

INDUSTRIAL ETHERNET CABLE CAT. 5

PROFINET 678 fixed installation, type A SPECIAL PROFINET 678 UL flexible application, type B, UL approval



ELETTROTEK KABEL® SPECIAL PROFINET 678 UL



Construction:

Conductor:	(PROFINET 678): solid tinned copper conductor (PROFINET 678 UL): stranded tinned copper conductor, 7x0,16 mm - 26/7 AWG
Insulation:	PE compound
Colour cores:	white/blue, white/orange, white/green, white/brown
Stranding:	cores twisted in pairs, pairs twisted together
Wrapping:	aluminium tape (PROFINET 678)
Wrapping:	PETP foil (PROFINET 678 UL):
Screen:	tinned copper braid (PROFINET 678)
Screen:	aluminium tape + PETP foil and tinned copper braid (PROFINET 678 UL)
Outer sheath:	green (similar RAL 6018), PVC compound

Technical data:

Peak operating voltage:	max. 350 V (PROFINET 678)
Nominal voltage:	125 V (PROFINET 678 UL)
Test voltage:	(PROFINET 678) core/core 1,5 kV core/screen 1,2 kV
Test voltage:	(PROFINET 678 UL) core/core 700 V x 1 min core/screen 700 V x 1 min
Temperature range	(PROFINET 678):
<i>Fixed laying:</i>	-30 up to +70°C
<i>Flexible installation:</i>	-5 up to +70°C
Temperature range	(PROFINET 678 UL):
<i>Fixed laying:</i>	-30 up to +80°C
<i>Flexible application:</i>	-5 up to +50°C
Min. bending radius:	
<i>Fixed laying:</i>	5 x d
<i>Sporadic movement:</i>	10 x d (PROFINET 678 UL)
Ohmic resistance at 20°C max.Ω/km:	max. 150, acc. to VDE 0812 (PROFINET 678)
Max. DC conductor resistance:	140 Ω/km (PROFINET 678 UL)
Capacitance at 800 hz:	48 pF/m (PROFINET 678 UL)
Max. capacitance unbalance:	1600 pF/km (PROFINET 678 UL)
Propagation velocity at 100 MHz:	approx. 75% (PROFINET 678 UL)
Characteristic impedance:	(PROFINET 678) 100Ω (± 10%) acc. to EN 50288-2-2, CAT 5e acc. to EN 50173-1
Characteristic impedance:	(PROFINET 678 UL) 100Ω (± 15%), CAT 5e
Min. Insulation resistance:	5 GΩ x km (PROFINET 678 UL)
Transfer impedance:	10 mΩ/m at 1 MHz, 4 mΩ/m at 10 MHz 4 mΩ/m at 30 MHz, 2 mΩ/m at 100 MHz (PROFINET 678 UL)
Standard reference:	IEC 61156-3, EN 50288-1, EN 50288-2-2 ISO IEC 11801

Resistance:



Flame retardant acc.to:
UL 1581 1061, CSA FT1, IEC 60332-1
standard requirements **(PROFINET 678 UL)**



Oil resistance acc.to:
DIN VDE 0473 part. 811-2-1 IEC 60811-2-1
(PROFINET 678)
EN 50363-4-1, IEC 60811-2-1, DIN VDE 0472-803
UL 13 (60°C), acc. to ICEA S-82-552 and NEMA
WC55 **(PROFINET 678 UL)**



Sunlight resistant acc.to:
UL 1581 1200 standard requirement
(PROFINET 678 UL)

Features:

(UL) AWM style 1598 - 2571 30 V 80°C **(PROFINET 678 UL)**

RoHS and CE approval



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Frequency (MHz)	ATTENUATION (dB/100 m)		NEXT (dB)		PS NEXT (dB)		PS EL-FEXT (dB/100m)		PS ACR dB/100 m)		RETURN LOSS (dB)	
	max. - STD	typical	min. - STD	typical	min.	min.	min - STD	typical	min.	typical	min. STD	typical
1	3,2	2,5	65,3	71,0	62,3	69,0	60,8	69,0	62,1	68,5	-	29,0
4	6,0	5,2	56,3	63,0	53,3	61,0	48,8	57,0	50,3	57,8	24,1	32,0
10	9,5	8,4	50,3	58,0	47,3	56,0	40,8	51,0	40,8	49,6	25,0	32,0
16	12,1	11	47,2	56,0	44,2	54,0	36,7	47,0	35,1	45,0		
20	13,6	12,5	45,8	54,0	42,8	52,0	34,8	45,0	32,2	41,5		
31,25	17,1	16,0	42,9	50,0	39,9	48,0	30,9	42,0	25,8	34,0	23,6	30,0
62,5	24,8	23,6	38,4	45,0	35,4	43,0	24,9	36,0	13,6	21,4	21,5	28,0
100	32,0	29,9	35,3	43,0	32,3	41,0	20,8	32,0	3,3	13,1	20,1	26,0
155,52		37,4		40,0		38,0	-	26,0	-	2,6	-	24,0
200		42,8		37,0		35,0	-	22,0	-	-	-	23,0

Part no.	No. of cores x cross section n x mm ²	Outer-Ø ca. mm ± 10%	Copper weight kg/km	Cable weight approx. kg/km	AWG no. *)
39290CEX042M01	4x2x0,14	6,2	33	49	26
39300BEX042A26	4x2x0,14	6,2	33,0	54	26