Hammer
- Guy Rope
- Carrying Cases: Soft/Hard
- User Manual

### **TOOL KIT**

- DE Spanner
- Adjustable Spanner
- Screw Driver
- Allen Keys
- Velcro Cable Strap for Cable Tie
- Levelor (Weighted Cable/ Spirit Level)
- Guy Marker

### PNEUMATIC MASTS

### **PIYUSH SERIES**

PEL's Piyush Series of Pneumatic Masts address the needs of Tactical Elevation for Radio Antenna, Electro-Optic, Anti-Drone and Illumination. These masts can be elevated by a Foot pump or Air compressor and support light, medium and heavy payloads. This series is capable of supporting up to 25 metres height and are easily mountable on vehicular shelters, trailers and ground.

**OUR USP'S** 



Designed for MIL STDs



Possibility for light weight solution



Quick Deployment by 2 person



High stability and rigidity for Mission

- Lightweight construction tubes in high strength Aluminum Alloy or Composite
- Telescopic mast sections extended by hand-pump, foot-pump OR compressor
- Full length key-ways ensure anti-rotation
- Heights up to 25 metres
- · Top loads up to 250kg
- Several thousand in-service Masts with Security customers







Base plate with Tilting Cup



Locking Machanism



	LIGHT DUTY PTM MASTS (GROUND / VEHICLE MOUNT)														
	Height (m)		Head Load	Wind Area	Wind Speed (Operational/	Sway	Weight of	No. of		Ground Mount	Tripod	Mount			
Model No.	Retracted	Erected	(Kg)	(m²)	Survival) (kmph)	(°)	Mast (Kg)	Sections	Tube Dia	No. of Guy Ropes	No. of Guy Ropes	Tripod Weight (kg)			
PP15P-5-1.7M-01	1.7	6	15	0.25	0.25	< 2°	22	6	50 - 100	3 x 2	3 x 1	14			
PP15P-9-2.5M-01	2.5	9	15	0.25	0.25	< 2°	30	5	60 - 100	3 x 3	3 x 2	16			
PP10P-12-2.8M-01	2.8	12	10	0.2	0.2	< 2°	37	6	50 - 100	3 x 3	3 x 2	18			
PP15P-15-3.3M-01	3.3	15	15	0.25	0.25	< 2°	47	6	60 - 110	3 x 4	3 x 3	20			

Model No.	Heigh	t (m)	Head Load (ka)	Head Load (Kg) Wind Area (m²)		Wind Speed (Operational/ (o)  Wei		No. of Sections	Tube Dia	No. of Guy Ropes	
	Retracted	Erected	(1.9)		Survival) (kmph)	( )		000010110			
			МЕ	DIUM DUTY PTM	MASTS (GROUN	ID / VEHICLE MO	UNT)				
PP40P-12-2.8M-01	2.8	12	40	0.5	80/ 120	< 2°	49	6	80 - 130	3 x 3	
PP30P-15-3.3M-01	3.3	15	30	0.4	80/120	< 2°	53	6	70 - 120	3 x 4	
PP50P-18-3.6M-01	3.6	18	50	0.5	80/120	< 2°	82	7	90 - 155	3 x 4	

			HE	AVY DUTY PTM	MASTS (GROUND / VEHIC	LE MOUN	IT)			
PP250P-5-1.2M-01	1.6	5	250	1	80/120	< 1º	46	5	130 - 183	3 x 4
PP150P-10-2.2M-01	2.2	10	150	1	80/120	< 10	90	7	130 - 214	3 x 4
PP15P-22-3.7M-01	4	25	20	0.2	80/120	< 2°	103	10	60 - 155	4 x 5



a. Mast can be customized for wind load > 80 Km/Hr

b. Accessories weight is applicable as per the height of the mas

c. Mast sway < 1° can be provided against request

### **ANCILLARY**



Manual Rotator Tilter (MRT)



Pan-Tilt (25/50kg)



Rotator (50/100kg)



Multi Function Active Junction Box

### SPECIAL ACCESSORIES



Payload Adapter



Vehicle Mounting Brackets



Earthing Kit: Pipe & Cable



Lightning Arrestor



Pneumatic Controller Unit



Air Compressor (Optional)



Guy Rope Controller



### STANDARD ACCESSORIES



Base Plate



Tilting Cup







Hammer



**Guy Rope** 



Foot Pump



**Erection Stand** 



Carrying Cases:Soft/Hard



### **TOOL KIT**



DE Spanner



Adjustable Spanner



Screw Driver



Allen Keys



Velcro Cable Strap for Cable Tie



Levelor (Weighted Cable/ Spirit Level)



Box Spanner with T Handle



Teflon Tape



Steel Oil Can



Guy Marker



### **WINCH MASTS**

### **YOGESH SERIES**

PEL's Yogesh Series of Winch Masts cater to the requirements of Tactical Elevation for applications such as Radio Antenna, Electro-Optic, Anti-Drone and Illumination. These masts can be raised using either a hand crank or a winch power drive, and they are capable of supporting light, medium, and heavy payloads up to 21 metres. Additionally, they can be conveniently mounted on vehicular shelters, trailers and ground.

