



# SEL Cable Products



## Key Features and Benefits

- ▶ Reliably connect between SEL products and other devices, including relays, information processors, computers, I/O modules and controllers, meters digital fault recorders (DFRs), programmable logic controllers (PLCs), remote terminal units (RTUs), time clocks, phone switches, and modems.
- ▶ SEL manufactures high-quality cables for connecting a variety of devices.
- ▶ Cables can be ordered in specific lengths to meet your needs.
- ▶ Each cable is quality-tested to ensure reliability and proper operation.

## Electrical Data Cables

SEL provides reliable, finished cables built to IPC/WHMA-A-620 workmanship standards in our ISO 9001 certified factories and covered by a worldwide, ten-year warranty.

**Table 1 Electrical Data Cable Types (Sheet 1 of 2)**

Parameter	8 Conductor Standard	8 Conductor Low Capacitance	5 Pairs	10 Conductor Standard
Conductors	8	8	10	10
Gauge	22 AWG	24 AWG	24 AWG	22 AWG
Conductor Material	Tinned Copper	Tinned Copper	Tinned Copper	Tinned Copper
Operating Temperature Range	-40° to +85°C (-40° to +185°F)	-40° to +85°C (-40° to +185°F)	-40° to +85°C (-40° to +185°F)	-40° to +85°C (-40° to +185°F)
Outside Cable Dimensions	0.242 in (6.15 mm)	0.280 in (7.11 mm)	0.294 in (7.47 mm)	0.252 in (6.40 mm)
Weight	40.3 lb/1000 ft 18.3 kg/304.8 m	42.0 lb/1000 ft 19.1 kg/304.8 m	38.3 lb/1000 ft 17.4 kg/304.8 m	46.3 lb/1000 ft 21.0 kg/304.8 m
Voltage Rating	300 V	300 V	300 V	300 V
DC Resistance	16.7 Ω/1000 ft	24.0 Ω/1000 ft	24.0 Ω/1000 ft	16.7 Ω/1000 ft

**Table 1 Electrical Data Cable Types (Sheet 2 of 2)**

Parameter	8 Conductor Standard	8 Conductor Low Capacitance	5 Pairs	10 Conductor Standard
Jacket Material	PVC	PVC	PVC	PVC
Environment	Indoor	Industrial	Indoor	Indoor
EU RoHS Compliant	Yes	Yes	Yes	Yes
Specification	NEC/(UL) CMG/CMR CEC/C(UL) CMG/CMR	NEC/(UL) CM CEC/C(UL) CM	CEC/C(UL) CM	NEC/(UL) CM CEC/C(UL) CM
Flame Test	CSA FT4	UL 1685	UL 1685	CSA FT4
Available Lengths	1–1000 ft	1–330 ft	1–1000 ft	1–1000 ft
Compatible Connectors	SEL-9205 DB-25 Male, SEL-9206 DB-25 Female, SEL-9207 DB-9 Male, SEL-9208 DB-9 Female	SEL-9205 DB-25 Male, SEL-9206 DB-25 Female, SEL-9207 DB-9 Male, SEL-9208 DB-9 Female	SEL-9205 DB-25 Male, SEL-9206 DB-25 Female, SEL-9207 DB-9 Male, SEL-9208 DB-9 Female	SEL-9205 DB-25 Male, SEL-9206 DB-25 Female, SEL-9207 DB-9 Male, SEL-9208 DB-9 Female
Popular Cable Assemblies <sup>a</sup>	C272A, C273A, C234A, C285, C239, C246A, C292A	C272R, C273R, C222R, C227R, C280R, C641P	C690, C691, C692, C693, C694, C695, C696, C697, C698, C450, C451, C460	C387, C388, C640, C641
Bulk Cable	C001	C002	C003	C004

<sup>a</sup> For a full list of cable assemblies, see [selinc.com/products/cables](http://selinc.com/products/cables).

