



**Product:** [2104A](#)

Fieldbus, 12 Pr #18 Str TC, XLPO Ins, IS/OS, TPE Jkt, CMG

[Request Sample](#)

### Product Description

Fieldbus, 12 Pair 18AWG (7x26) Tinned Copper, XLPO Insulation, Individual & Overall Beldfoil® Shield, TPE Outer Jacket, CMG

### Technical Specifications

#### Product Overview

Suitable Applications:	harsh environment digital and serial two-way communication, oil and gas extraction and refining sites, petrochemical, Profibus process automation or Foundation FieldBus process automation, extreme temperature environments, exposure to humidity/moisture, dust, and oil, remote locations long distance applications, etc.
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#### Physical Characteristics (Overall)

##### Conductor

Element	AWG	Stranding	Material	No. of Pairs
Pair(s)	18	7x26	TC - Tinned Copper	12

Conductor Count:	24
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##### Insulation

Material	Nominal Wall Thickness
XLPE - Cross-Linked Polyethylene (Thermoset)	0.032 in

##### Color Chart

Number	Color
1	Blue, Orange and Numbered
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

##### Inner Shield

Type	Material	Material Trade Name	Coverage [%]	Drainwire Material	Drainwire AWG	Drainwire Construction n x D
Tape	Bi-Laminate (Alum+Poly)	Beldfoil®	100%	TC - Tinned Copper	20	7x28

##### Outer Shield

Type	Material	Material Trade Name	Coverage [%]	Drainwire Material	Drainwire AWG	Drainwire Construction n x D
Tape	Bi-Laminate (Alum+Poly)	Beldfoil®	100%	TC - Tinned Copper	18	7x26

##### Outer Jacket

Material	Nominal Diameter	Nominal Wall Thickness	Ripcord
TPE - Thermoplastic Elastomer	1.015 in	0.085 in	Yes

## Electrical Characteristics

### Conductor DCR

Nominal Conductor DCR
5.86 Ohm/1000ft

### Capacitance

Max. Capacitance Unbalance	Nom. Capacitance Conductor to Conductor
1.2 pF/ft	22 pF/ft

### Inductance

Nominal Inductance
0.22 $\mu$ H/ft

### Impedance

Nominal Characteristic Impedance
100 Ohm

### High Frequency (Nominal/Typical)

Frequency [MHz]	Nom. Insertion Loss
0.039 MHz	0.08 dB/100ft

### Delay

Nominal Velocity of Propagation (VP) [%]
64%

### High Frequency

Max. Insertion Loss (Attenuation)	Max./Min. Input Impedance (unFitted)
0.091 dB/100ft	100 Ohm

### Current

Element	Max. Recommended Current [A]
Per Conductor	5.4 Amps per Conductor

### Voltage

Description	UL Voltage Rating
CSA CIC type TC	300 V

Electrical Characteristics Notes: Max Propagation Delay Change From 7.812 kHz to 39.06 kHz: 518 pS/ft

Other Electrical Characteristic 2: 31.25 KBits/sec

## Temperature Range

Installation Temp Rating:	-25°C
UL Temp Rating:	90°C
Operating Temperature Range:	-40°C to 90°C

## Mechanical Characteristics

Oil Resistance:	Yes
Bulk Cable Weight:	476 lbs/1000ft
Max. Pull Tension:	711 lbs
Min. Bend Radius/Minor Axis:	10.25 in

## Standards

NEC Articles:	Article 725, Article 727, Article 800
NEC/(UL) Compliance:	CMG, ITC, PLTC-ER
CEC/C(UL) Compliance:	CIC, TC
CSA AWM Compliance:	AWM I A/B II A/B
ISO/IEC Compliance:	IEC 61158-2
Other Standards:	ISA/SP-50 Type A

## Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
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EU Directive 2003/11/EC (BFR):	Yes
EU Directive 2011/65/EU (RoHS 2):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive 2015/863/EU (RoHS 2 amendment):	Yes
EU Directive Compliance:	EU Directive 2003/11/EC (BFR)
EU CE Mark:	Yes
MII Order #39 (China RoHS):	Yes

## Suitability

Suitability - Burial:	Yes
Suitability - Indoor:	Yes
Suitability - Oil Resistance:	Yes
Suitability - Outdoor:	Yes
Suitability - Sunlight Resistance:	Yes

## Flammability, LSOH, Toxicity Testing

UL Flammability:	UL1685 UL Loading
IEC Flammability:	IEC 60332-3-24
UL voltage rating:	300 V RMS

## Plenum/Non-Plenum

Plenum (Y/N):	No
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## Related Part Numbers

### Variants

Item #	Color	Put-Up Type	Length	UPC
2104A 0061000	Blue, Light	Reel	1,000 ft	612825128960
2104A 0065000	Blue, Light	Reel	5,000 ft	612825128977
2104A 0031000	Orange	Reel	1,000 ft	612825128946
2104A 0035000	Orange	Reel	5,000 ft	612825128953

## History

Update and Revision:	Revision Number: 0.592 Revision Date: 11-15-2024
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