## **SIEMENS**

Data sheet 6XV1821-0AT10

## product type designation product description

## PROFIBUS Plastic Fiber Optic standard cable

Fiber-optic cable with polyoptical fiber, 100m ring, unassembled PROFIBUS Plastic Fiber Optic (980/1000), standard cable, 100 m ring.



attenuation factor per length  • at 650 nm / maximum  • at 660 nm / maximum  230 dB/km  bandwidth length product  • at 650 nm  1 GHz·m	suitability for use	Cable for indoor applications
wire length         100 m           optical data           attenuation factor per length         4 d 650 nm / maximum         160 dB/km           at 660 nm / maximum         230 dB/km           bandwidth length product         4 d 650 nm         1 GHz-m           at 660 nm         1 GHz-m           momber of fibers / per FOC core         1           number of FD cores / per FOC cable         2           version of the FO conductor fiber         380 µm           of the optical fibers         980 µm           of the optical fiber sheath         1000 µm           of the POC core sheath         2.2 mm           symmetrical deviation / of the outer diameter of the FOC core         7.8 mm           symmetrical deviation / of the outer diameter of the line         0.3 mm           material         90 ymetrical deviation / of the outer diameter of the line         0.3 mm           of the fiber-optic cable core         Polymethylmethacrylate (PMMA)           of the processeath         PA           of the fiber-optic cable sheath         PVC           of the processeath         PA           of the FOC core sheath         PA           of the FOC core sheath         PA           of the FOC core sheath         Or facele sheath <t< td=""><td>version of the assembled FO cable</td><td>For assembly with four Simplex connectors</td></t<>	version of the assembled FO cable	For assembly with four Simplex connectors
atteruation factor per length  • at 650 nm / maximum  • at 650 nm /	cable designation	I-V4Y(ZN)Y 2P 980/1000
attenuation factor per length	wire length	100 m
• at 650 nm / maximum • at 660 nm / maximum 230 dB/km  bandwidth length product • at 650 nm 1 GHz·m  mechanical data  number of fibers / per FCC core 1 number of FC cores / per FCC cable 2 version of the FO conductor fiber of the optical fibers • of the optical fibers • of the optical fibers  outer diameter • of the optical fibers • of the optical fiber sheath • of the FCC core sheath 2 2 mm  symmetrical deviation / of the outer diameter of the FCC core sheath  outer diameter / of the cable 7 .8 mm  symmetrical deviation / of the outer diameter of the line of the fiber-optic cable core • of the optical fiber sheath • of the fiber-optic cable core • of the optical fiber sheath • of the fiber-optic cable sheath • of the FCC core sheath • of t	optical data	
• at 660 nm / maximum bandwidth length product • at 650 nm • at 650 nm nochanical data  number of fibers / per FCC core 1 number of FC cores / per FCC cable 2 version of the FC conductor fiber of the optical fibers • of the optical fibers sheath • of the optical fiber sheath outer diameter / of the cable symmetrical deviation / of the outer diameter of the line symmetrical deviation / of the outer diameter of the line outer diameter / of the cable symmetrical deviation / of the outer diameter of the line symmetrical deviation / of the outer diameter of the line outer diameter / of the cable symmetrical deviation / of the outer diameter of the line outer diameter / of the cable symmetrical deviation / of the outer diameter of the line outer diameter / of the cable symmetrical deviation / of the outer diameter of the line of the fiber-optic cable core of the optical fiber sheath of the fiber-optic cable sheath Fluoridated special polymer of the FCC core sheath of the fiber-optic cable sheath PC of the fiber-optic cable sheath of the fiber-optic cable sheath of the strain relief Kevlar fibers  color of the FCC core sheath of cable sheath violet  bending radius  with single bend / minimum permissible of uning installation / short-term outer diameter of the foundanter of the foundan	attenuation factor per length	
bandwidth length product  • at 650 nm  1 GHz m  mechanical data  number of fibers / per FOC core  number of FO cores / per FOC cable  version of the FO conductor fiber  • of the optical fibers sheath • of the optical fiber sheath  outer diameter / of the cable  symmetrical deviation / of the outer diameter of the FOC core sheath  outer diameter / of the outer diameter of the FOC core sheath  outer diameter / of the outer diameter of the FOC core sheath  outer diameter / of the cable  symmetrical deviation / of the outer diameter of the FOC core sheath  outer diameter / of the cable  symmetrical deviation / of the outer diameter of the line  outer diameter / of the cable  symmetrical deviation / of the outer diameter of the line  of the fiber-optic cable core  of the fiber-optic cable core  of the optical fiber sheath of the optical fiber sheath of the FOC core sheath  of the FOC core sheath  of the FOC core sheath  of the FOC core sheath  of the FOC core sheath  of the FOC core sheath  viole  of the FOC core sheath  of cable sheath  of cable sheath  of cable sheath  of table sheath of cable sheath of cable sheath of cable sheath of table she	• at 650 nm / maximum	160 dB/km
• at 650 nm  mochanical data  number of fibers / per FOC core number of FO cores / per FOC cable version of the FO conductor fiber outer diameter of the optical fibers of the optical fibers sheath of the POC core sheath 2 2 mm  symmetrical deviation / of the outer diameter of the FOC core sheath  symmetrical deviation / of the outer diameter of the FOC core sheath  of the fiber-optic cable core of the fiber-optic cable sheath of the FOC core sheath  of the FOC core sheath  PA  of the fiber-optic cable sheath of the FOC core sheath  of the FOC core sheath  of the FOC core sheath  of the FOC core sheath  of the FOC core sheath  of the FOC core sheath of the FOC core sheath  of the FOC core sheath of the	• at 660 nm / maximum	230 dB/km
