

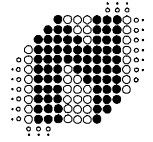
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AUTOTAG-P BASE-STATION (ATR430P Series) INSTALLATION GUIDE

This guide covers the following units:

ATR431P	115V AC Base-Station Unit
ATR432P	230V AC Base-Station Unit
ATR434P	12-24V DC Base-Station Unit

1. EQUIPMENT REQUIRED

3mm Allen key	M4 x 20mm machine screws	Power cable
3mm flat screwdriver	M4 nuts	Screened Communications Cable
Side-cutters	M4 washers (wide)	

2. GENERAL DESCRIPTION

The base-station is a robust, weatherproof device capable of being mounted outdoors and withstanding wide temperature / humidity ranges (-40°C to +70°C, 0 - 98% RH). The casing is constructed of an ABS plastic, which is impact- and UV-resistant. O-ring seals are incorporated to ensure minimal ingress of water and dust. (Cable access is via knockouts in the base.) Access to the electronics is via screws hidden behind clip-in panels on the front cover.

The unit may be either wall, pole or gantry mounted. It must be positioned so that it 'looks into' the vehicle.

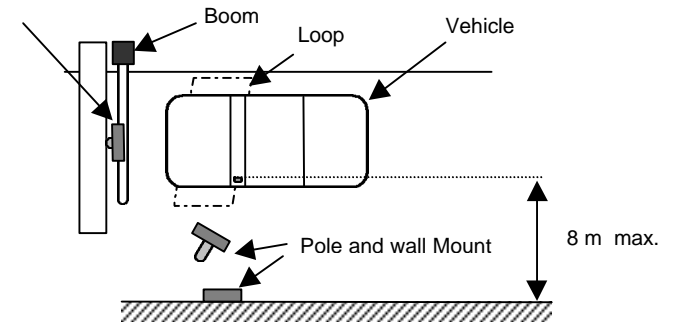


Figure 1. Positioning

3. MOUNTING

Wall mounting:

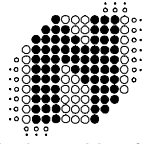
Wall mounting is possible when the wall is within the specified range of the furthest side of the vehicles to be monitored. The presence of metal re-inforcing in the wall has negligible effect on the operation of the base-station.

1. Determine the area in which the unit must detect. The base-station unit should be placed facing the middle of this area (Figure 1)
2. Unclip the two screw covers. Remove screws and front cover.
3. Knockouts are provided on the base. Remove the appropriate knockouts, including that of the cable access hole.
4. Route power and communications cables through the cable access hole.
5. Bolt base to wall via knockouts.
6. Connect cables according to wiring diagram (see Section 3).
7. **Before applying power:** Set the DIP switches according to the type of installation required. If the 'triggered' setting is to be used, ensure the arming input is connected and that the trigger system (e.g. loop detector) is functioning.
8. Apply power. The RED LED should be illuminated.
9. Holding a tag in front of the unit should cause the GREEN LED to flash and a beep to be heard. This indicates that the base-station is receiving code from the tag.

NB: The PCB does NOT need to be unscrewed from the front cover at any point. Doing so will result in the warranty being voided.

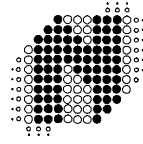
Pole or gantry mounting:

1. When mounting on a pole, ensure that the flange has a minimum diameter of 120 mm
2. A hole in the centre of the flange with min. diameter of 30 mm will allow for hidden cable access.
3. Ensure that the unit faces the window area of the vehicles to be monitored.
4. Mounting instructions are the same as for the above.



6. FCC REGULATIONS

When this system is used in the United States of America, only the following models may be used:



AUTOTAG-P BASE STATION MODELS

FT Number	Part Number	Voltage	Protocol
708FT0233	ATR434P-C2	12-24V DC	Clock & Data / Wiegand and RS-232
708FT0234	ATR434P-C2	12-24V DC	Clock & Data / Wiegand and RS-232 (McGann)

AUTOTAG-P TRANSPONDER MODELS

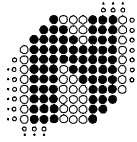
FT Number	Part Number	Model
708FT0210	AT430P	Programmable Tag
708FT0211	AT430P	Programmable Tag (McGann)

User in the United States of America.

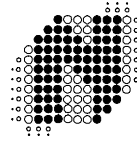
Please note the following important caution:-

Changes or modifications to this product not expressly approved by Nortech International (Pty) Ltd, in writing, could void the user's authority to operate the product.

