

# Ferrule with Expanded Sleeves

## specifications

Ferrules with expanded sleeves shall be designed with a seamless tin plated copper barrel and be suitable for wires with thick insulation to provide consistent, reliable terminations in terminal block and panel building applications. Ferrules with expanded sleeves shall meet UL 486F, CSA-C22.2 No. 291-14 and DIN 46228 requirements for color and single wire containment. Ferrules with expanded sleeves shall be available in a range of wire sizes. Ferrules with expanded sleeves shall be installed with controlled cycle tools for quality crimps.



## technical information

**Industry standards:** Meets UL 486F, CSA-C22.2 No. 291-14 and DIN 46228 standards\*

**Fiber compatibility:** 221°F (105°C)

\* UL 486F for 1/0-20AWG

## key features and benefits

<b>Expanded polypropylene sleeve</b>	Provides a wider inside diameter to allow ferrules to fit easily over thick insulated wire, ideal for use in the U.S and for use with flexible wire.
<b>Funnel wire entry</b>	Forms a guide for easy insertion of wire strands into the crimp barrel to enhance the installation process and improve productivity
<b>Colored sleeves</b>	Allows visual color designation of wire size to aid in identification and quality inspection
<b>Seamless crimp barrel design</b>	Provides a consistent and reliable installation
<b>Meets UL 486F, CSA-C22.2 No. 291-14 and DIN 46228 standards*</b>	Ensures ferrules meet both dimensional and performance requirements for improved safety and product compatibility

\* UL 486F for 1/0-20AWG

## applications

Ferrules with expanded sleeves are designed to ensure superior performance in panel building and terminal block applications requiring the use of wires with thick insulation.

Wires with thick insulation include wires with flexible insulation. Panduit ferrules provide a high quality termination solution that contributes to the overall reliability and productivity of the physical infrastructure.

### Related Products

#### Ferrules with Short Circuit Protection Sleeves (FSDX)

<b>Sleeve color standard:</b>	DIN
<b>Wire range:</b>	16 to 6 AWG (1.5 to 16.0mm <sup>2</sup> )
<b>Pin length (varies):</b>	0.31" to 0.47" (8.0 to 12.0mm)

#### Ferrules with Sleeves

<b>Sleeve color standard:</b>	DIN
<b>Wire range:</b>	26 AWG to 300 kcmil (0.14 to 150.0mm <sup>2</sup> )
<b>Pin length (varies):</b>	0.24" to 1.26" (6.0 to 32.0mm)

#### Ferrules with Sleeves for Twin Wires (FTD)

<b>Sleeve color standard:</b>	DIN
<b>Wire range:</b>	22 to 6 AWG (0.5 to 16.0 mm <sup>2</sup> )
<b>Pin length (varies):</b>	0.31" to 0.63" (8.0 to 16.0mm)

#### Ferrules without Sleeves (F)

<b>Sleeve color standard:</b>	N/A
<b>Wire range:</b>	22 AWG to 500 kcmil (0.25 to 240.0mm <sup>2</sup> )
<b>Pin length (varies):</b>	0.20" to 1.57" (5.0 to 40.0mm)

#### Ferrules with Sleeves on Strips (FSD)

<b>Sleeve color standard:</b>	DIN
<b>Wire range:</b>	22 to 14 AWG (0.50 to 2.5 mm <sup>2</sup> )
<b>Pin length:</b>	0.31" (8.0mm)

#### Ferrules with Sleeves on Reels (FSD)

<b>Sleeve color standard:</b>	DIN
<b>Wire range:</b>	24 to 14 AWG (0.25 to 2.5mm <sup>2</sup> )
<b>Pin length:</b>	0.31" (8.0mm)

# Ferrule with Expanded Sleeves

## ordering information

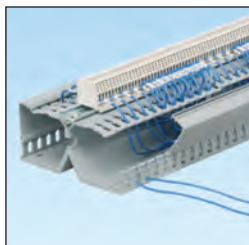
Part Number	Wire Size		Color Code	Max. Wire Insul. Dia		Length		Pin Length		Inside Diameter		Wire Strip Length		Tool	Std. Pkg. Qty.
	AWG	mm <sup>2</sup>		(In.)	mm	(In.)	mm	(In.)	mm	(In.)	mm	(In.)	mm		
FSDX75-8-D	20 AWG	0.50	White	0.12	3.0	0.53	13.5	0.31	8.0	0.04	1.1	15/32	11.9	CT-1002, CT-1003, CT-1123	500
FSDX76-8-D	20 AWG	0.75	Gray	0.14	3.4	0.55	14.0	0.31	8.0	0.05	1.3	15/32	11.9		500
FSDX77-8-D	18 AWG	1.00	Red	0.14	3.4	0.57	14.5	0.31	8.0	0.06	1.5	15/32	11.9		500
FSDX78-8-D	16 AWG	1.50	Black	0.15	3.8	0.57	14.5	0.31	8.0	0.07	1.8	15/32	11.9		500
FSDX84-12-C	6 AWG	16.00	Blue	0.37	9.5	0.91	23.0	0.47	12.0	0.24	6.0	7/8	22.2	CT-1004, CT-1104	100

## recommended installation tools



Part Number	Part Description	Std. Pkg. Qty.
<b>Contour Crimp™ Controlled Cycle Hand Operated Crimping Tool</b>		
CT-1002	Controlled cycle crimp tool with trapezoid profile for #26 – 10 AWG (0.14 – 6.0mm <sup>2</sup> ) insulated and non-insulated single wire ferrules and #22 – 12 AWG (0.50 – 4.0mm <sup>2</sup> ) insulated twin wire ferrules.	1
CT-1004	Controlled cycle crimp tool with trapezoid profile for #8 – 6 AWG (10.0 – 16.0mm <sup>2</sup> ) insulated and non-insulated ferrules and #10 AWG (6.0mm <sup>2</sup> ) insulated twin wire ferrules.	1
CT-1104	Controlled cycle crimp tool with square profile for #8 – 6 AWG (10.0 – 16.0mm <sup>2</sup> ) insulated and non-insulated ferrules and #10 AWG (6.0mm <sup>2</sup> ) insulated twin wire ferrules.	1
CT-1123	Controlled cycle crimp tool with square profile for #26 – 8 AWG (0.14 – 10.0mm <sup>2</sup> ) insulated and non-insulated ferrules and #22 – 12 AWG (0.50 – 4.0mm <sup>2</sup> ) insulated twin wire ferrules.	1

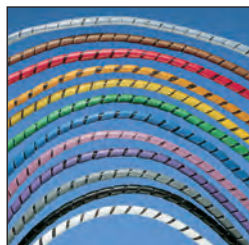
## other control panel products available



**PanelMax™ DIN Rail Wiring Duct**  
Innovative wire management solution that maximizes space utilization within industrial enclosures



**Cable Ties and Mounts**  
Reliably secure wiring to panel where holes cannot be drilled



**Spiral Wrap**  
Offers abrasion protection for wires, cables, hoses and tubing



**LS9Q Hand-Held Printer**  
Thermal transfer printer with QWERTY keyboard design



**Patch Cords**  
Available for a variety of categories, keyed, shielded, and in a variety of colors and lengths to provide additional design flexibility

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