SIEMENS

Data sheet 6XV1878-2T

product type designation

product description



IE TP Train Cable 4x2 (AWG24/7)

Flexible, shielded bus cable with tinned copper leads (8-core) for rail applications, sold by the meter, unassembled

IE TP TRAIN Cable 4x 2; CAT7 TP installation cable for Rail applications for connection to FC M12 Plug PRO 4x 2, Railway-certified, 8-core, shielded, sold by the meter, max. delivery unit 1000 m, minimum order quantity 20 m.

electrical data attenuation factor per length	suitability for use	For laying in rail vehicles and buses
• at 10 MHz / maximum 0.063 dB/m • at 100 MHz / maximum 0.207 dB/m • at 150 MHz / maximum 0.343 dB/m impedance 100 Ω • at 1 MHz 100 MHz 100 Ω coupling loss / at 30 MHz 100 MHz / minimum 60 dB transfer impedance per length / tat 10 MHz 5 mD/m loop resistance per length / maximum 124 mΩ/m insulation resistance cefficient 5000 GΩ·m operating voltage 8 • RMS value 125 V mechanical data 1 number of electrical cores 8 design of the shield Overlapped aluminum-clad foil, sheathed in a protective braided shield of tin-plated copper wires with additional pair shielding type of electrical connection / FastConnect No core diameter • of AWG24 insulated conductor 0.51 mm outer diameter • of the wire insulation 1.45 mm • of cable sheath 8.1 mm symmetrical tolerance of the outer diameter / of cable sheath 8.1 mm of the wire insulation polyethylene (PE) • of the insulation of data wires with insulation whit	electrical data	
• at 100 MHz / maximum 0.343 dB/m impedance 0.343 dB/m • at 1 MHz 100 MHz 100 Ω coupling loss / at 30 MHz 100 MHz / minimum 60 dB transfer impedance per length / at 10 MHz 5 mΩ/m loop resistance per length / maximum 124 mΩ/m insulation resistance coefficient 5000 QΩ m operating voltage • RMS value • RMS value 125 V mumber of electrical cores 8 design of the shield Overlapped aluminum-clad foil, sheathed in a protective braided shield of tin-plated copper wires with additional pair shielding type of electrical connection / FastConnect No core diameter • of AWG24 insulated conductor 0.51 mm outer diameter • of the wire insulation 1.45 mm • of cable sheath 8.1 mm symmetrical tolerance of the outer diameter / of cable sheath 0.4 mm material • of cable sheath Elastomer meshed electron beam color • of cable sheath Black bending radius • with ellipse bend / minimum permissible 53 mm • with single bend / minimum permissible 53 mm • with single b	attenuation factor per length	
• at 250 MHz / maximum 0.343 dB/m impedance • at 1 MHz 100 MHz coupling loss / at 30 MHz 100 MHz / minimum 60 dB transfer impedance per length / at 10 MHz 5 mΩ/m loop resistance per length / maximum 124 mΩ/m insulation resistance coefficient 5000 GΩ·m operating voltage • RMS value number of electrical cores 8 design of the shield Overlapped aluminum-clad foil, sheathed in a protective braided shield of tinplated copper wires with additional pair shielding type of electrical connection / FastConnect No core diameter • of AWG24 insulated conductor 0.51 mm outer diameter • of the wire insulation 1.45 mm • of able sheath 8.1 mm symmetrical tolerance of the outer diameter / of cable sheath 8.1 mm symmetrical tolerance of the outer diameter / of cable sheath 9.0yethylene (PE) e of the wire insulation Elastomer meshed electron beam color • of cable sheath Black bending radius • with single bend / minimum permissible 53 mm • with single bend / minimum permissible 53 mm tensile load / maximum 6	• at 10 MHz / maximum	0.063 dB/m
impedance • at 1 MHz 100 MHz coupling loss / at 30 MHz 100 MHz / minimum transfer impedance per length / at 10 MHz loop resistance per length / maximum 124 mΩ/m insulation resistance coefficient operating voltage • RMS value 125 V mechanical data number of electrical cores design of the shield Overlapped aluminum-clad foil, sheathed in a protective braided shield of tin-plated copper wires with additional pair shielding type of electrical connection / FastConnect or of dameter • of AWG24 insulated conductor outer diameter • of the wire insulation • of cable sheath symmetrical tolerance of the outer diameter / of cable sheath material • of the wire insulation • of cable sheath color • of the insulation of data wires • of cable sheath bending radius • with single bend / minimum permissible • with multiple bends / minimum permissible • of one maximum • one maximum	• at 100 MHz / maximum	0.207 dB/m
• at 1 MHz 100 MHz 100 Ω coupling loss / at 30 MHz 100 MHz / minimum 60 dB transfer impedance per length / at 10 MHz 5 mΩ/m loop resistance per length / maximum 124 mΩ/m insulation resistance coefficient 5000 GΩ·m operating voltage • RNS value 125 V mechanical data 100 Mms. 10	• at 250 MHz / maximum	0.343 dB/m
