

Installation Instructions & Use Recommendations

KA3 Emergency Lighting System

These instructions must be read carefully and thoroughly **before** beginning work. FMS Solutions, LLC accepts no liability for damage caused by failure to observe the installation instructions or use recommendations. **Installation of this accessory does not change the factory specified load limits for saddlebags or radio box.**

06/01/2026 Release



The stock “Cruise Light” feature illuminates the light pipes on front and rear pods, creating a fabulous effect for use in parades, special events, or anywhere motors wish to be recognized. The turn signals override the blue cruise lights when turn signals / flashers are activated.

Important Note: Motorcycle batteries must be charged prior to programming lighting system. Low Voltage Warnings will change the function of the light system as the motorcycle shuts-down certain features.

The first approximately 300 motors will need to have the front cables pulled out more to be able to connect to the front pods. Cut the cable tie visible in the opening where the front light mounts are attached and gently pull the cable out to where the white marker bands are just exposed to the outside. Then mount the front light supports. This should ensure enough cable length to make the connection. Make sure cable is not pinched when tightening mount.

Secure cable to front light supports using cable ties through the provided holes. Don't tighten them up until the light pods are secured.



Slide the grommets onto each of the front mounting stalks.

Note that there is a **Left and Right grommet**, marked "Driver" and "Passenger".



Remove the T25 cover screw from the front light pods. The two T25 bolts that secure the pod to the front light stalks can be installed. Once tightened snuggle, run the cable up past the bolts and plug it into the connector.

Note that all lights and functions are standard in the front and rear pods. No other assembly is required.



Install the cover, ensuring that the cover snaps over the sides **(you have to squeeze the sides to get the cover to "snap" over them)**. Install the central T25 screw.

Push the cable grommet into position.

Repeat this process for the other side.



One drilling template is provided to dealers to make it easier to mark the holes to be drilled in the radio box lid. This way, you do not have to disassemble the rear pod to install the lighting system.

PN: FMSA-KA3-007

If no drilling template is available, pull the cables up into the pod as the connectors on the end of the cables are smaller than the ones connecting to the board in the pod. Mark the holes for drilling.

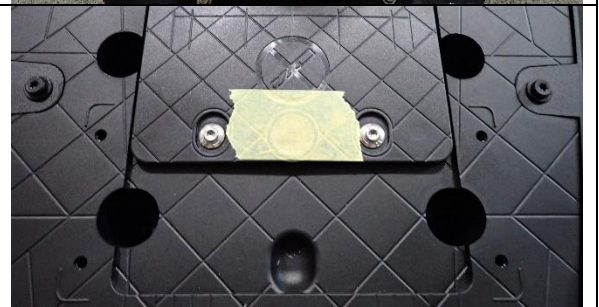


Mark the holes with a marker, then drill the four outer holes using a 1/4" drill bit. It is best to drill the holes a little larger than the 5.5 mm to ensure no strain on the inserts.

Drill the large wiring hole with a large Uni-Bit or a 1 1/8" hole saw. Debur the hole to ensure that wires are not abraded.



As a precaution, place a piece of tape over the hole to pull the auxiliary battery cover. If a bolt drops in that hole, you will search for days to find it. Don't take that chance ... trust me!

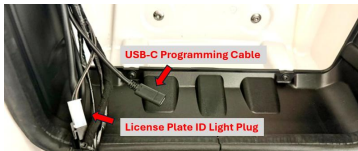


Drill out the marked rings on either side of the latch as done on the previous lighting system. This will enable you to access the rear bolts with a long T25 driver.

Drill three other 1/8" holes along the left side of the black trim to secure the cable harness to the left side.

Note: There are two cables in addition to the main cable.

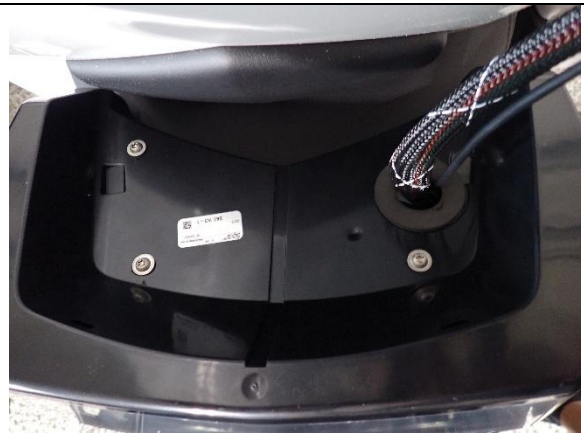
1. USB-C Extension Cord. This cable enables easy connection to the USB-C on the control board in the rear pod. Plug a standard USB-C cable from your PC into this female USB-C to connect to the control board.



