

RaceGrade

Document Number		RG_SPEC-0105	
Title		LMP2 LIGIER Scrutineering Loom	
Revision	Date	Prepared By	Change History
1.0	1/12/2021	HW	Initial Release

Part # RG.KT.PV0286.01

Description:

This is the Driver ID kit required for the IMSA LIGIER LMP2 Series. It includes a Driver ID Module and complete interconnect harnesses for all components of the system. Leader Lights and CAN isolation modules are also required for the series but are not included in this kit. See below for parts numbers and quantities required per vehicle. Leader Lights display information as specified by the IMSA WeatherTech series. This includes car position, car number, pit stop timer, and others.

The Driver ID module receives the driver resistor value from the helmet communications plug and transmits it via CAN to the X2 transponder for IMSA timing and scoring system. The Harnesses in the kit provide the interconnect between Driver ID plug, Leader panels, X2 transponder, Delphi yellow Light system, Pro/AM light system and power.

****Note:** These harnesses must be purchased through MoTeC USA and **CANNOT** be changed or repaired by teams**

Kit Contents:

Below is the list of electronics to be purchased from MoTeC USA.

Model	Description
RG.DV.PV0176.02	Driver ID Module
M H 3800-CP044A	Cockpit Harness
M H 3800-BH045A	Bulkhead Harness
M H 3800-EX046A	X2 transponder CAN adaptor Harness

Required (not included in kit)

Model	Description
RG.DV.PV0091 V4	Leader Light Panel (2 required per vehicle)
RG.DV.PV0266.01	CAN Isolation Module (2 required per vehicle)

Leader Panel Specifications (Purchased Separately):

Supply Voltage: 6.0v – 18.0v

Current: 1.75 A @ 12v full brightness Single color
4.0 A @ 12v full brightness white color

Operating Temp: -40°C to 85° C

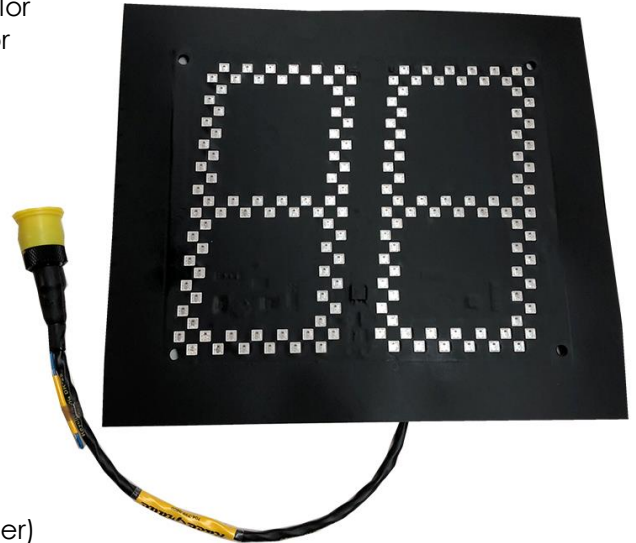
Size: 9.25" x 8.00 "x ¼"
235.0 mm x 203.20 mm x 4.25 mm

Weight: 100 grams

Mounting: 1" perimeter Adhesive backing
3/16" rivets or similar

Harness: 300 mm wire lead

CAN Communications: Design Standard: ISO 11898-2
Message Format: 2.0A (11-bit identifier)
Baud Rate: 1 Mbit/sec
CAN Termination Resistor: No
CAN Outputs: 1



Connection: AS608-35PN

Mating Connector: AS108-35SN

Pin	Function	Wire Color
1	12V+	Red
2	GND	Black
3	CAN_LO	Green
4	CAN_HI	Yellow
5	N/C	
6	N/C	

Note:

It is critical when utilizing two panels on one car that the loop labelled 'cut for right side panel' is cut to prevent diagnostic CAN ID conflicts. If cut by accident, please contact a MoTeC Representative for further instructions.

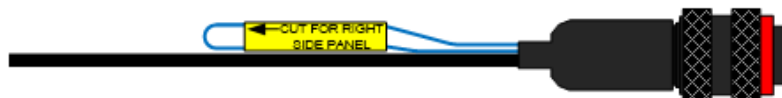


Figure 1: Example of Panel vehicle side designation Loop shown un-cut for left side use

Driver ID Module Specifications:

Size:	9.0v – 18.0v
Current:	100 mA max draw
LED output:	Flashes Driver ID Number (1-5) on power up Flashes Driver ID Number (1-5) on driver change
CAN communications:	Driver ID information sent to X2 transponder Diagnostics sent for internal use
Operating temp:	-40°C to 85° C
Size:	1.94in X 1.45 in X 0.64 in 49.2 mm x 36.8 mm x 16.3 mm
Weight:	90 grams
Mounting:	Double sided Velcro or similar
Harness:	150 mm wire lead



