



# **IMSA VMPS Technical Eligibility Form Appendix Instructions**

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**IMSA VMPS Technical Eligibility Form Appendix** 

APPENDIX-VIII

#### VIDE RULE 23, PAKISTAN CITIZENSHIP RULES – 1951 APPLICATION FOR CERTIFICATE OF DOMICILE PAKISTAN

To						
	The District Coordin	nation Officer,				
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the	resident of					
hav	e arrived in Tehsil	Dis	strict	Rev	/Adm Pun	ijab
	In Pakistan		fay of		have	been
con	tinuously residing in F	akistanforaperio	dof Since	years	months	
imn	nediately. Preceding the	his declaration and	dTherebyexpr	essmyintent	ionto	
aba	andon my domicile of	origin in	and	with a view	to acquire	the
rem	naining of mylife.					
	I further affirm that	I had not migrate	d to India & re	turned to Pak	istan betv	veen
the	1stMarch 1947 to the	date of this applica	tionexcepton	visa No		
date	ed					
ssued by th	ne Pakistan Passport of	fice at:				
Other parti	culars are given belo	w: -				
Married/S	ingle/Widow					
Name of wi	fe or husband:					
Name of Ch	hildren & their ages:					
		· -				
Trade & Oc						
Marks of Id	lentification:					
Do solemn	ly affirm that the abov	e statement is true	to the best of	my knowledg	e and beli	ef.
Attestation	1:	_	Signatu	re:		
Designatio	on:		Place:			
Place and D	Date:		Date:			

## **Product Information**

## **Specifications**

- Engine Power Table
- Sensors
- VMPS
- VMPS Antenna
- X2 Transponder
- · Fuel Flow Meter
- · Leader Light System
- XAP NTX Marshalling Display
- Accident Data Recorder
- · Safety Light Antenna
- Engine Speed sensors

## **Product Usage Instructions**

## **Engine Power Table**

- Define Maximum Power (kW) at the driveshafts as a function of relative engine speed (N/Nmax).
- Power at the 1.025 N/Nmax point will be defined by IMSA as -14% from the 1.0 N/Nmax value.
- Control systems must support power from defined Maximum to -20% of Maximum.

## **Sensors**

The device must be fitted in the cockpit on the passenger side floor in an easily accessible location.

#### **VMPS**

- Must be aligned within 1 degree of vehicle centerline.
- Must be aligned within 0.5 degrees of horizontal.
- Must be mounted using supplied mounting bracket.
- Must be mounted nearest to vehicle center of gravity as possible.

#### **FAQ**

## Q: Where should the X2 Transponder be placed?

**A:** The longitudinal axis of the transponder must be parallel with the longitudinal axis of the vehicle, and the label side must face the ground.

### Q: How should the Fuel Flow Meter be mounted?

**A:** The meter must be mounted near the engine, isolated from vibration and heat. Each supply line requires its own individual sensor.

## **Eligibility Form Appendix**

#### **Engine Power Table**

- Define Maximum Power (kW) at the driveshafts as a function of relative engine speed (N/Nmax)
- Power at the 1.025 N/Nmax point will be defined by IMSA as -14% from the 1.0 N/Nmax value i. Power(1.025)
  = Power(1.000) \* 0.86
- Control systems must be capable of supporting power from defined Maximum to -20% of Maximum

#### Sensors

- All sensors must be mounted in accordance with Bosch Appendix in current Scrutineering System Manual.
  - i. Lambda Sensors need to be mounted within 10° of vertical and perpendicular to exhaust flow direction.
- · Pressure and Temperature Sensors.
  - 1. Driver's left will indicate bank #1.
    - Bank will be fed bank of the engine.
    - Forward manifolds will indicate bank #1.
  - 2. Pressure sensors are recommended to be mounted within 60° of vertical with orifice facing downward.

#### MS6 - SCR

• This device must be fitted in the cockpit on the passenger side floor in an easily accessible location.

