APT-02 AUTOMATIC PASSIVE SOLAR TRACKER

Automatic Sun Tracking System for Solar Instrumentation

The Middleton Solar APT-02 is a 2-axis tracker to automatically point solar radiometers at the sun throughout the day. The APT-02 is a simple Passive Tracker without the closed-loop control of the fully active AST-02/3 Tracker from which it is derived.

Performance Specification

pointing resolution	0.02°
pointing accuracy	0.15° (Tracker vertical, sun elevation > 5°)
angular velocity	9°/sec. (max.)
rotation	vertical/pan/azimuth axis = ±250° (0° = true North/South) horizontal/tilt/zenith axis = +100°, -15° (0° = horiz, 90° = vert)
torque (at 12VDC)	10Nm
payload	8kg balanced

AUTOMATIC SETUP, ACCURATE SUN TRACKING, RELIABLE, AFFORDABLE

Tracks the sun during the day and reverses to dawn position during the night.

Ideal for Direct Normal Irradiance (DNI) measurement withn a pyrheliometer.

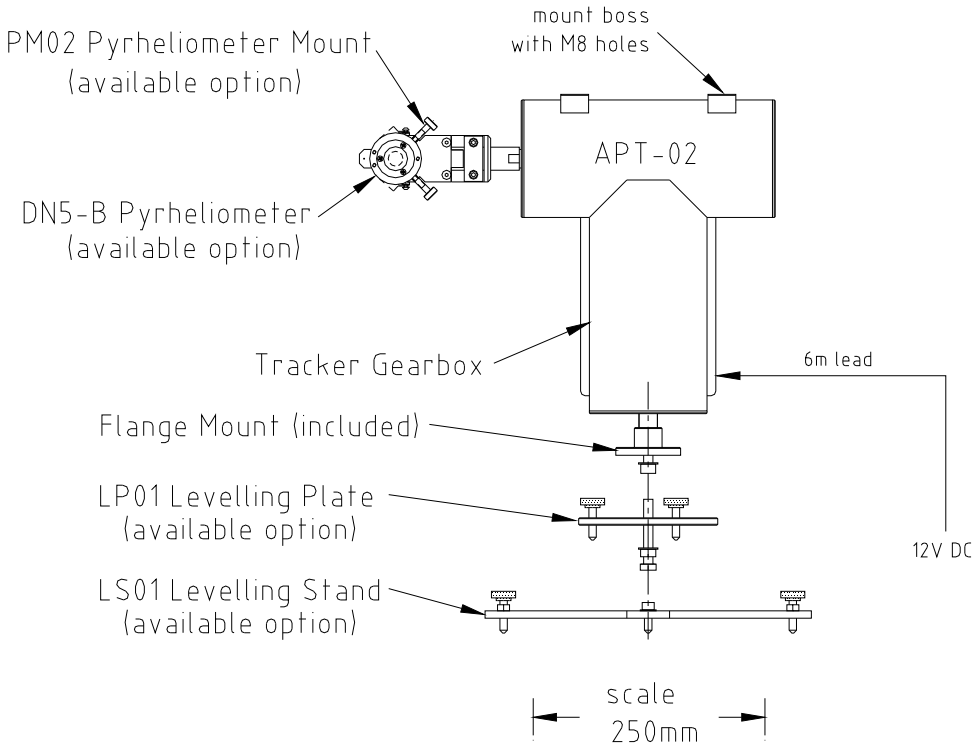
In-built computer controller, with integrated GPS for automatic location configuration.

GPS clock synchronization for accurate real-time pan and tilt positioning.

Very low power requirement; suitable for solar powered battery operation.

JUST CONNECT TO 12VDC SUPPLY, ORIENT TO SUN, AND LEAVE ALONE

Middleton Solar APT-02 Automatic Solar Tracker Detailed Specification



General Specification

drive mechanism	direct harmonic gearing, zero backlash
motor	stepping motor
horizontal axle	Ø25 x 130mm
operating temperature	-20 to +50°C
power requirement	12V DC nominal (11-16VDC), <10W continuous
power lead	2-core, 6m
control method	in-built computer controller with GPS
user interface	status indicator LED; internal USB port
sealing	IP 65, all-weather
construction	aluminium & stainless steel
weight	8kg
shipping size & weight	47 x 43 x 28cm; 12kg

standard configuration	Tracker Gearbox & Control Box, with single horizontal axle (Ø25mm)

recommended options	LP01 Levelling Plate (with level vial) PM02 Pyrheliometer Mount
available options	LS01 Levelling Stand (with level vial) PM04 Dual Pyrheliometer Mount Status Output Lead (TTL or RS232)

Specifications subject to change