Figure 2: Driver ID Module

CAN Isolation Module Specifications (Purchased Separately):

Voltage: 9.0v – 18.0v

Current: 100 mA max draw

LED output: Green = both CAN buses active
 Blue = one CAN bus active
 Red = both CAN buses inactive

CAN communications: Diagnostics sent for internal use

Operating temp: -40°C to 85° C

Size: 1.94in X 1.45 in X 0.64 in
 49.5 mm x 36.8 mm x 16.3 mm

Weight: 90 grams

Mounting: Double sided Velcro or similar

Harness: 150 mm wire lead on both ends

CAN Messaging:

TX: 0x720 – will transmit on both CAN buses

Transmit rate: 10hz (100 ms)

Byte 0: CAN bus state

- 0 = Both CAN buses off
- 1 = CAN bus 1 on (Chassis Bus)
- 2 = CAN bus 2 on (Leader Light Bus)
- 3 = CAN bus 1 and 2 on

Note: 100 Ohm CAN termination resistor located on Leader Light side of PCB board

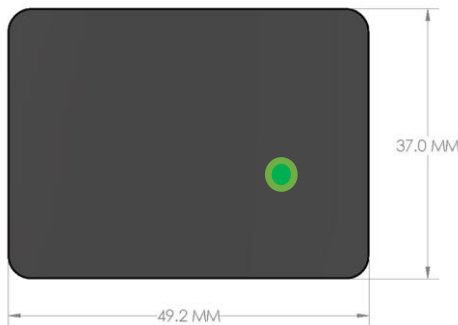
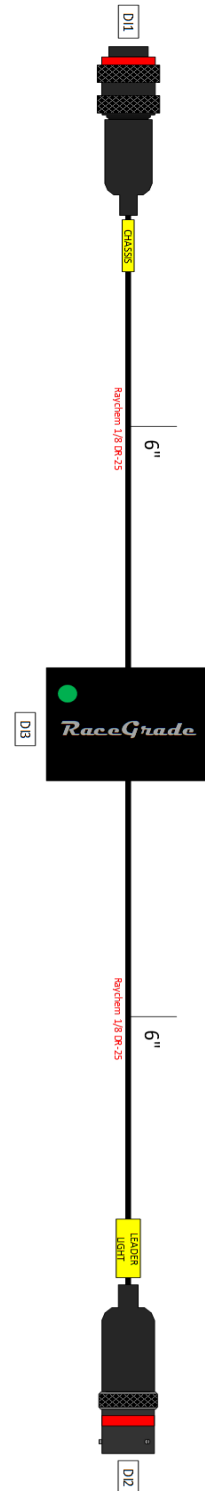


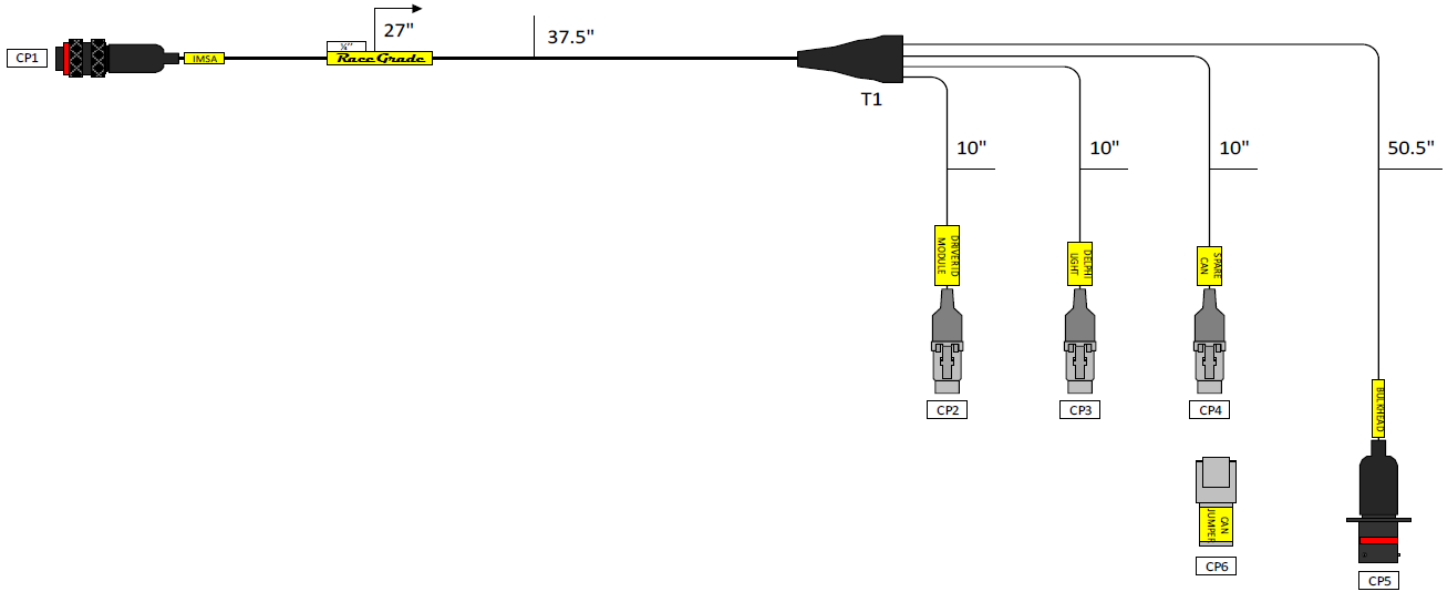
Figure 2: **Dimensions of CAN Isolation Module (top view)**



