



**Product MiniBridge – IDC
Cables**

Application Specification
114-94930-A I
 17 MAY 23 Rev 1

TABLE OF CONTENTS

A I 1. REFERENCE MATERIAL 2
 A I 1.1. Revision Summary 2
 A I 1.2. Notes, Terms and Abbreviations 2
 A I 1.3. TE Specifications 2
 A I 2. Scope & Wire Selection 2
 A I 3. Examples of Wires 3

CHANGE HISTORY

Change #	Change Description	Date (DE)
01	Initial release; supersedes previous list of approved wires & cables in MiniBridge main processing specification	13.02.2023
02	Changed template closer to TE appearance while maintaining CAQ document numbers. All requirements and materials were maintained w/o changes over former issue with document #074720 New wire entries "FLU2X 0,35sn-A 150" & "FLU9Y 0,35sn-A 125" for 90° (angled) receptacles Corrected "UL AWM Style 1661" >> "UL AWM Style 1061"	10.05.2023

A I 1. REFERENCE MATERIAL

A I 1.1. Revision Summary

Refer to above-written Change History.

A I 1.2. Notes, Terms and Abbreviations

ERNI is now an integral part of TE Connectivity ("TE").

All processing strictly has to follow the on-hand Application Specification in order to ensure best results.

TE reserves the right to apply changes to this document without prior notice.

The Application Specification can be obtained by download from www.erni.com or www.TE.com. The edition on the website is the latest release and replaces all older versions. Make sure you regularly check there for more recent issues. If there is no Application Specification available online, please contact your local TE representative. This also applies to the Application Specification's attachments which may change independently from the main Application Specification.

Products and product information in this document are meant to be informative in nature and do not imply any assurance of performance or product properties, like availability, qualification, approval, or fit for a certain application, if not stated explicitly. For binding information inquire directly with TE.

The visualizations in this document are of a schematical nature and have been adjusted for their respective purposes. For exact product representations please refer to product drawings and CAD models, which can be found on our website (www.erni.com or www.TE.com) or requested from TE directly.

All dimensions are specified in the unit millimeter (mm) if not explicitly stated otherwise.

"," (comma) may be used as a decimal delimiter instead of "." (period) in the course of this document and both are considered equal (2,1 = 2.1).

Six-digit numbers (now as TE numbers with a "-E" on their ends) represent TE ERNI part numbers in this document.

This document's contents have been written in a clear and distinct context. Therefore, the specific product may not be named and PRODUCT or THE PRODUCT are used as placeholders.

A I 1.3. TE Specifications

This document constitutes an integral and essential part of
114-94930 Application Specification "MiniBridge IDC" (formerly # 074707)

A I 2. SCOPE & WIRE SELECTION

In this section, TE ERNI presents general wire selection criteria and exemplary wires follow in the next chapter.

Receptacles are available with two different insulation displacement contact systems:

- IDC22 designed for the use with AWG 22 / 0.35 mm²
- IDC2426 designed for the use with AWG 24 / 0.22 mm² & AWG 26 / 0.15 mm²
- Straight (180°) and angled (90°) receptacles
- MiniBridge Connector System available as "MiniBridge Standard" and additionally available as ruggedized "MiniBridge Koshiri"
- For MiniBridge IDC Header recommendations used in cable-to-cable connections inquire TE ERNI. MiniBridge IDC Header parts are not covered by this document.

General wire selection criteria:

- 7-stranded copper wire preferably with tinned strands.
- Insulation diameters for discrete wires that are accepted by the housings' cable guides.
 - AWG22 / 0.35 mm² insulation diameter < 1.27 mm
 - AWG24 / 0.22 mm² insulation diameter < 1.07 mm
 - AWG26 / 0.15 mm² insulation diameter < 1.07 mm
- The actual value of the insulation diameter may impact the robustness of assemblies. Recommended minimal value of the diameter is 0.9 mm for IDC2426 contact systems and 1.1 mm for the IDC22 contact system.
- Flat ribbon cables always need to have a shape that easily can be fitted into the cable guides of the receptacles. The flat ribbon cables mentioned below, supplied by Klasing, were selected for this reason.
- Nominal conductor pitch for flat-ribbon cables: 1.27 mm.

