

ISM503-CA Series Interceptor Switch Module (B-ISM503-CA) 2020 - 2021 Ford Police Interceptor Utility



Introduction

The Ford Police Interceptor both offer the option of four upfitter switches marked Aux1-Aux4 on the right-side of the steering wheel. The InterMotive ISM503-CA gives the Police market the ability to program each switch/output. The ISM still controls the Instrument cluster indicators and the four output wires, but in addition, the ISM allows each switch and associated output to be programmed in the following operating modes:

- Latching (toggle on—toggle off)
- Momentary
- Timed (1 - 1,800 seconds)



Installation Instructions

Disconnect vehicle battery before proceeding with installation.



WARNING
Disconnect the battery to
prevent setting a check engine
light.

IMPORTANT—READ BEFORE INSTALLATION

It is the installer's responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers. Avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Avoid radio frequency energy from antennas or inverters next to the module. Avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

ISM503 Module

Remove the lower dash panel below the steering column area and find a suitable location to mount the ISM503 module. Locate the module in an area away from any high heat sources (engine heat, heater ducts, etc.). Do not mount the module until all wire harnesses are routed and secure. The last step of the installation is to mount the module.

Gateway Plug and Play Harness

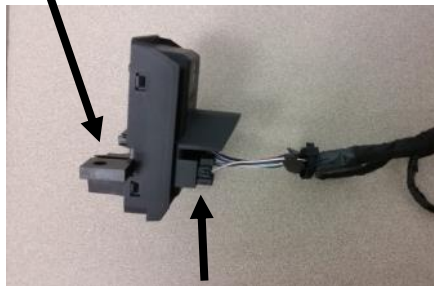
1. Locate the vehicles Gateway Module (C2431). It will be mounted below the lower left dash panel behind the BCM.
2. Remove the harness behind the Gateway module by pressing the locking tab and pulling outward.
3. Plug the Female side of the InterMotive Gateway Harness into the back of the Gateway module. Ensure the connection is fully seated and secured by the locking tab.
4. Plug the Male side of the InterMotive Data Link Harness into the Gateway harness.
5. Secure the ISM503 Gateway harness so that it does not hang below the lower dash panel.
6. Plug the ISM503 6-Pin connector into the mating 6-pin connector on the ISM503 module.



Data Link Harness



Gateway Module



Gateway Harness



InterMotive Plug and Play Gateway Harness

8-Pin ISM503 Connector Pin-Out Definition

This connector contains the ISM503 4 output pins. Each output is 12 volts rated at 1/2A and is intended to drive relay coils or other low current loads. **Note: when driving relays, a diode-protected type must be used. InterMotive recommends DigiKey #PB682-ND Relay.**

The 8 outputs are defined as follows:

- Pins #5-6 are no-connects
- Pin #7 (Red wire) fixed jumper to pin 12
- Pin #8 (Brown wire) Aux 1 Output, Active Low
- Pin #9 (Orange wire) Aux 2 Output, Active Low
- Pin #10 (Blue wire) Aux 3 Output, Active Low
- Pin #11 (Yellow wire) Aux 4 Output, Active Low
- Pin #12 (Red wire) fixed jumper to pin 7

Connect the desired outputs to vehicle equipment as needed. Tape up unused leads. When connecting to relays, use relays with appropriate kick-back suppression, such as Digikey #PB682-ND. Unsuppressed relays will induce very high voltage spikes throughout modern vehicles sensitive computer electronics and should not be used, per Ford, GM, SAE, etc.

Installation Instructions (continued)

Rocker switch Mode Configuration

The Interceptor's 4 steering wheel rocker switches come pre-configured as shown below.

Aux 1:	Momentary
Aux 2-4:	Latching

Reconnect the vehicle battery

Initial Installation Power-Up

When the ISM503 module is first plugged in, it attempts to acquire the vehicles VIN to interpret vehicle data on the OBD network for five minutes. If Vin is not received then the module will go to sleep. The key must be in the Run position for network traffic to be present (engine off is OK).

1. Turn the ignition switch to the Run position.
 2. Plug the 4 pin data link connector into the module
- If the module LEDs "scroll" , then it has NOT acquired a recognized VIN. The chassis may be a new Model Year which the module does not recognize, or the chassis has an unrecognized engine. Ensure your chassis is listed at the top of page one of these instructions. Contact InterMotive Tech Support for assistance.
 - If no LEDs come on when the module is plugged in and powered up, it is working properly. Proceed to post installation testing.

