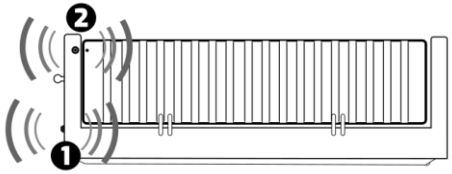
E8051 – E8054

Wireless side panel open detection system for disposable skips

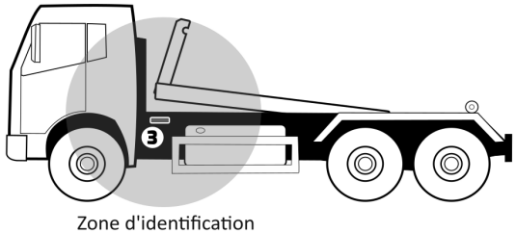
Marking: « DPO AUTO version 4.4 »

Purpose

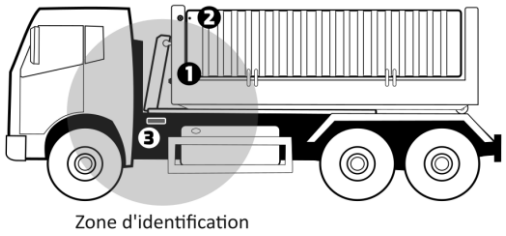
The fleet's skips are fitted with 2 inseparable sensors:
1. A TAG ID presence sensor allowing the detection of the skip on the vehicle,
2. A MAG magnetic opening sensor whose magnetic counterpart is positioned on the side panel.



The vehicles are fitted with an Atlas Connect (3) DPO AUTO box conveniently positioned on the chassis to establish an identification zone for the presence sensor (2) when the skip is loaded onto the vehicle.



The status of the magnetic sensor (2) whose presence sensor (1) has been detected in the identification zone is then sent back to the dashboard.
The presence of the magnetic sensor (2) as well as the battery level of both sensors are also checked by the system.



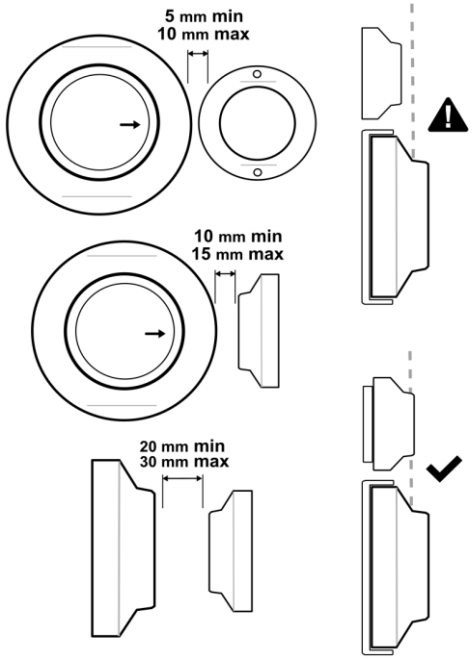
A skip presence indicator checks that the unit is working properly after loading.

Kit Contents

- Atlas Connect DPO AUTO (Entry Protection Device)
- TAG ID presence sensor
- A magnetic sensor P MAG
- One magnet
- 2 sensor holders
- 2 x 12-pin connectors (brown/green) + 20 pins
- Assembly instructions

Layout of the elements

The MAG magnetic sensor(s) and its magnetised counterpart shall be mounted on the side panel(s) of the skip, preferably magnetised on the moving part, in one of the following 3 configurations:

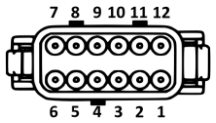


The ID presence sensor should be positioned on the skips so that it is detected in the ID area of the Atlas Connect box when the skip has been loaded onto the vehicle. The correct balance between the position of the **Atlas** box on the vehicles and the position of the **ID TAGs** on the skips will be critical to the correct operation of the system.

Connection of the electronic board

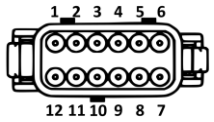
The Atlas Connect DPO AUTO has two 12-pin connectors with the following inputs/outputs:

GREEN Connector



Pin	Atlas DPO AUTO	
V6	+VCC	Power supply +12V/24V
V5	GND	Ground
V11	R1 IN	Relay 1 input
V10	R1 NO	Relay 1 output NO
V1	R1 NF	Relay output 1 NC
V2	R2 IN	Relay input 2
V12	R2 NO	Relay output 2 NO
V3	R2 NF	Relay output 2 NC
V8	R3 IN	Relay input 3
V7	R3 NO	Relay output 3 NO
V9	R3 NF	Relay output 3 NC

BROWN Connector



Pin	Atlas DPO AUTO	
M10	E1	Input 1 (dry contact)
M11	E2	Input 2 (dry contact)
M9	GND Out	Carried over ground

The power supply of the **+VDC / GND** box must be connected to a + after contact.

