

# PRODUCT SPECIFICATION DRAWING

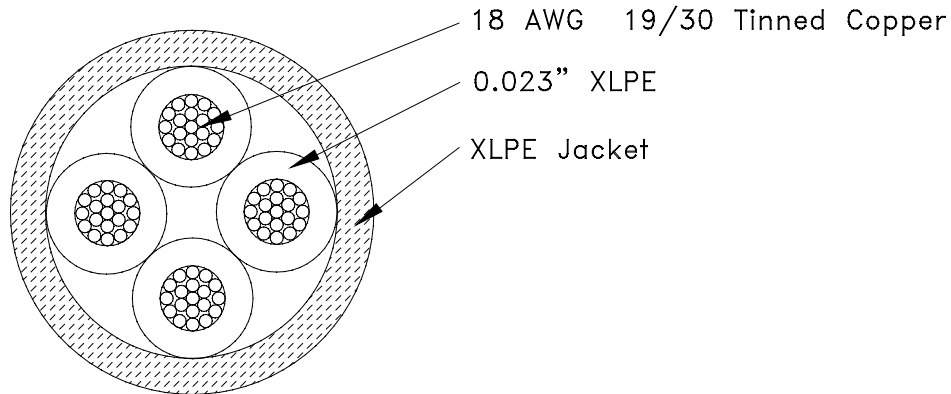
Specification Number:  
**830-01**

Title: Surface Vehicle Data Transmission Cable, SAE J1939/12, 250K Bits/sec, Twisted Quad

Date:  
06/21/01

Revision:  
**NC**

REFERENCE SPECIFICATION(S)	TEMPERATURE RATING	VOLTAGE RATING
SAE J1128 type GXL, SAE J1939	125°C	50 VOLTS



Drawing Not To Scale.

## CONSTRUCTION DETAILS

### COMPONENTS

Conductor				Finished Primary Wire		
Wire Size	Type Stranding	Number	Target Diameter	Insulation	Nominal Wall Thickness	Target Diameter
18 AWG	Tinned Annealed Copper 19 / 30	4	0.048 inch	Irradiation Crosslinked Polyethylene	0.023 inch	0.094 inch
CABLED COMPONENTS						
Lay Length	Direction	Cabling Sequence				
2 inches	Left Hand	Red, Green, Black, Yellow				
JACKET						
Insulation	Nominal Wall Thickness	Finished Target Diameter	Judd Part Number			
Irradiation Crosslinked Polyethylene	0.024 inch	0.2755 inch	M07041260001			



**JUDD WIRE, INC.**  
124 Turnpike Road  
Turners Falls, MA 01376

Drawn By:  
L. Williams

Date:  
June 21, 2001

Reviewed By:  
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Date:  
June 21, 2001

Page:  
1 of 2

File:  
830-01.doc

**ADDITIONAL PERFORMANCE PROPERTIES**

CATEGORY	TEST	PROCEDURE	REQUIREMENT
Mechanical	Primary Wire: Tensile Strength	SAE J1128 Section 6.3 ; 2 inches per minute	1500 PSI minimum
	Elongation Abrasion Resistance Pinch Resistance	SAE J1128 Section 6.10 ; Bracket A ; 1 pound mass SAE J1128 Section 6.9 ;	150% minimum 16 inches minimum 14 pounds minimum
Thermal	Primary Wire: Accelerated Aging	SAE J1128 Section 6.3 ; 168 hours at 155°C	80% minimum retention of unaged tensile strength value 50% minimum retention of unaged elongation value
	Cold Bend Flammability	SAE J1128 Section 6.5 ; 3 hours at -40°C ; 3 inch mandrel ; 1 pound mass SAE J1128 Section 6.6 ; 45° plane ; Bunsen Burner ; 15 second flame	no cracks ; 1000 volt dielectric test 70 second maximum burn time
Electrical	Primary Wire: Dielectric Test Cable	SAE J1128 Section 6.4 ; 5 hours at 25°C in water (5% salt)	1000 volts at 60 Hz for 1 minute without breakdown
	Dry Dielectric	apply voltage between conductors	1500 volts at 60 Hz for 15 second without breakdown
Chemical	Primary Wire: Fluid Compatibility:	SAE J1128 Section 6.7	
	Engine Oil	20 hours at 50 ± 3°C	15% maximum OD change ; 1000 volts dielectric test
	Gasoline	20 hours at 25 ± 3°C	15% maximum OD change ; 1000 volts dielectric test
	Ethanol	20 hours at 25 ± 3°C	15% maximum OD change ; 1000 volts dielectric test
	Power Steering	20 hours at 50 ± 3°C	30% maximum OD change ; 1000 volts dielectric test
	Transmission Fluid	20 hours at 50 ± 3°C	25% maximum OD change ; 1000 volts dielectric test
Engine Coolant	20 hours at 50 ± 3°C	15% maximum OD change ; 1000 volts dielectric test	
Battery Acid	20 hours at 25 ± 3°C	5% maximum OD change ; 1000 volts dielectric test	



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08/17/04

Page:

2 of 2

Revision:

NC

File:

830-01.doc