**OUR USP'S** 



Designed for MIL STDs



Capable of extreme temperature operation



Quick Deployment by 2 person



High stability and rigidity for Mission Critical Applications

- · Lightweight construction tubes in high strength Aluminum Alloy or Composite
- · Telescopic mast sections extended simultaneously by high performance belts
- Full length key-ways ensure anti-rotation
- Heights up to 18 metres
- Top loads up to 100kg
- · Hand cranked manual or electrically driven winch
- · Several hundred in-service Masts with Security customers









Pully Drive

Locking Plate







				WINCH M	ASTS (GROUND / V	EHICL	E MOUNT)				
					HAND WINCH MA	STS					
Model No.	Heigh	t (m)	Head Load	Wind Area	Wind Speed (Operational/ Survival)	Sway	Weight of	No. of	Tube Dia	No. of Guy	Winch
модел по.	Retracted	Erected	(Kg)	(m²)	(kmph)	(°)	Mast (Kg)	Sections	Tube bid	Ropes	Weight (Kg)
PW100P-9-3M-01	3	9	100	1	80/120	< 1º	50	4	100 - 214	3 x 3	8
PW70P-10-2.5M-01	2.5	10	70	0.75	80/120	< 1º	65	6	100 - 155	3 x 4	8
PW50P-15-2.8M-01	3	15	50	0.5	80/120	< 1º	84	7	90 - 155	3 x 5	8
PW50P-18-3M-01	3	18	50	0.7	80/120	< 1º	132	9	100 - 198	3 x 3	8
PW40P-2-1.5M-20	1.5	2	40	0.7	80/120	< 10	15	2	70 - 80	-	8
PW65P-5-2M-20	2	5	65	0.8	80/120	< 1º	66	4	120 - 155	-	8

	ELECTRICAL WINCH MASTS														
MadalNa	Heigh	it (m)	Head Load	Wind Area	Wind Speed	Sway	Weight of	No. of	Turk - Disc	No. of Guy	EM Unit				
Model No.	Retracted	Erected	(Kg)	(m²)	(Operational/ Survival) (kmph)	(°)	Mast (Kg)	Sections	Tube Dia	Ropes	Weight(Kg)				
PE70P-10-2.5M-01	2.5	10	70	0.75	80/120	< 10	65	6	100 - 155	3 x 3	25				
PE50P-15-2.8M-01	3	15	50	0.5	80/120	< 10	84	7	90 - 155	3 x 4	25				
PE50P-18-3M-01	3	18	50	0.7	80/120	< 10	132	9	100 - 198	3 x 5	25				
PE50P-21-3M-01	3	21	50	0.6	80/120	< 10	165	10	100 - 214	3 x 5	25				

Note:

a.External winch Power Drive is available as an option b. Mast can be customized for wind load > 80 Km/Hr

### **ANCILLARY**



Manual Rotator Tilter (MRT)



Pan-Tilt (25/ 50kg)



Rotator (25/50/100kg)



Multi Function Active Junction Box

### SPECIAL ACCESSORIES



Payload Adapter



Wehicle Mounting Brackets



Earthing Kit: Pipe & Cable



Lightning Arrestor



Sand Kit



Hand Held Pendant



















### STANDARD ACCESSORIES TOOL KIT

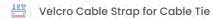
















### USP'S OUR

### **DETACHABLE SECTION MASTS**

### KAILASH SERIES

PEL's Kailash Series of Detachable Section Masts are an ideal solution to cater Tactical Elevation requirements in conditions where Man-portability is also desired. The solution comprises a Tripod and Pipe sections of the same length and diameter which are "pushed up" from the Tripod via a hand winch mechanism. The mast is stabilized using guy ropes and a guy cable ensures that no more than 2 persons are needed for Mast deployment. This series is capable of supporting up to 18 metres height.



Designed for MIL STDs



Man Portable



Possibility for light weight solution



High stability and rigidity for Mission Critical Applications

- · Lightweight construction tubes in high strength Aluminum Alloy or Composite
- Tripod base with sectional tubes of same height and diameter are pushed-up via hand-winch mechanism
- · Built-in anti-rotation
- · Heights up to 18 metres
- Top loads up to 50kg
- · Hand cranked manual winch
- Guy Rope Controller ensures safe deployment and reduces manpower required
- · Integrated spirit level on Tripod to enable flatness on uneven ground













		DETAC	CHABLE S	ECTION B	ASED HAND WI	NCH OPE	RATED TRIPOD MAS	STS			
	Heigh	t (m)	Head Load	Wind Area	Wind Speed	Swav	Approx. Weight of	No. of		No. of Guy	
Model No.	Section	Erected	(Kg)	(m²)	(Operational/ Survival) (kmph)	(°)	Sections & Tripod (Kg)	Sections	Tube Dia	Ropes	
PD20P-10-1.4M-21	1.4	10	20	0.25	80/120	<2°	37	7 + 1	60	3 x 3	
PD40P-18-2.0M-21	2	18	40	0.5	80/120	<2°	120	13 + 1	120	3 x 4	

a. Specifications are subject to change without notic

### **ANCILLARY**



Manual Rotator Tilter (MRT)



Pan-Tilt (25kg)



Multi Function Active Junction Box

### SPECIAL ACCESSORIES



Payload Adapter



Earthing Kit: Pipe & Cable



Lightning Arrestor



Sand Kit

Guy Rope Controller

### **STANDARD ACCESSORIES**



Base Plate



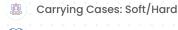


Pegs



Hammer





User Manual

### **TOOL KIT**



DE Spanner



Adjustable Spanner



Screw Driver



Allen Keys



Velcro Cable Strap for Cable Tie



Levelor (Weighted Cable/ Spirit Level)



Box Spanner with T Handle)



Guy Marker



### **ELECTROMECHANICAL MASTS**

### **SANJAY SERIES**

PEL's Sanjay Series of Heavy Duty Electro-mechanical Telescopic masts are self supported, vehicle mounted masts. The masts are elevated/ retracted by a Lead Screw (Spindle) which in turn is powered by an electric motor Ideally suited to lift multiple payloads requiring tactical elevation from a vehicular platform.





