INSTRUMENTS

A+T ATP2 and Pilot Processor installation

Installation guide v1.0

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1. Introduction

This user guide assumes familiarity with marine electronic navigation systems and basic PC software tools.

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This guide covers the A+T ATP2 and Pilot Processor installation, as the ATP2 and Pilot Processor platform hardware are common. Where they differ, the ATP2 specific connections are noted as such and for emphasis are contained within (parentheses).

GNSS (Global Navigation Satellite System) is used to refer to GPS, Galileo, GLONASS and the other such positioning systems.

Please visit: - www.AandTinstruments.com/downloads for the latest version of the manual.

2. Connectivity

The A+T Pilot system may be installed to operate as a stand alone system, however the Pilot and ATP2 are compatible with many instrument systems and data buses including:

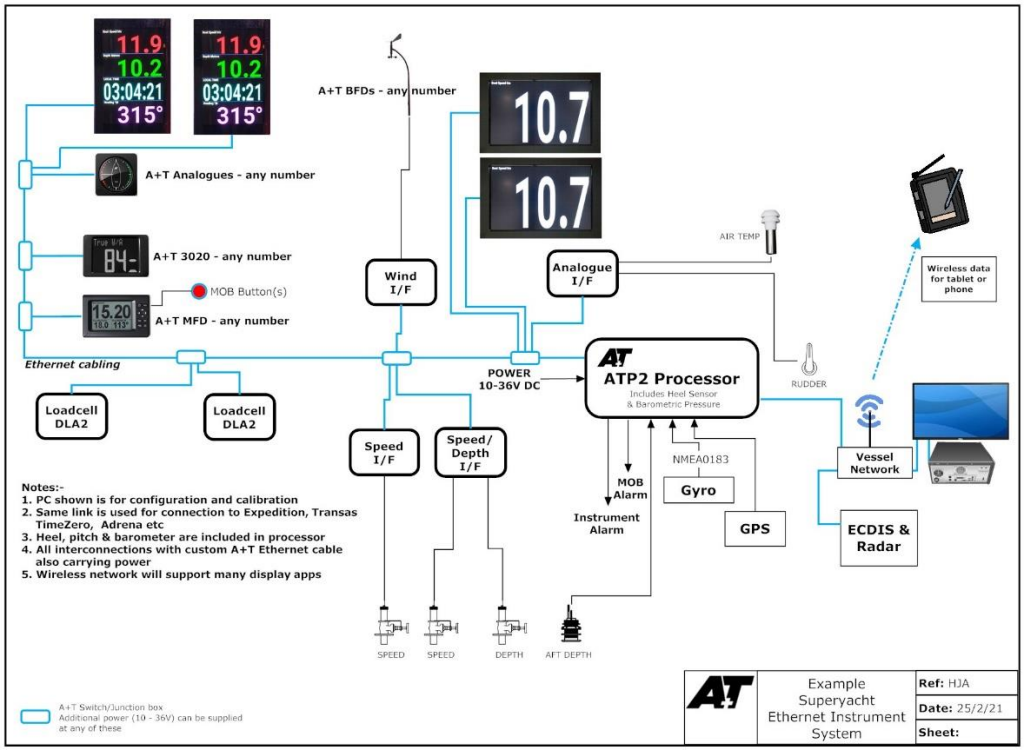
- A+T Ethernet
- Fastnet for compatibility with B&G H2000, H3000, WTP2/3 instrument systems and Pilots
- CANbus – N2k compatible for use with N2k displays and chart plotters
- NMEA0183