coupling loss / at 30 MHz 100 MHz / minimum 60 dB transfer impedance per length / at 10 MHz 5 mΩ/m loop resistance coefficient 5000 GΩ·m operating voltage • RMS value • RNS value 125 V mechanical data 100 MmcCommodition number of electrical cores 8 design of the shield Overlapped aluminum-clad foil, sheathed in a protective braided shield of tinplated copper wires with additional pair shielding type of electrical connection / FastConnect No core diameter • of AWG24 insulated conductor 0.51 mm outer diameter • of the wire insulation 1.45 mm • of cable sheath 8.1 mm symmetrical tolerance of the outer diameter / of cable sheath 0.4 mm material of the wire insulation polyethylene (PE) • of cable sheath Elastomer meshed electron beam color white/blue, white/brown, white/brown, white/orange e of cable sheath Black bending radius • with multiple bends / minimum permissible 53 mm • with multiple bends / minimum permissible 53 mm • with multiple bends / minimum permissible 53 mm • with multiple bends / minimum permissible 53 mm • of cable sheath 60 N • with m	impedance	
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loop resistance per length / maximum 124 mΩ/m insulation resistance coefficient 5000 GΩ·m operating voltage • RMS value 125 V mechanical data number of electrical cores 8 design of the shield Overlapped aluminum-clad foil, sheathed in a protective braided shield of tin-plated copper wires with additional pair shielding type of electrical connection / FastConnect No core diameter • of AWG24 insulated conductor 0.51 mm outer diameter • of the wire insulation 1.45 mm symmetrical tolerance of the outer diameter / of cable sheath 8.1 mm symmetrical tolerance of the outer diameter / of cable sheath 0.4 mm material • of the wire insulation polyethylene (PE) • of cable sheath Elastomer meshed electron beam color • of the insulation of data wires white/blue, white/green, white/brown, white/orange Black bending radius • with single bend / minimum permissible 53 mm • with multiple bends / minimum permissible 53 mm tensile load / maximum 60 N weight per length 79 kg/km	coupling loss / at 30 MHz 100 MHz / minimum	60 dB
insulation resistance coefficient operating voltage ● RMS value 125 V mechanical data number of electrical cores design of the shield Overlapped aluminum-clad foil, sheathed in a protective braided shield of tin- plated copper wires with additional pair shielding type of electrical connection / FastConnect core diameter ● of AWG24 insulated conductor outer diameter ● of the wire insulation ● of cable sheath symmetrical tolerance of the outer diameter / of cable sheath material ● of the wire insulation ● of cable sheath color ● of the insulation of data wires ● of cable sheath bending radius ● with single bend / minimum permissible ● with single bend / minimum permissible ● with multiple bends / minimum permissible ● with multiple bends / minimum permissible ■ 33 mm tensile load / maximum ### weight per length ### 79 kg/km #### weight per length #### and protective braided shield of tin- plated copper wires with additional pair shieldin a protective braided shield of tin- plated copper wires with additional pair shieldin a protective braided shield of tin- plated copper wires with additional pair shieldin a protective braided shield of tin- plated copper wires with additional pair shieldin a protective braided shield of tin- plated copper wires with additional pair shieldin a protective braided shield of tin- plated copper wires with additional pair shielding in a protective braided shield of tin- plated copper wires with additional pair shielding 8	transfer impedance per length / at 10 MHz	5 mΩ/m
operating voltage RMS value 125 V mechanical data number of electrical cores design of the shield Overlapped aluminum-clad foil, sheathed in a protective braided shield of tin- plated copper wires with additional pair shielding type of electrical connection / FastConnect No core diameter of AWG24 insulated conductor outer diameter of the wire insulation of cable sheath symmetrical tolerance of the outer diameter / of cable sheath material of the wire insulation of cable sheath Elastomer meshed electron beam color of table sheath bending radius with single bend / minimum permissible with multiple bends / minimum permissible with multiple bends / minimum permissible of to N weight per length ambient conditions	loop resistance per length / maximum	124 mΩ/m
RMS value 125 V mechanical data	insulation resistance coefficient	5000 GΩ·m
number of electrical cores design of the shield Overlapped aluminum-clad foil, sheathed in a protective braided shield of tin- plated copper wires with additional pair shielding type of electrical connection / FastConnect No core diameter of AWG24 insulated conductor outer diameter of the wire insulation of cable sheath symmetrical tolerance of the outer diameter / of cable sheath material of the wire insulation of cable sheath Elastomer meshed electron beam color of the insulation of data wires of cable sheath bending radius with single bend / minimum permissible with single bends / minimum permissible with multiple bends / minimum permissi	operating voltage	
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type of electrical connection / FastConnect type of electrical connection / FastConnect ore diameter of AWG24 insulated conductor outer diameter of the wire insulation of cable sheath symmetrical tolerance of the outer diameter / of cable sheath material of the wire insulation of cable sheath end the wire insulation of the wire insulation of the wire insulation of the insulation of the insulation of data wires of cable sheath bending radius with single bend / minimum permissible with multiple bends / minimum permissible of the light of the wire insulation wight per length ambient conditions	number of electrical cores	8