2. Blue ID Light Cable. This plug connection is for the optional license plate mounted blue ID light FMSA-EA-LPIDS



The rear pod comes with the four bolts screwed into position. Remove them. Feed the cables through the hole in the radio box lid, then secure the rear pod with those four screws you just removed. Tighten snugly ... **but be careful not to over-tighten**. It isn't going anywhere.



Route the cables as on previous models. The power cable plugs into the white power connection to the right of the connector group.

The two conductor hanging plug near the 10-pin plug is for optional license plate ID lights.

The USB-C will be used to program the lighting system.



Remove the fasteners around the perimeter of the radio box trim. Note there is also one T10 screw holding the left and right side trims together at the rear. Though they have a Torx head, they are just press-in rivets.



Below the center rear are two 4x MQS socket housings with waterproof caps secured to the underside of the floor plate. They are the same circuit. One is for the main duplex light. The second is for either a second duplex light or license plate mounted additional lights.

For the upper duplex light, insert the 4x pin housing just to the right of the center seam of the trim skirt in the rectangular opening. When the trim is installed, the wire neatly disappears below the surface. See photo below.



The duplex light mounts to the aluminum mounting bracket provided with the lighting kit, using the special plastite screws for plastic. Mounting to the motorcycle is via M5 x 14 screws.



If a double duplex light is installed, one is above and one below as shown at right. If an antenna mount is needed, it can be sandwiched between the two. Route the lower duplex light cable up between the trim skirt and the underside of the radio box floor plate. Connect to the other 4x connector (they are in parallel).

Any additional light will need to be identified and assigned a position using the software noted below.

Note: Photo at right shows both options for clarity ... additional duplex light and additional license plate emergency lights.
Choose one or the other.



Mount additional lights above the license plate of the motorcycle – provided it does not have Rider Safety Package 5AS. If rear radar is used for lane change warning, you cannot block the radar.

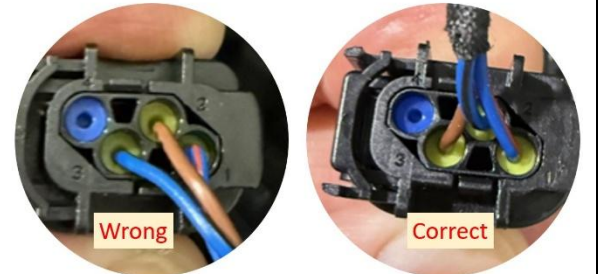
Route the cable up the RH side of the fender, then up through the saddlebag mount cavity to connect to the second 4x connector. An adhesive cable stay is included in the kit to keep the wire(s) neatly routed up the fender.

You will need the License Plate Mount Set for clearance.

<https://fmsaccessories.com/license-plate-mounting-set>



Note: Saddlebag plug connector positions 2 & 3 were pinned incorrectly from BMW. Check the plugs and if incorrect, lift the white locking cover, using a small blunt tool, depress the back corner of the terminal and pull it out. You can then swap the socket positions – they should lock into place when reinstalled. Note that they are directional and the top of the terminal should align with the white cover side.



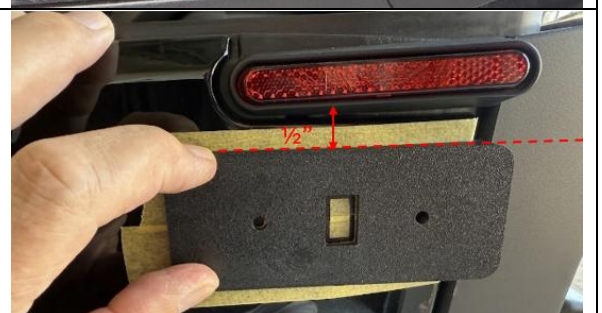
Additional lights can be mounted to the side of the saddlebags. Based on mounting points on the inside of the painted bag cover, the location shown at right is the best. FMS has produced adapter plates to enable mounting the lights to the painted panels, then securing the painted panels to the bag. The light leads are not very long, so your location choices are limited.