3. Web-server

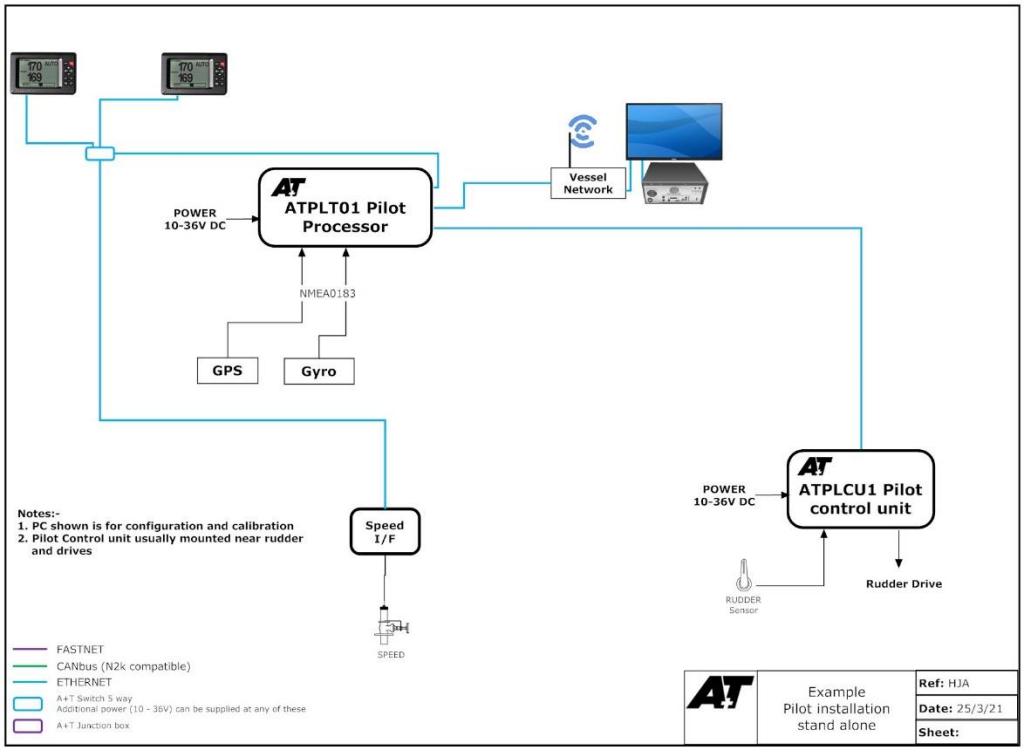
Central to the commissioning and setup, calibration and diagnostics of the A+T Processors is the built in web-server. It can be accessed from any ethernet connected device via its web-browser. See section 7.