Designed for MIL STDs



Remote Contro Elevation & Retraction



Suitable for On-the-Quick-Halt vehicular operations



High stability and rigidity for Mission Critical Applications

- · Heavy duty construction tubes in high strength Aluminum Alloy
- Telescopic mast sections extended by screw drive and high performance belts Suitable for deployment on vehicles, shelters of trailers
- Full length key-ways ensure anti-rotation
- Heights up to 12 metres
- Top loads up to 350kg
- · Push-button motorized deployment in tactical time frames
- · Excellent solution for On the Quick Halt applications
- · Suitable for deployment on vehicles, shelters or trailers





Control Box



Mast Sections



Motor Assembly



	ELECTROMECHANICAL MASTS (HYBRID SPINDLE)													
Model No.	Heigh	nt (m)	Head Load		Wind Speed (Operational/				- 1 - 5:					
Woder No.	Retracted	Erected	(Kg)	Wind Area (m²)	Wind Speed (Operational/ Survival) (kmph)	Sway	Weight of Mast (Kg)	No. of Sections	Tube Dia					
PH350P-6.5-1.6M-10	1.6	6.5	350	1	80/100	< 10	160	7	130 - 214					
PH214-8-1.6M-10	1.6	8	150	1	80/100	< 10	165	9	110 - 214					
PH214-8-2.1M-10	2.1	8	150	1	80/100	< 10	160	7	120 - 198					
PH214-10-2.3M-10	2.3	10	150	1	80/100	< 2°	180	7	120 - 198					
PH214-12-2.3M-10	2.3	12	150	1	80/100	< 2°	200	8	120 - 214					

Note:

a.Mast can be customized for higher wind load > 80 Km/Hr b.Mast with Sway < 1° can be provided upon request c.Option for DC Motor is available

S.No.	PARAMETER	SPECIFICATIONS
1	Operating Voltage	230V/50Hz
2	Drive	Single or Three Phase AC Motor
3	Operation	Control Panel and Pendant
4	Operational(Temp)	-20°C to +60°C
5	Environmental	MIL STD 810 F/G

### **ANCILLARY**



Rotator (50/100kg)

Multi Function Active Junction Box

### **SPECIAL ACCESSORIES**

Payload Adapter

Vehicle Mounting Brackets

Earthing Kit: Pipe & Cable

### **STANDARD ACCESSORIES**

Hand Held Pendant

User Manual

### **TOOL KIT**

DE Spanner

Adjustable Spanner

Screw Driver

Allen Keys

Steel Oil Can

Velcro Cable Strap for Cable Tie

Levelor (Weighted Cable/ Spirit Level)

Box Spanner with T Handle



### **VEHICULAR ROOF TOP MASTS**

### **PARTHA SERIES**

PEL's Vehicular Roof Top Masts are specially designed for mid-sized and larger vehicles to support payloads such as Electro-Optics, Radio antennae, Illumination systems, and others. It easily mounts as a roof top carrier and does not require the end-user to make vehicle modifications for its use.

USP'S OUR



Designed for MIL STDs



On-the-Quick-Halt vehicular operations

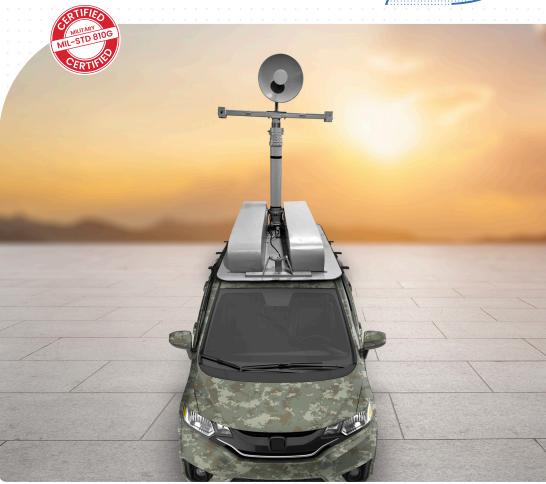


Remote Operation from Cabin



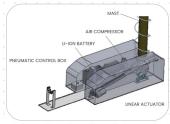
Quick deployment

- · Compact, roof-mount system on vehicle carrier
- Integrated air compressor and Li-Ion battery for mast lift/ retraction and power supply
- Built-in anti-rotation
- · Wide range of payload capacity and height options from 3 metres to 5 metres above Roof Top
- Top loads up to 50kg
- · Handheld Pendant for remote operation of mast and payload Pan / Tilt





Pneumatic Mast Section



Roof Top Mast System



Vehicle Roof Mount Design





						VE	HICLE F	ROOF TO	OP MAS	TS			
	Height	(m)		Wind	Wind Speed (Operational/		Weight	No. of	Tube Dia	Power			Mountina Frame
Model No.	Retracted	Erected	(Kg)	Area (m²)	Survival) (kmph)	Sway	of Mast (Kg)	Sections	(mm)	Backup*	Power*	Dimensions (mm)	Base (mm)
PRT30P-3-1.2M	1.2	3	30	0.2	80/120	< 2°	55	4	70-100	5- 6 Hrs	12 /24 V 120W	1200 (L) x 700 (W) x 400 (H)	700 (W) x 1200 (L)
PRT50P-3-1.2M	1.2	3	50	0.3	80/120	< 2°	65	4	90-120	4-5 Hrs	12 /24 V 150W	1400 (L) x 800 (W) x 400 (H)	800 (W) x 1400 (L)

- a. Mast can be customized for higher Wind load > 80 Km/Hr b. Accessories weight is applicable as per the height of the mast.

### STANDARD ACCESSORIES

Hand Held Pendant

Pegs

Hammer

Guy Rope

User Manual

### **SPECIAL ACCESSORIES**

Payload Adapter

Earthing Kit: Pipe & Cable

Lightning Arrestor

### **TOOL KIT**

DE Spanner

Adjustable Spanner

Screw Driver

Allen Keys

Steel Oil Can

Velcro Cable Strap for Cable Tie

Box Spanner with T Handle





### **BUILDING ROOFTOP TRIPOD MASTS**

### PIYUSH SERIES

PEL's Building Rooftop Masts are a unique solution to deploy complex electronics such as base station RF front end and antenna of DMR/TETRA/LoRA/LTE/5G cellular, Anti-Drone and other such systems required to provide communications in dense urban settings or secure critical infrastructure. These masts can be elevated byAir compressor and support medium and heavy payloads. Such masts are capable of supporting up to 10m height and up to 250kg payload. Their key advantage is that they can be lowered for any maintenance or repair of the payload and are much lighter and safer than equivalent fixed rooftop Towers and Masts.