Remove the four M5 screws securing the painted trim panel to the saddlebag. You can “pop” the panel loose without removing the two screws at the front / inside (saves time) when needed.



Mask the painted panel and mark where your drill holes will be. 1/2" down from the reflector is the ideal height for the top of the molded light adapter.

Mark the openings with marker.



Drill the 5 mm holes first. Place a bolt in the first hole of the adapter before drilling the second hole to ensure your spacing is correct – you only get one chance at making it straight!

With a Uni-bit, drill and upper and lower hole within the slot, then using a box cutter, cut the side to enable the 4x pin housing from the auxiliary light to pass through the panel. The smaller tapered Unibit also acts like a router with this material and makes forming the shape easy.

The auxiliary light comes with two screws. Use the stock screw for the forward hole. A longer M5 x 20 screw provided with the adapter kit is for the rear hole where it must pass through the thicker portion of the adapter. Snug the bolts – don't over-tighten.

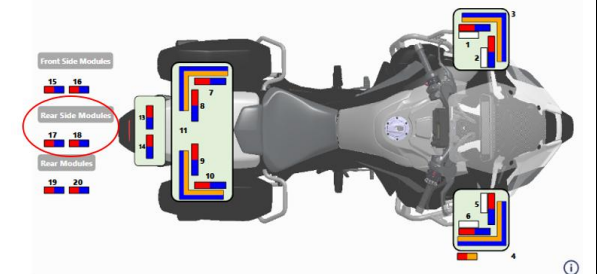
Remove the plug forward of the reflector and pass the 4x connector through the hole. Lay the cable from the light in the path provided and snap the painted panel back into place, causing as little strain on the light cable as possible.

Secure the panel with the original 4 bolts – make sure the panel is sitting even and that the cable was not causing a bulge.

New Firmware was released on 12/12/2025 which corrects a bug in the coding of light positions #17 & #18. Check / update firmware on motors where saddlebag lights are being installed. Firmware version: 6.0203 or later. Once firmware is loaded, reload the config file to ensure all desired functions work.

These additional rear side lights must be "Detected". Press Test to determine which lights are unassigned and in what position.

Click on each of the two positions (17 & 18) and assigned the corresponding unassigned light to that position.



A new light has been developed for this location only! Use firmware version 6.2.5 or higher for this light location.

The front side emergency light locations are also pre-wired from the BMW factory. Move the mirror to the rear retracted position.

Remove the plug covering the hole under the mirror, which will expose the socket housing connector.

Cut the cable tie securing the waterproof plug cover, remove the cable tie by pulling on the upper portion.



Operating Instructions

Attach the QR Code sticker provided with the kit, to the floor of the radio box as shown at right. This will afford the officer operating the motorcycle a chance to read the operating instructions and hopefully gain a better understanding of the features and benefits of the new lighting system.



It is important for dealers to program the motorcycle through ISTA for the following items, which will enable the agency to take advantage of all lighting system features.

1. **Alternating Headlight:** Program alternating headlight – we recommend setting at 1.5 Hz (90 FPM).
2. **PTT2 (Switch A of A-B):** Program to Momentary – allows use of dimming feature as well as BT Amp.

Warning: Motorcycle Batteries Must Be Charged Prior to Programming!

We recommend the FMS Accessories Police Motors Battery Charger. This is specially developed for motors with dual batteries, with a specific profile for Li-ion batteries.

The FMS Accessories charger works with all types of batteries and features a 3.3A charge rate through the front power socket, bringing the dual batteries to full charge faster than conventional chargers.

FMSA-OM-BCHGR

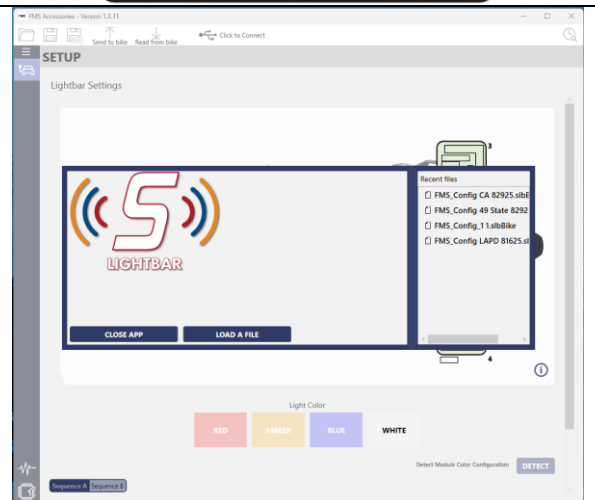


Note: All stock FMS Accessories lighting systems are programmed from the factory with the standard 49-State Configuration file.