4. Example system configuration

ATP2 system

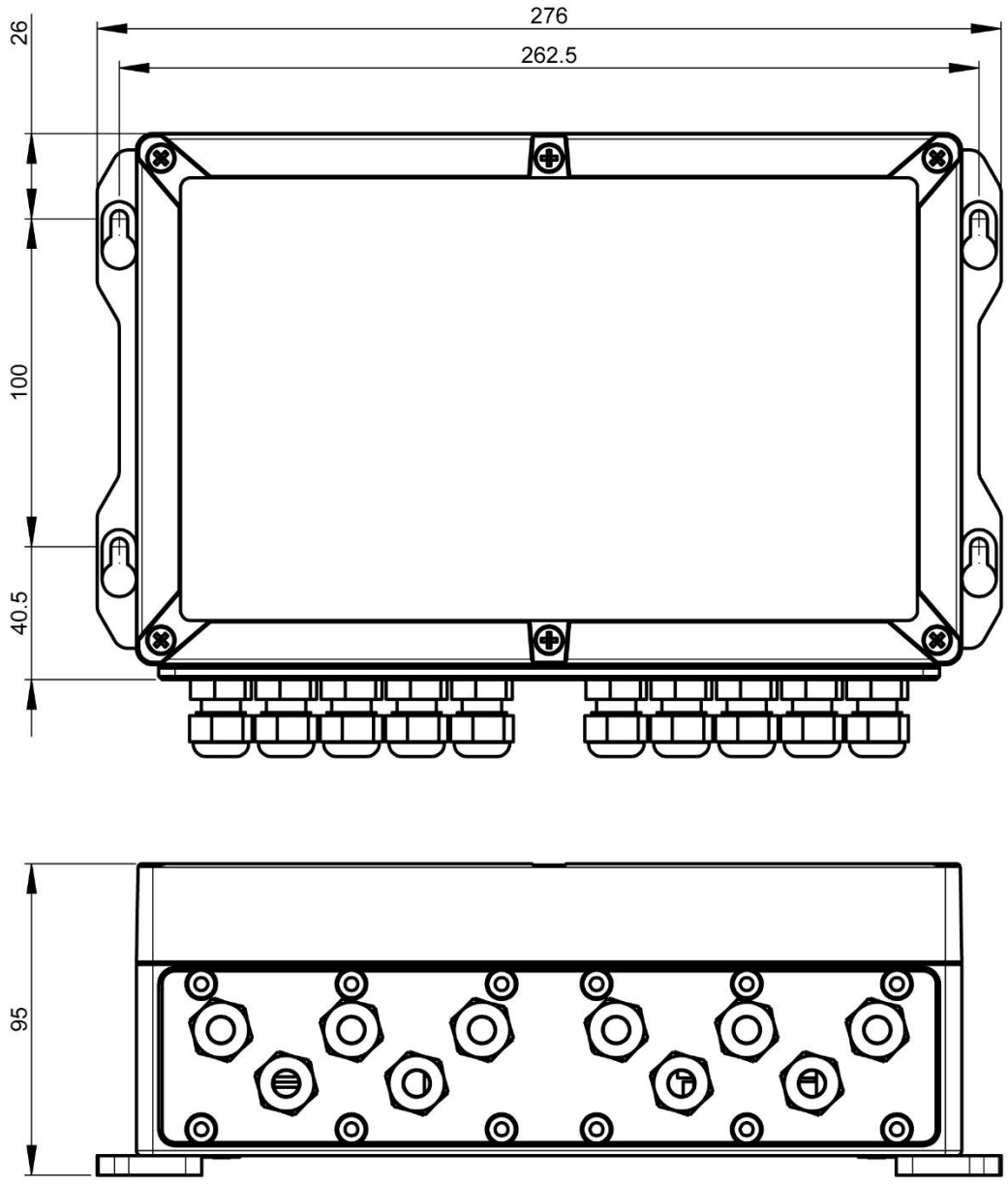


A+T Pilot stand alone system



5. Processor Installation

The Processor may be mounted in any convenient location and orientation. It is recommended to physically mount with the cable glands either vertically down or horizontally to reduce the risk of water ingress.

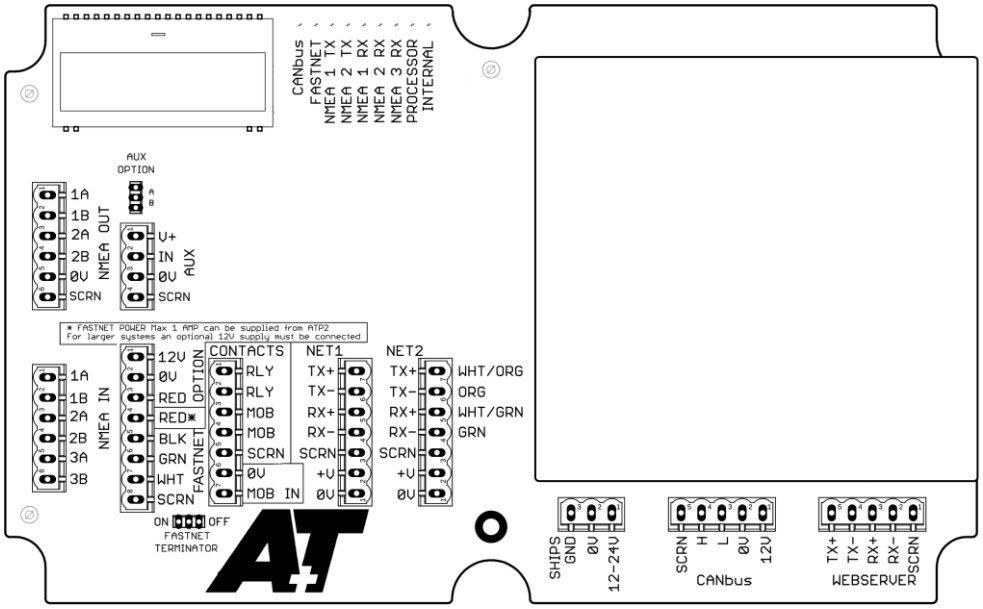


Specifications and dimensions

Power consumption	0.08 Watts
Weight	1.5 kg
Operating temperature	-10 to +70 deg C