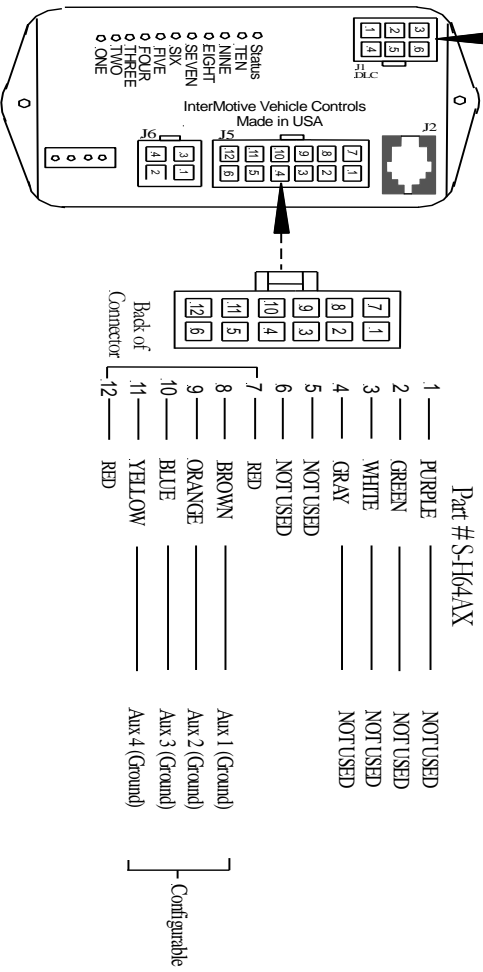
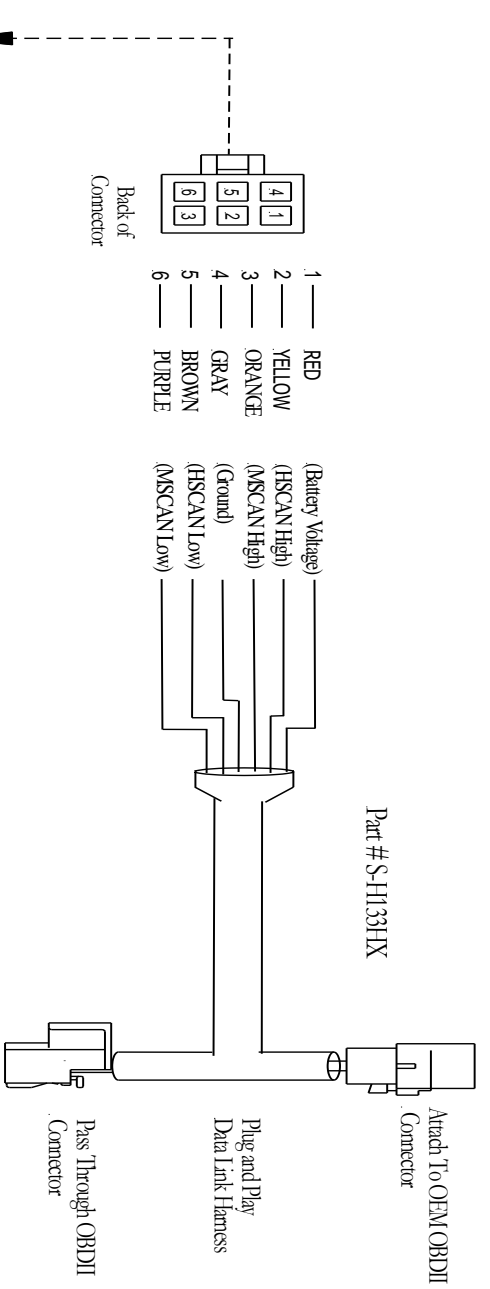
ISM503 Module Mounting

Ensure all the harnesses are properly connected and routed, and are not hanging below the dash area. Mount the ISM503 module using screws or double sided tape. Reinstall the lower dash panel.

ISM503 Operation

Turning the vehicle ignition ON will wake up and initialize the ISM503 module. Outputs are controlled based on the module's configuration.

When the key is turned OFF, the ISM503 module will go into a low power sleep mode and it's outputs will shut off. This may take up to five minutes, and the Diagnostic LED's (if active) on the module will go out once in sleep mode. Other vehicle activity such as opening doors, inserting key in the ignition, etc. may delay sleep mode. The door outputs will operate with the key out of the ignition and will turn off after 30 mins to prevent battery drain.



ISM503
820-1211-228

Submit product registration at www.intermotive.net

If the ISM503 fails any step in the Post Installation Test, review the installation instructions and check all connections. If necessary, call InterMotive Technical Support at (530) 823-1048.