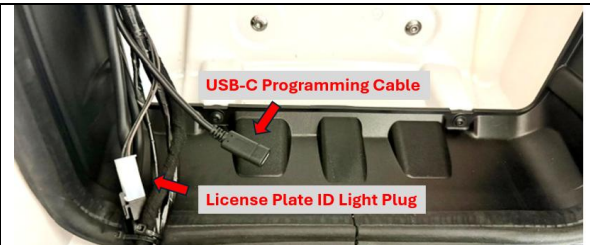
SoundOff and FMS have developed special software for BMW dealers to configure the motorcycle lighting system. Config files are available from FMS for various stock configurations. Dealers can then save these files, create variations and name them for specific agencies, and use them to set-up additional units from those agencies.

Download Link to FMS Utility:

https://software.soundoffsignal.com/appcontent/FMS_utility/setup.exe



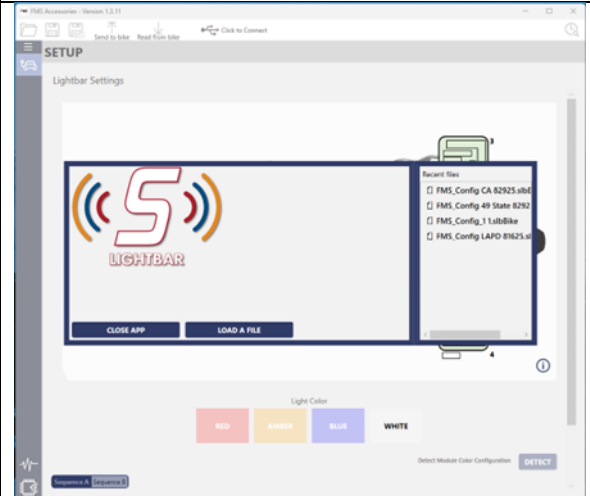
Note connection for USB-C cable. This is where you connect your PC when using the FMS Utility software.



When you first open the FMS Utility, you are asked to load a file (meaning a configuration file). Unless you downloaded one from the FMS website, you don't have one in your library. So, create a folder on your PC for Configuration Files. Then, make sure to download one of the config files for your area and save it to that folder prior to opening the software. Do not click on the config file to open the FMS App – we have seen the config get corrupted by doing so. Always open the app by clicking on the app.

Once you point the software to that folder for configuration files, you can store all of your new / created / amended files in that location.

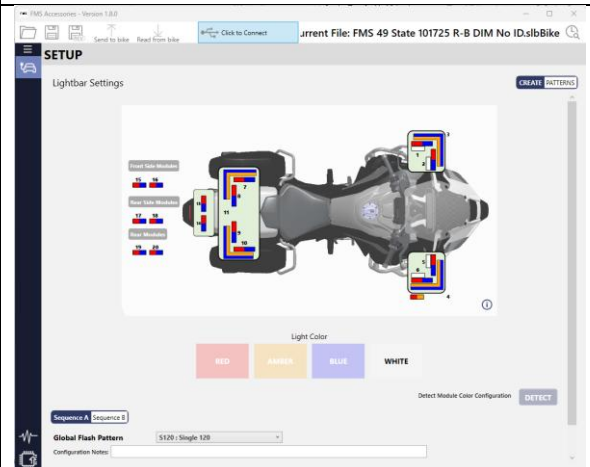
Obtain a high quality USB-C cable to the computer you will use for programming. Often, communication issues are due to uncooperative cables.



The software allows you to do various things:

1. Select Activation Sequence
A = 3 step activation (F&R, R, F)
B = 4 step activation (R, F&R, R, F)
2. Select the flash pattern
3. Detect light heads (new and existing)
4. Assign positions for newly added additional lights (positions 15 – 20)
5. Change the default color of emergency lights
6. Make configuration notes
7. Save the configuration for an agency
8. Update rear pod firmware when needed

Additional instruction is being prepared with greater details regarding how to use the new software.