Designed for MIL STDs



Possibility for light weight solution



Technician friendly and safe



High stability and rigidity for Mission Critical Applications

- Lightweight construction tubes in high strength Aluminum Alloy o Composite
- Telescopic mast sections extended by compressor
- Full length key-ways ensure anti-rotation
- · Heights up to 10 metres
- Top loads up to 250kg
- Specialized Tripod design for installation on building Rooftops
- · Provides very safe approach of lowering payload for Maintenance purposes
- · Can be fixed on Concreate plinth
- Provision of putting Dead Weight (Sand Bag) on its base for temporary Deployment.





Hole for Concrete
Anchor Bolts



Foot



Base plate





	BUILDING ROOFTOP TRIPOD MASTS										
	Height	(m)	Head Load	Wind Area	Wind Speed		Weight of Mast	No. of	Tube Dia	No. of Guy	
Model No.	Retracted	Erected	(Kg)	(m²)	(Operational/ Survival) (kmph)	Sway	(Kg)	Sections	(mm)	Ropes	
PP250P-5-1.2M-01	1.6	5	250	1	80/120	< 10	46	5	130 - 183	3 x 4	
PP150P-10-2.2M-01	2.2	10	150	1	80/120	< 1º	90	7	130 - 214	3 x 4	

a. Mast can be customized for wind load > 80 Km/Hr

b. Accessories weight is applicable as per the height of the mast

### **ANCILLARY**

Rotator (100kg)



Multi Function Active Junction Box

### SPECIAL ACCESSORIES



Payload Adapter



Earthing Kit: Pipe & Cable



A Lightning Arrestor



Sand Kit



Guy Rope Controller

Air Compressor (Optional)

### STANDARD ACCESSORIES



Base Plate







Hammer



Guy Rope



Carrying Cases: Soft/Hard



User Manual

**TOOL KIT** 

DE Spanner



Adjustable Spanne



Screw Driver



Allen Keys



Velcro Cable Strap for Cable Tie



Levelor (Weighted Cable/ Spirit Level)



Box Spanner with T Handle



Teflon Tape



Steel Oil Can



**Guy Marker** 



### TACTICAL LIGHTING SYSTEM

PEL's Tactical Lighting System is meant to cater requirements of Tactical Illumination for Military bases & Field HQs, Border Forces, Critical Infrastructures and Strategic Construction sites. The Lighting System can be powered either by Generator, inverter or commercial electric power. The system caters from 60° to 360° coverage.

Tripod based Pneumatic Mast is extended by air pressure from the Hand Air Pump. Option for Winch Mast also available.

The light fixtures can be controlled (i.e. ON-OFF, Dimmer) by an App on a Smart Phone or via the Junction Box/PDU available at Tripod base.

### USP'S OUR



Designed and Qualified for MIL



Suitable for On-the-Quick-Halt vehicular operations



Remote operation using mobile phone



Maintenance Free for 800 Lifts / 2 **Years Operation** 



High stability and rigidity for Mission

- Quick & Simple Installation of Tripod mast light fixture
- · The tripod has adjustable legs which help to erect the mast on uneve ground
- · The mast and tripod are made of lightweight aluminium alloy tubes, enables frequent erections and retractions without damage
- Option for Remote switch ON and OFF from Mobile Phone
- Additional safety by using additional weights at high wind speed
- Surge protection for incoming Power supply
- Each light is connected to junction box with quick latch plug and can be replaced if required







	MAST MECHANICAL PARAMET	ERS /SPECIFICATIONS		
S.No.	Parameters	Specifications		
1	Type of Mast	Pneumatic – Tripod – Un-Guyed		
2	Extended height	Up to 5 Meters (Min.)		
3	Folded height	< 1.5 Meters		
4	Maximum spread -legs	2.0 Mtr		
5	Head Load capacity	40 Kgs (Max.)		
6	Wind Area of Payload	0.4 M²		
7	Operational - Wind Speed	60 Kmph		
8	Survival - Wind Speed	80 Kmph		
9	Pipe's Material	Al. Alloy – 6063 T6		
10	Application	Tripod Mount – Un-guyed		
11	Installation	Ground Mount		
12	Type of Operation	Pneumatic – Hand Air Pump		
13	Weight of mast with Tripod	< 30 Kg		
14	Weight of Mast Accessories	< 10 Kg		
15	The weight of the complete lighting fixture	~35 kg (with junction box)		
16	Environmental specs	MIL-STD 810F /JSS55555		
17	Quantity of modules	Up to 6 modules		
18	Light power Consumption	167 W each (Total >1000W)		
19	a. Total light power in LUMAN at Level 0	>25000 lm (each Light module) Total 1,50,000 lm		
20	The lighting fixtures Power input	Voltage: 230VAC Freq 50 HZ		
21	The lighting module illumination	Up to 360 degrees		
22	Coverage Area	Up to 100 Mtrs (Subjected to Mast height and light selection)		
23	Sway	< 2°		
24	Operating Temperature	- 10°C to + 55°C		
25	Storage Temperature	- 20°C to + 70°C		

S.No.	Packing Details of Tactical Light system
1	Tripod Mast with accessories
2	Light fixture fitted with Junction Box
3	Power distribution Box with Power cables
4	Hard/ soft carrying case

### **SPECIAL ACCESSORIES**

Payload Adapter



Earthing Kit: Pipe & Cable



Lightning Arrestor



Sand Kit

Air Compressor (Optional)

### **TOOL KIT**

DE Spanner



Adjustable Spanner



Screw Driver



Allen Keys



Velcro Cable Strap for Cable Tie



Levelor (Weighted Cable/ Spirit Level)



Box Spanner with T Handle



Teflon Tape



Steel Oil Can



Guy Marker

### STANDARD ACCESSORIES

Base Plate







Guy Rope



User Manual



### **OUR TRIPODS**

PEL has a wide range of Tripods together with passive and active accessories that support Industrial and Defence customers. The Tripods are constructed with options of high strength Aluminum Alloy or FRP/ Carbon composites. When your application demands critical stability, performance in extreme conditions and a product to suit mostly any use case, look no further than the Pankh, Haldar, Sudesh and Balwan series of PEL Tripods.

