



# 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 aluminium and stainless steel.



Payload Capacity  
up to 21 kg



Rated Torque at Tilt Axis  
30 Nm



Position Accuracy  
0,02°



Position Repeatability  
0,01°



Zero backlash

# TECHNICAL DATA / TS-MPT H412 SERIES

Product Code	TS-MPT-H412-1	TS-MPT-H412-2	TS-MPT-H412-3
Payload Capacity	21 kg	21 kg	21 kg
Rated Torque at Tilt Axis	30 Nm	30 Nm	30 Nm
<b>Power Consumption</b>			
Max. Power Consumption	60 W	80 W	120W
Standby Power Consumption	2 W		
Heater Power	40 W		
Operating Voltage Range *	18-32 V		
<b>Pan</b>			
Range of travel *	n × 360° (Continuous Rotation)		
Max. Speed	24°/s	40°/s	90°/s
Min. Speed	0.005°/s		
<b>Tilt</b>			
Range of travel *	180° (+90°/-90°)		
Max. Speed	16.2°/s		
Min. Speed	0.005°/s		
<b>Position Accuracy and Repeatability</b>			
Position Accuracy	0.02°		
Position Repeatability	0.01°		
Backlash	None		
<b>Rotation Limits</b>			
Software Limits	Available		
Mechanical Limits	Available at Tilt Axis		
<b>Encoder Type and Position Feedback</b>			
Encoder Type *	Magnetic Incremental		
Position Feedback	0.0048°		
<b>Operating Temperature</b>			
Working Temperature	-32°C to +55°C		
Storage Temperature	-40°C to +60°C		
<b>Drive Systems</b>			
Drive System (Pan)	Stepper Motor		BLDC Motor
Drive System (Tilt)	Stepper Motor		Stepper Motor
Brake	Magnetic Brake	Magnetic Brake at Tilt Axis None at Pan Axis	Magnetic Brake at Tilt Axis None at Pan Axis
<b>Construction</b>			
Exterior Finish	Powder Coat Black (Default), Special Finishes Available		
Weight ***	8.2 kg		8.5 kg
Dimensions ***	292.6x295.3x148.6 mm		
Payload Mounting Type	Top or Side Mount		

# TEHNIICAL DATA / TS-MPT H412 SERIES

Ambient Conditions and EMI/EMC Compatibility	
Electromagnetic Compatibility	MIL-STD-461G (CE102, CS101, CS114, CS115, CS116, CS118, RE102 and RS103)
Min. Operating and Storage Temperature	MIL-STD-810G, Method 502.6 Procedure II and Procedure I
Max Operating and Storage Temperature	MIL-STD-810G, Method 501.6 Procedure II and Procedure I
Thermal Shock	MIL-STD 810G, Method 503.6 Procedure I-C
Moisture Resistance	MIL-STD 810G, Method 507.6 Procedure II
Rain Resistance	MIL-STD-810G, Method 506.6 Procedure I
Dust and Sand Resistance	MIL-STD-810G, Method, 510.6 Procedure I and Procedure II
Vibration Compatibility	MIL-STD-810G, Method 514.7 Procedure I
Shock Compatibility	MIL-STD-810G Method 516.6 Procedure IV
Icing and Freezing Rain Resistance	MIL-STD-810G, Method 521.3 Procedure I
Protection / IP rating	IP67
Control of Positioner Unit	
Command and Control	GUI-Joystick-Software
Protocol	TS-MPT Protocol and Pelco-D
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 (2 Channel Configurable)
TTL	1 Channel
IP	1 Channel Gigabit Ethernet
Communication Interfaces to Pantilt	
Serial	RS232 or RS422/RS485
IP	Optional
Connectors *	
Main Connector	D38999/20WD35PN
Payload Connector	D38999/20WD35SN

\* If you have other requirements or need further assistance, please reach out to us.

\*\* Configuration is available for particular lines including RF, SDI, HD-SDI, Fiber, etc.

\*\*\* The specified values apply to top mount setups.

**Please note:** Accessories such as cables and power supplies are not included in the package.