The Emergency Lighting System has both firmware (software controlling the flasher board functions) and Configuration File Software that is pre-configured for specific areas. All lighting systems should be plug & play when received.

All motorcycle kits from November on are produced with **FMS 49-State DIM** Config, which is typically used in all states but California. This is configured left / right wig-wag flashing, with left side color RED, right side color BLUE. Duplex light mimicks ID light in dim blue, rear emergency lights in pod mimick tail and pulse brake light. Emergency lights override duplex ID and tail light, but pulse brake light overrides emergency lights in rear pod. Cruise lights are blue light pipes. Light pipes also flash amber for turn signals / 2-way or 4-way flashers.

The **DIM** feature provides manually (officer) actuated emergency light dimming. Note: PTT2 must be coded to momentary! (A-B Switch Coding / PTT2 = Switch A). PTT2 can be used for any function, such as volume for FMS BT Amp, but once front emergency lights are activated, pressing PTT2 will dim emergency lights to 25%. Once lights are turned-OFF, they will restart at 100%. This is an officer activated feature if they find themselves in fog or other conditions where the 100% emergency lights are too bright.

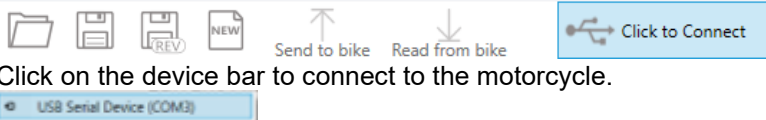
Similar Config files exist for:

FMS 49-State NoID (without the duplex light displaying dim blue ID)
 FMS CA (California with steady-burn left front emergency light)
 FMS CA DIM
 FMS CA NoID (without the duplex light displaying dim blue ID)

Other variants can be created and emailed to dealers as requested. There is no charge for these variant config files.

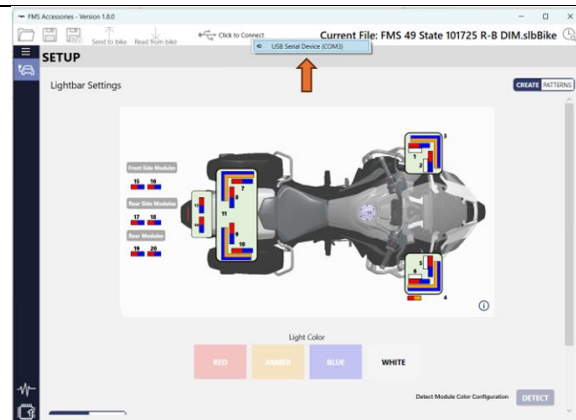
When you first launch the application, it may ask to accept an update as change / improvements are made to the firmware. Always accept the update. If the top of the app is hidden, right click the taskbar icon, select Maximize to reset for full screen size.

Connect the USB-C from the rear pod harness to your PC. Click the Connect to Bike icon. Click on the connect box – the other icons will become brighter showing they are active.



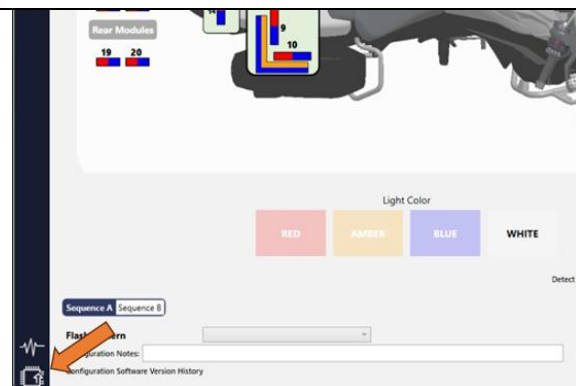
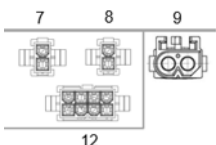
Click on the device bar to connect to the motorcycle.

Click the Open File and load a Config file from your Config Folder dated 032326 or later.



Updating Firmware:

Click on the integrated circuit icon at right to open this function. It is best to perform all firmware updates connected directly via USB-C, with the white power plug (#9) from the rear pod unplugged. Make sure to close and reopen your FMS App daily to take advantage of any updates sent down from the mother ship.