## Connector Types

### SEL-9205 (Male) and SEL-9206 (Female) DB-9 Connector Assemblies



SEL-9205



SEL-9206

Number of Pins:	9
Overall Dimensions Without Hood (W x H):	1.213 x 0.494 in (30.8 x 12.6 mm)
Overall Dimensions With Hood (W x H):	1.24 x 0.59 in (31.5 x 15.0 mm)
Screw Separation on Center:	0.984 in (24.99 mm)
Contact Pin Size:	20 DF
Operating Temperature Range:	-40° to +85°C (-40° to +185°F)
RoHS Compliant:	Yes

## SEL-9207 (Male) and SEL-9208 (Female) DB-25 Connector Assembly



SEL-9207

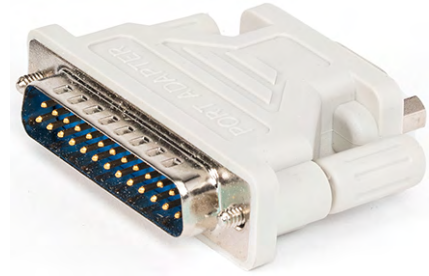


SEL-9208

Number of Pins:	25
Overall Dimensions Without Hood (W x H):	2.088 x 0.494 in (53.0 x 12.6 mm)
Overall Dimensions With Hood (W x H):	2.106 x 0.591 in (53.5 x 15.0 mm)
Screw Separation on Center:	0.984 in (24.99 mm)
Contact Pin Size:	20 DF
Operating Temperature Range:	-30° to +85°C (-22° to +185°F)
RoHS Compliant:	Yes

## Adapters 240-0550 Serial Adapter DB25M/DB9F

Converts a 25-Pin D Female to a 9-Pin D Female.



## 240-0551 Serial Adapter DB25F/DB9M

Converts a 25-Pin D Male to a 9-Pin D Male.



### 240-1550 Gender Changer F/F

Converts a 9-Pin D Male to Female.



### 240-1551 Gender Changer M/M

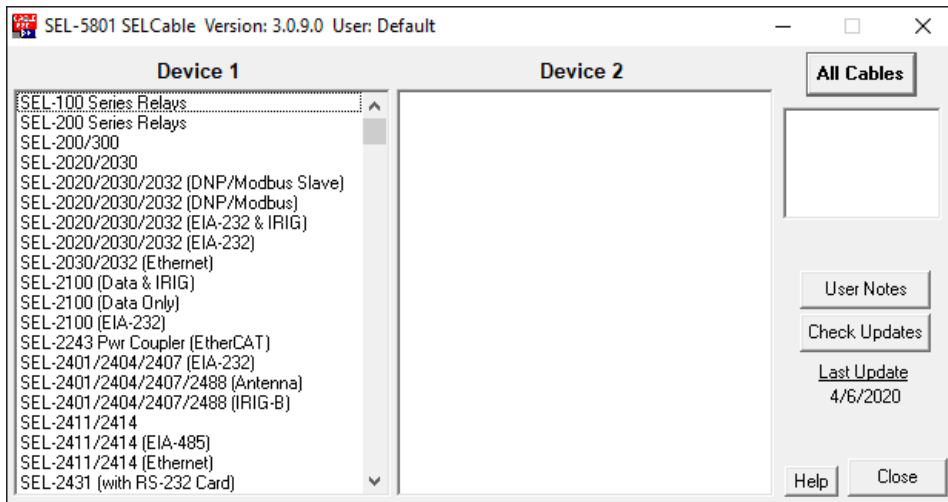
Converts a 9-Pin D Female to Male.



## Cable Assemblies



- **Quality.** Built to IPC/WHMA-A-620 workmanship standards, all cables are tested before leaving the factory.
- **Cable Support.** Quickly and easily select proper SEL cables for your applications with the SEL-5801 Cable Selector program ([selinc.com/CableSelector](http://selinc.com/CableSelector)).



# Coaxial Cables

SEL manufactures high-quality coaxial cables for connecting a variety of radio frequency devices. You can order cables to specific lengths to meet your needs. Each cable is quality-tested to ensure reliability and proper operation.