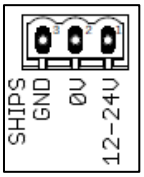
Getting started

5.1. Provide power to the Processor 10-36 VDC per section **6.** Below
5.2. Gain access to the web-server port per section **7.** Below
5.3. Access the Processor web-server and proceed to with the installation



6. Power supply

Connect 12 or 24v power with 5A fuse or circuit breaker protection



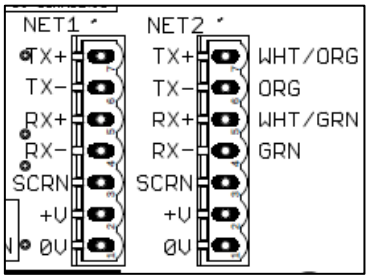
The Pilot Processor Ship's Ground terminal should either be left disconnected or connected to Ship's Ground. It should not be connected to the power 0V.

7. Ethernet network connection

There are three on board Ethernet connections – NET1, NET2 and WEBSERVER

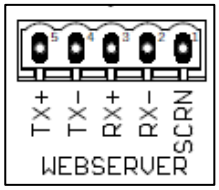
NET1 and NET2 are equivalent and can be used to reduce daisy chaining

Terminal	Cat5e screened cable
TX+	White/Orange
TX-	Orange
RX+	White/Green
RX-	Green
SCRN	Screen
+V	White/Brown & Brown
0V	White/Blue & Blue



The +V and 0v connections use spare wires within cat5e cable. Twist together the White/Brown and Brown pair, and the White/Blue and Blue pair for connection to the +V and 0V terminals. The ATP2 and Pilot processor will supply power over these pairs to power A+T ethernet switches, but not displays or other devices. The Pilot Processor provides power to the Pilot Controller micro processor over this ethernet connection.

WEBSERVER is to connect directly to the ethernet port on your ships network to access the Processor Web-server.



System IP addresses as shipped:

	ATP2	**Pilot processor**
Web-server	192.168.1.219	192.168.1.229
NET1/NET2	172.16.15.1	172.16.31.1

On powering up, the Processors wait for 5 seconds to see if a DHCP server is providing an IP address on the connected network (if there is one). If no DHCP address is received, then the IP address reverts to its fixed IP address. This may be changed once initial access to the web-server is achieved.

The IP address the Processor has adopted is displayed on the small LCD display on the top left of the Processor cabinet.

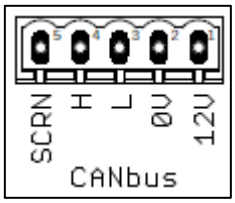
8. CANbus (N2k compatible)

For connection of a N2k system via drop cable

The CANbus N2k power does not supply power to the Processor.

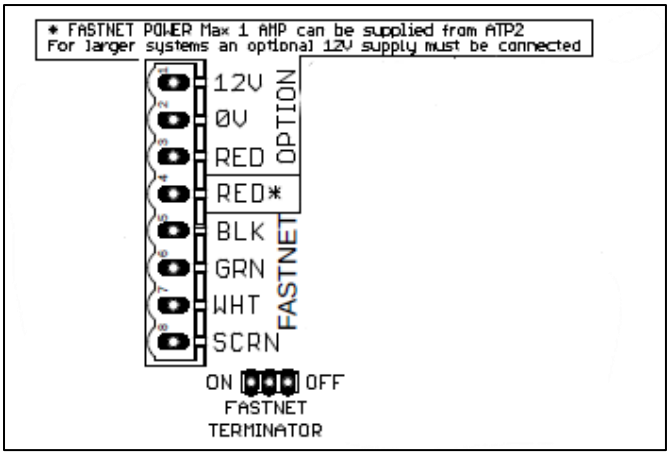
The N2k network must be supplied power independently. If it is not supplied power the CANbus port will be inactive on the Processor.

CANbus terminal	N2k
SCRN	Screen
CAN+/NET H	White
CAN-/NET L	Blue
0V	Black
12V	Red



NOTE: The 0V and 12V terminals do not supply power.