If there is more than one Base-Station in proximity to another, it is not desirable for multiple Base-Stations to read the same tag. The ID's of the base stations must be set to different values. The ID's are set with dip-switch SW1, allowance has been made for 16 different ID's.



4. LAYOUT OF MAIN BOARD

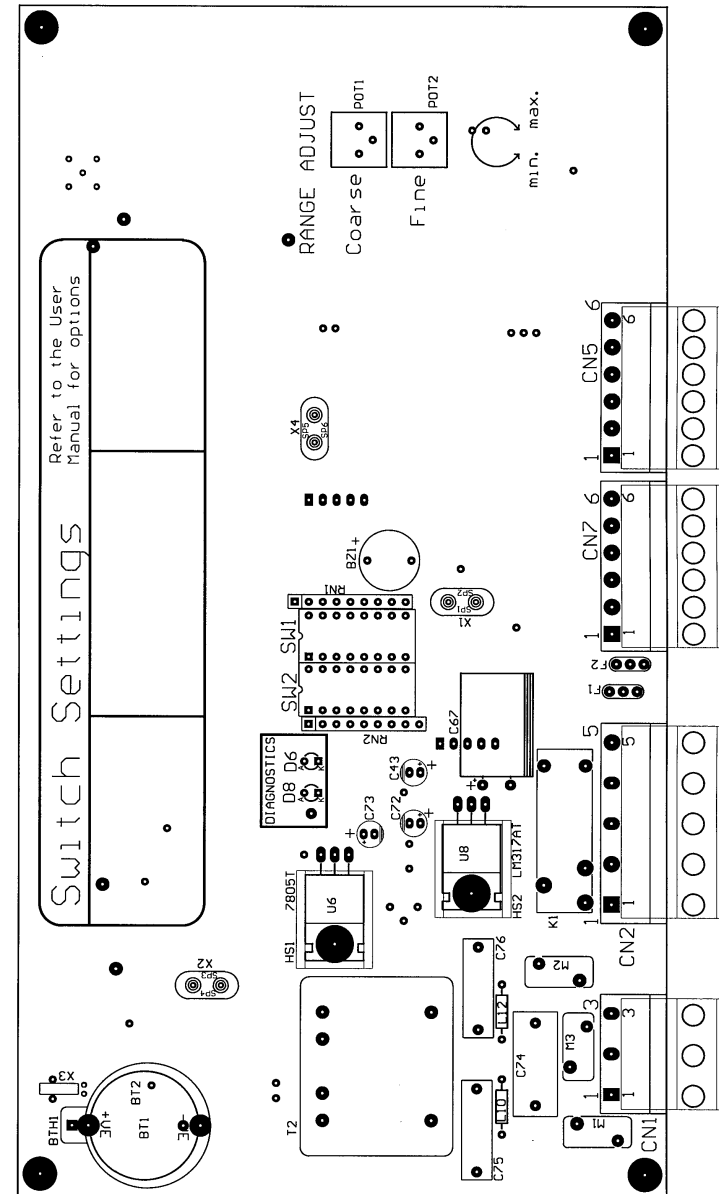


Dip Switch 1 Configuration SW1:

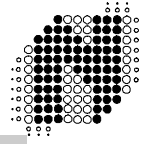
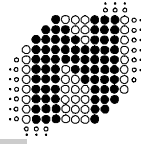
Address/ID	SW1-5	SW1-4	SW1-3	SW1-2	SW1-1
0	ON	ON	ON	ON	ON
1	ON	ON	ON	ON	OFF
2	ON	ON	ON	OFF	ON
3	ON	ON	ON	OFF	OFF
4	ON	ON	OFF	ON	ON
5	ON	ON	OFF	ON	OFF
6	ON	ON	OFF	OFF	ON
7	ON	ON	OFF	OFF	OFF
8	ON	OFF	ON	ON	ON
9	ON	OFF	ON	ON	OFF
10	ON	OFF	ON	OFF	ON
11	ON	OFF	ON	OFF	OFF
12	ON	OFF	OFF	ON	ON
13	ON	OFF	OFF	ON	OFF
14	ON	OFF	OFF	OFF	ON
15	ON	OFF	OFF	OFF	OFF
16	OFF	ON	ON	ON	ON
17	OFF	ON	ON	ON	OFF
18	OFF	ON	ON	OFF	ON
19	OFF	ON	ON	OFF	OFF
20	OFF	ON	OFF	ON	ON
21	OFF	ON	OFF	ON	OFF
22	OFF	ON	OFF	OFF	ON
23	OFF	ON	OFF	OFF	OFF
24	OFF	OFF	ON	ON	ON
25	OFF	OFF	ON	ON	OFF
26	OFF	OFF	ON	OFF	ON
27	OFF	OFF	ON	OFF	OFF
28	OFF	OFF	OFF	ON	ON
29	OFF	OFF	OFF	ON	OFF
30	OFF	OFF	OFF	OFF	ON
31	OFF	OFF	OFF	OFF	OFF