**Table 2 Coaxial Cable Types**

Parameter	RG-58	RG-8X	LMR400
Characteristic Impedance	50 Ω	50 Ω	50 Ω
Center Conductor O.D.	0.032 in (0.813 mm)	0.057 in (1.448 mm)	0.108 in (2.743 mm)
Operating Temperature Range	-40° to +85°C (-40° to +185°F)	-40° to +85°C (-40° to +185°F)	-40° to +85°C (-40° to +185°F)
Outside Cable Dimensions	0.195 in (4.95 mm)	0.240 in (6.10 mm)	0.405 in (10.29 mm)
Weight	27 lb/1000 ft (12.3 kg/304.8 m)	40 lb/1000 ft (18.1 kg/304.8 m)	88 lb/1000 ft (39.1 kg/304.8 m)
Max. Pull Tension	12.1 lb (5.5 kg)	74 lb (33.6 kg)	160 lb (72.6 kg)
Min. Bend Radius	1.95 in (49.5 mm)	2.40 in (61.0 mm)	1.79 in (45.5 mm)
Voltage Rating	1400 V	300 V	2500 V
Attenuation	5.8 dB/100 ft @ 100 MHz 28 dB/100 ft @ 1 GHz	1.6 dB/100 ft @ 50 MHz 9.1 dB/100 ft @ 1.5 GHz	4.7 dB/100 ft @ 900 MHz 7.9 dB/100 ft @ 2.4 GHz
Jacket Material	PVC	PVC	TPE
Environment	Indoor/Outdoor	Indoor/Outdoor	Indoor/Outdoor
EU RoHS Compliant	Yes	Yes	Yes
Specification	N/A	NEC/(UL) CMR CEC/C(UL) CMG	N/A
Flame Test	N/A	UL 1666 (FT4)	N/A
Available Lengths	1–500 ft	1–200 ft	1–500 ft
Compatible Connectors	915900505 BNC Male	915900506 TNC Male 915900507 N Male	915900508 TNC Male 915900509 N Male
Popular Cable Assemblies <sup>a</sup>	C251, C256, C256R, C950, C951, C953, C959, C962, C963	C964, C965, C967, C975, C980	C961, C966, C968
Bulk Cable	C005	C006	C007

<sup>a</sup> For a full list of cable assemblies, see [selinc.com/products/cables](http://selinc.com/products/cables).

### Connector Types

#### 915900505 BNC Male Connector for RG-58 Coaxial Cable



Characteristic Impedance:	50 Ω
Operating Temperature Range:	-40° to +85°C (-40° to +185°F)
Diameter:	0.571 in (14.5 mm)
Crimped Ferrule Hex Crimp Size:	0.213 in (5.41 mm)
Crimped Contact Pin Crimp Size:	0.068 in (1.73 mm)

#### 915900506 TNC Male Connector for RG-8X Coaxial Cable



Characteristic Impedance:	50 Ω
Operating Temperature Range:	-40° to +85°C (-40° to +185°F)
Diameter:	0.571 in (14.5 mm)
Crimped Ferrule Hex Crimp Size:	0.255 in (6.48 mm)
Crimped Contact Pin Crimp Size:	0.068 in (1.73 mm)

#### 915900507 N Male Connector for RG-8X Coaxial Cable



Characteristic Impedance:	50 Ω
Operating Temperature Range:	-40° to +85°C (-40° to +185°F)
Diameter:	0.827 in (21.0 mm)
Crimped Ferrule Hex Crimp Size:	0.255 in (6.48 mm)
Crimped Contact Pin Crimp Size:	0.100 in (2.54 mm)

#### 915900508 TNC Male Connector for LMR400 Coaxial Cable



Characteristic Impedance:	50 Ω
Operating Temperature Range:	-40° to +85°C (-40° to +185°F)
Diameter:	0.571 in (14.5 mm)
Crimped Ferrule Hex Crimp Size:	0.429 in (10.90 mm)
Crimped Contact Pin Crimp Size:	0.118 in (3.00 mm)

### 915900509 N Male Connector for LMR400 Coaxial Cable



Characteristic Impedance:	50 $\Omega$
Operating Temperature Range:	-40° to +85°C (-40° to +185°F)
Diameter:	0.827 in (21.0 mm)
Crimped Ferrule Hex Crimp Size:	0.429 in (10.90 mm)
Crimped Contact Pin Crimp Size:	0.118 in (3.00 mm)

### Adapters

#### 240-1805 BNC Female to TNC Male



#### 240-1806 TNC Female to BNC Male



#### 240-1807 TNC Female to TNC Female



#### 240-1808 N Male to TNC Female



#### 240-1809 N Female to TNC Male



## Cable Assemblies



### ► GPS and SEL Radio Antennas

- Install SEL-C961 or SEL-C965 coaxial cables for runs that require TNC-to-TNC connections.
- Install SEL-C964 or SEL-C966 coaxial cables for runs that require TNC-to-N connections.
- Install SEL-968 coaxial cables for runs that require TNC-to-N connections.

### ► IRIG-B Time Distribution: Distribute IRIG-B to SEL products and other devices by using SEL-C953, SEL-962, or SEL-C963 coaxial cables.

## Ethernet Cables

For copper Ethernet connections, use high-quality, shielded, twisted-pair (STP) Category 5e Ethernet cables from SEL.

