SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

SAE/USCAR-18

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FAKRA SMB RF CONNECTOR SUPPLEMENT

SUMMARY OF CONTENTS

QUESTIONS REGARDING THIS DOCUMENT: (724) 772-8545 FAX (724) 776-0243
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1. SCOPE

This document is a supplement to ISO document TC 22/WG 5 N44 and is intended to give recommended usages for one and two way connectors and dimensional requirements for 2-way connectors which are not currently specified by ISO. The radio frequency (RF) connector interface specified herein is suited for unsealed automobile applications up to 3 GHz and is intended for in-line, board mount, device mount, straight or angled applications. Dimensional requirements are specified in this document to ensure interchangeability. Performance requirements are specified in SAE/USCAR-2, and in SAE/USCAR-17.

2. REFERENCES

ISO TC 22/WG 5 N44 Road vehicles – Radio frequency interface – Dimensions and electrical requirements.

SAE/USCAR-2 Performance Specification for Automotive Electrical Connector Systems
SAE/USCAR-17 Performance Specification for Automotive RF Connector Systems

The performance specs can be obtained from the following location:

SAE
400 Commonwealth Dr
Warrendale, PA 15096-0001
USA
http://www.sae.org

RAL RAL color charts are available from:
RAL
Sieburger Strasse 39
D-53757 Sankt Augustin
Telefon 0 22 41 - 16 05-0
Telefax 0 22 41 - 16 05-16
http://www.muster-schmidt.de

3. SINGLE CONTACT

3.1 Coding

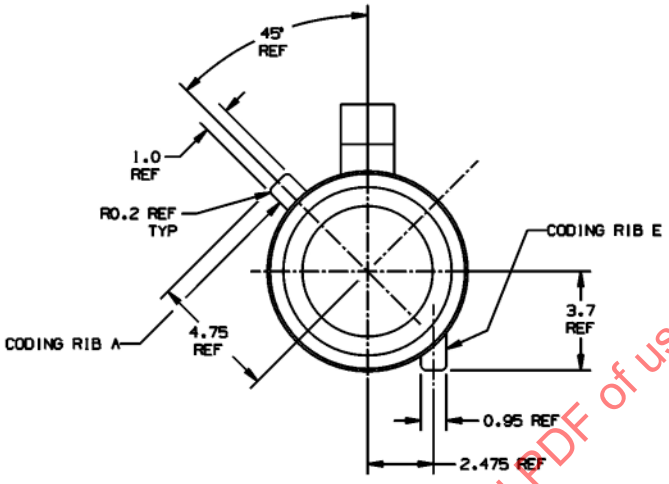

FIGURE 3.1.1: Code L

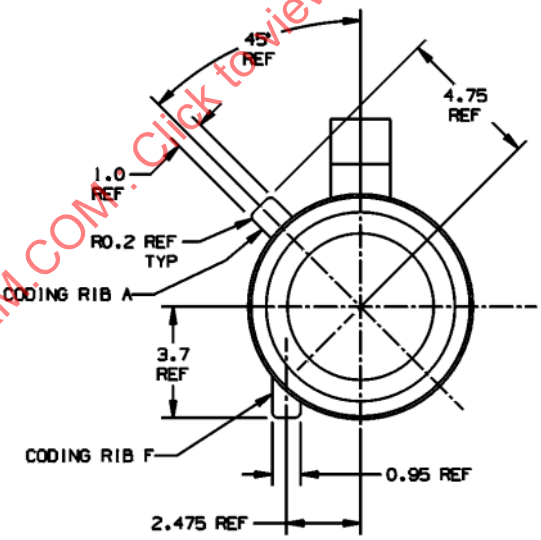

FIGURE 3.1.2: Code M

3.2 Color and Applications

Coding	Color	RAL Number	Usage
A	Jet Black	9005	DAB
B	Signal White	9003	DAB w/Power
C	Signal Blue	5005	GPS
D	Claret Violet	4004	Cellular Phone
E	Leaf Green	6002	TV[1]/SDARS Terrestrial[2]
F	Nut Brown	8011	TV[3]/SDARS Terrestrial[4]
G	Blue Gray	7031	SDARS Terrestrial[5]
H	Heather Violet	4003	GPS Navigation
I	Beige	1001	Bluetooth
K	Curry	1027	SDARS Satellite
L[6]	Dahlia Yellow	1033	Not Defined
M[6]	Pastel Green	6019	Not Defined

TABLE 1: Color, Polarization, and Usage – Single Contact

4. 2 WAY CONTACTS

4.1 Coding

Two-way connector codings use the following scheme:

The left side receptacle viewed from the plug or wire entry side uses identical codings to those shown in ISO TC 22/WG 5 N44 for one way connectors. The right side receptacle viewed from the same position uses a neutral coding in all cases. An example is shown in paragraph 4.2. The center rib prevents one way connectors from inadvertently being plugged to two-way receptacles.

