



FCS1362 Review

Pet Reg Install - Update

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FCS1362

“The Installers Bible”

Installation Futures – ITS in your vehicle

Federation of Communication Services



Guidance Document

- Code of Practice for Installation into Land Based Vehicles.
- Professional installers “bible”
- Generic guide to installation best practice.



Value

- Relevant to the Installer
- Developed and used by Installers
- The basis for FCS FITAS Scheme (Module 2)
- Adopted by many Professional User Organisations (e.g. Public Safety) as the “De facto” standard
- Recognised by Vehicle Manufacturers



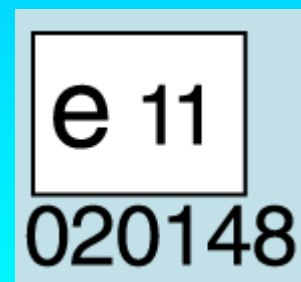
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Core Principles



Legal

- Wireless Telegraphy Act
- Automotive Regulations – EMC etc.
- Construction & Use





Safe

- Vehicle Functionality
- Vehicle Users
- Road Users & Public



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Efficient

- Meets Customer Needs
- Optimum Performance
- Reliable



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- **Working group established involving key stakeholders:**
 - **Installer Community**
 - **Mobile Communications sector**
 - **Security and Asset Tracking**
 - **Vehicle Manufacturers & Specialist Converters**
 - **Fleet Users**
 - **Regulators & Vehicle Assessment Bodies**



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- **Review process chaired by Tim Cull**
 - **Working Groups to address different areas:**
 - **Antennas led by John Thomson**
 - **Installation led by Mel Brown**
 - **Fixings, Connectors & Tooling – led by Phil West**
 - **Regulatory led by Wayne Bennett**
 - **Editing completed by Matthew Wilson**



FCS1362:2010

- New version released in December 2010
- Limited number of actual changes
- Enhanced guidance on responsibilities and specific processes
- Regulatory issues have been reviewed & updated
- Re-structured to be easier to use



FCS1362 Review 2010

- **Regulatory**

- **Emphasis on installers responsibility to create a safe and legally compliant installation**
- **Emphasis that this responsibility can NOT be transferred to another party by a signed disclaimer**
- **Clarification of EMC approval requirements for aftermarket equipment**
- **Example of a typical EMC conformance document included in Appendix E “Declaration of Conformity”**
- **Advice on Specialist vehicles and vehicles covering hazardous load – Sections 2.2.4 & 2.2.5**



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- **Antennas**

- Information included on loss factors of different types of coaxial cable for use at various frequencies
- Frequency to wavelength conversion table updated to include emerging bands used in mobile environment
- Matrix of antenna type performance on various frequency bands updated
- Radiation patterns in Appendix E updated to remove some old information and include comparisons of covert to overt antenna performance



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- **Installation**

- **New Section 4.11 covering removal of equipment from vehicle, where this is the only process – covers functionality of the vehicle and safety of the user**
- **Negative supply – remains as un-fused & connected to chassis adjacent to battery connection point. Now includes use of a local earth point where specified by equipment supplier and on commercial vehicles**



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- **Fixings – section 2.6.1**
 - **Fixing parts supplied by the equipment manufacturer may not be adequate**
 - **Weight, location and environment must be considered in the selection of fixings**
 - **Velcro should not be considered a normal method of fixing but may be suitable for lightweight units where other fixing methods not available**



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- **Connections – section 2.6.1.4**
 - This gives specific advice on:
 - Joining 2 cables
 - Joining or cutting into an existing loom or cable
 - Connecting into the vehicle data bus and use of CAN bus adaptors
 - Method of insulating solder joints



FCS1362 Review 2010

- **Final Editing**
 - **Massive amount of work undertaken**
 - **Format of document totally reviewed to:**
 - **Ensure that installer understands specific responsibilities of the process**
 - **Configured to be easier to use**
 - **Ensure that specific guidance is easier to access**



FCS Installer Links Page

- FCS maintained links page – provides access to current documents referred to in FCS1362

<http://www.fcs.org.uk/MemberGroups/Installers/FCS1362Links.aspx>



FCS1362

“Keeping Updated”

- Ongoing, We need to ensure that it:
- Continues to reflect best installation practice
- Addresses emerging mobile technology
- Provides guidance for installing in new vehicle technology environments
- Includes new regulatory issues as they are introduced



Petroleum Regs Installation



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RECOMMENDATIONS FOR
RADIO COMMUNICATION EQUIPMENT
AND ITS INSTALLATION
IN PETROLEUM ROAD TANKERS

Commonly known as "Pet Reg Spec"



Document

- Property of Energy Institute EI, (previously known as Institute of Petroleum)
- Current issue date November 2004
- Available to purchase from EI either in download or hard copy versions



Document Scope

- Petrol & Gas carrying vehicles with comms installations should comply with this “recommendation”
- Recognised and required by all UK operators and depot sites



Document Function

- To provide road tanker operators with a means of ensuring that radio communications equipment is installed in such a manner so as not to provide a source of ignition, under normal operating or fault conditions..
- During tanker loading at distribution terminals;
- During unloading at filling stations.



Document History

- Review of document carried out in 2004
- FCS Installers Committee working group contributed to the process
- Updated so that it could be used in conjunction with FCS1362
- Completed and issued in November 2004



Current Issues

- Additional technologies being fitted (e.g. AVL trackers with back up battery)
- Different requirements for some terminal operators (e.g. key switch control of comms equipment power)
- Appears to be a lack of knowledge by “installers” about the requirements and the spec
- The document is not freely available



Action Required

FCS Installers Group

- We have agreement from Energy Institute that we will jointly review and update of the document
- Liaise with Energy Institute to make the document available at a discounted rate
- Training programme (FITAS)
- Qualified Installers (FITAS)



How Can You Help?

- We need your feedback on issues relating to this type of installation
 - New types of equipment that may or may not meet the spec
 - Instances of poor/non compliant installations found in the field
 - Issues with petroleum site operators with different installation requirements to the spec



Please send information, images etc.
to:

install@fcs.org.uk

Subject: Pet Reg Installs



Thank You

Any Questions?