Further literature on Autotag:

Autotag-P User Manual 708UM0210
 Autotag-P Tag Installation Guide 708LF0210
 Autotag-P Data Sheet 708DS0210
 Autotag-P Programming Station User Manual 708UM0201



5. WIRING DETAIL



CN7 6 Way Pluggable Screw Terminal		
PIN	Wiegand Function	Clock & Data Function
1	Triggered Input	Triggered Input (Arming)
2	Not Used	Card Present
3	DATA 1	Data
4	DATA 0	Clock
5	As per table below	As per table below
6	As per table below	As per table below

CN7 6 Way Pluggable Screw Terminal		
PIN	RS232 Function	RS485 Function
1	As per table above	As per table above
2	As per table above	Not Used
3	As per table above	RS485 TX Active
4	As per table above	Not Used
5	RS232 TX	RS485 B
6	RS232 TX	RS485 A

CN5 6 Way Pluggable Screw Terminal	
PIN	FUNCTION
1	Signal Ground
2	External Indicator Output – Green
3	External Indicator Output – Red
4	External Indicator Input – Green
5	External Indicator Input – Red
6	SYNC

CN2 5 Way Pluggable Screw Terminal	
PIN	FUNCTION
1	Relay Normally Open
2	Relay Normally Closed
3	Relay Common
4	DC Power In Negative
5	DC Power In Positive

CN1 # Way Pluggable Screw Terminal	
PIN	FUNCTION
1	Mains Power Live
2	Mains Power Safety Earth
3	Mains Power Neutral

Note: Any additional wires used for GROUND connections should be connected to CN5 Pin 1.

Connecting the Base-station to a controller:

Wiegand: Connect the following lines: CN7 Pin 4 (DATA0), CN7 Pin 3 (DATA1) and CN5 Pin 1 (GND) to the corresponding terminals on the controller. Ensure that switch SW2-3 is **ON**.

Clock & Data: Connect the following lines: CN7 Pin 4 (Clock), CN7 Pin 3 (Data), CN7 Pin 2 (Card Present) and CN5 Pin 1 (GND) to the corresponding terminals of the controller. Ensure that SW2-3 is **OFF**.

RS232: This feature is only available on the RS232 model. Connect CN7 Pin 5 (RS232 TX) to the receive pin of the controller. Connect CN7 Pin 6 (RS232 RX) to the transmit pin of the controller. Connect CN5 Pin 1 (GND) to the signal GND Pin of the controller.

RS485: This feature is only available on the RS485 model. Connect the following lines: CN7 Pin 6 (RS485 A), CN7 Pin 5 (RS485 B) and CN5 Pin 1 (GND) to the corresponding terminals of the controller. Ensure that each base station has a unique address by setting switches SW1-1 through SW1-5.

Connecting the Base-station to a triggering device:

This is done when the Base-station is to operate in 'Triggered' mode. A vehicle detector positioned directly in front of the Base-station unit is used to trigger operation.

The vehicle detector can be a loop detector, capacitive detector or any other unit capable of providing a **CONTINUOUS** relay closure whilst a vehicle is present. In the case of a loop detector this requires that the unit is configured for PERMANENT PRESENCE.

Connect CN7 Pin 1 to the N/O relay output of the triggering device, and CN5 Pin 6 to the RELAY COMMON connection.

Operating multiple Base-Stations in proximity to one another:

When two or more Base-Station units are operated in proximity to one another they may cause mutual interference if not synchronised. Synchronisation ensures that their transmissions do not interfere with one another. To synchronise the units, connect the SYNC lines (CN5 Pin 6) and GND (CN5 Pin 1) on the 6-pin power connectors to the corresponding pins on all units (i.e. Pin 6 to Pin 6, Pin 1 to Pin 1).