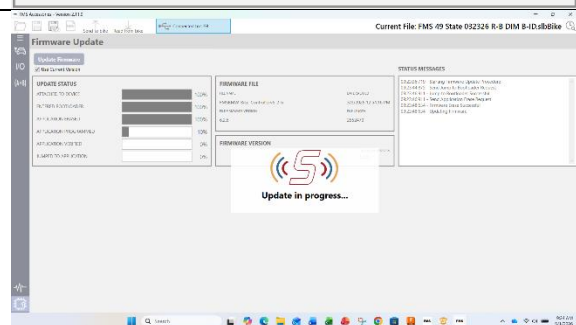
You can check the firmware version by clicking on Get Version Info box. You can re-load the same firmware if you suspect anything is not correct – it won't cause harm.



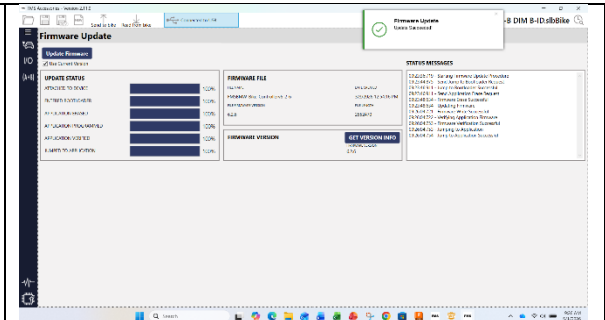
The Update Firmware function cycles through several steps – one of them (application programming) takes 1-2 minutes! (coffee time)

If your unit repeatedly breaks communication or stalls for more than 5 minutes, connect directly to the USB-C on the top of the flasher board. Remember that not all USB-C cables are perfect. Sometimes the USB extension cord is damaged from being pinched or kinked.

When the update is finished, you will see confirmation. Test the lighting by activating F&R, TDL, Alley Lights, Cruise Lights, Brake Light, etc. This only takes seconds but confirms that everything is working properly.

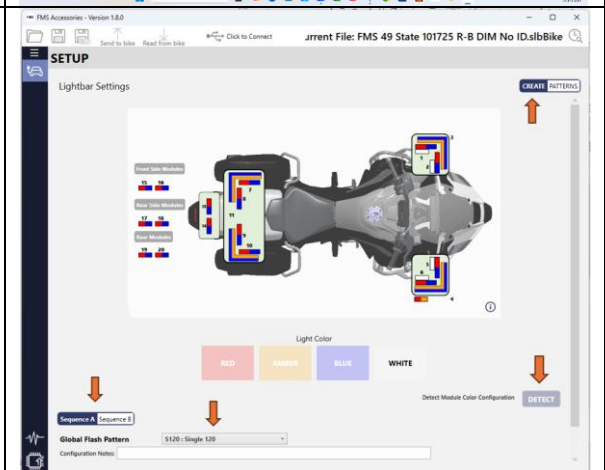


If not, load a new config file dated 032326 or later.



All emergency lighting kits are configured with 49-State Config. For all but CA dealers, open the CA Config file.

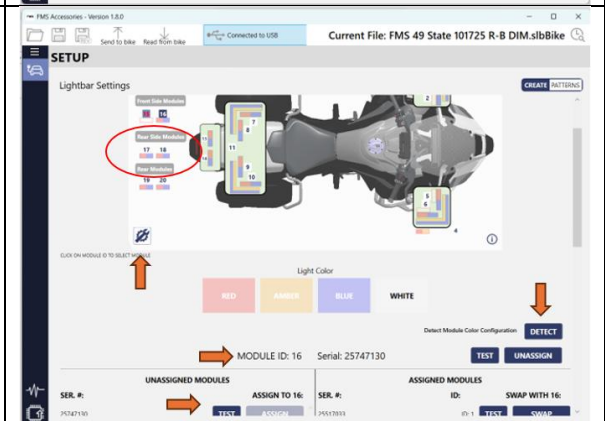
1. Assign Sequence of Emergency Light Switch.
A = 3 step activation (default)
B = 4 step activation
2. Flash Pattern
Assign pattern desired. Remember that the GPS in the rear pod will synchronize the flashing of all motors in parade / escort if they are all set to the same flash pattern. (120 FPM is Default)
3. Sent to Bike to load these basic settings.
4. Save File – name for agency and add configuration notes



When new lights are added, they will be in the Unassigned Modules listing.