**7 PANKH SERIES** 

**Light Duty Tripods** 

**7 BALWAN SERIES** 

**7 SUDESH SERIES** 

Tripod with Elevators

ds Heavy Duty Tripods

7 HALDAR SERIES
Medium Duty Tripods





# **OUR USP'S**

### LIGHT DUTY TRIPODS

### **PANKH SERIES**

PEL's Pankh Series of Light Duty Tripods provide ultimate portabilityweighing in at under 5kg, it's effortlessly man-portable and conveniently packed in a soft or hard carry case.



Designed and Qualified for MIL



Mounting Flexibility for any Ground Surface



Excellent Portability



Quick Deployable

- · Ultra-light, robust and compact design
- · Simple installation and operation
- · Hard Anodized coating
- · High Torsional rigidity
- Maximum height up to 3 metres
- · Maximum payload capacity up to 5 kg
- · Material: High strength Aluminum alloy
- · Small stowed size and packed in soft carrying case









Tripod Adjustment

Hole for Nail Grouting





	LIGHT DUTY TRIPODS									
Model No.	Height (m)		Head Load	Weight of Tripod	Max Spread dia	Accessories	Folding Dimensions (mm)			
Model No.	Retracted	Erected	(Kg) (Kg)	(Kg)	(mm)	weight (kg)	rolding bimensions (min)			
PTU10P-1.5-1.1M	1100	1500	10	3.5	1010	2	925 (L) x 190 (W) x 75 (H)			
PTU3P-3.0-1.2M	1200	3000	3	5.5	1250	2	925 (L) x 190 (W) x 95 (H)			

Customized for greater heights and peculiar payloads against request

### STANDARD ACCESSORIES





Hammer



Carrying Cases: Soft/Hard



User Manual

### TOOL KIT



# **OUR USP'S**

### **MEDIUM DUTY TRIPODS**

### **HALDAR SERIES**

PEL's Haldar Series of Medium Duty Tripods has been developed for customers with medium duty payloads up to 70 kg with an economical design, well suited for direct mounting of payloads on its top plate. These Tripods are easy to use, rugged design, man-portable, flexible to deploy and highly stable for payloads. PEL offers several options of foot plates to suit various ground surfaces.



Designed for MIL STD



Mounting Flexibility for any Ground Surface





Highly stable for Payloads



- · Light, rugged and ideally suited for professional payloads up to 100kg
- Easily Deployable in tough field conditions
- · Hard Anodized coating
- · High Torsional rigidity ideal for rotating payloads
- Max Height 1.5 Metres
- · Maximum Payload up to 70 Kg
- · Material: High strength Aluminum alloy
- Powder Coated and Hard anodized parts for extreme environments
- · Foot plates for hard, semi-hard and soft ground surfaces













	MEDIUM DUTY TRIPODS									
Model No.	Heigh	nt (m)	Head Load	Weight of Tripod	Max Spread dia	Accessories	Folding Dimensions (mm)			
Model No.	Retracted	Erected	(Kg)	(Kg)	(mm)	weight (kg)	rolating birriensions (min)			
PT70P-1.5-1.1M	1100	1500	70	14	1850	5	360 x 1350 (L)			
PT55P-1.5-1.1M	1100	1500	55	12.5	1850	5	360 x 1350 (L)			

Note:

Customized for greater heights and peculiar payloads against request

### ANCILLARY

- Pan-Tilt (25kg)
- Rotator (50kg)
- Multi Function Active Junction Box

### **SPECIAL ACCESSORIES**

- Payload Adapter
- Earthing Kit: Pipe & Cable

### **STANDARD ACCESSORIES**

- Nails
- Hammer
- Carrying Cases: Soft/Hard
- User Manual

### **TOOL KIT**

- DE Spanner
- Adjustable Spanner
- Screw Driver
- Allen Keys
- Velcro Cable Strap for Cable Tie
- Nail Puller



### **ELEVATOR TRIPODS**

### **SUDESH SERIES**

PEL's Sudesh Series of Tripods have been developed for customers that seek compact stowed dimensions and better elevation (height) for medium duty payloads up to 100kg. These Tripods are easy to use, rugged design, man-portable, flexible to deploy and highly stable for payloads such as Radio COMs, Radars, Electro-optics, Anti-Drone, etc. The system comes with a manual Elevation mechanism for the payload height.





Designed for MIL STD



Mounting Flexibility for any Ground Surface





Highly stable



- · Robust, portable and highly stable Tripod
- · Easily Deployable in tough field conditions
- · Hard Anodized coating
- · High Torsional rigidity
- Maximum height up to 1.8 metres
- Maximum Payload up to 100 kg
- · Material: High strength aluminum alloy
- · Powder coated and Hard anodized parts for extreme conditions
- · Footplates for hard, semi-hard and soft surfaces









Stabilizer





	MEDIUM DUTY ELEVATOR TRIPODS								
Model No.	Height (m)		Head Load	Weight of Tripod	Max Spread dia	Accessories	Folding Dimensions (mm)		
Model No.	Retracted	Erected	(Kg)	(Kg)	(mm)	weight (kg)	rolating difficults (filliff)		
PTE70P-1.8-0.8M	850	1800	70	18	2100	5	360 x 1080 (L)		
PTE100P-1.8-0.8M	870	1800	100	19	2100	5	360 x 1100 (L)		

Note:

Customized for greater heights and peculiar payloads against request

### **ANCILLARY**

- Pan-Tilt (25/ 50kg)
- Rotator (50/100kg)
- Multi Function Active Junction Box

### **SPECIAL ACCESSORIES**

- Payload Adapter
  - Earthing Kit: Pipe & Cable

### **STANDARD ACCESSORIES**

/ Nails

Hammer

Carrying Cases: Soft/Hard

User Manual

### **TOOL KIT**

DE Spanner

Adjustable Spanner

Screw Driver

Allen Keys

Velcro Cable Strap for Cable Tie

Nail Puller



### **HEAVY DUTY TRIPODS**

### **BALWAN SERIES**

PEL Balwan Series of Heavy Duty Tripods provide very high stability for payloads such as Radars, Electro-Optic Sensors and Anti-Drone systems. High strength Aluminum alloy based design ensures reliability and economy of weight. Packed in a convenient carrying case, it's quick deployable for on-the-go missions.