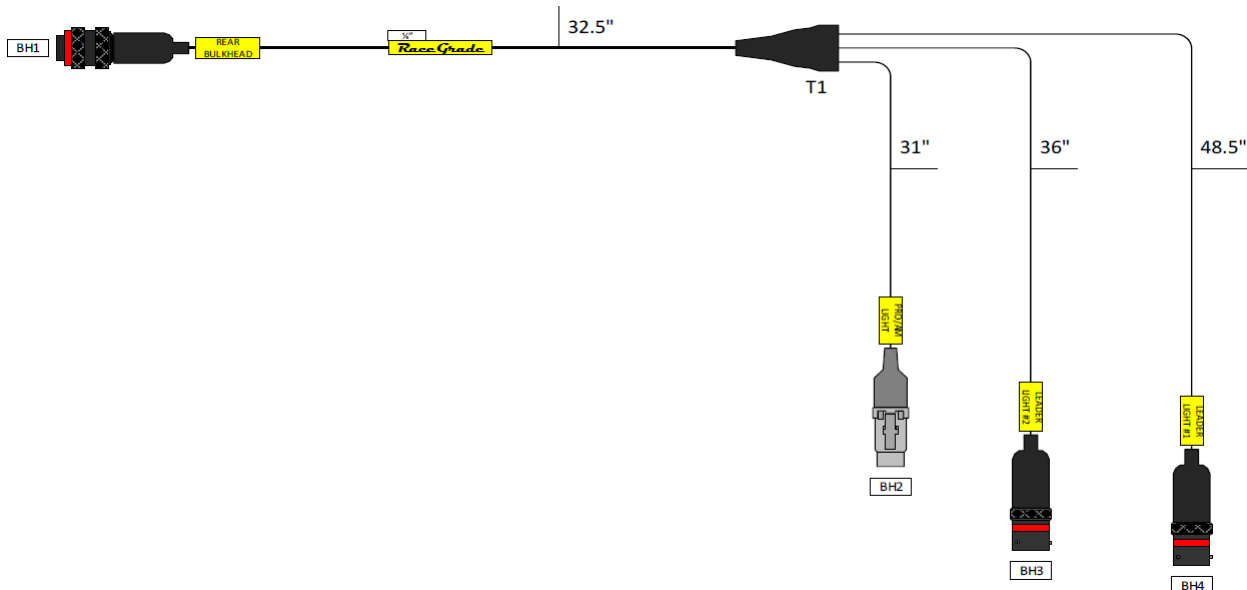
Harness Specifications:

3800-CP044A: Primary Cockpit Harness

The primary harness connects the chassis harness power connection to the bulkhead connector, Driver ID Module, Delphi light system and Spare CAN.



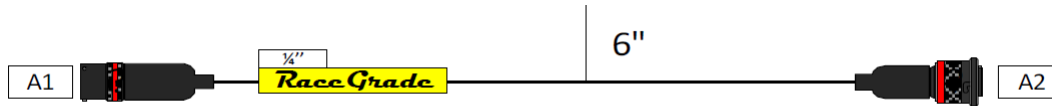
3800-BH113A: Bulkhead harness to split the harness from left sidepod to right side pod and break out the connection for the Pro/AM light.



PRO/AM Light (BH4)**Connection:** DTM06-2S

Mating Connector: DTM04-2P

Pin	Function	Wire Color
1	12V+	Red
2	GND	Black

3800-EX046A X2 transponder extension to create the correct CAN termination.