Press Detect, then press the wrench icon. A listing of assigned and unassigned lights will appear. Make sure to **Page Down** to see the list of Unassigned and Assigned light heads.

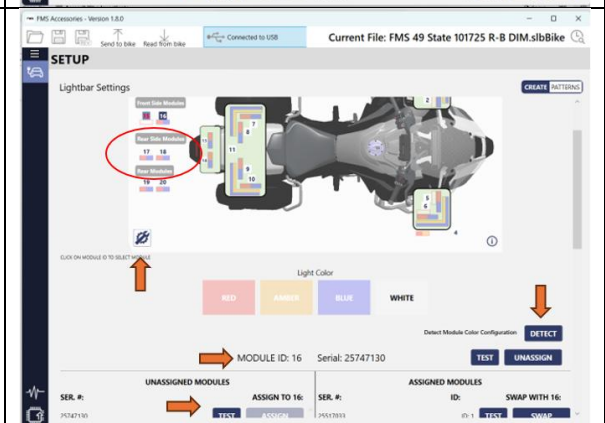
Press Test to verify which light you are working with, then you can assign it to a position.



Click on the position number (in the case at right - #16). You could then click Assign from the list on the left side of the screen. Once you do that, it appears at the top as Module 16. You can Test it again to ensure you have captured the correct module. If not, click Unassign and return it to the Unassigned Modules column.

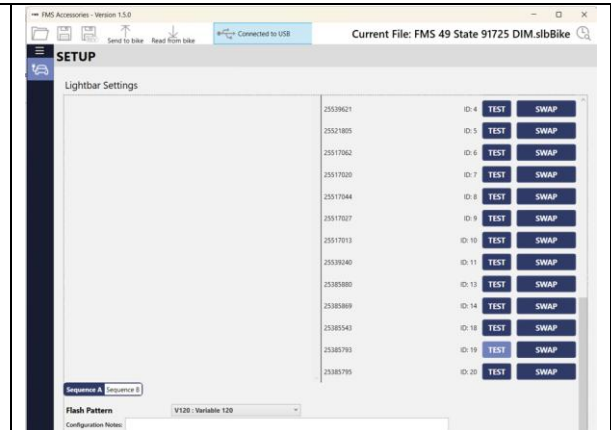
Repeat this process with each light in the unassigned list until all additional lights are assigned.

On rare occasions, the assigned lights from the stock light set are not assigned correctly. Test them and reassign them if needed.



From the Assigned Module list at right, you can click Test for each one to verify if that module is in-fact assigned to the correct location.

If you find an error, you can click on the position you wish to assign, the click Swap with the light that you Test revealed should have been in the position. That will swap their positions. Otherwise, just Unassign them and Reassign them to the correct position.



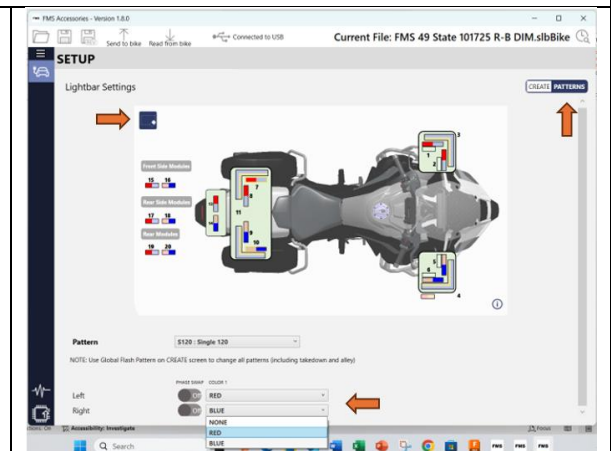
Note that unlike the lights on the K52 series, the KA3 emergency lights are “smart” lights. They are all on one of 4 parallel circuit loops, with power, ground and LIN com wires. They don’t know where they are until you “detect” the light (identify the light) and then “assign” them a position (tell them where they are). The assigned position will tell them how to act, such as a left rear duplex light for example. When assigning lights, the actual light retains the position assignment. The config file retains the color choice, based on the assigned position. All optional light positions have a pre-assigned color as noted on the diagram below. When you assign a light to #19 for example, the light will flash Red. If you had assigned it to position #20, it would flash blue.