# **OUR USP'S**



Designed for MIL STD



Mounting Flexibility for any Ground Surface



Excellent Portability



Highly stable for Payloads



- Professional tripod for Heavy duty payloads
- Easily Deployable in tough field conditions
- · Hard Anodized coating
- · Strong Tubular Construction with high torsional rigidity
- Max Height 1.5 Metres
- · Maximum Payload up to 400 Kg
- · Material: High strength aluminum alloy
- Powder coated and Hard anodized parts for extreme conditions
- · Footplates for hard, semi-hard and soft ground













			HEAV	VY DUTY TRIPC	DDS			
Model No.	Height (m)		Head Load   Weight of Tripo		Max Spread dia	Accessories	Folding Dimensions (mm)	
woder No.	Retracted	Erected	(Kg) (Kg) (mm)		(mm)	weight (kg)		
PT100P-1.5-1.1M	1100	1500	100	16	2000	5	360 x 1350 (L)	
PT100P-1.5-1.1M	1100	1500	200	19	2100	5	360 x 1350 (L)	
PT400P-1.5-1.1M	1100	1500	400	26	2100	6	480 x 1400 (L)	

Note:

Customized for greater heights and peculiar payloads against request

### **ANCILLARY**

Pan-Tilt (25/ 50kg)

Rotator (50/100kg)

Multi Function Active Junction Box

### SPECIAL ACCESSORIES

Payload Adapter

Earthing Kit: Pipe & Cable

### STANDARD ACCESSORIES

Nails

Hammer

Carrying Cases: Soft/Hard

User Manual

### TOOL KIT

DE Spanner

Adjustable Spanner

Screw Driver

Allen Keys

Velcro Cable Strap for Cable Tie

Nail Puller



### **POSITIONERS**

PEL delivers Precise Positioning with its family of Single and Dual-Axis Positioners to accurately align, point or track Radio Antenna, Electro-Optic systems, Anti-Drone systems or Search Lighting systems. PEL Positioners can be guided manually; semi-auto or fully automatically by specialized control algorithms that depend on GNSS, RF Signal Strength and/or an external C2 system.

### **7 EKLAVYA SERIES**

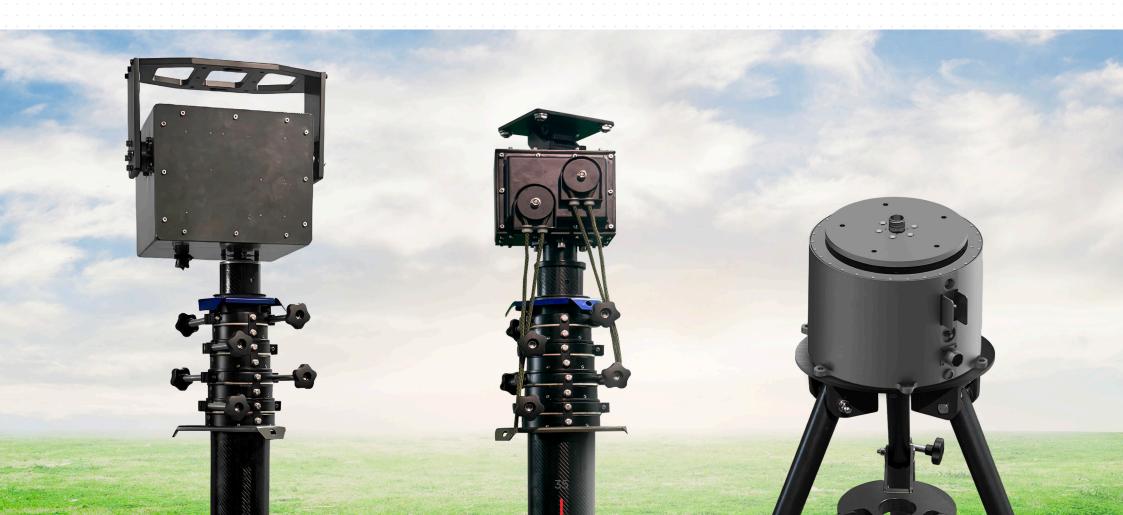
Single Axis positioners

### **ARJUN SERIES**

**Dual Axis positioners** 

### 7 NAKUL SERIES

Manual Rotator/Tilter (MRT)





### SINGLE AXIS POSITIONERS

### **EKLAVYA SERIES**

PEL's Eklavya Series of Single-axis positioners are specifically engineered to achieve precise azimuth positioning. They provide the option for continuous rotation (360 degrees) or +/- 180 degrees, catering to various payloads such as radio antennas, electro-optic systems, C-UAS systems, etc. The Rotator can be mounted on a portable Tripod, Telescopic Mast or on a fixed structure.