core diameter • of AWG24 insulated conductor outer diameter • of the wire insulation • of cable sheath symmetrical tolerance of the outer diameter / of cable sheath material • of the wire insulation • of cable sheath color • of the insulation of data wires • of cable sheath bending radius • with single bend / minimum permissible • with multiple bends / minimum permissible tensile load / maximum weight per length of the wire insulation of data conditions 0.51 mm 9.44 mm 9.44 mm 9.45 mm 9.45 mm 9.45 mm 9.45 mm 9.45 mm 9.45 mm 9.46 mm 9.46 mm 9.47 mm 9.48	design of the shield	
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outer diameter • of the wire insulation • of cable sheath symmetrical tolerance of the outer diameter / of cable sheath material • of the wire insulation • of cable sheath color • of the insulation of data wires • of cable sheath bending radius • with single bend / minimum permissible • with multiple bends / minimum permissible tensile load / maximum 60 N weight per length ambient conditions	core diameter	
of the wire insulation of cable sheath symmetrical tolerance of the outer diameter / of cable sheath material of the wire insulation of cable sheath color of cable sheath color of the insulation of data wires of cable sheath bending radius with single bend / minimum permissible with multiple bends / minimum permissible tensile load / maximum do N weight per length 79 kg/km ambient conditions	 of AWG24 insulated conductor 	0.51 mm
of cable sheath symmetrical tolerance of the outer diameter / of cable sheath material of the wire insulation of cable sheath color of the insulation of data wires of cable sheath bending radius with single bend / minimum permissible with multiple bends / minimum permissible with multiple bends / minimum permissible tensile load / maximum s.1 mm 0.4 mm polyethylene (PE) Elastomer meshed electron beam white/blue, white/green, white/brown, white/orange Black bending radius with single bend / minimum permissible owith multiple bends / minimum permissible so mm tensile load / maximum 60 N weight per length 79 kg/km ambient conditions	outer diameter	
symmetrical tolerance of the outer diameter / of cable sheath material of the wire insulation of cable sheath color of the insulation of data wires of cable sheath bending radius with single bend / minimum permissible with multiple bends / minimum permissible with multiple bends / minimum permissible tensile load / maximum weight per length ambient conditions	 of the wire insulation 	1.45 mm
material	of cable sheath	8.1 mm
of the wire insulation of cable sheath Elastomer meshed electron beam color of the insulation of data wires of cable sheath Black bending radius with single bend / minimum permissible with multiple bends / minimum permissible tensile load / maximum weight per length ambient conditions polyethylene (PE) Elastomer meshed electron beam white/blue, white/green, white/brown, white/orange Black 53 mm 60 N 79 kg/km	symmetrical tolerance of the outer diameter / of cable sheath	0.4 mm
of cable sheath color of the insulation of data wires of cable sheath bending radius with single bend / minimum permissible with multiple bends / minimum permissible so with multiple bends / minimum permissible weight per length 79 kg/km ambient conditions Elastomer meshed electron beam white/blue, white/green, white/brown, white/orange Black 53 mm 60 N	material	
color • of the insulation of data wires • of cable sheath bending radius • with single bend / minimum permissible • with multiple bends / minimum permissible 53 mm tensile load / maximum 60 N weight per length 79 kg/km	 of the wire insulation 	polyethylene (PE)
 of the insulation of data wires of cable sheath bending radius with single bend / minimum permissible with multiple bends / minimum permissible tensile load / maximum weight per length ambient conditions white/green, white/brown, white/orange Black 53 mm 60 N 79 kg/km	 of cable sheath 	Elastomer meshed electron beam
	color	
bending radius • with single bend / minimum permissible • with multiple bends / minimum permissible tensile load / maximum weight per length 79 kg/km	 of the insulation of data wires 	white/blue, white/green, white/brown, white/orange
with single bend / minimum permissible with multiple bends / minimum permissible tensile load / maximum 60 N weight per length 79 kg/km ambient conditions	of cable sheath	Black
 with multiple bends / minimum permissible tensile load / maximum 60 N weight per length 79 kg/km 	bending radius	
tensile load / maximum 60 N weight per length 79 kg/km ambient conditions	with single bend / minimum permissible	53 mm
weight per length 79 kg/km ambient conditions	• with multiple bends / minimum permissible	53 mm
ambient conditions	tensile load / maximum	60 N
	weight per length	79 kg/km
ambient temperature	ambient conditions	
	ambient temperature	