## **VMPS**

- Must be aligned within 1 degree of vehicle centerline.
- Must be aligned within 0.5 degrees of horizontal.
- Must be mounted using supplied mounting bracket.
- Must be mounted nearest to vehicle center of gravity as possible.

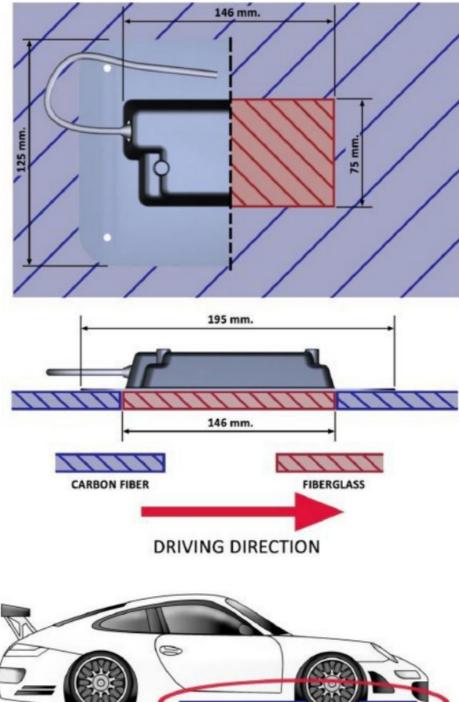
• See BSSM for additional information.

#### **VMPS Antenna**

- Must be fitted to the top surface of the vehicle roof within 200mm of the roof centerline.
- All other antennas on Car, other than the supplied LTE antennas, must be installed at least 240 mm from center of IMSA VMPS antenna.
  - 1. Include a visualized restriction zone around the VMPS antenna.
- Antenna must be mounted with heading in the driving direction.
- See BSSM for additional information.

## **X2 Transponder**

- The longitudinal axis of the transponder must be parallel with the longitudinal axis of the vehicle and the label side of the transponder must face the ground.
- A non-conductive window may be placed between the transponder and the ground. IMSA highly recommends an Aramid (Kevlar) or fiberglass window.
  - The window must extend beyond the edge of the carbon fiber mounting bracket available for purchase from IMSA.
- If two transponders are fitted in the car, must detail both transponder locations.





#### **Fuel Flow Meter**

- Submitted images of mounting bracket and location will be reviewed by IMSA for approval.
- Must be mounted near engine, isolated from vibration and heat.
- Each supply line requires its own individual sensor.
  - 1. Low pressure supply line only.



• (GT-100-01) User Guide and Datasheet.zip

- 9" W x 8" H area must remain clear of any other decals, wrap or graphics.
- Must be clearly visible from side.
- XAP panel controller box must be in cockpit.

### **XAP NTX Marshalling Display**

• Must be in a secure location and visible to all drivers when in a seated position.

#### **Accident Data Recorder**

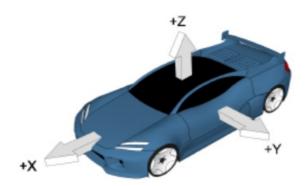
- Must be consistent with FIA Homologated location.
- · Must be affixed to hardpoints with fasteners.
- Must be oriented in accordance with MoTeC ADR2 documentation.

#### Orientation

The ADR2 must be installed in alignment with the primary axes of the vehicle. The orientation is specified in the device configuration; see Orientation Tab. The position is defined using the orientation of the connector and the single point mount with respect to the vehicle axes. FIA has prescribed installation as shown.