9. FASTNET bus connection



9.1. Connect white, green, black, red and screen of the Fastnet cable as indicated

9.2. An in-built 100 Ohm resistor is mounted at the bottom of the Fastnet connector which is active when the header is in the ON position. This should be used when the processor is at one end of the Fastnet Network. Total terminator resistance on the Fastnet Network should be close (+/- 10%) to 50 Ohm

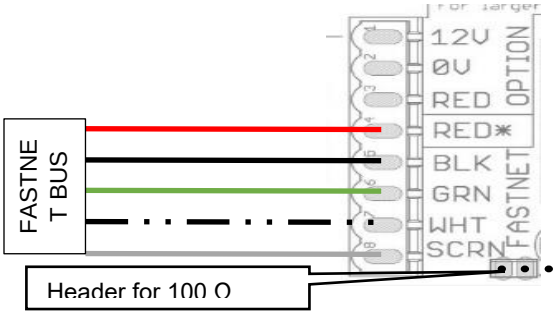
9.3. For the **RED** wire connection

9.3.1. When any B&G displays, sensors, interfaces or other 12V only units are to be connected to the Fastnet network, then this must be supplied with 12V.

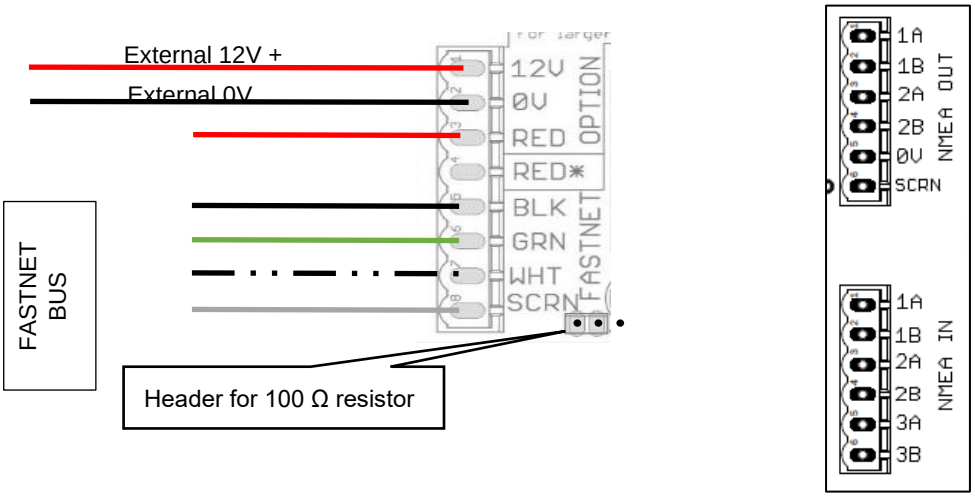
9.3.2. If only A+T displays and interfaces are used, then 24V may be used.

9.4. Two options for providing 12V power to Fastnet are available

9.4.1. For a small, low power system (up to 1 amp, typically less than 6 displays) then power may be taken from the Processor Fastnet connector marked **RED***



9.4.2. For a larger system the Fastnet red should be connected to the **RED** terminal immediately above this marked **OPTION** and a 12V external power source with a 5A fuse or circuit breaker should be connected to the connecters marked **12V** and **0V**



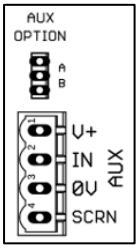
10. NMEA0183 IN and OUT

There are three input and two output NMEA0183 serial input ports on the Pilot Processor.

Screen should not be connected on the input cables.

See the Pilot or ATP2 manual for NMEA0183 configuration.

11. AUX



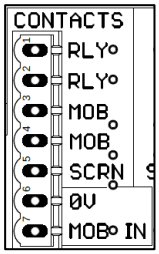
Tiller control units (follow up and non-follow up) connect to the **AUX** input.

Two options are available and are selected at the header **AUX OPTION** above the terminals.

Position **A**: Analogue variable input for follow-up units

Position **B** : ON/OFF input for non-follow up units

12. CONTACTS



A dedicated remote MOB contact closure switch may be connected. When **0V** and **MOB IN** are a closed circuit, the MOB alarm is triggered.

See the Pilot or APT2 manual for set-up.

When MOB has been triggered from any source, the **MOB/MOB** relay is closed until the MOB alarm is SILENCED. This may be wired to trigger audible or visual alarms, or other devices such as a JonBouy.

A second relay is available on **RLY/RLY** for alarm outputs. See the Pilot or ATP2 manual for setup.

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