 during operation 	-40 +80 °C
during storage	-40 +80 °C
 during transport 	-40 +80 °C
during installation	-20 +60 °C
fire behavior	BS 6853, DIN5510-2 Brandschutzstufe 1-4, prEN 45545-2 Hazard Level HL 1-HL 3, EN 50306-4, NF F 16-101, NFPA130
chemical resistance	
• to mineral oil	EN 50306-4 (72h/100 °C, IRM 902, 168h/70 °C, IRM 903)
• to grease	Conditional resistance
• to water	conditional resistance
radiological resistance / to UV radiation	resistant
product features, product functions, product components /	general
product feature	
halogen-free	Yes
• silicon-free	Yes
wire length / for Industrial Ethernet	
with 100BaseTX	100 m
• with 1000BaseT	100 m
standards, specifications, approvals	
UL/ETL listing / 300 V Rating	No
UL/ETL style / 600 V Rating	No
certificate of suitability	
CE marking	Yes
RoHS conformity	Yes
standard for structured cabling	Cat7
Marine classification association	outi
American Bureau of Shipping Europe Ltd. (ABS)	No
French marine classification society (BV)	No
Det Norske Veritas (DNV)	No
, ,	No
Germanische Lloyd (GL) Lloyde Register of Shipping (LRS)	No
Lloyds Register of Shipping (LRS) Nipper Kejii Kyokei (NK)	No
Nippon Kaiji Kyokai (NK) Polaki Reject Station (RRS)	No
Polski Rejestr Statkow (PRS) reference and	NO
reference code	WG
according to IEC 81346-2 according to IEC 91346-2:2010	WGB
according to IEC 81346-2:2019 further information / internet links	WGB
internet link	
to website: Image database	https://www.automation.siemens.com/bilddb
to website: Industry Online Support	https://support.industry.siemens.com
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit www.siemens.com/cybersecurity-industry. Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under https://www.siemens.com/cert. (V4.7)
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