Dimensions:

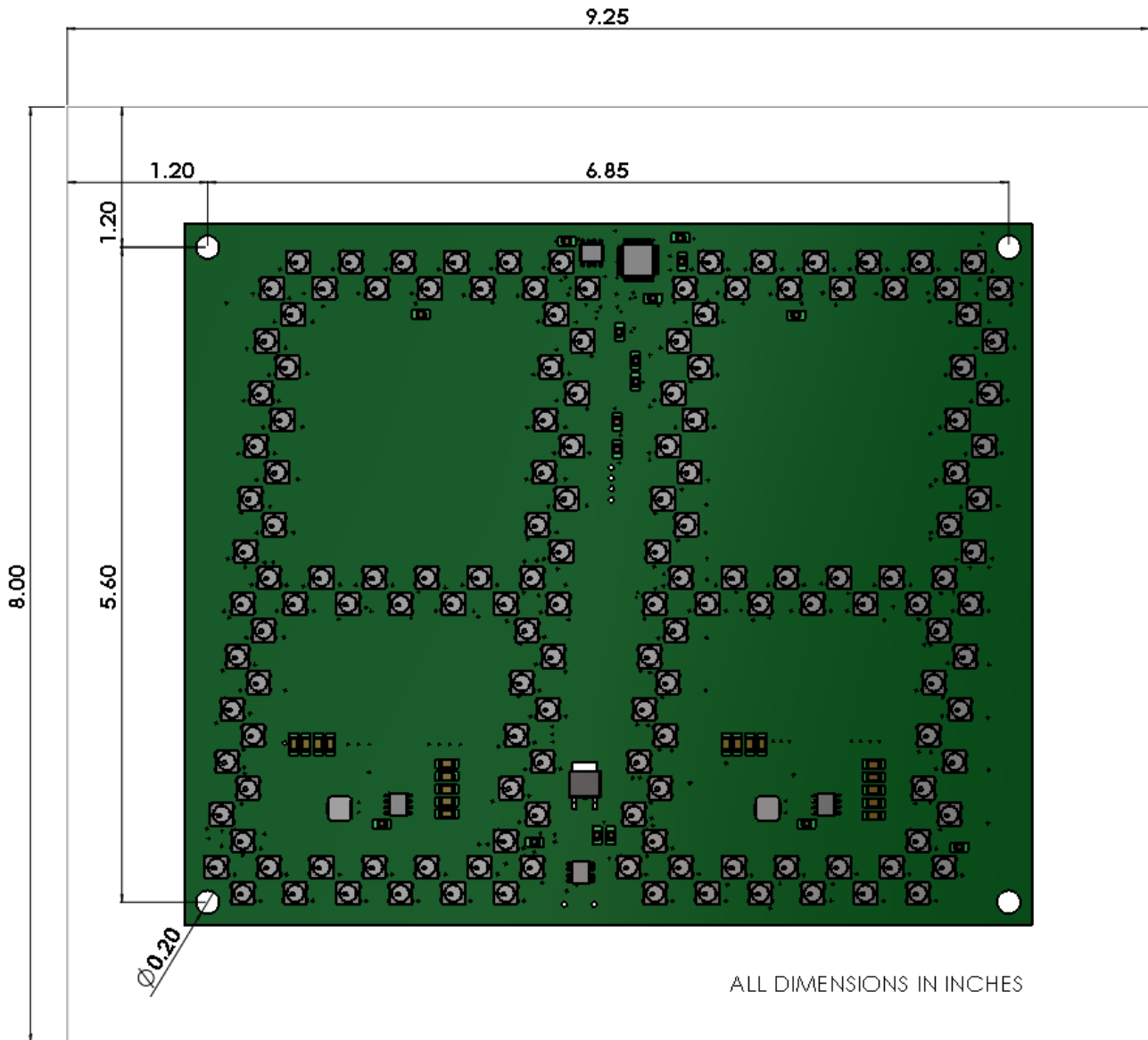


Figure 3: Dimensional drawing of panel

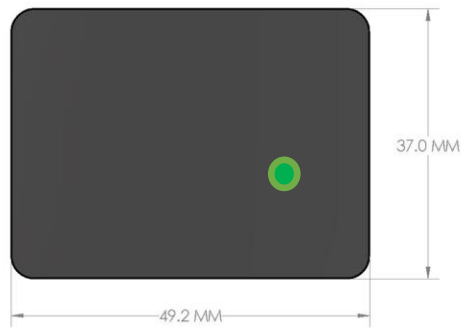


Figure 4: Dimensions of Driver ID Module