

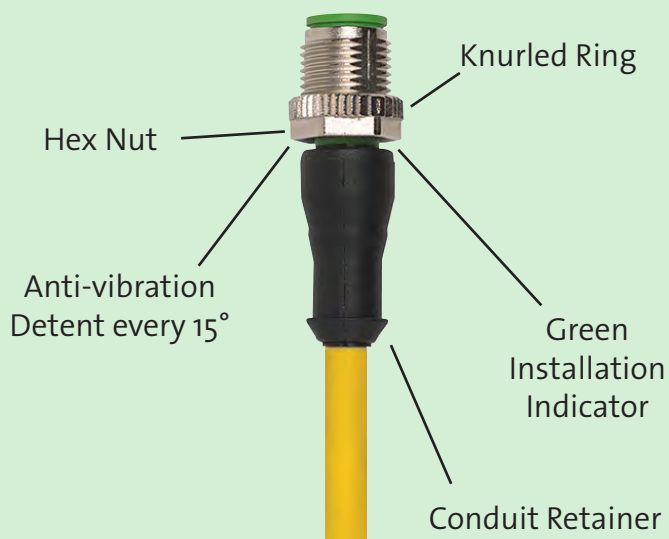
CABLE AND CONNECTORS

A Guide to Murrelektronik's Cable Families



Flexibility is our strength

With over 30,000 combinations to choose from, we can help you find the right cordset for your application.



Four Standard Cable Types

Three Standard Cable Colors

.3m - 100m Individual Cordsets or 100m Spool

| CONNECTOR FAMILIES



Standard



LED



Lite (Plastic)



MQ12



Stainless Steel



7/8"



Food & Beverage



M12 Steel - IP69k



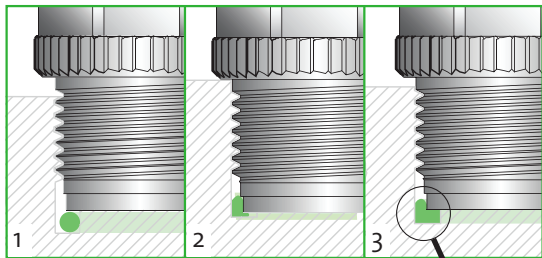
Network



Network

| TORQUE WRENCH

Murrelektronik's unique torque wrench ensures connectors are tightened to precisely the right degree. Turn the wrench until it clicks and guarantee long-term, consistent connection quality with IP67 protection.



0.6 Nm

1. Connector is not screwed tight. Medium can penetrate between connector and O-ring.
2. Connector is screwed too tight. O-ring is destroyed and medium can penetrate between connector and O-ring.
3. M12 connector is best tightened to 0.6 Nm. **Then it's sealed tight!**

| M8 TORQUE WRENCH

Art. No. 7000-99101-0000000

| M12 TORQUE WRENCH

Art. No. 7000-99102-0000000

| 7/8" TORQUE WRENCH

Art. No. 7000-99105-0000000



| IDC

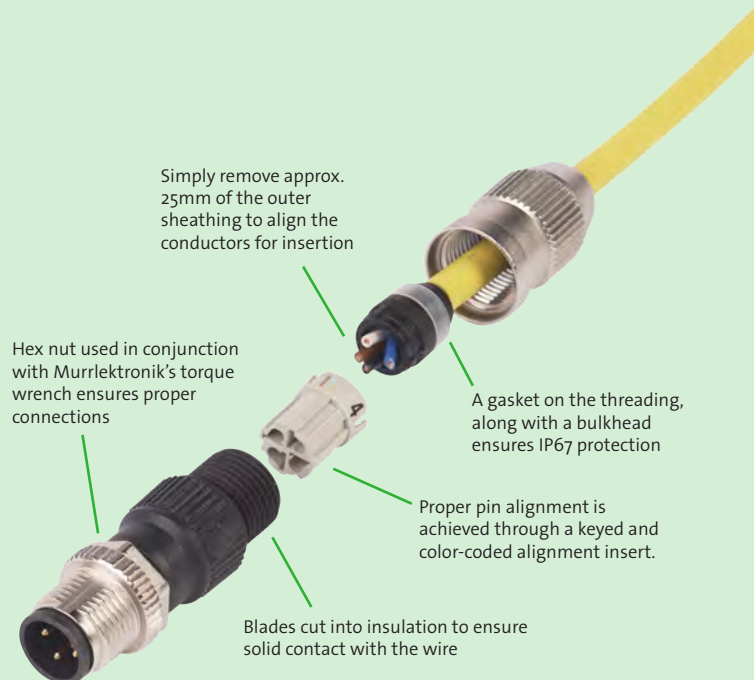
Insulation Displacement Connectors

Murrelektronik's Insulation Displacement Connectors (IDC) are a fast and easy way to terminate cables with either M8 or M12 connections. These robust connectors are rated to IP67 and can stand up to tough industrial environments.

