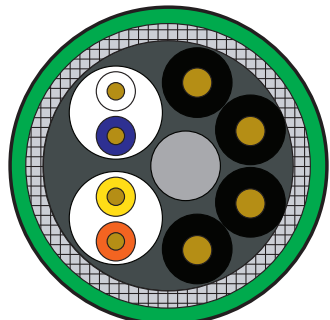


# Profinet Type B

## (Includes Power Conductors)



| H801651-1 Cable Specifications                                                    |        |                                                                                                                         |                 |                                                            |                          |                                                                                                                                                                                                         |                |
|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|  |        | Part Number                                                                                                             | Wire/Cable Type | Flexibility                                                | Minimum Cut Length (ft)* | Approximate Weight (lb/ft)                                                                                                                                                                              | Price Per Foot |
|                                                                                   |        | H801651-1                                                                                                               | Profinet Type B | Flexible                                                   | 20                       | 0.06                                                                                                                                                                                                    | \$4.13         |
| Physical Properties                                                               |        |                                                                                                                         |                 |                                                            |                          |                                                                                                                                                                                                         |                |
| Conductor Gauge                                                                   |        | 22 AWG Profinet conductors<br>16 AWG Power conductors                                                                   |                 | Conductor Stranding                                        |                          | 7-stranded bare copper                                                                                                                                                                                  |                |
| Conductor Material                                                                |        | Bare copper                                                                                                             |                 | Conductor Insulation Wall Thickness                        |                          | 0.015 in, nominal                                                                                                                                                                                       |                |
| Conductor Assembly                                                                |        | (2) shielded twisted pairs, (4) unshielded conductors                                                                   |                 | Bare Conductor Diameter                                    |                          | 0.030 in, nominal                                                                                                                                                                                       |                |
| Color Code                                                                        | Pair 1 | Blue, White                                                                                                             |                 | Insulated Conductor Diameter                               |                          | 0.060 in, nominal                                                                                                                                                                                       |                |
|                                                                                   | Pair 2 | Yellow, Orange                                                                                                          |                 | Twisted Conductor Diameter                                 |                          | N/A                                                                                                                                                                                                     |                |
|                                                                                   | Pair 3 | N/A                                                                                                                     |                 | Overall Cable Diameter                                     |                          | 0.406 in, nominal                                                                                                                                                                                       |                |
|                                                                                   | Pair 4 | N/A                                                                                                                     |                 | Jacket Color                                               |                          | Green                                                                                                                                                                                                   |                |
| Voltage Rating                                                                    |        | 150V                                                                                                                    |                 | Jacket Thickness                                           |                          | 0.030 in, nominal                                                                                                                                                                                       |                |
| Temperature Rating                                                                |        | -40 to 70 °C (-40 to 158 °F)                                                                                            |                 | Jacket Material                                            |                          | Flame-Retardant-Non-Corrosive (FRNC)                                                                                                                                                                    |                |
| Plenum                                                                            |        | No                                                                                                                      |                 | Sunlight Resistant                                         |                          | No                                                                                                                                                                                                      |                |
| Shield                                                                            |        | Individual aluminized polyester foil and tinned copper braid over pairs                                                 |                 | Oil Resistance                                             |                          | Yes                                                                                                                                                                                                     |                |
| Drain                                                                             |        | No                                                                                                                      |                 | Flame Retardant                                            |                          | Yes                                                                                                                                                                                                     |                |
| Conductor Insulation Material                                                     |        | Polyethylene                                                                                                            |                 | Sample Print Legend                                        |                          | <metermarking>m HELUKAT® PROFinet type B<br>hybrid 2x2xAWG22/7 + 4x1,5_(Litze) FRNC<br>100_MHz / 801651 E170315 <Logo c(UR)us> AWM<br>22482 80°C 600V 0158<production lot no.><br><CE-Logo> <HELU date> |                |
| Minimum Bend Radius                                                               |        | Moving: 3.25in<br>Fixed: 2.03in                                                                                         |                 |                                                            |                          |                                                                                                                                                                                                         |                |
| Electrical Characteristics (for 100 meters of cable)                              |        |                                                                                                                         |                 |                                                            |                          |                                                                                                                                                                                                         |                |
| Impedance                                                                         |        | 100 Ω ± 15 Ω 1 to 100 MHz                                                                                               |                 | UL Classification                                          |                          | UL Style 21282                                                                                                                                                                                          |                |
| Capacitance                                                                       |        | 15.8 pF/ft                                                                                                              |                 | Approvals**                                                |                          | cULus, CE, RoHS, Halogen-free                                                                                                                                                                           |                |
| Resistance, Max.                                                                  |        | 18.3 Ω DC per 1000ft                                                                                                    |                 | Attenuation Crosstalk Ratio, Far End (ACRF)                |                          | 1 ≤ f ≤ 100 MHz: 64 - 20 LOG10 (f/100) dB MIN                                                                                                                                                           |                |
| Dielectric Withstanding, Min.                                                     |        | 2000V RMS                                                                                                               |                 | Insertion Loss                                             |                          | 1 ≤ f ≤ 100 MHz: 2,866 x √f + 0.0333 x (f) + 0.3/√f dB MAX                                                                                                                                              |                |
| Return Loss                                                                       |        | 1 ≤ f < 10 MHz: 20 + 5 LOG10 (f) dB MIN<br>10 ≤ f < 20 MHz: 25 dB MIN<br>20 ≤ f ≤ 100 MHz: 25 - 8,6 LOG10 (f/20) dB MIN |                 | Power Sum Attenuation to Crosstalk Ratio, Far End (PSACRF) |                          | 1 ≤ f ≤ 100 MHz: 61 - 20 LOG10 (f/100) dB MIN                                                                                                                                                           |                |
| Near End Crosstalk (NEXT)                                                         |        | 1 ≤ f ≤ 100 MHz: 65,3 - 15 LOG10 (f/100) dB MIN                                                                         |                 | Cross Section                                              |                          |                                                                                                                    |                |
| Power Sum Near End Crosstalk (PSNEXT)                                             |        | 1 ≤ f ≤ 100 MHz: 62,3 - 15 LOG10 (f/100) dB MIN                                                                         |                 |                                                            |                          |                                                                                                                                                                                                         |                |
| TCL                                                                               |        | N/A                                                                                                                     |                 |                                                            |                          |                                                                                                                                                                                                         |                |
| ELTCTL                                                                            |        | N/A                                                                                                                     |                 |                                                            |                          |                                                                                                                                                                                                         |                |
| Velocity of Propagation                                                           |        | 0.74                                                                                                                    |                 |                                                            |                          |                                                                                                                                                                                                         |                |
| Delay                                                                             |        | 4 ≤ f ≤ 100 MHz: 534 + 36/√f ns Max                                                                                     |                 |                                                            |                          |                                                                                                                                                                                                         |                |
| Delay Skew                                                                        |        | 4 ≤ f ≤ 100 MHz: Max 45ns                                                                                               |                 |                                                            |                          |                                                                                                                                                                                                         |                |

\* See web store [www.AutomationDirect.com](http://www.AutomationDirect.com) for maximum cut lengths

\*\* To obtain the most current agency approval information, see the Agency Approval Checklist section on the part number's web page at [www.AutomationDirect.com](http://www.AutomationDirect.com)



Please Note: Our prices on Ethernet Cable are closely tied to the market price for copper. This allows us to offer the best savings possible if conditions are favorable; however, it also means that our prices may increase if market conditions warrant.