

TRIYOSYS
by promec

PAN TILTS | TRIPODS | MASTS



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ABOUT US

ANY TIME. ANY PLACE. OBSERVING

TRIYOSYS is a ProMec Mechanical, R&D and Engineering company brand. Was established in Ankara Ostim Teknokent in 2014.

The company is a Turkish manufacturer and worldwide distributor of surveillance equipment like pan and tilt units, tripods, masts systems, wipers.

TRIYOSYS delivers equipment worldwide for professional applications, where the latest technology and high quality equipment are needed.



Based on our experience with installations in harsh environments, airports, military, coastal applications and other special demands, TRIYOSYS assist customers around the world to advice and develop solutions for specific customer projects. All projects in TRIYOSYS are handled as very confidential.

In our research and development center, works are carried out meticulously by our Mechanical, Electrical-Electronic, Design and Software Engineers in line with our existing products and customer demands. Our Research and Development Center is approved by Turkish government since 2019. Research and Development Center is established on an area of 1000 m2.

In our Quality Control Center is checking all manufactured, coated and painted parts according to our internal proceses based on ISO 9001-2015.



150+
EMPLOYEES



10 YEARS
EXPERIENCE



4500 M²
PRODUCTION
LINE

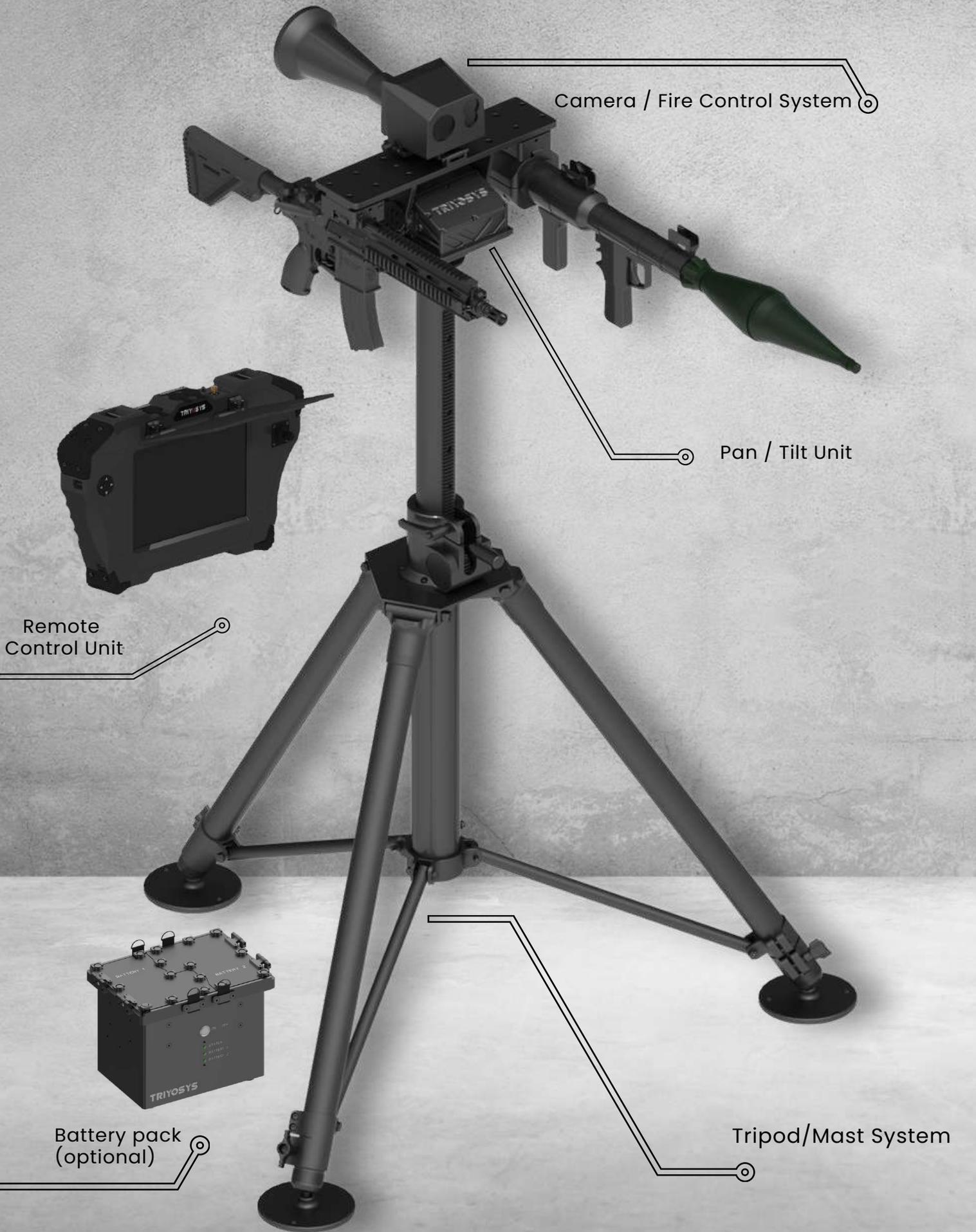


ISO
CERTIFICATION



PRO-MAVZER

SHOOTING CONTROL UNIT



Camera / Fire Control System

Pan / Tilt Unit

Remote Control Unit

Battery pack (optional)

Tripod/Mast System



PAN TILT

TS-MPT H3220 SERIES

The MPT H3220 Series Pan & Tilt Unit is designed to perform precision positioning applications of various sensor units.

It is designed for payloads up to 45 Kg. MPT H3220 Pan & Tilt Units, designed according to military standards and having compact structure, are resistant to all kinds of harsh conditions.

FEATURES

- Robust and compact design.
- High torque and performance.
- Precise positioning.
- Zero backlash.
- High duty cycles.
- Suitable for fixed and mobile environments.
- 100% CNC Machined from high strength 6000 series aluminium and stainless steel.



Payload Capacity
up to 45 kg



Accuracy
0,02°



Repeatability
0,01°



Zero backlash

TEHNICAL DATA / TS-MPT H3220 SERIES

Product Number	TS-MPT-H3220-011	TS-MPT-H3220-012	TS-MPT-H3220-013
Payload Capacity (Tilt at 2 rpm)	Max. 45 Kg	Max. 45 Kg	Max. 45 Kg
Rated Load Torque (Tilt at 2 rpm)	68.4 Nm	68.4 Nm	68.4 Nm
Power Consumption			
Max. (Pan-Tilt in Motion)	200 W	200 W	200 W
Standby	2 W	2 W	2 W
Heater Power	100 W	100 W	100 W
Operating Voltage Range	18-32 V	18-32 V	18-32 V
Pan			
Range of travel	n × 360° (Continuous Rotation)	n × 360° (Continuous Rotation)	n × 360° (Continuous Rotation)
Max. Speed	30°/s	30°/s	30°/s
Min. Speed	0.005°/s	0.005°/s	0.005°/s
Tilt			
Range of travel	180° (±90°)	180° (±90°)	180° (±90°)
Max. Speed	18°/s	18°/s	18°/s
Min. Speed	0.005°/s	0.005°/s	0.005°/s
Accuracy	0.02°	0.02°	0.02°
Repeatability	0.01°	0.01°	0.01°
Backlash	None	None	None
Rotation Limits			
Software Limits	Available	Available	Available
Mechanical Limits	Available	Available	Available
Position Feedback	0.0048° (Magnetic Encoder)	0.0048° (Magnetic Encoder)	0.0048° (Magnetic Encoder)
Protection / IP rating	IP67	IP67	IP67
Operating temperature			
Working Temperature	-32°C to +55°C	-32°C to +55°C	-32°C to +55°C
Storage Temperature	-40°C to +60°C	-40°C to +60°C	-40°C to +60°C
Construction			
Drive System (Pan)	Stepper Motor	Stepper Motor	Stepper Motor
Drive System (Tilt)	Stepper Motor	Stepper Motor	Stepper Motor
Exterior Finish	Powder Coat Black (Default), Special Finishes Available	Powder Coat Black (Default), Special Finishes Available	Powder Coat Black (Default), Special Finishes Available
Weight	Max. 18 Kg	Max. 18 Kg	Max. 18 Kg
Dimensions	340.7x375x222 mm (13.41x14.76x8.74 inch)	340.7x375x222 mm (13.41x14.76x8.74 inch)	340.7x375x222 mm (13.41x14.76x8.74 inch)

TEHNICAL DATA / TS-MPT H3220 SERIES

Product Number	TS-MPT-H3220-011	TS-MPT-H3220-012	TS-MPT-H3220-013
Ambient Conditions and EMI/EMC Compatibility			
Electromagnetic Compatibility	MIL-STD-461E	MIL-STD-461E	MIL-STD-461E
Vibration Compatibility	MIL-STD-810G Method 514.6	MIL-STD-810G Method 514.6	MIL-STD-810G Method 514.6
Maximum Operating Temperature	MIL-STD-810G Method 501.5	MIL-STD-810G Method 501.5	MIL-STD-810G Method 501.5
Minimum Operating Temperature	MIL-STD-810G Method 502.5	MIL-STD-810G Method 502.5	MIL-STD-810G Method 502.5
Moisture Resistance	MIL-STD-810G Method 507.5	MIL-STD-810G Method 507.5	MIL-STD-810G Method 507.5
Command and Control	GUI-Joysitck-Software	GUI-Joysitck-Software	GUI-Joysitck-Software
Protocol	TS-MPT Protocol	TS-MPT Protocol	TS-MPT Protocol
Power Outputs to Payload			
24 VDC - user on/off switchable	Optional	Optional	Optional
12 VDC - user on/off switchable	Optional	Optional	Optional
5 VDC - user on/off switchable	Optional	Optional	Optional
Instantly Monitoring			
Power On and Run Time Monitoring	Available	Available	Available
Voltage Monitoring	Available	Available	Available
Current Monitoring	Available	Available	Available
Communication Interfaces to Payload			
Serial	RS232, RS422, RS485	RS232, RS422, RS485	None
TTL	1 Channel	1 Channel	None
IP	1 Channel	1 Channel	None
Communication Interfaces to Pantilt			
Serial	RS232, RS422, RS485	RS232, RS422, RS485	RS232, RS422, RS485
IP	Optional	Optional	Optional
Input Connector	D38999/20WD35PN	D38999/20WD35PN and RF Connector	D38999/20WD35PN and RF Connector
Output Connector	D38999/20WD35SN	D38999/20WD35SN and RF Connector	2x RF Connector with RF Switch



PAN TILT

TS-MPT H412 SERIES

The MPT H412 Series Pan & Tilt Unit is designed to perform precision positioning applications of various sensor units.

It is designed for payloads up to 21 Kg.

MPT H412 pan & tilt units, designed according to military standards and having compact structure, are resistant to all kinds of harsh conditions.

FEATURES

- Robust and compact design.
- High torque and performance.
- Precise positioning.
- Zero backlash.
- High duty cycles.
- Suitable for fixed and mobile environments.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.