With minimal tools needed, these connectors are the fastest way to terminate a cable to a connector. IDC products from Murrelektronik take less than 50% of the time it takes to install a traditional screw terminal connector. With knife blades in the base to make the actual connection to the wire, the IDC connector makes connections easy: simply tighten the strain relief, by hand, with minimal force. No more force is needed than it takes to re-tighten a drink cap.

IDC Advantages:

- Male and Female connector options
- Quick turn MQ12 connectors available
- Decrease wiring connection efforts
- IDC connectors reduce the chances for improper pin & conductor alignment
- Maintains an IP67 rating when properly installed



Use your mobile device to scan the QR code at left to see just how easy an IDC is to use or visit:



www.youtube.com/murrelektronik

Connector Sizes:

- M8
- M12
- 7/8"

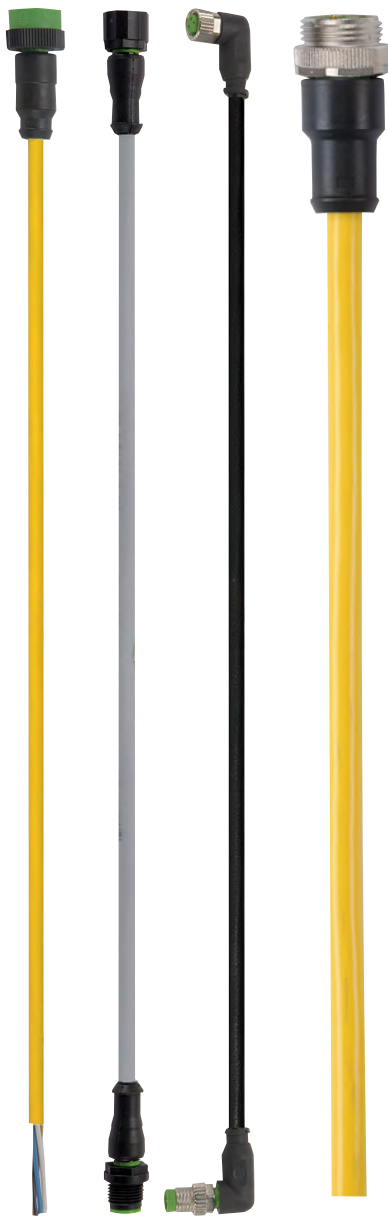
Connector Types:

- LED
- LITE
- MQ12
- 304
- 316

Cable Colors:



PVC



Connector Sizes:

- M8
- M12

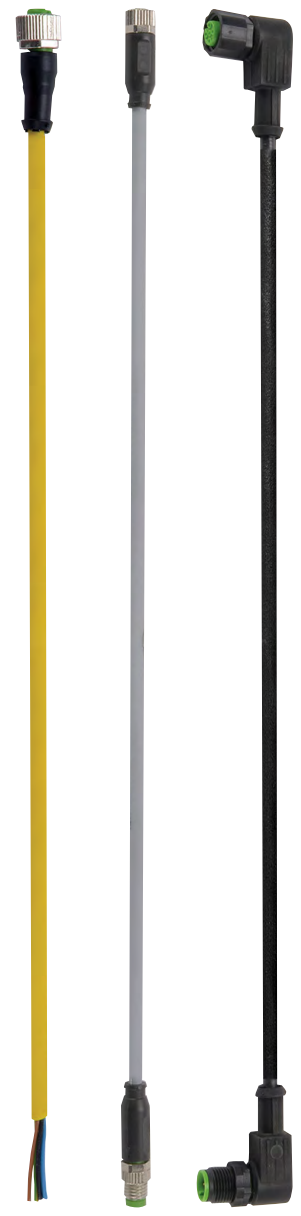
Connector Types:

- LED
- LITE
- MQ12

Cable Colors:



PUR/PVC



| Cable Types | PVC | | PUR/PVC |
|-----------------------------|-------------------------------|--|-------------------------------|
| | M8/M12 | Mini (7/8") | |
| Material | PVC (_1_) | PVC (UB_) | PUR/PVC (_2_) |
| UL AWM | 2464 80C 300V | | 20549 80C 300V |
| Approvals | UL 2238 VW1 / FT1 | UL 2238 UL/CSA: STOOW 105C (-40C) 600V | FT2 |
| Flame Retardant | ✓ | ✓ | ✓ |
| Chemical Resistant | ✓ | ✓ | ✓ |
| Oil Resistant | | ✓ | ✓ |
| UV Resistant | | | |
| Halogen Free | | | |
| Weld Slag Resistant | | | |
| Flex Rating | | | 2 million |
| Torsion Rating | | | |
| Temperature Range (Flexing) | | -20 to 90°C (-4 to 194°F) | -5 to 80°C (23 to 176°F) |
| Temperature Range (Fixed) | -30 to 80°C (-22 to 176°F) | -50 to 105°C (-58 to 221°F) | -30 to 80°C (-22 to 176°F) |

Connector Sizes:

- M8
- M12
- 7/8"

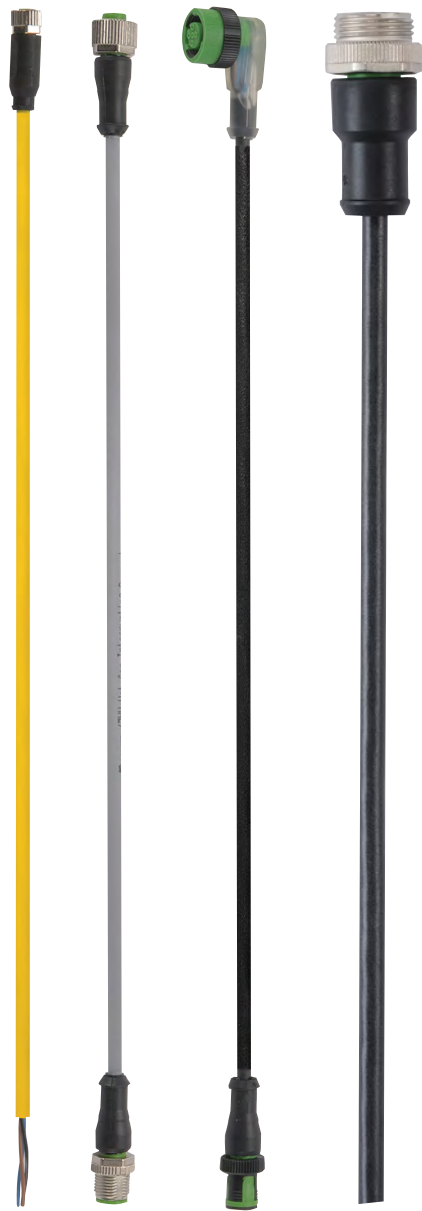
Connector Types:

- LED
- LITE
- MQ12

Cable Colors:



PUR



Connector Sizes:

- M8
- M12

Connector Types:

- LED

Cable Colors:



ROBOTIC



| Cable Types | PUR | | PUR |
|-----------------------------|-------------------------------|-------------------------------|-------------------------------|
| | M8/M12 | Mini (7/8") | |
| Material | PUR (_3_) | PUR (UM_) | PUR (_5_) |
| ULAWM | 20233 80C 300V | 20234 80C 1000V | 21198 80C 300V |
| Approvals | UL 2238 VW1 / FT1 | UL 2238 CSA | UL 2238 FT2 |
| Flame Retardant | ✓ | ✓ | ✓ |
| Chemical Resistant | ✓ | ✓ | ✓ |
| Oil Resistant | ✓ | ✓ | ✓ |
| UV Resistant | ✓ | | ✓ |
| Halogen Free | ✓ | ✓ | ✓ |
| Weld Slag Resistant | | | ✓ |
| Flex Rating | 5 million | 5 million | 10 million |
| Torsion Rating | ±180 | | ±360 |
| Temperature Range (Flexing) | -25 to 80°C (-13 to 176°F) | -20 to 80°C (-4 to 176°F) | -25 to 90°C (-13 to 194°F) |
| Temperature Range (Fixed) | -40 to 80°C (-40 to 176°F) | -50 to 80°C (-58 to 176°F) | -40 to 90°C (-40 to 194°F) |

Connector Sizes:

- M8
- M12

Connector Types:

- LED
- 304
- 316

Cable Colors:



F & B



Connector Sizes:

- M8
- M12
- 7/8"