A I 3. EXAMPLES OF WIRES

Following recommendations are based on evaluations for industrial applications under the scope of IEC 60352-4 or for automotive applications under the scope of LV214 and apply to both, MiniBridge and MiniBridge Koshiri, 90° and 180°, if not noted otherwise.

Approvals are considered being independent from insulation colors.

Make sure properties of cables and connectors match with the requirements of your specific application. Operating temperature ranges are a prominent example!



Important Note

Ahead of any design-in of the connectors and cables to automotive applications or other safety-critical applications TE ERNI must be inquired! Their use is possible only after explicit approval by TE ERNI.

METRIC DISCRETE WIRES

#	Designation	Conductor construction	Insulation	Max. Insulation-Ø [mm]	Manufacturer #	IDC contact size	Evaluated based on
1	Gebauer & Griller FLU2X 0,35Sn-A 150 For 90° 2-12p 180° inquire TE ERNI	7 x 0.27 mm tin-plated Cu	2X	1.27	GG-No. 184962 GG-Standard X10255	IDC22	LV214
2	Gebauer & Griller FLU9Y For 90° 2-12p 180° inquire TE ERNI	7 x 0.27 mm tin-plated Cu	9Y	1.27	GG-No. 185417 GG-Standard X10277	IDC22	LV214

Table 1

AWG FLAT RIBBON CABLES (NON-METRIC, AMERICAN WIRE SIZES)

#	Designation	Conductor construction	Insulation material	Max. Insulation-Ø [mm]	Manufacturer #	IDC contact size	Evaluated based on
1	Klasing FC PVC UL AWM Style 2651	AWG 26, 7 x 0,16 mm tin-plated Cu	Y	1.05	2p: 5027702 3p: 5027703 4p: 5027704 6p: 5027706 8p: 5027708 10p: 5027710 12p: 5027712	IDC2426	IEC 60352-4
2	Klasing FC-ET TPE-ET UL AWM Style n/a	AWG 26, 7 x 0,16 mm tin-plated Cu	31Y	1.05	2p: 05009479 3p: 05009480 4p: 05009155 6p: 05009481 8p: 05009482 10p: 05009548 12p: 05009549 Suffix "/36" denotes a green index line	IDC2426	IEC 60352-4

#	Designation	Conductor construction	Insulation material	Max. Insulation-Ø [mm]	Manufacturer #	IDC contact size	Evaluated based on
3	<i>Klasing FC TPE-O Low Smoke Zero Halogen (LSZH) UL AWM Style 21151</i>	<i>AWG 26, 7 x 0,16 mm tin-plated Cu</i>	91Y	1.05	<i>2p: 5071202 3p: 5071203 4p: 5071204 6p: 5071206 8p: 5071208 10p: 5071210 12p: 5071212</i>	IDC2426	IEC 60352-4

Table 2

AWG DISCRETE WIRES (NON-METRIC, AMERICAN WIRE SIZES)

#	Designation	Conductor construction	Insulation material	Max. Insulation-Ø [mm]	Manufacturer #	IDC contact size	Evaluated based on
1	Leoni LI7Y 0.15/1.03 VZN UL AWM Style 1671 For 90° 2-12p 180° inquire TE ERNI	AWG26, 7 x 0.17 mm, tin-plated Cu	7Y	1.03	L45571-L1xx-H60	IDC2426	IEC 60352-4
2	Medi Kabel UL AWM Style 1061 For 90° 2-12p 180° inquire TE ERNI	AWG 26, 7 x 0.16 mm, tin-plated Cu	Y	1.0	122267xx	IDC2426	IEC 60352-4

Table 3

“xx”:
placeholder manufacturer-specific color code.

Codes for insulation materials:

Y = PVC; 7Y = ETFE, 31Y = TPE-S, 91Y = TPE-O, 2X = XLPE, 9Y = PP.

The information provided in the tables of this section was taken from the manufacturer’s data sheets, is for information only, and is provided without guarantee of correctness. Contact the respective manufacturer and consult manufacturer’s data sheets.

REMARKS:

- During wire pull testing pull speed has to be limited to 50 mm/min.
- Only one wire is allowed to be pulled from a housing.