Payload Capacity
up to 21 kg



Accuracy
0,02°



Repeatability
0,01°



Zero backlash

TEHNIICAL DATA / TS-MPT H412 SERIES

Product Number	TS-MPT-H412-1	TS-MPT-H412-2	TS-MPT-H412-3
Payload Capacity (Tilt at 2 rpm)	Max. 21 Kg	Max. 21 Kg	Max. 21 Kg
Rated Load Torque (Tilt at 2 rpm)	35 Nm	35 Nm	35 Nm
Power Consumption			
Max. (Pan-Tilt in Motion)	60 W	60 W	60 W
Standby	2 W	2 W	2 W
Heater Power	100 W	100 W	100 W
Operating Voltage Range	18-32 V	18-32 V	18-32 V
Pan			
Range of travel	n × 360° (Continuous Rotation)	n × 360° (Continuous Rotation)	n × 360° (Continuous Rotation)
Max. Speed	24°/s	24°/s	24°/s
Min. Speed	0.005°/s	0.005°/s	0.005°/s
Tilt			
Range of travel	180° (±90°)	180° (±90°)	180° (±90°)
Max. Speed	16,2°/s	16,2°/s	16,2°/s
Min. Speed	0.005°/s	0.005°/s	0.005°/s
Accuracy	0.02°	0.02°	0.02°
Repeatability	0.01°	0.01°	0.01°
Backlash	None	None	None
Rotation Limits			
Software Limits	Available	Available	Available
Mechanical Limits	Available	Available	Available
Position Feedback	0.0048° (Magnetic Encoder)	0.0048° (Magnetic Encoder)	0.0048° (Magnetic Encoder)
Protection / IP rating	IP67	IP67	IP67
Operating Temperature			
Working Temperature	-32°C to +55°C	-32°C to +55°C	-32°C to +55°C
Storage Temperature	-40°C to +60°C	-40°C to +60°C	-40°C to +60°C
Construction			
Drive System (Pan)	Stepper Motor	Stepper Motor	Stepper Motor
Drive System (Tilt)	Stepper Motor	Stepper Motor	Stepper Motor
Exterior Finish	Powder Coat Black (Default), Special Finishes Available	Powder Coat Black (Default), Special Finishes Available	Powder Coat Black (Default), Special Finishes Available
Weight	Max 8 kg	Max 8 kg	Max 8 kg
Dimensions	257x283.7x153 mm (10.12x11.17x6.02 inch)	257x283.7x153 mm (10.12x11.17x6.02 inch)	257x283.7x153 mm (10.12x11.17x6.02 inch)
Ambient Conditions and EMI/EMC Compatibility			
Electromagnetic Compatibility	MIL-STD-461E	MIL-STD-461E	MIL-STD-461E
Vibration Compatibility	MIL-STD-810G Method 514.6	MIL-STD-810G Method 514.6	MIL-STD-810G Method 514.6
Maximum Operating Temperature	MIL-STD-810G Method 501.5	MIL-STD-810G Method 501.5	MIL-STD-810G Method 501.5
Minimum Operating Temperature	MIL-STD-810G Method 502.5	MIL-STD-810G Method 502.5	MIL-STD-810G Method 502.5
Moisture Resistance	MIL-STD-810G Method 507.5	MIL-STD-810G Method 507.5	MIL-STD-810G Method 507.5
Command and Control	GUI-Joysitck-Software	GUI-Joysitck-Software	GUI-Joysitck-Software
Protocol	TS-MPT Protocol	TS-MPT Protocol	TS-MPT Protocol
Power Outputs to Payload			
24 VDC - user on/off switchable	Optional	Optional	Optional
12 VDC - user on/off switchable	Optional	Optional	Optional
5 VDC - user on/off switchable	Optional	Optional	Optional
Instantly Monitoring			
Power On and Run Time Monitoring	Available	Available	Available
Voltage Monitoring	Available	Available	Available
Current Monitoring	Available	Available	Available
Communication Interfaces to Payload			
Serial	RS232, RS422, RS485	RS232, RS422, RS485	RS232, RS422, RS485
IP	Optional	Optional	Optional
SDI Line	None	None	Available
Communication Interfaces to Pantilt			
Serial	RS232, RS422, RS485	RS232, RS422, RS485	RS232, RS422, RS485
IP	Optional	Optional	Not Available
Input Connector	D38999/20WD35PN	D38999/20WD35PN and RF Connector	D38999/20WE2P
Output Connector	D38999/20WD35SN	D38999/20WD35SN and RF Connector	D38999/20WE2N

PAN TILT

TS-MPT W66 SERIES



The MPT W66 Series Pan & Tilt Unit is designed to perform positioning applications of various sensor units. It is designed for payloads up to 6 Kg.

MPT W66 pan & tilt units, designed according to military standards and having compact structure, are resistant to all kinds of harsh conditions.

FEATURES

- Robust and compact design.
- High torque and performance.
- Precise positioning.
- High duty cycles.
- Suitable for fixed and mobile environments.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.



Payload Capacity
up to 6 kg



Accuracy
0,02°



Repeatability
0,02°

TEHNICAL DATA / TS-MPT W66 SERIES

	TS-MPT-W66-1	TS-MPT-W66-2	TS-MPT-W66-ASL05
Payload Capacity (Tilt at 2 rpm)	Max. 6 Kg	Max. 6 Kg	Max. 6 Kg
Rated Load Torque (Tilt at 2 rpm)	8 Nm	8 Nm	8 Nm
Power Consumption			
Max. (Pan-Tilt in Motion)	40 W	40 W	40 W
Standby	5 W	5 W	5 W
Heater Power	50 W	50W	50W
Operating Voltage Range	18-32 V	18-32 V	18-30 V
Pan			
Range of travel	n × 360° (Continuous Rotation)	n × 360° (Continuous Rotation)	n × 360° (Continuous Rotation)
Max. Speed	24°/s	24°/s	60°/s
Min. Speed	0.005°/s	0.005°/s	0.005°/s
Tilt			
Range of travel	135° (+90°/-45°)	135° (+90°/-45°)	135° (+90°/-45°)
Max. Speed	24°/s	24°/s	24°/s
Min. Speed	0.005°/s	0.005°/s	0.005°/s
Accuracy and Repeatability			
Accuracy	0.05°	0.05°	0.05°
Repeatability	0.02°	0.02°	0.02°
Rotation Limits			
Software Limits	Available	Available	Available
Mechanical Limits	Available	Available	Available
Position Feedback	0.0048° (Magnetic Encoder)	0.0048° (Magnetic Encoder)	0.0048° (Magnetic Encoder)
Protection / IP rating	IP67	IP67	IP67
Operating Temperature			
Working Temperature	-32°C to +55°C	-32°C to +55°C	-32°C to +55°C
Storage Temperature	-40°C to +60°C	-40°C to +60°C	-40°C to +60°C
Construction			
Drive System (Pan)	Stepper Motor	Stepper Motor	Stepper Motor
Drive System (Tilt)	Stepper Motor	Stepper Motor	Stepper Motor
Exterior Finish	Powder Coat Black (Default), Special Finishes Available	Powder Coat Black (Default), Special Finishes Available	Powder Coat Black (Default), Special Finishes Available
Weight	Max. 3,6 kg	Max. 3,6 kg	Max. 3,6 kg
Dimensions	189.8x168.3x153 mm (7.47x6.63x6.02 inch)	189.8x168.3x153 mm (7.47x6.63x6.02 inch)	189.8x168.3x153 mm (7.47x6.63x6.02 inch)
Ambient Conditions and EMI/EMC Compatibility			
Electromagnetic Compatibility	MIL-STD-461E	MIL-STD-461E	MIL-STD-461G
Vibration Compatibility	MIL-STD-810G Method 514.6	MIL-STD-810G Method 514.6	MIL-STD-810G Method 514.7
Maximum Operating Temperature	MIL-STD-810G Method 501.5	MIL-STD-810G Method 501.5	MIL-STD-810G Method 501.6
Minimum Operating Temperature	MIL-STD-810G Method 502.5	MIL-STD-810G Method 502.5	MIL-STD-810G Method 502.6
Moisture Resistance	MIL-STD-810G Method 507.5	MIL-STD-810G Method 507.5	MIL-STD-810G Method 507.6
Command and Control	GUI-Joysitck-Software	GUI-Joysitck-Software	GUI-Joysitck-Software
Protocol	TS-MPT Protocol	TS-MPT Protocol	TS-MPT Protocol
Power Outputs to Payload			
24 VDC - user on/off switchable	Optional	Optional	Optional
12 VDC - user on/off switchable	Optional	Optional	Optional
5 VDC - user on/off switchable	Optional	Optional	Optional
Instantly Monitoring			
Power On and Run Time Monitoring	Available	Available	Available
Voltage Monitoring	Available	Available	Available
Current Monitoring	Available	Available	Available
Communication Interfaces to Payload			
Serial	RS232, RS422, RS485	RS232, RS422, RS485	RS232, RS422, RS485
TTL	1 Channel	1 Channel	1 Channel
SDI Line	None	None	Available
IP	Optional	Optional	Optional
Communication Interfaces to Pantilt			
Serial	RS232, RS422, RS485	RS232, RS422, RS485	RS232, RS422, RS485
IP	Optional	Optional	Optional
Input Connector	D38999/20WD35PN	D38999/20WD35PN	D38999/20WD35PN
Output Connector	D38999/20WD35SN	D38999/20WD35SN	D38999/20WD35SN



PAN TILT

TS-MPT MD SERIES

Thanks to this feature, the positioner units can be used for almost all applications where needed high torque or high speed.

The torque and speed of selected variations can be changed according to the customer's requests. Two things suffice to best explain this series; compactness and power.

FEATURES

- It can be used in high frequency antennas applications with optional RF output.
- High duty cycle
- IP67 environment protection
- %100 CNC Machined from high strength 6000 series aluminium and stainless



Payload Capacity
75 kg



Accuracy
0,02°



Repeatability
0,02°



Zero backlash

Product Number	TS-MPT-MD-041
Payload Capacity (Tilt at 2 rpm)	45 kg
Rated Load Torque (Tilt at 2 rpm)	45 Nm
Power Consumption	
Max. (Pan-Tilt in Motion)	100 W
Standby	2 W
Heater Power	40 W
Operating Voltage Range	44-52V
Pan	
Range of travel	n × 360° (Continuous Rotation)
Max. Speed	60 °/s
Min. Speed	0.005°/s
Accuracy	0.02°
Tilt	
Range of travel	180° (±90°)
Max. Speed	60°/s
Min. Speed	0.005°/s
Accuracy and Repeatability	
Accuracy	0.02°
Repeatability	0.02°
Rotation Limits	
Software Limits	Available
Mechanical Limits	Available
Position Feedback	0.0048° (Magnetic Encoder)
Protection / IP rating	IP67
Operating Temperature	
Working Temperature	-32°C to +55°C
Storage Temperature	-40°C to +60°C
Construction	
Drive System (Pan)	Stepper Motor
Drive System (Tilt)	Stepper Motor
Exterior Finish	Powder Coat Black (Default), Special Finishes Available
Weight	Max. 10 Kg
Dimensions	296x288x165 mm
Ambient Conditions and EMI/EMC Compatibility	
Electromagnetic Compatibility	MIL-STD-461E
Vibration Compatibility	MIL-STD-810G Method 514.6
Maximum Operating Temperature	MIL-STD-810G Method 501.5
Minimum Operating Temperature	MIL-STD-810G Method 502.5
Moisture Resistance	MIL-STD-810G Method 507.5
Command and Control	GUI-Joystick-Software
Protocol	TS-MPT Protocol
Power Outputs to Payload	
24 VDC - user on/off switchable	Optional
12 VDC - user on/off switchable	Optional
5 VDC - user on/off switchable	Optional
Instantly Monitoring	
Power On and Run Time Monitoring	Available
Voltage Monitoring	Available
Current Monitoring	Available
Communication Interfaces to Payload	
Serial	RS232, RS422, RS485
TTL	1 Channel
IP	Optional
Communication Interfaces to Pantilt	
Serial	RS232, RS422, RS485
IP	Available
Input Connector	D38999/20WD35PN
Output Connector	D38999/20WD35SN

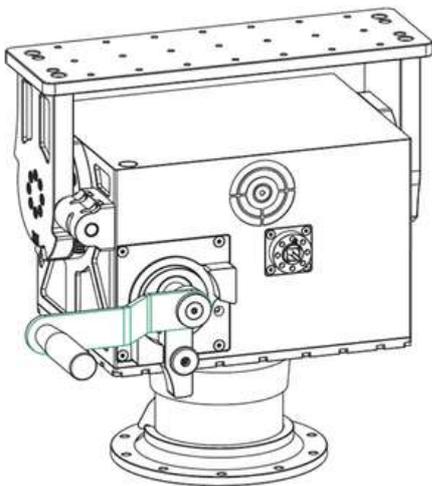
PAN TILT

TS-MPT MD-BLG SERIES



FEATURES

- Robust and compact design.
- There is $\pm 10^\circ$ limit on the tilt axis
- Tilt drive arm place on the brake shaft and used.
- When the tilt axis is desired to be lowered by 90° , the tilt adjustment handle limit is rotated. Tilt mechanical limit is turned off. It bring down in the direction of the arrow shown on the interface.
- While taking it back within technical limits, the tilt adjustment handle return to its previous position with the upper interface. Tilt mechanical limit will be opened.
- The brake can be used within 90° and mechanic limits.