Note that the Pattern feature below required modification of the Config file. Use files with a date of 03/23/26 or newer when using this feature.

A new feature to the FMS software is the Pattern button, which allows you to change the color of the emergency lights. The lights are grouped in opposite pairs, so lights 8 & 9 (for example), will appear when you click on either.

At the bottom of the screen, you will see the color of the left and right corresponding light for the pair you selected. To change it, click on the color and select the one you wish for each light.

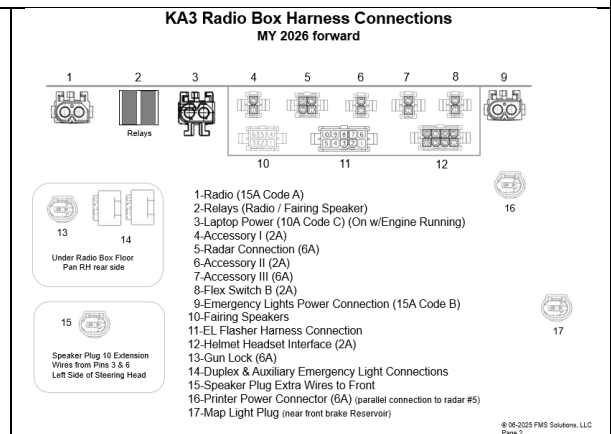
When done, click the blue box in the upper left corner, then send it to the motorcycles. Confirm the change, then save the file under a new name for future use.



The duplex light mimicks the ID light function at 2% duty cycle with Ign ON. This function can only be set by FMS. We offer config files in all three versions – blue, red, OFF.

Just as a reminder, there are several new connections on the radio box connection strip.

- #3 - Laptop Power (only ON when engine is running) 10A
- #7 - Increased ACCIII from 2A to 6A
- #8 – Flex B switch (former driving lights) now triggers output. Intended for Emitters or other triggered options 2A
- #14 – Dual EL Plugs for Auxiliary Emergency Lights EL Pre-wired in each saddlebag and under each front mirror.
- #15 – Speaker wires plug now more easily found on left side of steering head.
- #16 – Printer power connection now uses MQS plug 6A



You can find the complete KA3 Harness Connections document at
https://fmsaccessories.com/ProductInstructionsFile/FMS_Instructions-3_%2033%20AMKA3%20US%20Harness%20Requirements.pdf

Feedback: Thank you for your purchase and we welcome your feedback as we too want to make every accessory exceed your expectations. Report any comments, suggestions, problems or concerns to FMS Solutions, LLC at info@fmsaccessories.com.

Thank you!

About FMS Accessories

FMS Solutions, LLC Limited Warranty

FMS Solutions, LLC warrants to the first retail purchaser of new FMS Accessory products, to be free from defects in materials or workmanship, for a period of three (3) years from the original date of purchase as noted on the FMS Solutions, LLC invoice or original dealer invoice, except for paint and powder-coated finishes, which are warranted for the first 12 months only. LED lights from Fenix, Inc., Code 3, Inc. and Littlite are covered for 5 years by their manufacturer's respective warranties – processed through FMS Solutions, LLC.

This warranty extends only to the FMS accessory and does not include: damage caused by accidents or abuse; incorrect installation; labor to diagnose, remove, repair or replace; any consequential damage or loss of use. Any FMS Accessory suspected of being defective should be returned to FMS Solutions, LLC along with a copy of proof of purchase and warranty request form available on the FMS website. FMS Solutions, LLC will determine if the FMS accessory has a warrantable defect, and if so, will repair or replace the item and return it to the sender without charge. The decision to repair or replace said item is solely the prerogative of FMS Solutions, LLC.

Note: Police motors can operate in a very rough environment since police motors are a "tool". They can be dropped, knocked-over, etc. without concern as the officer has a job to do and determines what is necessary at any given moment. Warranty is for defects in materials or workmanship. Therefore, the ability of an item to become broken or damaged does not mean it is warranty ... it just means it is broken or damaged and in need of repair or replacement. No manufacturer warrants their products to be indestructible. Any questions should be directed to info@fmsaccessories.com.