[1] UHF where defined by receiver
[2] XM ®Radio
[3] VHF where defined by receiver
[4] Sirius ®Radio
[5] Interoperable
[6] Additional codings not specified by ISO TC 22/WG N44

4.2 Dimension of the Interface

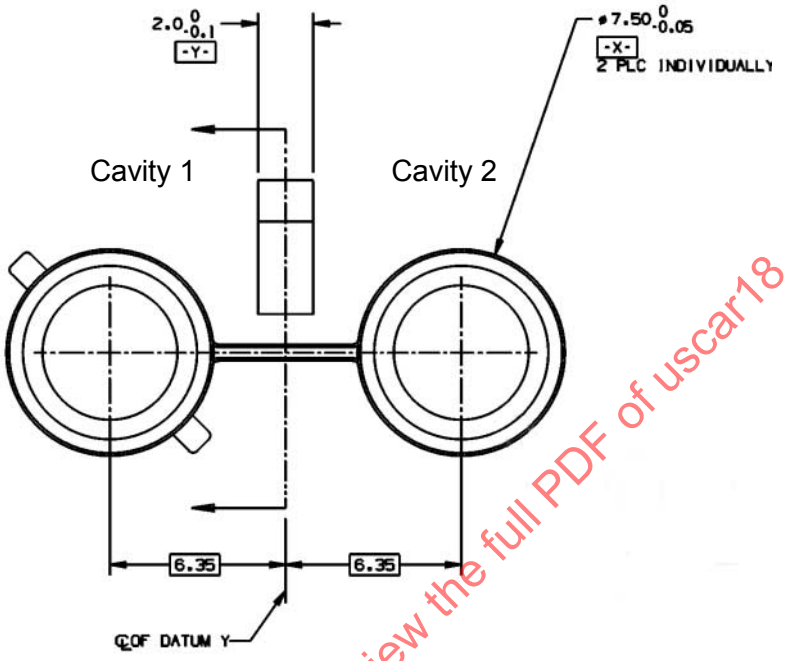

FIGURE 4.2.1: Cavity Detail (Coding C2 Shown)

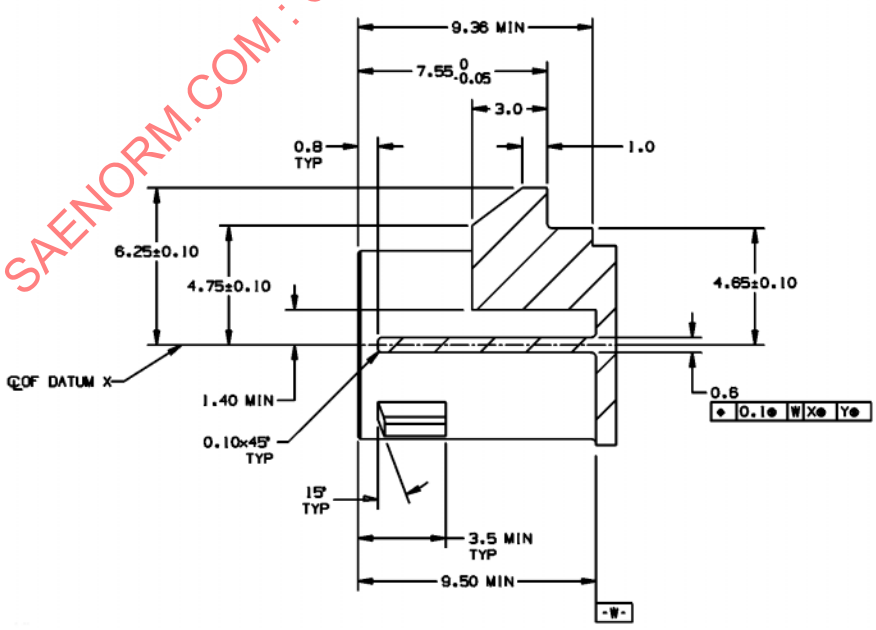

FIGURE 4.2.2: Latch Detail