The MPT MD-BLG Series Pan & Tilt Unit is designed to perform positioning applications of various sensor units. It is designed for payloads up to 100 Kg.

There is $\pm 10^\circ$ limit on the tilt axis

Tilt drive arm place on the brake shaft and used.

When the tilt axis is desired to be lowered by 90° , the tilt adjustment handle limit is rotated. Tilt mechanical limit is turned off. It bring down in the direction of the arrow shown on the interface.

While taking it back within technical limits, the tilt adjustment handle return to its previous position with the upper interface. Tilt mechanical limit will be opened.

The brake can be used within 90° and mechanic limits.



Payload Capacity
up to 100 kg



Accuracy
 $0,02^\circ$



Repeatability
 $0,02^\circ$

TEHNIICAL DATA / TS-MPT-MD-BLG01

Product Number	TS-MPT-MD-BLG01
Payload Capacity (Tilt at 2 rpm)	100 kg
Pan-Tilt Operating Voltage	18-32V
Pan (Motorized)	
Range of motion	380° (+/-190°)
Max. Speed	24°/s
Accuracy and Repeatability	
Resolution	0.05°
Accuracy	0.02°
Tilt (Manual)	
Range of motion	20° (±10°)
Rotation Limits	
Software Limits	Available
Mechanical Limits	Available
Position Feedback	0.0048° (Absolute Encoder)
Protection / IP rating	IP67
Operating Temperature	
Working Temperature	-32°C ile +50°C
Storage Temperature	-40°C to +60°C
Construction	
Exterior Finish	Powder Coat Black (Default), Special Finishes Available
Weight	Max. 45 kg
Dimensions	288x426x440 mm
Ambient Conditions and EMI/EMC Compatibility	
Electromagnetic Compatibility	MIL-STD-461G
Vibration Resistance	MIL-STD-810G Method 514.7
Maximum Operating Temperature	MIL-STD-810G Method 501.6
Minimum Operating Temperature	MIL-STD-810G Method 502.6
Maximum Storage Temperature	MIL-STD-810G Method 501.6
Minimum Storage Temperature	MIL-STD-810G Method 502.6
Temperature Shock	MIL-STD-810G Method 503.6
Rain	MIL-STD-810G Method 506.6
Humidity	MIL-STD-810G Method 507.6
Sand	MIL-STD-810G Method 510.6
Dust	MIL-STD-810G Method 510.6
Drop	MIL-STD-810G Method 516.6
Icing	MIL-STD-810G Method 521.3
Controller	GUI-Joysitck-Software
Protocol	TS-MPT Protokol
Instantly Monitoring	
Power ve operanting time display	Available
Voltage Monitoring	Available
Current Monitoring	Available
Communication Interfaces to Pantilt	
Input Connector	D38999/20WD35PN



PAN TILT

TS-MPT MD-032 SERIES

The TS-MPT-MD-032 Series Pan & Tilt Unit is designed to perform precision positioning applications of various sensor units. It is designed for payloads up to 45 Kg. TS-MPT-MD-032 pan & tilt units, designed according to military standards and having compact structure, are resistant to all kinds of harsh conditions.

FEATURES

- Robust and compact design.
- High torque and performance.
- Precise positioning.
- High duty cycles.
- Suitable for fixed and mobile environments.
100% CNC Machined from high strength 6000 series aluminum and stainless steel.



Payload Capacity
up to 45 kg



Accuracy
0,02°



Repeatability
0,02°



Zero backlash

TEHNIICAL DATA / TS-MPT-MD-032

Product Number	TS-MPT-MD-032
Payload Capacity (Tilt at 2 rpm)	45 kg
Rated Load Torque (Tilt at 2 rpm)	35Nm
Pan	
Range of Travel	n × 360° (Continuous Rotation)
Max. Speed	180°/s
Min. Speed	0.003°/s
Tilt	
Range of Travel	70° (±35°)
Max. Speed	60°/s
Min. Speed	0.003°/s
Power Consumption	
Max. (Pan-Tilt in Motion)	100 W
Standby	8 W
Heater Power	100 W
Accuracy and Repeatability	
Accuracy	0.02°
Repeatability	0.02°
Position Feedback	0.02°
Backlash	None
Operating Temperature	
Working Temperature	-32°C to +55°C
Storage Temperature	-40°C to +60°C
Construction	
Exterior Finish	Powder Coat Black (Default), Special Finishes Available
Weight	Max. 8 Kg
Dimensions	285x260x139 mm
Ambient Conditions and EMI/EMC Compatibility	
Electromagnetic Compatibility	MIL-STD-461E
Vibration Resistance	MIL-STD-810G Method 514.6
Maximum Operating Temperature	MIL-STD-810G Method 501.5
Minimum Operating Temperature	MIL-STD-810G Method 502.5
Moisture Resistance	MIL-STD-810G Method 507.5
Power Outputs to Payload	
24 VDC - user on/off switchable	Optional
12 VDC - user on/off switchable	Optional
5 VDC - user on/off switchable	Optional
Instantly Monitoring	
Power ve operanting time display	Available
Voltage Monitoring	Available
Current Monitoring	Available
Communication Interfaces to Payload	
Serial Communication	RS232,RS422, RS485
TTL	1 Channel
IP	1 Channel
Communication Interfaces to Pantilt	
Serial Communication	RS232,RS422, RS485
TTL	Available
Main (Input) Connector	D38999/20WG39PN
Payload (Output) Connector	D38999/20WG39PN x2



PAN TILT

TS-MPT U SERIES

It is designed for use in land and sea vehicles thanks to its fast movement and precise positioning capability. The torque and speed of selected variations can be changed according to the customer's requests.

Two things suffice to best explain this series; compactness and power. Its applications include fixed and mobile border surveillance, coastal surveillance, port and shipping control, customs and coastguard, vehicle mounted surveillance and maritime applications.

FEATURES

- Robust and compact design
- Long service life
- 100% CNC Machined from high strength 6000 series aluminium and stainless steel.



Payload Capacity
up to 30 kg



Accuracy
0,02°



Repeatability
0,02°



Zero backlash

TEHKNICAL DATA / TS-MPT U SERIES

Product Number	TS-MPT-U
Payload Capacity (Tilt at 2 rpm)	30 kg
Rated Load Torque (Tilt at 2 rpm)	25 Nm (@ 1 rpm tilt)
Power Consumption	
Max. (Pan-Tilt in Motion)	210W
Standby	2 W
Heater Power	40W
Operating Voltage Range	18-32 V
Pan	
Range of travel	n × 360° (Continuous Rotation)
Max. Speed	Max. 10 rpm (60°/s)
Min. Speed	0.005°/s
Tilt	
Range of travel	60° (±30°)
Max. Speed	Max. 10 rpm (60°/s)
Min. Speed	0.005°/s
Accuracy and Repeatability	
Accuracy	0.02°
Repeatability	0.02°
Backlash	None
Rotation Limits	
Software Limits	Available
Mechanical Limits	Available
Position Feedback	0.0048° (Magnetic Encoder)
Protection / IP rating	IP67
Operating Temperature	
Working Temperature	-32°C to +55°C
Storage Temperature	-40°C to +60°C
Construction	
Drive System (Pan)	Stepper Motor
Drive System (Tilt)	Stepper Motor
Exterior Finish	Powder Coat Black (Default), Special Finishes Available
Weight	Max. 25 Kg
Dimensions	551.2x501.3x168mm
Ambient Conditions and EMI/EMC Compatibility	
Electromagnetic Compatibility	MIL-STD-461E
Vibration Compatibility	MIL-STD-810G Method 514.6
Maximum Operating Temperature	MIL-STD-810G Method 501.5
Minimum Operating Temperature	MIL-STD-810G Method 502.5
Moisture Resistance	MIL-STD-810G Method 507.5
Command and Control	GUI-Joystick-Software
Protocol	TS-MPT Protocol
Power Outputs to Payload	
24 VDC - user on/off switchable	Optional
12 VDC - user on/off switchable	Optional
5 VDC - user on/off switchable	Optional
Instantly Monitoring	
Power On and Run Time Monitoring	Available
Voltage Monitoring	Available
Current Monitoring	Available
Communication Interfaces to Payload	
Serial	RS232, RS422, RS485
TTL	1 Channel
IP	1 Channel
Communication Interfaces to Pantilt	
Serial	RS232, RS422, RS485
IP	Available
Input Connector	D38999/20WD35PN
Output Connector	D38999/20WD35SN

PAN TILT

TS-MPT HD DUAL SERIES

TS-MPT-HD-DUAL Pan-Tilt positioner series are most powerful and dynamic member of Triosys Pan-Tilt positioners family.

In HD-DUAL Pan-Tilt series, two different motors used in the positioner unit, two different products can be controlled at different angles. Dual series also have top fixed shaft that can be used for additional positioner or other static payload up to 100 kg



FEATURES

- Have variable transmission ratio and this feature make them perfect.
- Can be used for almost all applications where needed high torque.



Payload Capacity
up to 100 kg



Accuracy
0,02°



Repeatability
0,02°



Zero backlash

TEHNIICAL DATA / TS-MPT HD DUAL SERIES

Product Number	TS-MPT-HD-DUAL
Payload Capacity (Tilt at 2 rpm)	100 kg (50 kg for each side)
Rated Load Torque (Tilt at 2 rpm)	Max. 150Nm
Power Consumption	
Max. (Pan-Tilt in Motion)	260W
Standby	Less than 5W
Heater Power	40W
Operating Voltage Range	18-32 V
Pan	
Range of travel	n × 360° (Continuous Rotation)
Max. Speed	Max. 8 rpm (48%/s)
Min. Speed	0.005%/s
Tilt	
Range of travel	120° (±60°)
Max. Speed	Max. 4 rpm (24%/s)
Min. Speed	0.005%/s
Accuracy and Repeatability	
Accuracy	0.02°
Repeatability	0.02°
Rotation Limits	
Software Limits	Available
Mechanical Limits	Available
Position Feedback	0.0048° (Magnetic Encoder)
Protection / IP rating	IP67
Operating Temperature	
Working Temperature	-32°C to +55°C
Storage Temperature	-40°C to +60°C
Construction	
Drive System (Pan)	Stepper Motor
Drive System (Tilt)	Stepper Motor
Exterior Finish	Powder Coat Black (Default), Special Finishes Available
Weight	Max. 55 Kg
Dimensions	370x294x505
Ambient Conditions and EMI/EMC Compatibility	
Electromagnetic Compatibility	MIL-STD-461E
Vibration Compatibility	MIL-STD-810G Method 514.6
Maximum Operating Temperature	MIL-STD-810G Method 501.5
Minimum Operating Temperature	MIL-STD-810G Method 502.5
Moisture Resistance	MIL-STD-810G Method 507.5
Command and Control	GUI-Joystick-Software
Protocol	TS-MPT Protocol
Power Outputs to Payload	
24 VDC - user on/off switchable	Optional
12 VDC - user on/off switchable	Optional
5 VDC - user on/off switchable	Optional
Instantly Monitoring	
Power On and Run Time Monitoring	Available
Voltage Monitoring	Available
Current Monitoring	Available
Communication Interfaces to Payload	
Serial	RS232, RS422, RS485
TTL	1 Channel
IP	1 Channel
Communication Interfaces to Pantilt	
Serial	RS232, RS422, RS485
IP	Available
Input Connector	D38999/20WD35PN
Output Connector	D38999/20WD35SN

PAN TILT

TS-PT 01 SERIES



The PT Series Manual Fine Adjust Pan & Tilt Head is designed for applications where alignment and precise positioning are critical in the line of sight. It has damping and precise adjustment mechanism in both axes.