**Built-in Controller** provides smooth and precise motion at all speeds



Rugged, compact and low weight construction



Continuous rotation via slip ring



High accuracy, high speed (up to 180 deg/sec)

			SINGLE	AXIS PO	SITIONER	S (PEDEST	ALS)		
Model No.	Payload (Kg)	Unit Wt (Kg)	Dimentions (mm)	Power Consumption	Rotational Range	Positional Accuracy	Rotational speed (RPM)	Control Data Interface	Wind Area (m²)
PSAP-5	5	~ 5	180 x 144 x 220 (LXWXH)	24V DC 30 W Nominal	Continuous 360° Sector scan ± 180°	0.1°	1 to 20 RPM	RS422 (Ethernet Optional)	0.2
PSAP-30	35	~ 14	377 x 310 x 300 (LXWXH)	18-36V DC 80W Nominal	Continuous 360° Sector scan ± 180°	0.1°	1 to 20 RPM	RS422 (Ethernet Optional)	0.3
PSAP-50	60	~ 14	245 Dia x 235 Height	18-36V DC 200 W Nominal	Continuous 360° Sector scan ± 180°	0.1° (0.05°Optional)	1 to 30 RPM	RS422 and Ethernet	0.8
PSAP-100	125	~ 22	360 Dia x 265 Height	18-36V DC 350 W Nominal	"Continuous 360° Sector scan ± 180°"	0.1° (0.05° Optional)	1 to 30 RPM	RS422 and Ethernet	0.8

### **STANDARD ACCESSORIES**



Hard carrying case



Set of Cables

### SPECIAL ACCESSORIES



Payload



Bracket/Adapter





### **DUAL AXIS POSITIONERS**

### **ARJUN SERIES**

PEL's Arjun Series of Dual-Axis positioners provides accurate alignment for Radio Antenna, electro-optic systems, C-UAS systems, etc. A precision machined aluminum alloy enclosure contains a rotating base with an elevation arm and built-in controller. It can be guided manually, semi-automatically or fully automatically. The Pan-Tilt system can be mounted on a portable Tripod, Telescopic Mast or on a fixed structure.





Rugged, compact and high reliability construction



Built-in Controller provides smooth and precise motion at all speeds



Auto tracking via Special Control algorithms



High degree of customizations available

	DUAL AXIS POSITIONERS (PEDESTALS)											
Model No.	Payload (Kg)	Unit Wt (Kg)	Dimentions (mm)	Power Consumption	Rotational Range	Tilt Range	Positional Accuracy	Speed (RPM)	Control Data Interface	Wind Area (m²)		
PDAP-5	5	~ 6	245 x 220 x 144 (W x H x D)	24V DC 30 W Nominal	"Sector scan ± 180° Continuous 360° (optional)"	(-90) to (+35)	0.1°	Azimuth: 1 to 20 Elevation 1 to10	RS422 (Ethernet- Optional)	0.2		
PDAP-25	25	~ 16	335 x 266 x 370 (W x H x D)	18-36V DC 80W Nominal	Sector scan ± 180°	±20°	0.1°	Azimuth: 1 to 20 Elevation 1 to10	RS422 (Ethernet- Optional)	0.4		
PDAP-50	50	~ 26	435 x 312 x 390 (W x H x D)	24V DC 200 W Nominal	"Sector scan ± 180° Continuous 360° (optional)"	±20°	0.1°	Azimuth: 1 to 30 Elevation 1 to15	RS422 (Ethernet- Optional)	0.5		

### **STANDARD ACCESSORIES**





### **SPECIAL ACCESSORIES**



Payload



Bracket/Adapter





### MANUAL ROTATOR/TILTER (MRT)

### **NAKUL SERIES**

PEL's Nakul Series of Manual Rotator Tilter (MRT) is a manual Pedestal which is typically mounted on PEL's Telescopic Masts (up to 25 metres height) and provides accurate manoeuvring & alignment of Radio Antenna from the ground via a rope and pulley mechanism. It incorporates an automatic locking feature designed to prevent any movement of the payload once the ropes are not being pulled in either direction.





Rugged, compact and high reliability construction



No special tools required for Mast installation



Self locking feature prevents backlash



Operates manually in Azimuth and Elevation via ropes

	MANUAL ROTATOR / TILTER (MRT)										
Model No.	Payload (Kg)	Unit Wt (Kg)	Dimentions (mm)	Power Consumption	Rotational Range	Tilt Range	Positional Accuracy	Speed (RPM)	Control Data Interface	Wind Area (m²)	
MRT-25	25	15	200x 260 x 202 (W x H x D)	NA	Sector scan ± 180°	±15°	0.2°	NA	NA	0.3	

### **STANDARD ACCESSORIES**





Set of Cables

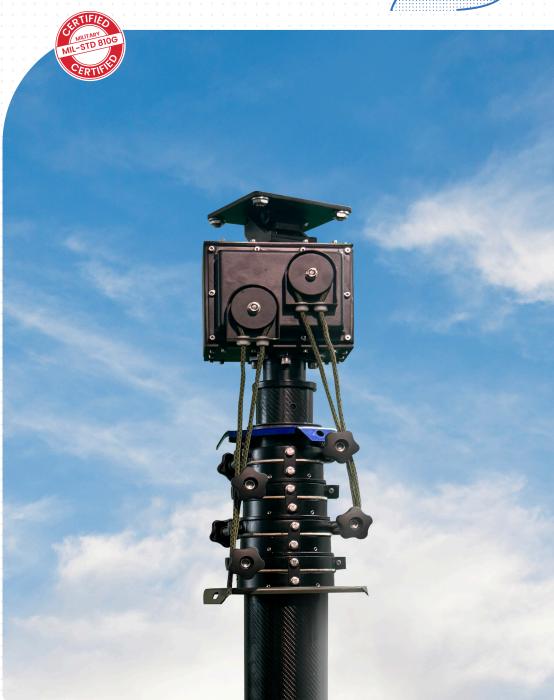
### SPECIAL ACCESSORIES



Payload



Bracket/Adapter





### **MAJOR ACCESSORIES**

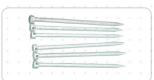
### MAST/TRIPOD/POSITIONER

### **Standard Accessories**



Base Plate





Nails



Earthing Kit: Pipe & Cable



**Special Accessories** 

Lightning Arrestor









Foot Pump



Hand Held Pendant



Cable (RF, FO, Electrical, Power)