Relay 1 (R1 NO) raises an open side panel warning conditional on the hydraulics being switched off. This relay is fitted with a 2-second bounce back protection to filter out any vibration of the sideboard on the road.

Relay 1 (R1 NO) should be wired for the buzzer or the activation of the "side panel opened" message and the speed limit on the vehicle body interface.

Depending on the output polarity requirement, the input of relay 1 **(R1 IN)** can be wired to a power supply if a buzzer is used, or to a ground if it is connected to the bodybuilder interface.

Relay 2 (R2 NO) shows the status of the skip. A cabin light should be wired to this relay. Therefore, add a power supply to the input of this **relay (R2 IN).**

Relay 3 (R2 NO) brings up the status of the side panel(s) regardless of the **status of the hydraulics.** To do this, the input of this relay **(R3 IN)** must be powered.

The **E1** input defines the status of the hydraulic activation, limiting alerts when the vehicle is operating at low speed. This input can only be controlled by a ground.

The **E2** input defines the operating mode of the box. A bridge must be made between **E2** and **GNDout** to ensure the correct operation of the system (see " Setting mode " section).

Example of minimum wiring for an alarm buzzer, a warning light and a skip presence indicator installed in the cabin:

V6	+VCC	+24V
V5	GND	GND
V11	R1 IN	+24V
V10	R1 NO	+ Buzzer
V2	R2 IN	+24V
V12	R2 NO	+ Skip presence indicator
V8	R3 IN	+24V
V7	R3 NO	+ Side panel(s) indicator light
M10	E1	Status of the vehicle hydraulics
M11	E2	(Ground = hydraulics on)
	- buzzer	GND
	- indicator light	GND

⚠	We recommend the addition of 1A fuses on all powered inputs (+VCC, R1IN and R2IN) to secure the assembly.

Setting mode

The E2 input determines the operating mode of the Atlas Connect unit at the time of power up.

If E2 is not connected: The setting mode is active. Sensor analysis is disabled. The Atlas Connect becomes visible to the mobile setting application.

If a mass is present at E2: Setting mode deactivated. Sensor analysis is effective.

⚠	To ensure proper operation of the system, it is imperative to bridge E2 to GNDout on the brown connector.

By nature, it is not necessary to pair the sensors to the Atlas Connect DPO AUTO.

On this version, the settings available in the mobile app are:

- **TNPC**

Distance tolerance between the box and the opening sensor. (5 by default for a dynamic Tnpc on ON, 60 for a dynamic Tnpc on OFF).

- **Dynamic Tnpc (on/off)**

Enable learner mode (default is ON).

- **dB max**

Maximum tolerated signal attenuation defining the identification zone of the skip presence sensor. (72dB by default)

Statistics

Atlas Connect keeps track of the number of times each side panel is opened for maintenance purposes. This information can be accessed directly in the setting application.

Setting application

The dedicated setting software DPO CONFIG is available for Android at the following address: :

https://www.electromaintenance.fr/dpoconfig

1. Switching to "Setting" mode
Disconnect the brown connector before powering the unit.
2. In DPO Config, connect to the desired unit. The security PIN code is 123456.
3. Apply the new settings before disconnecting
4. Reconnect the brown connector

Accessories

Description	Reference
Pre-wired 4m harness for buzzer and cabin indicator light	E9327
DPO AUTO sensor kit for single skip	E8139
DPO AUTO sensor kit for double skip	E8056

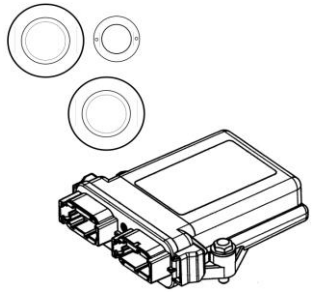
Technical features

Atlas Connect
Power supply voltage.....from 9V to 30VDC
Operating temperature range.....-40°C to +85°C
Water Resistance.....IP69K
Dimensions.....119x133x35mm
2 mounting holes Ø 7mm, centre distance 101mm

Sensors
Frequency 2.4 Ghz-.....Bluetooth Low Energy 4.0/4.2
Battery life.....Up to 5 years
Transmission time.....2 seconds
Water Resistance.....IP67
Dimensions
P MAG / P ID .....Ø 57mm / Height 18mm
Magnet.....Ø 40mm - Height: 15mm

Homologations
CE (Europe): EN ECE R10/ EN 60947-5-2
RoHS

www.hyphentech.fr/eng



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notice v3