Axis damping provides great convenience to the user when following moving targets and during initial alignment. The fine adjustment mechanism provides superior alignment precision and braking motion for small targets at far sight.

FEATURES

- Rugged, light weight and compact design.
- Fine adjustment mechanism on two axes.
- Viscous damping.
- Independent braking mechanism.
- Quick release mechanism for payloads (Optional).
- Spirit level.
- Height scale.
- 5/8" 11 UNC Connection female thread on tripod.
- IP67 Protection class.
- Suitable for indoor and outdoor use.
- It can be transported and installed quickly by a single person.
- Double coating resistant to harsh conditions.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.

Technical data

Payload Capacity	Max. 6 Kg
Pan Axis Movement	n × 360° (Continuous Rotation)
Tilt Axis Movement	90° (+45°/-45°)
Pan Axis Fine Adjustment	min ±2.5°
Tilt Axis Fine Adjustment	min ±1.13°
Weight	1.16 Kg
Operating Temperature Range	-33°C to +55°C
Protection / IP rating	IP 67



PAN TILT

MANUAL PAN TILT TS-PT-02

TS-PT-02 is a backlash-free and manually controlled routing equipment that has the ability to move in axes suitable for uses where positioning and alignment is required.

FEATURES

- All parts are machined on CNC machines. (No mold was used.)
- 6000 series aluminum and stainless steel materials used in the design.
- Corrosion resistant coating and painting processes have been made.
- 2X M6 connecting interface is available.
- Able to move in 3 axes.
- There are gradual precision measurement values on the pitch axis

Technical data	
Payload Capacity	15 kg
Weight	2,09 kg
Material	6000 series aluminum and stainless steel
Movement Ability in Roll Axis	±16° (Lockable)
Movement Ability in Pitch Axis	-45° / +90° (Lockable)
Movement Ability in Yaw Axis	n x 360° (Lockable)
Connecting Interface	2X M6 SCREW



PAN TILT

TS-PT-03 SERIES

TS-PT-03 is a backlash-free and manually controlled routing equipment that has the ability to move in axes suitable for uses where positioning and alignment is required.

FEATURES

- All parts are machined on CNC machines. (No mold was used.)
- 6000 series aluminum and stainless steel materials used in the design.
- Corrosion resistant coating and painting processes have been made.
- Able to move in 2 axes.
- There are gradual precision measurement values on the pan and tilt axis

Technical data	
Payload Capacity	10 kg
Weight	1,63 kg
Material	6000 series aluminum and stainless steel
Movement Ability in Pan Axis	n x 360° (Lockable)
Movement Ability in Tilt Axis	-60° / +60° (Lockable)

PAN TILT

TS-PT-05 SERIES

TS-PT-05 is a manual positioner unit capable of moving in pan and tilt axes to positions where precise positioning and alignment is required under heavy loads. Designed according to military standards, the TS-PT-05 positioner unit is resistant to all kinds of harsh conditions.



FEATURES

- Designed for heavy loads up to 50 kg
- Made of 100% CNC, high strength 6000 series aluminum and stainless steel
- Corrosion resistant coating and paint
- 5/8"-11 UNC mounting interface port
- Quick adjustable manual brakes
- IP-67 Protection class
- Use of portable pan and tilt arms

Technical data

Payload Capacity	50 kg
Weight	6 kg
Pan Axis Movement	n × 360° (Lockable)
Tilt Axis Movement	90° (+45° / -45°) (Lockable)
Tilt Axis Fine Adjustment	±1.5°
Operating Temperature Range	-32°C to 55°C
Protection / IP Rating	IP 67
Material	6000 series aluminum and stainless steel



PAN TILT

TS-PT-06 SERIES

TS-PT-06 is a manual positioner unit capable of moving in two axes to positions where precise positioning and alignment is required. It is a product that stands out with its ease of use and lightness.

FEATURES

- All parts are machined on CNC machines.
- 6000 series aluminum and stainless steel are used.
- Corrosion resistant coating and painting processes have been made.
- 2X M6 mounting interface is available.
- It has the ability to move in 2 axes.
- Gradual precision measurement values are available on the Tilt axis.



Technical data	
Payload Capacity	15 kg
Weight	2 kg
Pan Axis Movement	n × 360° (Lockable)
Tilt Axis Movement	90° (+110° / -45°) (Lockable)
Material	6000 series aluminum and stainless steel
Connecting Interface	2X M6 SCREWS





TRIPOD

EXTRA HEAVY DUTY SERIES

HDT Series Extra Heavy Duty Tripods are designed for applications where stability and buckling strength are important under extra heavy loads up to 400 Kg.

EHDT Series tripods offer 2 different upper platform options as Flat and 3 Way Leveling (precise horizontal level adjustment). The 3 Way Leveling model allows precise horizontal leveling under extra heavy loads.

FEATURES

- Extra ordinary sturdy construction.
- Extra high torsional strength.
- Suitable for indoor and outdoor use.
- Double coating resistant to harsh conditions.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.
- Reliable support structure with two-stage twin legs.
- Comfortable double lock mechanism for two-stage legs that can be used with one hand.
- Flat and 3 Way Leveling models.
- Precise horizontal leveling adjustment under extra heavy loads with 3 Way Leveling model.
- Stainless steel spikes on each leg.
- Adjustable rubber coated feet for flat surfaces.



Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Interface	Head	Max. Horizontal Leveling
TS-EHDT-F	1085 mm	705 mm (1)	15.3 Kg	400 Kg (1)	∅ 290 mm, 780 mm	Mitchell Flat	Flat	-
TS-EHDT-L	1220 mm	785 mm (1)	17.2 Kg	400 Kg (1)	∅ 290 mm, 860 mm	Mitchell Flat	3 Way Leveling	±10 degree

(1) With fixed mid-level spreader



TRIPOD

HEAVY DUTY SERIES

HDT Series Heavy Duty Tripods are designed for heavy load applications up to 300 kg, where stability and torsional strength are important.

HDT Series Heavy Duty Tripods have 8 different model options according to height, head and leg material types. They acquire fixing features to different surfaces with their standard flat and fixing perforated feet .

FEATURES

- Professional tripods designed for heavy loads up to 300 Kg.
- Extraordinary sturdy construction.
- Extra high torsional strength.
- Suitable for indoor and outdoor use.
- Man portable and easy deployment.
- Wide working height range.
- Coating resistant to harsh conditions.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.
- Adjustable flat feet with rubber pad and pinning holes.
- Easy column lock.
- Spirit level for easy leveling.



Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Interface	Height	Head	Legs
TS-HDT-SF-AL	990 mm	630 mm	15.9 Kg	300 Kg	ø335mm, 710mm	6xM5 thread at Ø102 mm, 6xM8 thread at Ø89 mm	Short	Fixed	Aluminum
TS-HDT-SF-CF	990 mm	630 mm	14.5 Kg	300 Kg	ø335mm, 710mm	6xM5 thread at Ø102 mm, 6xM8 thread at Ø89 mm	Short	Fixed	Carbon Fiber
TS-HDT-SA-AL	1400 mm	780 mm	20.2 Kg	250 Kg	ø335mm, 860mm	3½"-8 thread	Short	Adjustable	Aluminum
TS-HDT-SA-CF	1400 mm	780 mm	18.7 Kg	250 Kg	ø335mm, 860mm	3½"-8 thread	Short	Adjustable	Carbon Fiber
TS-HDT-TF-AL	1290 mm	925 mm	19.4 Kg	300 Kg	ø335mm, 1045mm	6xM5 thread at Ø102 mm, 6xM8 thread at Ø89 mm	Tall	Fixed	Aluminum
TS-HDT-TF-CF	1290 mm	925 mm	16.6 Kg	300 Kg	ø335mm, 1045mm	6xM5 thread at Ø102 mm, 6xM8 thread at Ø89 mm	Tall	Fixed	Carbon Fiber
TS-HDT-TA-AL	1850 mm	1060 mm	24.5 Kg	250 Kg	ø335mm, 1180mm	3½"-8 thread	Tall	Adjustable	Aluminum
TS-HDT-TA-CF	1850 mm	1060 mm	21.7 Kg	250 Kg	ø335mm, 1180mm	3½"-8 thread	Tall	Adjustable	Carbon Fiber



TRIPOD

HEAVY DUTY G SERIES

HDT G Series Heavy Duty Tripods are designed for heavy load applications up to 150 kg, where stability and torsional strength are important.

HDT G Series Heavy Duty Tripods have 2 different model options according to fixed and adjustable superstructure design. They acquire fixing features to different surfaces with their standard flat and fixing perforated feet .

FEATURES

- Professional tripods designed for heavy loads up to 150 Kg.
- Sturdy construction.
- High torsional strength.
- Suitable for indoor and outdoor use.
- Man portable and easy deployment.
- Wide working height range.
- Coating resistant to harsh conditions.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.
- Adjustable flat feet with rubber pad and pinning holes.
- Column lock.
- Spirit level for easy leveling.



Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Interface	Head
TS-HDT-G-F-AL	1290 mm	814 mm	8,2 kg	150 kg	ø310 mm, 910 mm	6xM5 thread at ø102 mm	Fixed
TS-HDT-G-A-AL	1885 mm	933 mm	13,2 kg	100 kg	ø310 mm, 1030 mm	ø59.7 mm h11	Adjustable



TRIPOD

MEDIUM DUTY SERIES

MDT Series Medium Duty Tripods are ideal for the the application where portability and durability are important. They are strong three-foot platforms with high torsional strength. The rugged construction of the MDT Series tripods make them ideal for a wide range of general support applications.

MDT series tripods have 7 different models according to the center, leg materials and wide height ranges.

FEATURES

- Extraordinary rugged, compact and light construction.
- High torsional strength. Ideal for rotating loads.
- Man portable and easy deployment.
- Suitable for indoor and outdoor use.
- 10 layer carbon fiber winding pipes in models with carbon fiber legs.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.
- Independently adjustable leg angles and lengths.
- Superior strength and stability with 42mm diameter aluminum and 10x layer carbon fiber upper legs.
- Spirit level for easy leveling.
- Rubber coated stainless steel round feet.
- Aluminum twist lock lock structure.
- Black hard anodized coating.



Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Interface	Center
TS-TR422-CC-AL	1085 mm	180 mm	3.5 Kg	80 Kg	ø215 mm, 670 mm	5/8 "11 UNC draw bolt	Center Column
TS-TR423-CC-AL	1500 mm	185 mm	4.4 Kg	80 Kg	ø215 mm, 730mm	5/8 "11 UNC draw bolt	Center Column
TS-TR424-CC-AL	2000 mm	190 mm	5.1 Kg	70 Kg	ø215 mm, 780mm	5/8 "11 UNC draw bolt	Center Column
TS-TR422-CC-CF	1085 mm	180 mm	3.1 Kg	80 Kg	ø215 mm, 670 mm	5/8 "11 UNC draw bolt	Center Column
TS-TR423-CC-CF	1500 mm	185 mm	3.8 Kg	80 Kg	ø215 mm, 730mm	5/8 "11 UNC draw bolt	Center Column
TS-TR424-CC-CF	2000 mm	190 mm	4.3 Kg	70 Kg	ø215 mm, 780mm	5/8 "11 UNC draw bolt	Center Column
TS-TR422-CL-AL	1200 mm	680 mm	4.3 Kg	100 Kg	ø230 mm, 745mm	6xM6 thread at ø76 mm	Center Leg

TRIPOD

MEDIUM -G DUTY G SERIES

HDT G Series Heavy Duty Tripods are designed for heavy load applications up to 150 kg, where stability and torsional strength are important.

HDT G Series Heavy Duty Tripods have 2 different model options according to fixed and adjustable superstructure design. They acquire fixing features to different surfaces with their standard flat and fixing perforated feet .



FEATURES

- Professional tripods designed for heavy loads up to 150 kg.
- Sturdy construction.
- High torsional strength.
- Suitable for indoor and outdoor use.
- Man portable and easy deployment.
- Wide working height range.
- Coating resistant to harsh conditions.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.
- Adjustable flat feet with rubber pad and pinning holes.
- Column lock.
- Spirit level for easy leveling.



Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Interface	Head
TS-MDT-G-A-AL	1290 mm	814 mm	8,2 kg	150 kg	ø310 mm, 910 mm	6xM5 thread at ø102 mm	Fixed



TRIPOD

MEDIUM DUTY S SERIES

MDT-S Series Medium Duty Tripods are ideal for the the application where portability and durability are important. They are strong three-foot platforms with high torsional strength. The rugged construction of the MDT-S Series tripods make them ideal for a wide range of general support applications.

MDT-S series tripods with 4 different model options gain fixing features according to different surface types with suitable foot accessories.

FEATURES

- Extraordinary rugged, compact and light construction.
- High torsional strength. Ideal for rotating loads.
- Wide working height range.
- Man portable and easy depolyment.
- Suitable for indoor and outdoor use.
- 5/8 "11 UNC draw bolt.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.
- Independently adjustable leg angles and lengths.
- Superior strength and stability with 42mm diameter aluminum upper legs.
- Rubber coated stainless steel round feet.
- Aluminum twist lock lock structure.
- Black hard anodized coating



Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Interface	Center	Leg Section
TS-S-TR422-CC-AL	1050 mm	180 mm	3.1 Kg	80 Kg	ø215 mm, 660 mm	5/8 "11 UNC draw bolt	Center Column	2
TS-S-TR423-CC-AL	1500 mm	185mm	3.9 Kg	80 Kg	ø215 mm, 720 mm	5/8 "11 UNC draw bolt	Center Column	3
TS-S-TR424-CC-AL	2000 mm	190mm	4.5 Kg	70 Kg	ø215 mm, 770 mm	5/8 "11 UNC draw bolt	Center Column	4
TS-S-TR422-CL-AL	1200 mm	680 mm	4.1 Kg	100 Kg	ø215 mm, 735 mm	3xM6 at ø60 mm	Center Leg	2



TRIPOD

LIGHT DUTY SERIES

LDT Series Light Duty Tripods designed to meet the requirements in applications where weight, portability and durability are important. They are balanced tripod platforms that allow easy and fast assembly of devices with a suitable interface. The robust construction of Light Duty Tripods made them ideal for a wide range of general purpose support applications.

FEATURES

- Lightweight, robust and compact design.
- It can be transported and installed quickly by a single person.
- 10 layer carbon fiber winding pipes with models that have carbon fiber legs.
- Independently adjustable leg angles and lengths.
- 3 different pre-set leg angles that can be adjusted by finger for fast installation.
- Superior strength and stability with 34mm diameter aluminum and 10x layer carbon fiber upper legs.
- Aluminum twist lock lock structure.
- Hard black anodized coating.

LDT series tripods with 12 different model options according to center types, leg material and leg section numbers gain fixing features according to different surface types with suitable foot accessories.

Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Interface	Center	Leg Material	Leg Section
TS-TR342-CC-AL	1080 mm	135 mm	2.8 Kg	50 Kg	ø190 mm, 675 mm	5/8 "11 UNC draw bolt	Center Column	Aluminum	2
TS-TR343-CC-AL	1500 mm	140 mm	3.4 Kg	50Kg	ø190 mm, 720 mm	5/8 "11 UNC draw bolt	Center Column	Aluminum	3
TS-TR344-CC-AL	2000 mm	145 mm	3.9 Kg	40 Kg	ø190 mm, 775 mm	5/8 "11 UNC draw bolt	Center Column	Aluminum	4
TS-TR342-CC-CF	1080 mm	135 mm	2.4 Kg	50 Kg	ø190 mm, 675 mm	5/8 "11 UNC draw bolt	Center Column	Carbon Fiber	2
TS-TR343-CC-CF	1500 mm	140 mm	2.9 Kg	50Kg	ø190 mm, 720 mm	5/8 "11 UNC draw bolt	Center Column	Carbon Fiber	3
TS-TR344-CC-CF	2000 mm	145 mm	3.3 Kg	40 Kg	ø190 mm, 775 mm	5/8 "11 UNC draw bolt	Center Column	Carbon Fiber	4
TS-TR342-AC-AL	1500 mm	600 mm	3 Kg	30 Kg	ø190mm, 715 mm	3/8"-16 UNC thread	Adjustable Center Column	Aluminum	2
TS-TR343-AC-AL	2000 mm	605 mm	3.6 Kg	30 Kg	ø190mm, 770 mm	3/8"-16 UNC thread	Adjustable Center Column	Aluminum	3
TS-TR344-AC-AL	2500 mm	610 mm	4.1 Kg	30 Kg	ø190mm, 815 mm	3/8"-16 UNC thread	Adjustable Center Column	Aluminum	4
TS-TR342-AC-CF	1500 mm	600 mm	2.6 Kg	30 Kg	ø190mm, 715 mm	3/8"-16 UNC thread	Adjustable Center Column	Carbon Fiber	2
TS-TR343-AC-CF	2000 mm	605 mm	3 Kg	30 Kg	ø190mm, 770 mm	3/8"-16 UNC thread	Adjustable Center Column	Carbon Fiber	3
TS-TR344-AC-CF	2500 mm	610 mm	3.4 Kg	30 Kg	ø190mm, 815 mm	3/8"-16 UNC thread	Adjustable Center Column	Carbon Fiber	4

TRIPOD

LIGHT DUTY S SERIES



LDT-S Series Light Duty Tripods designed to meet the requirements in applications where weight, portability and durability are important. They are balanced tripod platforms that allow easy and fast assembly of devices with a suitable interface. The robust construction of Light Duty Tripods (S) made them ideal for a wide range of general purpose support applications.

LDT-S series tripods, which have 3 different model options, acquire fixing features according to different surface types with suitable foot accessories.

FEATURES

- Lightweight, robust and compact design.
- Wide working height range.
- It can be transported and installed quickly by a single person.
- Suitable for indoor and outdoor use.
- 5/8 "11 UNC draw bolt thread.
- Independently adjustable leg angles and lengths.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.
- Superior strength and stability with 34mm diameter aluminum upper legs.
- Rubber coated stainless steel round feet.
- Aluminum twist lock lock structure.
- Hard black anodized coating.



Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Interface	Leg Section
TS-S-TR342-CC-AL	1050 mm	190 mm	2.4 Kg	50 Kg	ø190 mm, 655 mm	5/8 "11 UNC draw bolt	2
TS-S-TR343-CC-AL	1500 mm	200 mm	3 Kg	50 Kg	ø190 mm, 700 mm	5/8 "11 UNC draw bolt	3
TS-S-TR344-CC-AL	2000 mm	205 mm	3.4 Kg	50 Kg	ø190 mm, 760 mm	5/8 "11 UNC draw bolt	4

TRIPOD

ULTRA LIGHT DUTY S SERIES



ULDT-S Series Ultra Light Duty Tripods are solid, ultra-light, high-performance and stable 3-foot support platforms for wide application areas. Balanced tripod platforms that allow easy and fast assembly of devices with a suitable tripod interface.

ULDT-S Series tripods have 3 different model options designed to be used by lying down, sitting and standing.

FEATURES

- Lightweight, robust and compact design.
- Wide working height range.
- It can be transported and installed quickly by a single person.
- Suitable for indoor and outdoor use.
- 5/8 "11 UNC draw bolt thread.
- Independently adjustable leg angles and lengths.
- 100% CNC Machined from high strength 6000 series aluminum and stainless steel.
- Superior strength and stability with 34mm diameter aluminum upper legs.
- Rubber coated stainless steel round feet.
- Aluminum twist lock lock structure.
- Hard black anodized coating.



Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Interface	Height	Leg Section
TS-S-TR302S-CC-AL	580 mm	140 mm	1.6 Kg	25 Kg	ø185 mm, 380 mm	5/8 "11 UNC draw bolt	Short	2
TS-S-TR302T-CC-AL	720 mm	175 mm	1.8 Kg	20 Kg	ø185 mm, 460 mm	5/8 "11 UNC draw bolt	Tall	2
TS-S-TR303-CC-AL	1500 mm	260 mm	2.6 Kg	15 Kg	ø185 mm, 685 mm	5/8 "11 UNC draw bolt	Tall	3

HEAVY MACHINE GUNS TRIPOD

M2 SERIES



M2 Tripods are designed for heavy load applications, where stability and torsional strength are important. It has a body that can be easily adjusted in difficult terrain conditions. Made for heavy machine guns.



FEATURES

- Professional tripods designed for heavy loads.
- Sturdy construction.
- High torsional strength.
- Suitable for indoor and outdoor use.
- Wide working height range.
- Coating resistant to harsh conditions.

Product Number	Max. Height	Min. Height	Weight	Load Capacity	Stowed Dimensions	Mounting Interface
TS-M2T-01	330 mm	230 mm	1.6 Kg	80 Kg	Ø490mm,1190mm	Ø40 H11



TELESCOPIC MAST

PORTABLE MANUAL

It is an elevating system that can be manually extended to full open height in one minute or less.

Thanks to the quick lock/release mechanism, height adjustment can be made at each node. Thanks to its portable structure, it is ideal for situations that need to be deployed very quickly.



FEATURES

- Strong lock mechanism
- Different length variants according to need
- High corrosion resistance
- Support brackets for optional usage
- Short setup time

Model	TS-LDM-T-M-MN03-AL	TS-LDM-T-M-MN-05-AL	TS-LDM-T-M-MN07-AL	TS-LDM-T-M-MN-09-AL
Max. Height	3 m	5 m	7 m	9 m
Min. Height	1,3 m	1,6 m	1,8 m	2 m
Weigh	8,3 kg	12,5 kg	16,5 kg	20 kg
Load Capacity	10 kg	10 kg	10 kg	10 kg
Number of Section	2	3	4	5
Collar Type	Friction Locking	Friction Locking	Friction Locking	Friction Locking

MAST SYSTEM

PORTABLE MANUAL

They are the systems in which height adjustment is made by adding a node with a roller mechanism.

