

HIGHLIGHT CHARACTERISTIC

2-in-1 Hybrid Architecture: Integrated Data Communication and Power Supply in a single cable construction for reliable connectivity between PLC, sensors, and actuators.

APPROVALS (Norm references)



Applications

Bus cables based on the CAN-BUS system

Design

THICK CABLE

Used as BUS backbone cable

Data pair:

- Stranded tinned Cu conductor
AWG 18 = 1.0 mm², tinned
- Low-capacitance core insulation
- Core colours: pale blue + white
- Cores twisted in pairs
- Foil screening

Power supply:

- Stranded Cu conductor
AWG 15 = 1.5 mm²
- Core insulation
- Core colours: red + black
- Cores twisted in pairs
- Pairs twisted in layers, with optimal lay lengths
- Foil screening

Cable:

- Tracer strand
- Pairs twisted in layers, with optimal lay lengths
- Overall copper screening, tinned
- Outer sheath: gray

Design

THIN CABLE

Used as connecting cable between individual sensors and actuators and the thick cable

Data pair:

- Stranded tinned Cu conductor
AWG 24/19 = 0.25 mm², tinned
- Low-capacitance core insulation
- Core colours: pale blue + white
- Cores twisted in pairs
- Foil screening

Power supply:

- Stranded Cu conductor
AWG 22/19 = 0.38 mm²
- Core insulation
- Core colours: red + black
- Cores twisted in pairs
- Foil screening

Cable:

- Tracer strand
- Pairs twisted in layers, with optimal lay lengths
- Overall copper screening, tinned
- Outer sheath: gray

Electrical and technical specifications

Operating voltage 300 V

Test voltage: 1000 V

Minimum bending radius:

THICK CABLE

single bending 5 x cable diameter

repeated bending 10 x cable diameter

THIN CABLE

single bending 10 x cable diameter

repeated bending 20 x cable diameter

Temperature range:

stationary FRNC -25° C to +80° C

PVC -25° C to +80° C

Flame retardant:

FRNC type to IEC 60332-1

Wave impedance (1 MHz):

AWG 24/19 120 +/- 12 Ohm

Conductor resistance:

AWG 24/19 ≤ 90 Ohm/km

AWG 22/19 ≤ 55 Ohm/km

AWG 18/19 ≤ 22.6 Ohm/km

AWG 15/19 ≤ 13 Ohm/km

Mutual capacitance data pair (1 kHz):

core/core approx. 40 nF/km

core/screen approx. 79 nF/km

Item No.	Cross-section mm ²	Cu content kg/km	Outer diameter approx. mm	Weight approx. kg/km
THICK CABLE				
74204-81804	1x2xAWG18+1x2xAWG15	72.0	14.0	190
THIN CABLE				
74205-81804	1x2xAWG24+1x2xAWG22	28.0	8.0	65

DEVICENET THICK

DEVICENET THIN