Pneumatic Controller Unit



Pegs



**Erection Stand** 



User Manual



Guy Rope Controller



### **Tool Kit**



DE Spanner



Adjustable Spanner



Plier (On Special Request)



Box Spanner with T Handle)



Teflon Tape



Screw Driver



Steel Oil Can



Velcro Cable Strap for Cable Tie



Allen Keys





Nail Puller

### Precision

### Carrying Cases: Soft/Hard



Canvas



FRP



Trailer Mounting Bracket



Roto Mould



Plastic Injection Moulding



Vehicle Mounting Brackets

Vehicle Roof Mount Design



Vehicle Mounting Bracket

### Air Compressors



.8 Hp, Capacity 20Ltr



1 Hp, Capacity 6Ltr (Oil Free)

### Payload Adapter



Dual Mount



Interface Adapter



Tripods Adapter



Tripods Adapter



1 Hp, Capacity 30Ltr



1 Hp, Capacity 2Ltr (With Oil) Rugged



Dual Payload



Circular Heavy Duty Bracket



Payload Adapter



Side Mounting Payload



### MULTI FUNCTION ACTIVE JUNCTION BOX

The Multi-Function Active Junction Box plays a crucial role as an essential accessory for RF, Electro-Optic, Servo-based, and Networking components. These Junction box can be installed on Towers, Telescopic Masts, Tripods, and other elevated mechanisms. Functioning as an active junction box, the PAJB facilitates effective interconnectivity for power and data interfaces.





MIL-STD design and construction



Combination of power supply, protocol conversion and navigation



Integrated tightly to PEL tripods and masts with very economical footprint



Customizable based on payload needs

- Customizable low foot print Junction boxes to suit every payload atop PEL Masts and Tripods
- Power Conversion and Distribution
- Provision for Battery Charging
- · GNSS based direction and elevation sensing
- Various Protocol/Interface Conversion
- · Media conversion RF to optical and vice versa
- Battery Power as secondary Backup









S.No.	Parameters	Specifications
1	DC Power Supply for Equipment	Input: 90 – 285V AC Output: 24V - 72V
2	Electrical Power	Up to 2 KW
3	Battery Bank	24V/ 48V/ 72V
4	Protocol Conversion	"RS232 ↔ RS422 RS232 ↔ V.35 RS232/RS422/V.35 ↔ IP"
5	Media Conversion	Electrical ↔ Optical RF ↔ Optical
6	Ethernet Switch Optical –Electrical interface	4 - 8 Ports (Electrical) 1 - 2 Ports (SFP based Optical) PoE (Optional)
7	Network Synchronization/ Home Location	Via GNSS receiver
8	Protection against Surges	Level 2
9	Protection against lighting	Level 2
10	EMI/EMC	CISPR 22/ EN5022/ MIL-STD-461
11	Environmental	Industrial (IP67)/ MIL-STD-810



### **POWER SOLUTIONS**

Precision Electronics Limited has a long experience in delivering a wide range of power solutions for Telecom, Aerospace, Healthcare and Industrial sectors against various applications.

- Tactical AC-DC Power supplies
- Power Supplies with Battery Charger
- Power conditioning Rack (PCR)
- Power Distribution Panel (PDP)
- Customized Power Modules for Medical equipment
- · Test Jigs for repair and troubleshooting





MIL-STD design and construction



AC-DC, DC-DC



Battery Charging, Power Distribution



Communication I/f's: CAN, GPIO,

- Customizable switch mode power supplies (AC-DC, DC-DC) for 300-2000W
- PFC based Battery Charger up to 3000W with built-in controller
- Power Distribution Units up to 30kVA
- · Offered in high industrial (UL STD) OR MIL-STD construction
- Input Power Conditioning
- · Highest operating safety
- Maximum energy efficiency



48 V SMPS (DC Power Supply)



24 V SMPS (DC Power Supply)



**Battery Charger** 







Cable Assembly AC power

Cable Assembly DC power

S.No.	Description	SMPS-24 V (Dual O/P)	SMPS-48 V	Battery Charger	
1	Input Voltage	160 to 264 V AC 50 Hz	160 to 264 V AC 50 Hz	90 to 264 V AC 50 Hz	
2	Input Current	4 Amps on Full Load	4 Amps on Full Load	10 Amps on Full Load	
3	Efficiency	92%	92%	94%	
4	Output-1 Voltage	24 V DC Nominal (Max 30 VDC)	48 V DC Nominal (Max 54 VDC)	Nominal 51 V DC Max 58 V DC	
5	Output -2 Voltage	48 V DC	N/A	N/A	
6	Output Current	20 Amps @ 24 V 10 Amps @ 48 V	20 Amps	40 Amps	
7	Line Regulation	2%	2%	CC and CV Mode	
8	Total Power Rating 1000W		1000W	2000W	
9	Cooling Methodology Conduction Cooling		Conduction Cooling	Conduction Cooling	
10	Input Protections	Over current and over voltage	Over current and over voltage	Input over current and over voltage	
11	Output Protections	Over Load and over voltage	Over Load and over voltage	Batt under and over voltage Protection	
12	Power Connectors	MIL C 5015 / D38999	MIL C 5015 / D38999	Type 1	
13	Standards (EMI/EMC)	MIL Std 461	MIL Std 461	AIS-138 (Part 2)	
14	Standards (Environmental)	MIL Std 810/ JSS55555	MIL Std 810/ JSS55555	AIS-138 (Part 2)	
15	Dimensions	400 X 380 X 150 mm (L X W H)	360 X 370 X 170 mm (L X W H)	225 X 204 X 100 mm (L X W H)	
16	Weight	7.0 Kg	8.0 Kg	5.0 Kg	
17	Operating Temperature	(-20°C and +55°C)	(-20°C and +55°C)	(-10°C and +55°C)	
18	Storage Temperature	(-30°C and +70°C)	(-30°C and +70°C)	(-20°C and +70°C)	

Note:

Specifications are subject to change without notice



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