Thanks to the static balance of the tripod legs, it offers safe use in the field environment. With its light and compact design, all equipment of the lifting system can be easily transported and deployed quickly.



FEATURES

- Height adjustment between 2-15 meters
- Easy installation between 2-30 minutes
- Ability to work statically at all height capacities with the rope mechanism
- Corrosion resistant black anodized coating

Model	System Height	MAx Payload	Average Deployment	Min number of ropes
TS-HDM-E-M-MN-02-AL	2 m	50 kg	2-15 min	0-1
TS-HDM-E-M-MN-03-AL	3 m	47 kg	2-15 min	0-1
TS-HDM-E-M-MN-04-AL	4 m	40 kg	2-15 min	0-1
TS-HDM-E-M-MN-05-AL	5 m	36 kg	2-15 min	0-1
TS-HDM-E-M-MN-06-AL	6 m	32 kg	2-15 min	1-2
TS-HDM-E-M-MN-07-AL	7 m	30 kg	15-18 min	1-2
TS-HDM-E-M-MN-08-AL	8 m	28 kg	15-18 min	1-2
TS-HDM-E-M-MN-09-AL	9 m	25 kg	15-18 min	2-3
TS-HDM-E-M-MN-10-AL	10 m	22 kg	15-18 min	2-3
TS-HDM-E-M-MN-11-AL	11 m	18 kg	20-25 min	2-3
TS-HDM-E-M-MN-12-AL	12 m	15 kg	20-25 min	3-4
TS-HDM-E-M-MN-13-AL	13 m	12 kg	20-25 min	3-4
TS-HDM-E-M-MN-14-AL	14 m	10 kg	25-30 min	3-4
TS-HDM-E-M-MN-15-AL	15 m	9 kg	25-30 min	4-5

WIPERS

WIPERS SETS



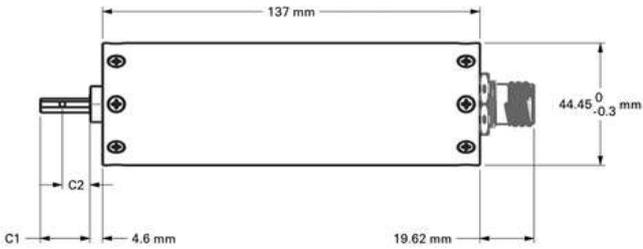
Wiper has been developed for lens cleaning solutions of various cameras and optical systems. It is waterproof and suitable for marine applications. It has been designed and tested to work in harsh conditions.

FEATURES

- Rugged, lightweight and compact design.
- Programmable movement range.
- Programmable position.
- Independent structure.
- Strong structure for harsh conditions.
- Speed adjustment.
- Compatible with different optic systems.
- Low cost solution for lens cleaning.
- IP 67 protection class.
- Configuration and control panel.
- Possibility to read the total number of revolution
- Possibility to read instant temperature information.
- Low voltage and high current protection.
- Possibility to read the total number of laps.
- High temperature protection.
- Possibility of starting and ending angle adjustment.

A flexible cleaning angle is offered with the electronic system. Movement range, direction and position of the wipers can be programmed. With cylindrical design, it can be easily mounted.

Product Number BLDC	Product Number BLDC Motor Blade	Product Number BLDC Motor Blade
TS-AS-01-01	TS-AS-BLDC-0001	TS-AS-120-83-24
TS-AS-01-02	TS-AS-BLDC-0001	TS-AS-87-80-18
TS-AS-01-03	TS-AS-BLDC-0001	TS-AS-63-80-18
TS-AS-01-04	TS-AS-BLDC-0001	TS-AS-75-80-18
TS-AS-01-05	TS-AS-BLDC-0001	TS-AS-63-99.5-80
TS-AS-02-01	TS-AS-BLDC-0002	TS-AS-120-83-24
TS-AS-02-02	TS-AS-BLDC-0002	TS-AS-87-80-18
TS-AS-02-03	TS-AS-BLDC-0002	TS-AS-63-80-18
TS-AS-02-04	TS-AS-BLDC-0002	TS-AS-75-80-18
TS-AS-02-05	TS-AS-BLDC-0002	TS-AS-63-99.5-80
TS-AS-03-01	TS-AS-BLDC-0003	TS-AS-120-83-24
TS-AS-03-02	TS-AS-BLDC-0003	TS-AS-87-80-18
TS-AS-03-03	TS-AS-BLDC-0003	TS-AS-63-80-18
TS-AS-03-04	TS-AS-BLDC-0003	TS-AS-75-80-18
TS-AS-03-05	TS-AS-BLDC-0003	TS-AS-63-99.5-80



WIPERS

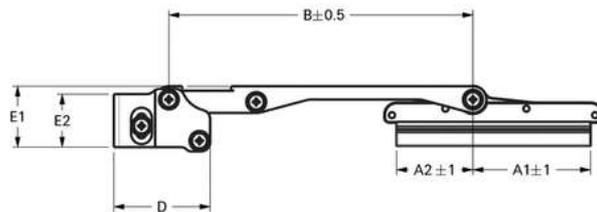
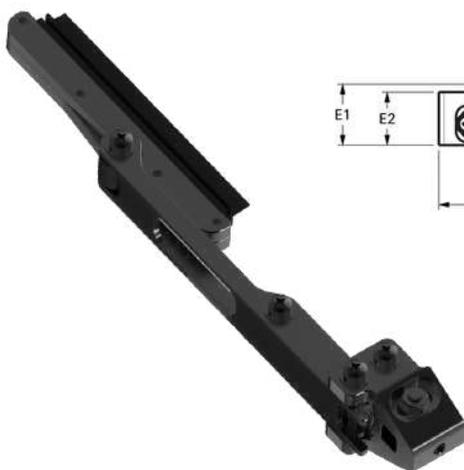
WIPERS MOTORS

Wiper motors can be purchased separately or as a set with blades.

Wiper motor types vary according to motor shaft dimensions.



Product Number	TS-AS-BLDC-0001	TS-AS-BLDC-0002	TS-AS-BLDC-0003
Weight	0.5 Kg	0.5 Kg	0.5 Kg
Speed (24VDC)	300°/s (± 50°/s)	300°/s (± 50°/s)	300°/s (± 50°/s)
Max. Rated Torque	0.35 Nm	0.35 Nm	0.35 Nm
Max. Wipe Angle	±175°	±175°	±175°
Input Voltage	18-32 V	18-32 V	18-32 V
Input Current	150 mA Average / 1.7 A Max.	150 mA Average / 1.7 A Max.	150 mA Average / 1.7 A Max.
Lifetime	10 Million Tours	10 Million Tours	10 Million Tours
Operating temperature	-32°C / +55°C	-32°C / +55°C	-32°C / +55°C
Storage Temperature	-40°C / +85°C	-40°C / +85°C	-40°C / +85°C
Protection / IP rating	IP 67	IP 67	IP 67
C1	18 mm	24 mm	30 mm
C2	10 mm	16 mm	32 mm
Connector	D38999/24KA35PN	D38999/24KA35PN	D38999/24KA35PN



WIPERS

WIPERS BLADES

Wiper motors can be purchased separately or as a set with blades.

Wiper motor types vary according to motor shaft dimensions.

Product Number	TS-AS-120-83-24	TS-AS-87-80-18	TS-AS-63-80-18	TS-AS-75-80-18	TS-AS-63-99.5-80
A1	60 mm	41 mm	38.5 mm	37.5 mm	38.5 mm
A2	60 mm	46 mm	25 mm	37.5 mm	25 mm
B	83 mm	80 mm	80 mm	80 mm	99.5 mm
D	24.5 mm	24.5 mm	24.5 mm	24.5 mm	31.5 mm
E1	19 mm	19 mm	19 mm	19 mm	20 mm
E2	14 mm	14 mm	14 mm	14 mm	14 mm



PUCK WIPER

PUCK WIPER TS-WP-02

Puck wiper system is designed for Velodyne lidar puck sensor. Wiper station can clean this sensor, which will work in harsh conditions, in a very short time with water nozzle.

The sensor can be cleaned 360 degrees with 2 wipers. In addition, an air shield is created for the sensor with four air nozzles. It can be placed in narrow spaces with the minimal design of the wiper station



PUCK WIPER

ULTRA PUCK WIPER TS-WP-01

Ultra puck wiper system is designed for Velodyne lidar ultra puck sensor. Wiper station can clean this sensor, which will work in harsh conditions, in a very short time with two water nozzles.

The sensor can be cleaned 360 degrees with 2 wipers without entering the view of sensor in 360° range. In addition, an air shield is created for the sensor with four air nozzles.

Tehchnical specification	TS-WP-01	TS-WP-02
Wiper Number	2	2
Weight	7 kg	6,5 kg
Material	6000 Series Aluminum and Stainless Steel	6000 Series Aluminum and Stainless Steel
Air Nozzle	4	2
Water Nozzle	2	1
Height	241 mm	206 mm
Diameter	260 mm	260 mm
Working time	3 sec	3 sec



BALL HEAD

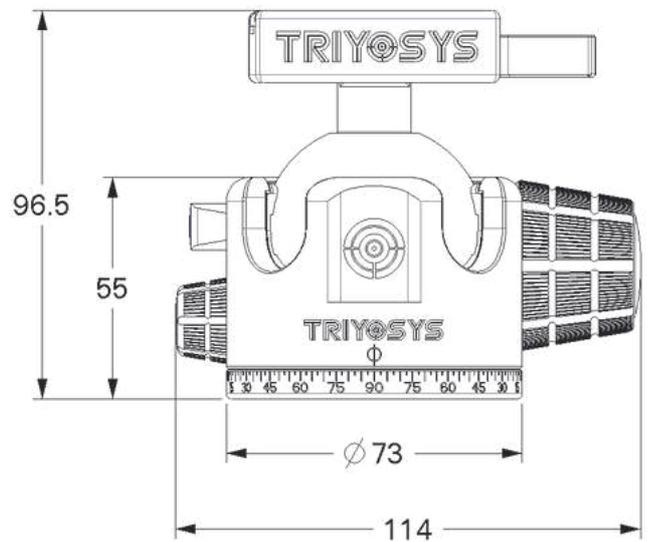
TS-BH-01

The ball head consists of a ball placed in a case. this case allows free movement in all three axis of rotation. the ball head could turn 360 degrees continues on pan axis. also, it has added a notch to turn 180 degrees on the tilt axis.

When the ball head is placed to the desired position, the clamps is tighten and the current position is maintained in tilt and pan. All you need to do to bring it again to the free move position is to open the clamps.

FEATURES

- 2 different adjustment levers, rigid and precise, for positioning within an angle range of 90 degrees on the tilt axis.
- Water gauge for easy positioning.
- There is laser marking at 2.5 degree intervals for easy and precise positioning on the pan axis. And it has a brake lever to fix in the desired position.
- Deep Groove ball bearing is used for smooth feel in clamping arms.
- %100 CNC machined high strength 6000 series aluminum and stainless steel are used.