**Table 3 Ethernet Cable Types (Sheet 1 of 2)**

Parameter	4 Pair 600 V MCC Applications	4 Pair Industrial-Rated	4 Pair Standard Blue
Gauge	24 AWG	26 AWG	26 AWG
Operating Temperature Range	-40° to +85°C (-40° to +185°F)	-40° to +85°C (-40° to +185°F)	-40° to +85°C (-40° to +185°F)
Outside Cable Dimensions	0.290 in (7.37 mm)	0.236 in (5.99 mm)	0.222 in (5.64 mm)
Weight	43.0 lb/1000 ft (19.5 kg/304.8 m)	35.0 lb/1000 ft (15.9 kg/304.8 m)	21.3 lb/1000 ft (9.7 kg/304.8 m)
Capacitance	13.5 pF/ft @ 1 MHz	13.5 pF/ft @ 1 MHz	13.5 pF/ft @ 1 MHz
Voltage Rating	600 V	300 V	300 V
DC Resistance	42.6 Ω/1000 ft	42.6 Ω/1000 ft	42.6 Ω/1000 ft
Impedance (1–100 MHz)	100 ± 15 Ω	100 ± 15 Ω	100 ± 15 Ω
Return Loss	(1–10 MHz) 20 + 6log(f) dB min (10–20 MHz) 26 dB min (20–100 MHz) 26 – 5log(f/20) dB min	(1–10 MHz) 20 + 5log(f) dB min (10–20 MHz) 25 dB min (20–100 MHz) 25 – 8.6log(f/20) dB min	(1–10 MHz) 20 + 5log(f) dB min (10–20 MHz) 25 dB min (20–100 MHz) 25 – 8.6log(f/20) dB min
Velocity of Propagation (1–100 MHz)	68%	68%	68%



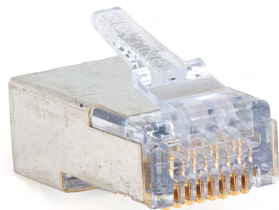
**Table 3 Ethernet Cable Types (Sheet 2 of 2)**

Parameter	4 Pair 600 V MCC Applications	4 Pair Industrial-Rated	4 Pair Standard Blue
Jacket Material	TPE	PE	PVC
Environment	Indoor/Outdoor	Indoor/Outdoor	Indoor
EU RoHS Compliant	Yes	Yes	Yes
Specification	CMX Outdoor-CM	N/A	NEC/(UL) CMG/CMR CEC/C(UL) CMG/CMR CSA AWM FT4
Flame Test	N/A	N/A	CSA FT4
Available Lengths	1–330 ft	1–330 ft	1–330 ft
Compatible Connectors	915900547 RJ45 HV	915900546 RJ45	915900546 RJ45
Popular Cable Assemblies <sup>a</sup>	CA605M	CA605R	CA605C, C605A, C478A, C478N, C489
Bulk Cable	C008	C009	C010

<sup>a</sup> For a full list of cable assemblies, see [selinc.com/products/cables](http://selinc.com/products/cables).

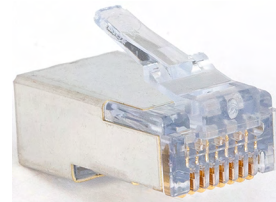
## Connector Types

### 915900547 RJ45 Connector (Male, Shielded, High-Voltage) for 600 V MCC Ethernet Cable



Number of Conductors:	8
Overall Dimensions With Clip (W x H):	0.460 x 0.421 in (11.68 x 10.69 mm)
Conductor O.D. Range:	0.044–0.048 in (1.12–1.22 mm)
Operating Temperature Range:	–40° to +85°C (–40° to +185°F)
Voltage Rating:	42 V
RoHS Compliant:	Yes

### 915900546 RJ45 Connector (Male, Shielded)



Number of Conductors:	8
Overall Dimensions With Clip (W x H):	0.394 x 0.424 in (10.01 x 10.77 mm)
Conductor O.D. Range:	0.037–0.042 in (0.94–1.07 mm)
Operating Temperature Range:	–40° to +70°C (–40° to +158°F)
Voltage Rating:	56.5 V
RoHS Compliant:	Yes

## Cable Assemblies



- ▶ **Standard Ethernet:** Apply the SEL-CA605C cable with the enclosed metal RJ45 connectors and a shielded PVC jacket for typical 10/100/1000BASE-T Ethernet connections.
- ▶ **Industrial:** Use the SEL-CA605R cable with a double-shielded PE jacket for enhanced EMI/RFI protection and excellent UV, oil, and moisture resistance.
- ▶ **Motor Control Center:** Install the SEL-CA605M with a 600 V AWM-rated TPE jacket and a CMX outdoor rating.

## Technical Support

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We appreciate your interest in SEL products and services. If you have questions or comments, please contact us at:

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# Notes

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