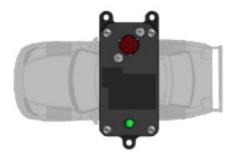
### Primary vehicle axes

- X-axis, longitudinal, positive forward acceleration
- Y-axis, lateral, positive left acceleration
- Z-axis, vertical, positive upward acceleration

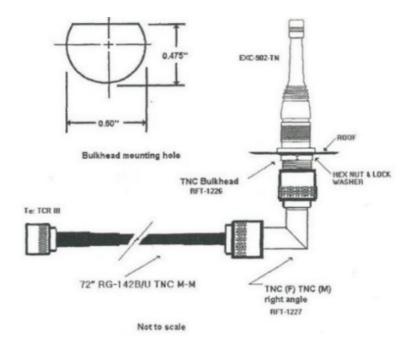


## FIA prescribed mounting orientation

ADR2 mounting orientation where the connector points towards the ceiling and the single mount points towards the left of the vehicle.



- · Must be on the car roof.
- A minimum of 240mm away from the VMPS antenna and 150mm away from other antennas.
  - 1. Include a visualized restriction zone around the Safety Light antenna.
- Following the diagram below (a ground plane is not required)



## **Wheel Speed Sensors**

- Must have one per each wheel.
- System layout based on the implementation of scrutineering wheel speed, document selected configured as detailed below:
  - 1. From Bosch M5 ABS TTL Output
    - 1. Must detail wiring configuration including ground circuit in Wheel speed sensor system layout.
  - 2. Active-type Hall effect wheel speed sensors
    - 1. Must detail trigger wheel pattern in Wheel speed trigger wheel detail.
    - 2. Must detail sensor type in Wheel speed sensor system layout.
    - 3. Must detail installation in Wheel speed sensor installed.
  - 3. Signal Splitter from ABS
    - 1. Must detail signal splitter device details and installation in Wheel speed sensor system layout.
    - 2. Must detail wiring configuration including ground circuit in Wheel speed sensor system layout.
- Must detail trigger wheel pattern in Wheel speed trigger detail.
- See BSSM for additional information.

#### **Engine Speed sensors**

- Trigger wheel must include 30-60 teeth and must include 1-4 missing teeth in 1 spot around the wheel.
- If choosing an inductive sensor, the depth of the missing tooth gap must be half the depth of the normal gaps.
- Must detail trigger wheel pattern in Engine speed trigger wheel detail.
- · Must specify sensor type

#### **Fuel Proximity Sensor**

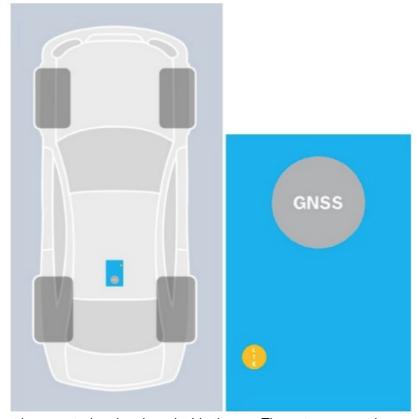
Must specify sensor type and pull up/down requirements

#### **TPMS**

- Must have one sensor per wheel.
- Must include system manufacturer per IMSA approval.
- Must detail gateway information and mounting details, if utilizing in TPMS information.
- Must detail number and placement of receivers and ECU in TPMS system layout overview.

## LTE Telemetry

- Must indicate whether this will be a shared or standalone system in LTE Telemetry Module.
- LTE telemetry radio must be mounted in a dry area away from direct heat sources, and with the status LEDs plainly visible.
  - 1. LTE external antenna is recommended to be mounted inside of VMPS antenna restriction zone.



- LTE internal antenna must be mounted under glass, inside the car. The antenna must have a direct view of the sky.
  - 1. The antenna may be covered in vinyl.
  - 2. A location under a heated windscreen is acceptable.
- See BSSM for additional information.

## Wiring Loom

- Must include diagram of all portions of wiring loom including pinout.
- Must include Block Diagram of CAN routing including components and lengths for all scrutineering busses

## **Documents / Resources**



## IMSA VMPS Technical Eligibility Form Appendix [pdf] Instructions

VMPS Technical Eligibility Form Appendix, VMPS, Technical Eligibility Form Appendix, Eligibility Form Appendix, Appendix

## References

## • User Manual

#### Manuals+, Privacy Policy

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