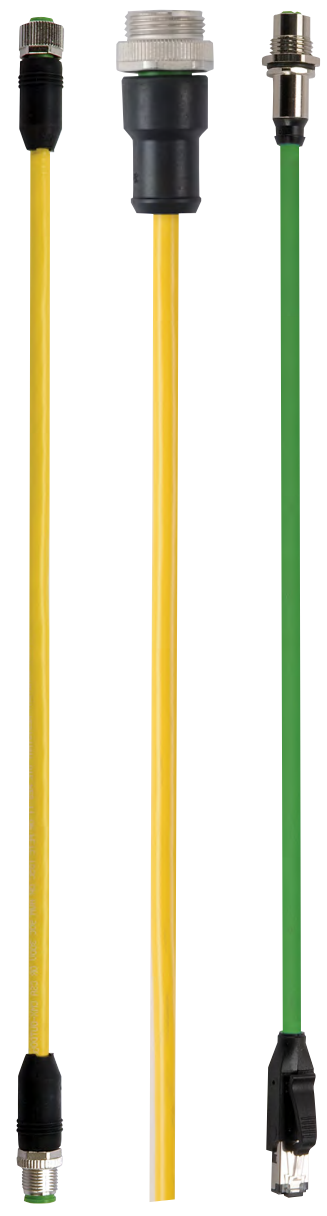
Connector Types:



Cable Colors:



AUTO



| Cable Types | Food & Beverage | | PLTC-FT4 | Mini | ProfiNet PLTC |
|-----------------------------|-------------------------------|--------------------------------|----------------------------------|--|------------------------------------|
| | | | M12 | 7/8" | Type B & C |
| Material | PVC (214) | TPE-S (336) | TPE (150, 161) | TPE (U1_) | TPE (S7V) |
| UL AWM | 2464 80C 300V | | 20626 90C 300V | 21002 105C 600V | SF/UTP |
| Approvals | VW1 / FT1 | Ecolab® FDA Compliant | ITC / PLTC 105C FT4 / UL 2238 | UL 2238 UL: TC-ER 90C (-40C) CSA: CIC-TC FT4 | Cat 5e |
| Flame Retardant | ✓ | ✓ | ✓ | ✓ | 2463 80C 600V |
| Chemical Resistant | ✓ | ✓ | ✓ | ✓ | ITC / PLTC 75C CM / CMX Outdoor |
| Oil Resistant | | | ✓ | ✓ | ✓ |
| UV Resistant | | | ✓ | ✓ | ✓ |
| Halogen Free | | ✓ | | | |
| Weld Slag Resistant | | | ✓ | ✓ | ✓ |
| Flex Rating | | | 2 million | 2 million | 1 million / 10 million |
| Torsion Rating | | | | | 3 million @ ±180 |
| Temperature Range (Flexing) | | -30 to 105°C (-22 to 221°F) | -20 to 105°C (-4 to 221°F) | -20 to 90°C (-4 to 194°F) | -20 to 80°C (-4 to 176°F) |
| Temperature Range (Fixed) | -30 to 80°C (-22 to 176°F) | -50 to 125°C (-58 to 257°F) | -40 to 105°C (-40 to 221°F) | -50 to 105°C (-58 to 221°F) | -40 to 80°C (-40 to 176°F) |

Connector Sizes:

- M8
- M12
- RJ45

Coding:

- D
- X

Cable Colors:



NETWORK



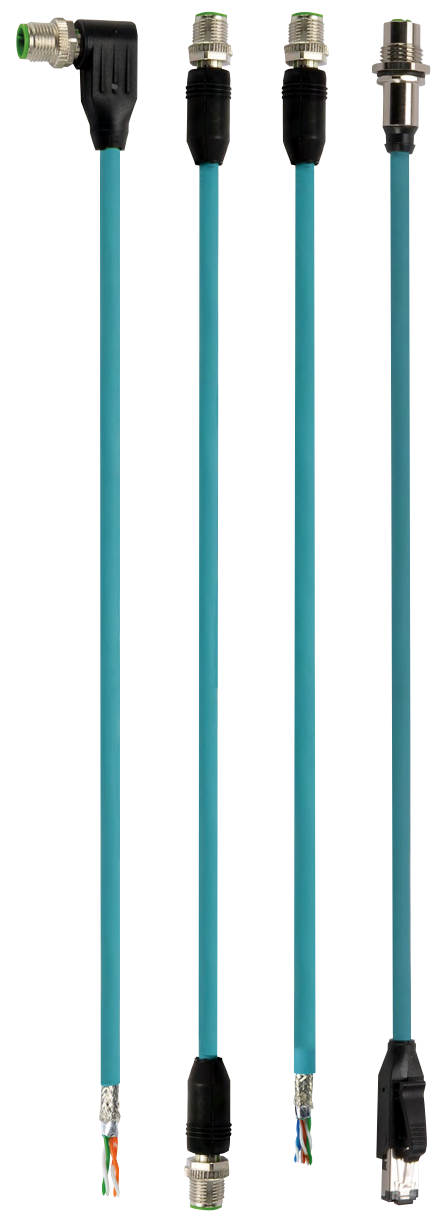
Connector Sizes:

- M12
- RJ45

Coding:

- D
- A

Cable Colors:



| Protocol | ProfiNet | X Code | EtherNet/IP (ODVA) | Industrial Ethernet |
|-----------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Cable Type | Type C | 10GBit | Shielded-2 pair | Shielded-4 pair |
| Material | PUR (796, 798, 792) | PUR (790) | TPE (S4U) | TPE (S4W) |
| Construction | SF/Quad | S/FTP | SF/UTP | SF/UTP |
| Performance | Cat 5e | Cat 6a | Cat 5e | Cat 5e |
| UL AWM | 20236 80C 30V | 20236 80C 30V | 2463 80C 600V | 2463 80C 600V |
| Approvals | VW1 / FT1 | VW1 / FT1 | CM 75C CMX OUTDOOR | CM 75C CMX OUTDOOR |
| Flame Retardant | ✓ | ✓ | ✓ | ✓ |
| Chemical Resistant | ✓ | ✓ | ✓ | ✓ |
| Oil Resistant | ✓ | ✓ | ✓ | ✓ |
| UV Resistant | | | ✓ | ✓ |
| Halogen Free | ✓ | ✓ | | |
| Weld Slag Resistant | | | ✓ | ✓ |
| Flex Rating | 2 million | | 1 mil / 10 mil | 1 mil / 10 mil |
| Torsion Rating | | | 3 mil @ ±180 | 3 mil @ ±180 |
| Temperature Range (Flexing) | -20 to 60°C (-4 to 140°F) | -10 to 50°C (14 to 122°F) | -20 to 80°C (-4 to 176°F) | -20 to 80°C (-4 to 176°F) |
| Temperature Range (Fixed) | -40 to 80°C (-40 to 176°F) | -30 to 80°C (-22 to 176°F) | -40 to 80°C (-40 to 176°F) | -40 to 80°C (-40 to 176°F) |

Cable Selection Guide

7 0 0 0 — 4 0 1 2 1 — 2 3 4 0 3 0 0

7000 - Standard
 7002 - 304 Stainless
 7004 - 316 Stainless
 7005 - Lite (Plastic)
 7014 - Food & Bev
 7044 - M12 Steel
 7050 - MQ12

0 - Yellow
 2 - Gray
 6 - Black

1 - PVC
 2 - PUR/PVC
 3 - PUR
 5 - Robotic

0030 = .3m
 0060 = .6m
 0100 = 1m
 0150 = 1.5m
 0200 = 2m
 0300 = 3m
 0500 = 5m
 0750 = 7.5m
 1000 = 10m

| M8 | | | |
|--------------|-------|--|--------|
| Single Ended | 08001 | | 3 pole |
| | 08011 | | 4 pole |
| | 08021 | | 3 pole |
| | 08031 | | 4 pole |
| | 08041 | | 3 pole |
| | 08061 | | 4 pole |
| | 08081 | | 3 pole |
| | 08101 | | 4 pole |
| Double Ended | 88001 | | 3 pole |
| | 88011 | | 4 pole |
| | 88021 | | 3 pole |
| | 88031 | | 4 pole |
| | 88061 | | 3 pole |
| | 88071 | | 4 pole |

| M12 | | | |
|--------------|-------|--|--------|
| Single Ended | 12001 | | 3 pole |
| | 12021 | | 4 pole |
| | 12041 | | 5 pole |
| | 12081 | | 3 pole |
| | 12101 | | 4 pole |
| | 12121 | | 5 pole |
| | 12181 | | 3 pole |
| | 12221 | | 4 pole |
| | 12241 | | 5 pole |
| | 12321 | | 3 pole |
| | 12341 | | 4 pole |
| | 12361 | | 5 pole |
| Double Ended | 40001 | | 3 pole |
| | 40021 | | 4 pole |
| | 40041 | | 5 pole |
| | 40101 | | 3 pole |
| | 40121 | | 4 pole |
| | 40141 | | 5 pole |
| | 40171 | | 3 pole |
| | 40201 | | 4 pole |
| | 40221 | | 5 pole |

0 - 3 x 24 AWG
 1 - 4 x 24 AWG
 3 - 3 x 22 AWG
 4 - 4 x 22 AWG
 5 - 5 x 22 AWG

Yellow TPE
 150 = 4 x 18AWG
 161 = 5 x 18AWG

7 7 0 0 — 4 0 1 2 1 — 1 5 0 0 3 0 0