Tehnickal specification	
Load Capacity	24 kg
Weight	0,9 kg
Height	96.5 mm
Max Tilt Angle	90°
Ball Diameter	55 mm
Base Diameter	72.7 mm
Materials	6000 Aluminum and Stainless Steel
Tripod Mount	3/8"-16



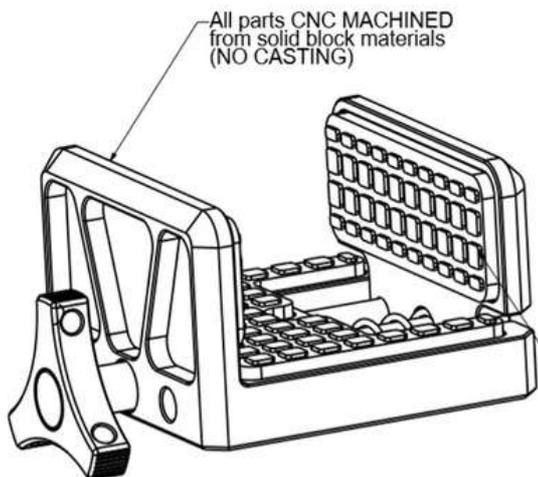
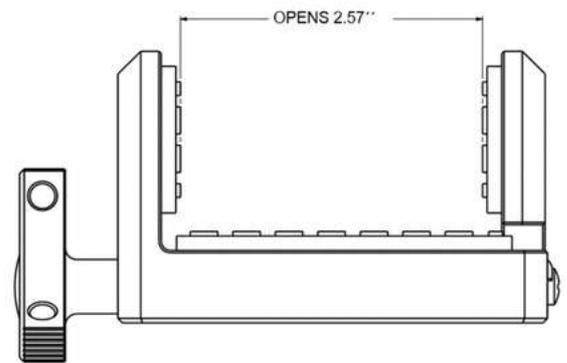
RIFLE MOUNT

TS-RM-01

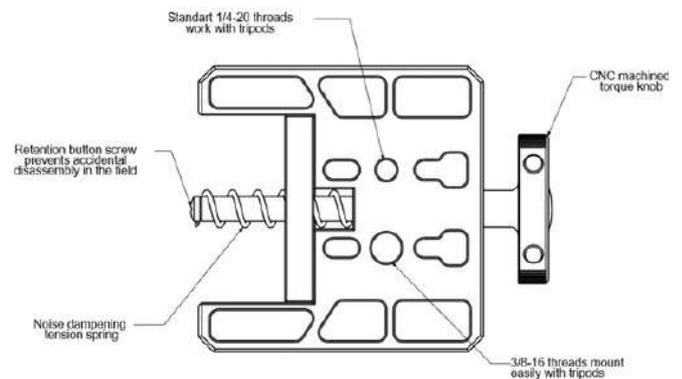
TS-RM-01 rifle mount is designed to make accurate and precision shot, which will make standard tripod to the stable shooting in any field conditions.

FEATURES

- All parts are CNC MACHINED from solid block materials (NO CASTING).
- Made from high strength 6000 series aircraft grade aluminum and stainless steel.
- Hard anodized finish, for superior resistance to corrosion.
- 1/4 -20 mounting threads and 3/8-16 back up threads.
- Rubber pads to avoid vibration
- Weight: 450g (16 oz)



Rubber pads designed to absorb vibration and reduce muzzle jump



Tehchnical specification	TS-RM-01
Weight	450g / 16oz
Tripod Mounts	1/4 -20 mounting threads and 3/8-16 back up threads
Material	6000 Series Aluminum and Stainless steel
Open Width	65.3mm / 2.57"
Close Width	39.1mm / 1.54"

TEMPERATURE AND HUMIDITY SENSOR

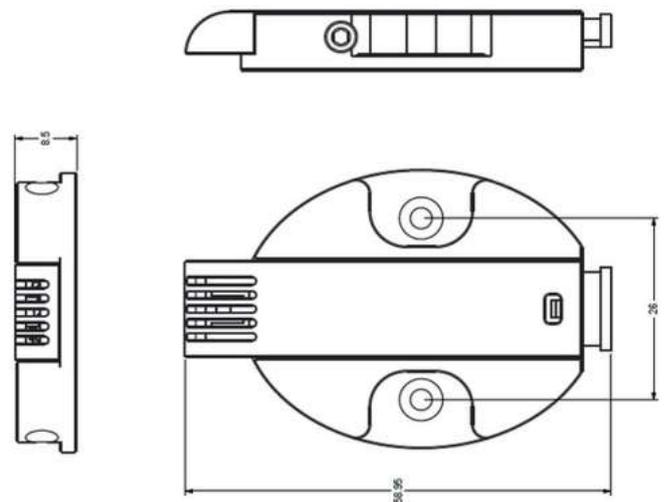
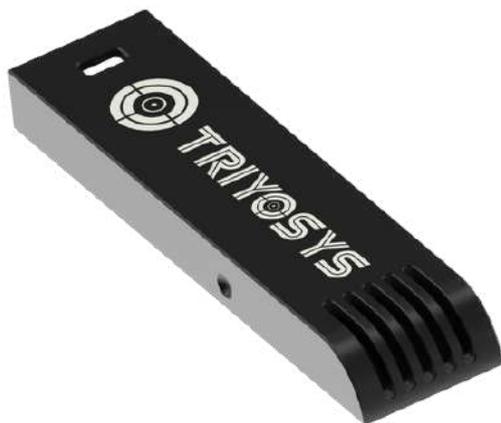
TS-S-TH-02

It is a temperature and relative humidity sensor with high measurement accuracy, which can fit into small and narrow spaces with its compact design. It has low power consumption, it can send measurement data digitally over only 2 wires.

It can make stable measurements at different humidity and temperature values. Thanks to the mounting apparatus, it can be easily mounted in electronic device boxes and other environments. With its plug-in feature, it can be run quickly without the need for any driver and program.

FEATURES

- With its small and compact design, it can fit into small and narrow spaces.
- It has high measurement accuracy.
- Thanks to the mounting apparatus, it can be easily integrated into different surfaces.
- It can be operated without the need for any program with its plug-in feature.



Technical specification	TS-S-TH-02
Measuring Range Temperature	-40...+85 °C
Measuring Range Relative Humidity	0..95 %r.h.
Accuracy Air Temperature	± 0.3 °C
Accuracy Relative Humidity	± 3 % r. h
Humidity value dependent on temperature	±0.00035 x Relative Humidity x (T-20 °C)
Supply Voltage	2.5 - 5.5 VDC
Output	Two-wire (SCL-SDA)
Frequency	500Hz - 5kHz
Protection Rating	IP20
Cable	2m



AIR TEMPERATURE AND RELATIVE HUMIDITY SENSOR

TS-S-TH



It is a sensitive sensor that can work in harsh weather and ambient conditions to measure relative humidity and air temperature. It has low power consumption and high measurement accuracy.

Thanks to the sinter filter on it, it can make reliable measurements in any environment. It has analog, digital and both analog and digital outputs. It can be easily mounted on different structures such as ships and buildings. It can work in harsh weather conditions with its accessories.

TECHNICAL DATA:

- Measuring Range Air Temperature: -40...+70 °C
- Measuring Range Relative Humidity: 0...100 %r.h.
- Accuracy Air Temperature: ± 0.1 °C, 1/3 DIN IEC 751 Class B
- Accuracy Relative Humidity: ± 2 % r. h. at: 5...95 % r. h. • +10...+40 °C (at > 0.5 m/s) • plus: 0.1 % r. h./ °C at: +10 °C • > +40 °C
- Range of Application: 0...100 % r. h. • -40...+70 °C
- Supply Voltage and Power Consumption: 6...30 VDC ---- 10mA
- Measuring Elements: Humidity: Capacitive, Temperature: Pt100 1/3 DIN (DIN EN 60571) • IEC 751 Class B (± 0.1 °C)
- Housing: Stainless steel • IP 65 • Protection class of filter IP 40 • Sinter filter for outdoor use
- Dimensions and Weight: 0.2 kg
- Cable: 3 m

Functions	TS-S-TH-01 With analog output		TS-S-TH-01-DI With digital output		TS-S-TH-01-DA With both analog output and digital output	
	Pin Description	Pin Number	Pin Description	Pin Number	Pin Description	Pin Number
Supply pins	Vin (+)	1	Vin (+)	1	Vin (+)	1
	GND (-)	2	GND (-)	2	GND (-)	2
Analog Output Pins	0 - 1VDC (+)	3	-	-	0 - 1VDC (+)	3
	0 - 1VDC (GND)	4	-	-	0 - 1VDC (GND)	4
Digital Output Pins	-	-	TX (+)	3	TX (+)	5
	-	-	TX (-)	4	TX (-)	6
PT100 Output Pins	Force (+)	5	RX (+)	5	RX (+)	7
	Force (-)	6	RX (-)	6	RX (-)	8
	RTDIN (+)	7	RS-GND	7	RS-GND	9
	RTDIN(-)	8	Force (+)	8	Force (+)	10
	-	-	Force (-)	9	Force (-)	11
	-	-	RTDIN (+)	10	RTDIN (+)	12
-	-	RTDIN(-)	11	RTDIN(-)	13	



WIND SPEED SENSOR

TS-S-WS-01

The wind-speed sensor can be easily used in all kinds of industrial applications with its high sensitivity, simple assembly and robust structure.



FEATURES

- High precision and compact design
- Fast and Direct assembly
- Operation in a wide temperature range
- Wide wind speed measurement range
- Magnetic start value and non-contact measuring principle

Tehchnical specification	TS-S-WS-01
Measuring range	0 to 50 m/s
Precision	< ± %2
Analog Output	4 to 20 mA
Accuracy Relative Humidity	± 3 % r. h
Heating	Available (18 W)
Power Source	20 to 28 VDc
Dimensions	95 X 230 mm
Weight	250 g
Operating Temperature	-30 to +70C°

WIND DIRECTION SENSOR

TS-S-WD-01



The wind-speed sensor can be easily used in all kinds of industrial applications with its high sensitivity, simple assembly and robust structure.

FEATURES

- High precision and compact design
- Fast and Direct assembly
- Operation in a wide temperature range
- Magnetic start value and non-contact measuring principle
- 0 to 360 degree measuring range
- Blade type wind vane



Tehchnical specification	TS-S-WS-01
Measuring range	0 to 360°
Precision	±2°
Analog Output	4 to 20 mA
Accuracy Relative Humidity	± 3 % r. h
Heating	Available (18 W)
Power Source	20 to 28 VDC
Dimensions	232 X 327 mm
Weight	350 g
Operating Temperature	-30 to +70C°

SMART NiPU NITROGEN PURGING UNIT

In the realm of high-precision electronic and optical equipment, especially high voltage laser systems, maintaining an optimal environment is crucial. The introduction of SMART NiPU marks a significant advancement in this field. This cutting-edge technology is specifically designed to enhance the effectiveness and efficiency of dry nitrogen purging, a critical process for the upkeep and performance of sensitive equipment.

