CGSN Generic Wiring Specifications

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Revision History

Version	Description	Originator	ECR No.	Release Date
1-00	Initial Release	Mark D'Angelo	1303-01030	04/09/2013
1-01	Update to labeling, etc.	S. White	1303-01826	2018-08-10

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1.0 Introduction

This document is a generic Electrical Wiring Specification to be used in building CGSN cable assemblies.

1.1. Purpose

This document will be referred to by the electrical cable drawings needed to build CGSN mooring cable assemblies. This specification should be used for building cable assemblies unless otherwise noted on the drawing.

2.0 CGSN Generic Wiring Specifications

2.1. Specifications

2.1.1. SubConn Bulkhead Mounting

All SubConn Bulkhead connectors shall be properly mounted in their appropriate J-Box cover or bottle lid prior to final assembly. Unless otherwise noted all bulkhead locking sleeves shall be male. This applies to Teledyne Impulse connectors where applicable as well. All bulkheads shall be installed and torqued in accordance with the manufacturers specifications.

2.1.2. SubConn Bulkhead Splice Location

Unless otherwise noted, all SubConn bulkhead splices shall be made between 6” and 10” from the bulkhead connector.

2.1.3. SubConn Inline Cables

Unless otherwise noted, all SubConn inline cables that have SubConn (or Teledyne Impulse where applicable) connectors on both ends shall have female locking sleeves installed. Unless otherwise noted, all cable assemblies exposed to the environment shall use a polyurethane external jacket.

2.1.4. Splices

Unless otherwise noted, all solder splices will be Raychem Solder sleeves, or similar. Sleeves should be installed per manufacturer’s specifications. All Splices shall be staggered. Refer to the following link for further information on these solder sleeves:

http://www.te.com/commerce/DocumentDelivery/DDEController?Action=selcritrslt&searchby=part&searchfor=346656-000&doctypes=All&docformats=All&doclangs=All&TCPN=346656-000

2.1.5. Wire Type

Unless otherwise noted, all wire used in building the cable assemblies will use tin coated stranded copper wire M16878/4-B.

2.1.6. Wire Insulation/Ratings

Unless otherwise noted, all wire used in building cable assemblies will use Teflon insulation. The wire shall have a minimum of 200°C and a 300V insulation rating.

2.1.7. Wire Insulation Color/Gauge

Unless otherwise noted, all wire gauge and colors are indicated in the connection table. For example Red_Black_20 indicates that the insulation is Red with a Black stripe and the wire size is 20AWG.

2.1.8. Wrapping Enclosed Cable Assemblies

Unless otherwise noted, all cable assemblies located within an enclosure (bottle, buoy well, etc.) shall be wrapped in black polyester expandable mesh sleeving ("Flexo Pet" black sleeving). Sleeving ends shall be terminated inside the connector cable clamps when available. If a cable clamp is not available, the sleeving end shall be terminated using a wire tie wrap close to the connector. See following link:
http://www.techflex.com/specsheets/flexopet.pdf

2.1.9. Cable Assembly Labels

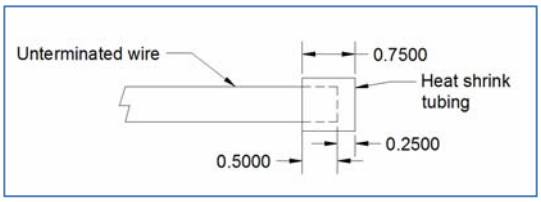
Unless otherwise noted, all cable assemblies shall have a label applied close to each connector, Brady M21-1500-427, or similar. The label should indicate:

- Cable part number and Rev (for example 3707-00001-00002 Rev B),
- Manufacture date
- Tag name of the connector (for example P1).

2.1.10. Un-Terminated Wires

Unless otherwise noted, all un-terminated wires should be covered with 3M EPS-200 heat shrink tubing ¾" long. See table below for proper positioning.

Figure 2-1 Heat Shrink Positioning



2.2. Recommended Tools

This section contains a list of tools recommended by CGSN to be used for building cable assemblies.

2.2.1. CGSN Recommended Crimp Tools

Table 2-1 Recommended Crimp Tools

Connector	Crimp Tool
Bussman Fuse Holder	Thomas and Betts WT-112M (or similar)
Souriau 16 and 20 AWG	DMC, CA6E 11851, using Turret TH1A
Positronics 20 and 22 AWG	Positronics Ind., catalog # 9507

2.2.2. Other CGSN Recommended Tools

Table 2-2 Other Recommended Tools

Part Number	MFG	Tool Type	Description
DRK-20A	Connector Technology	Extraction	Souriau, 20 AWG Pin extractor
DRK-16A	Connector Technology	Extraction	Souriau, 16 AWG Pin extractor
DAK-20A	Connector Technology	Insertion	Souriau, 20 AWG Pin Insertion Tool
DAK-16A	Connector Technology	Insertion	Souriau, 16 AWG Pin Insertion Tool
9099-1	Positronics Industries	Insertion	Positronic, 20/22 AWG Pin insertion Tool
9081-1	Positronics Industries	Extraction	Positronic, 20/22 AWG Pin extractor