1

Optical
Instruments

2

Laser Systems

3

Underwater
Equipment

4

Thermal Imaging

5

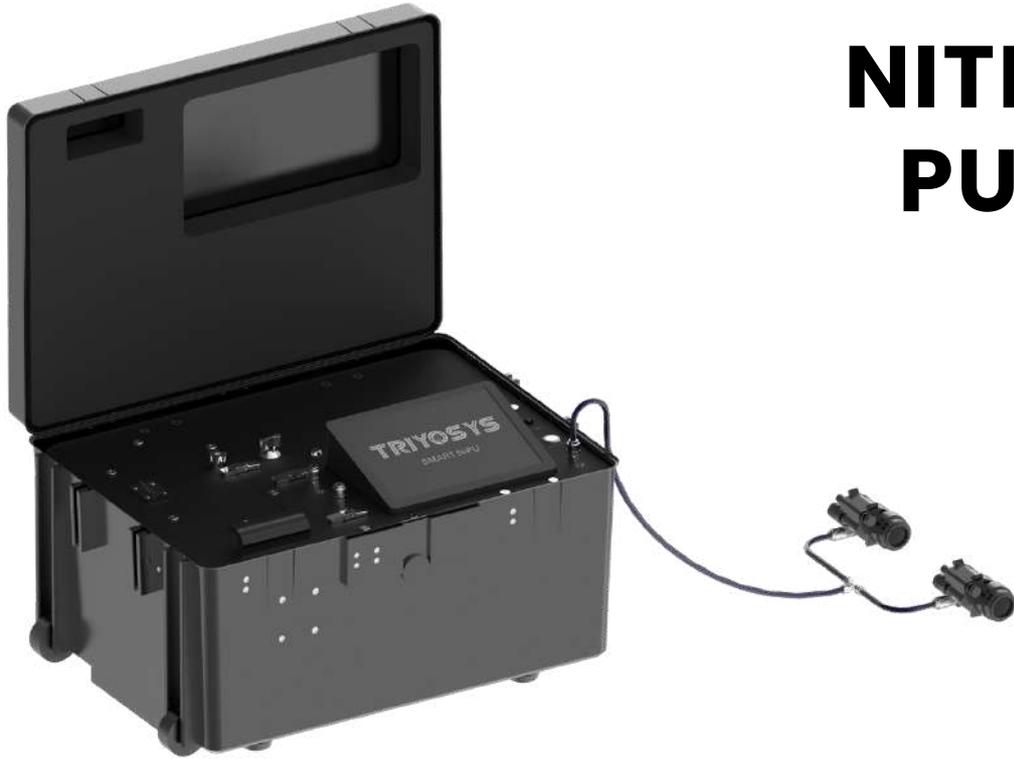
Surveillance
Instruments

6

Work Stations

6 VA C Carbon 12.0107 $1s^2 2s^2 2p^2$ 11.2603	7 VA N Nitrogen 14.0067 $1s^2 2s^2 2p^3$ 14.5341	8 VIA O Oxygen 15.9994 $1s^2 2s^2 2p^4$ 13.6181
14 Si Silicon	15 P Phosphorus	16 S Sulfur





NITROGEN PURGING UNIT SMART NIPU

The Smart NiPU is an automated nitrogen gas purging and leakage test system for electronic, optical, high voltage, laser systems and other equipment that require gas drying inside. It is designed to perform humidity removal and leak testing in the most efficient way.

Completely Automated Use;

One of the most important features that makes the Smart NiPU perfect is that completely automated and smart system. The user can easily change the pressure values as mBar, kPa or PSI. At the same time, the temperature unit can be set as °C or °F. It is the most automated and smartest system of its class in the purging process and leakage test, it is sufficient to connect the equipment and enter the dew point and pressure value for use. The system will continue the purging process until the desired dew point value is reached. Dew point value is instantly displayed on the screen in the form of a time-dependent graphic. In the leak test, the tolerance value can be specify by the user. Pressure changes can be displayed instantly or retrospectively

Dew Point Feature;

Humidity in the gas and gas quality is expressed as dew point. Smart NiPU measures the dew point in an equipment. The measured dew point value can be displayed instantaneously in graphical form. The purging process is carried out by taking the dew point value as a reference

Adjustable Purging

Process; Purging process can be done at any desired value between 0 and 1000 mBar. The pressure resolution for the purging process is 1 mBar. Thanks to this feature, the purging process is carried out in the most efficient way for different equipments

Vacuum Feature;

Another feature that put forward Smart NiPU from similar ones is its ability to vacuum. Thanks to its vacuum feature, unwanted humid air is completely thrown out of the system. Thus, the purging time is reduced.

Ultra Economical Gas Usage;

Thanks to the precision pressure regulator, excess pressure is not released during the purging process. Thus, unnecessary gas consumption is prevented.

NITROGEN PURGING UNIT



The Smart NiPU is an automated nitrogen gas purging and leakage test system for electronic, optical, high voltage, laser systems and other equipment that require gas drying inside.

It is designed to perform humidity removal and leak testing in the most efficient way.

Technical data	
Useable Gases	Air, Nitrogen, SF6, Helium, Argon
Adjustable Pressure Ranges	0-1000 mBar
Adjustable Pressure Resolution	1 mBar
Display Pressure Resolution	0.1 mBar
Adjustable Vacuum Pressure Ranges	0-1000 mBar
Dew Point Range	-20°C / +80°C
Dew Point Accuracy	±2°C
Dew Point Precision	0.1°C
Power consumption	20 W
Input Voltage	220 V
Dimensions	668x476x369 mm (26.3x18.7x14.5 inch)
Weight	30 kg
Operating temperature	-10°C / +50°C
Storage Temperature	-40°C / +60°C

Input q-ty	PORTABLE TYPE/ with tube	PORTABLE TYPE/ without tube	PANNEL TYPE
1	TS-AG-0-01	TS-AG-0-C-01	TS-AG-0-P-01
3	TS-AG-0-03	TS-AG-0-C-03	TS-AG-0-P-03
5	TS-AG-0-05	TS-AG-0-C-05	TS-AG-0-P-05

NITROGEN PURGING PANEL



SMART NiPU, intelligent nitrogen gas filling and purification system is used for electronic, optical, high-voltage laser systems.

It is the most effective and efficient latest technology product aimed at drying with.



FEATURES

- Easy to Use Single Link Cleaning
- Dew Point and Pressure Reading
- Portable and Robust
- Smooth and Stable Programmable System
- Automatic Evacuation Operation

Technical data	TS-AG-0-01
Useable Gases	Air, Nitrogen, SF6, Helium
Max. Pressure Setting	0-1000 mBar
Pressure Resolution	1 mBar
Display Pressure Resolution	0.2 mBar
Min. Vacuum Pressure Setting	-700 mBar
Dew Point Range	-20°C / +80°C
Dew Point Resolution	0.1°C
Dew Point Accuracy	±2°C
Power	100-230 Volt 50 Hz - 60 Hz
Input Voltage	220 V
Weight	20 kg
Operating temperature	-10°C / +50°C
Storage Temperature	-40°C / +60°C
Flow	20 l/min

OPERATOR CONTROL UNIT



The Operator Control Unit offers features for control Pan-Tilt units and displaying data from the useful load to be used in these unit.

OCU has wireless communication infrastructure, long battery life, easy-to-use design with a large screen. While easy to use with ergonomic design in harsh military condition, suitable to work in all weather conditions with its IP67 impermeability.

FEATURES

- Large screen size
- Wireless communication infrastructure
- Ethernet & USB interfaces
- Impact absorber corners
- Biaxial joystick & quinary button control
- High durability battery life
- %100 CNC Machinery, high strength (AL 6000 Series, PA6 & Stainless steel)
- Screen protection & Sunshade design
- Easy desktop usage with back supports
- Neck strap
- Uninterrupted usage with Hotswap



Technical data	TS-KK-05
Screen Size	Air, Nitrojen, SF6, Helium
Screen Brightness	700 cd/m2
Screen Resolution	1920x1200
Use with Gloves	Mevcut
CPU	Intel i5 7300U
RAM	8GB
SSD	128GB
OS	Windows 10
Wireless Communication inst.	Wifi + Bluetooth
Input/Output Connectors	USB, Ethernet ve Power Input
Battery Life	5,5 hours
Mechanic Dimensions	258mm x 430mm x 76mm
Weight	3,6 kg
Protection / IP Rating	IP67
Working Temperature	-20°C / +52°C
Storage Temperature	-40°C / +55°C



BATTERY PACK

Battery Pack has 2 BB-2590 that can provide power support. The battery needs to be changed is shown to user with led display. Designed to withstand harsh weather conditions. Easy portable and quick change battery design provide easy usage.

FEATURES

- 1 Power outlet
- 1 Charging terminal
- High strength Aluminium and stainless steel
- Led display for each two battery
- Quick change cover design
- Easy portable
- Hot-swap
- Control button for power outlet
- Two chargeable BB-2590 Battery



Technical data	TS-AK-01
Weight	6 kg
Mechanic Dimensions	216mm x 288mm x 193mm
Battery Quantity	2
Protection / IP Rating	IP67
Input/Output Connectors	S20K0C-P04MFG0-500S
Maksimum Decharge Current	10A
Nominal Voltage	28.8V
Nominal Capacity	21Ah
Decharge Working Temperature	-20°C / +52°C
Charge Working Temperature	0°C / +55°C
Storage Temperature	-40°C / +55°C



BATTERY CHARGER

Battery charger case was designed to charge BB2590 battery. It can charge two BB2590 battery at the same time. Batter charger case has IP67 protection level to work in difficult conditions.

FEATURES

- Quick Setup
- Easy transport
- IP67 Protection
- Work in difficult conditions

Technical data	TS-BK-02
Charge Topology	CC / CW Li-ion
Input Voltage	200-240 V / 50-60 Hz
Maximum Input Current	1.8 A
Output Voltage	33.6 V
Maximum Output Current	4 A
Weight	1.8 kg
Mechanic Dimensions	235mm x 156mm x 89mm

BATTERY CHARGER



Technical data	TS-BK-02
Charge Topology	CC / CW Li-ion
Input Voltage	200-240 V / 50-60 Hz
Maximum Input Current	1.8 A
Output Voltage	33.6 V
Maximum Output Current	4 A
Weight	1.8 kg
Mechanic Dimensions	235mm x 156mm x 89mm



SHOOTING CONTROL UNIT

Pro-Mavzer is a shooting control system that eliminates the target by using small caliber (5.56) guns or man portable rocket launchers. Gun or rocket launcher can be mounted easily and quickly to the system by picatinny interface.

Pro-Mavzer system has target detection, target tracking, area scanning, ballistic calculation, weapon library capabilities. Weapon station can be controlled with Operator Control Unit (OCU) both by wired or wireless. To apply ballistics, the distance information can be entered manually or automatically by laser range finder. It provides a variety of use with different weapon models in its memory and there is no need any modification on weapon, just picatinny interface is enough to install.

Four operation modes of Pro-Mavzer provides the most comfortable use: Ordination mode, track mode, scanning, target detection mode. With ordination mode, it can be automatically directed to the area touched on the screen and ready to shoot. With the target tracking mode, it can track the selected target. With scanning mode, system can scan the area between two points selected by user. With target detection mode, system shows posible targets to the user.

FEATURES

- Corrosion resistant coating and paint
- Four different mode
- Made of 100% CNC, high strength 6000 series aluminum and stainless steel
- IP-67 Protection class
- With cable and wireless control
- Easy mount, portable and light weight

Technical data	TS-PM-01
Pan axis Movement	n × 360°
Tilt Axis Movement	90° (+45° / -45°)
Weight	7 kg (without RPG, weapon, and tripod)
Material	6000 series aluminum and stainless steel
Operating Temperature Range	-32°C to 55°C
Protection / IP Rating	IP 67

SHOOTING CONTROL UNIT

In the world of tactical operations, the Pro-Mavzer stands out as a game-changer, offering unmatched precision and lethality. What sets this system apart is its exceptional accuracy, considered the best in its class by weight. This innovative system offers a modular and lightweight solution, ensuring that operators can achieve one-shot, one-hit accuracy. A key feature of the Pro-Mavzer is its user-centric design. Operators can control the system remotely, ensuring safety and strategic advantage. This aspect is crucial in modern tactical scenarios where distance can be a critical factor for operator safety.

1

Target Detection

2

Day/Night Operation

3

Lock & Track

4

Light-weight

5

Wired or Wireless

6

Easy gun or rocket launcher mount



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by **promec**



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