number of fibers / per FOC core 1 number of FO cores / per FOC cable 2 version of the FO conductor fiber 980 µm of the optical fibers 980 µm of the optical fibers 980 µm of the optical fiber 980 µm of the optical fiber 980 µm of the optical fiber 980 µm of the poc core sheath 1000 µm of the FOC core sheath 2.2 mm symmetrical deviation / of the outer diameter of the FOC core sheath 0.1 mm symmetrical deviation / of the outer diameter of the line 0.3 mm material outer diameter / of the cable 7.8 mm symmetrical deviation / of the outer diameter of the line 0.3 mm material of the fiber-optic cable core Polymethylmethacrylate (PMMA) of the fiber-optic cable sheath Fluoridated special polymer of the fiber-optic cable sheath PA of the fiber-optic cable sheath PVC of the fiber-optic cable sheath PVC of the strain relief Kevlar fibers  color of the FOC core sheath orange/black of cable sheath Violet  bending radius with single bend / minimum permissible 100 mm e with multiple bends / minimum permissible 150 mm  tensile load of during installation / short-term 100 N of uring operation / maximum 100 N	bandwidth length product	
number of fibers / per FOC core number of FO cores / per FOC cable 2 version of the FO conductor fiber outer diameter of the optical fibers of the optical fibers of the optical fiber sheath of the FOC core sheath 2.2 mm  symmetrical deviation / of the outer diameter of the FOC core sheath outer diameter / of the cable 3 mm  symmetrical deviation / of the outer diameter of the Iniv symmetrical deviation / of the outer diameter of the line outer diameter / of the cable 3 mm  symmetrical deviation / of the outer diameter of the line of the fiber-optic cable core of the optical fiber sheath of the polical fiber sheath of the FOC core sheath of the FOC core sheath of the fiber-optic cable sheath of the strain relief  color of the strain relief  color of of the FOC core sheath of cable sheath violet  bending radius with single bend / minimum permissible with single bend / minimum permissible with multiple bends / minimum permissible of during installation / short-term of uning operation / maximum  100 N	• at 650 nm	1 GHz·m
number of FO cores / per FOC cable  version of the FO conductor fiber outer diameter  of the optical fibers of the optical fiber sheath of the FOC core sheath 2.2 mm  symmetrical deviation / of the outer diameter of the FOC core sheath outer diameter / of the cable symmetrical deviation / of the outer diameter of the line material  of the fiber-optic cable core of the optical fiber sheath of the optical fiber sheath for the policial fiber sheath of the optical fiber sheath of the policial fiber sheath of the policial fiber sheath of the FOC core sheath of the strain relief  color of the FOC core sheath of the FOC core sheath of the strain relief  color of the FOC core sheath of the sheath orange/black violet  bending radius with single bend / minimum permissible with multiple bends / minimum permissible with multiple bends / minimum permissible of during installation / short-term old uning operation / maximum  100 N	mechanical data	
version of the FO conductor fiber  outer diameter  of the optical fibers of the optical fiber sheath of the POC core sheath  symmetrical deviation / of the outer diameter of the FOC core sheath  outer diameter / of the cable symmetrical deviation / of the outer diameter of the FOC core sheath  outer diameter / of the cable symmetrical deviation / of the outer diameter of the line outer diameter / of the cable symmetrical deviation / of the outer diameter of the line of the fiber-optic cable core of the optical fiber sheath of the optical fiber sheath of the FOC core sheath volter fiber-optic cable sheath of the FOC core sheath of the strain relief  color  of the FOC core sheath orange/black violet  bending radius with single bend / minimum permissible with multiple bends / minimum permissible of with multiple bends / minimum permissible of uning installation / short-term of uning operation / maximum  tensille load of the during operation / maximum  steps in the FOC conductor fiber of the store in the solution of the solution o	number of fibers / per FOC core	1
outer diameter	number of FO cores / per FOC cable	2
of the optical fibers     of the optical fiber sheath     of the FOC core sheath     symmetrical deviation / of the outer diameter of the FOC core sheath      symmetrical deviation / of the outer diameter of the FOC core sheath      outer diameter / of the cable     symmetrical deviation / of the outer diameter of the line      symmetrical deviation / of the outer diameter of the line      symmetrical deviation / of the outer diameter of the line      or the fiber-optic cable core     of the fiber-optic cable core     of the optical fiber sheath     of the FOC core sheath     of the fiber-optic cable sheath     of the strain relief      color     of the FOC core sheath     of the FOC core sheath     of cable sheath     of cable sheath     of cable sheath     of cable sheath     of with single bend / minimum permissible     with multiple bends / minimum permissible     with multiple bends / minimum permissible     of during installation / short-term     of during operation / maximum      of the roc core sheath     of during operation / maximum      symmetrical deviation / short-term     of the process of the cable sheath     of the process of the cable sheath     of the strain relief      color     or the process of the strain relief      color sheath     or the process of the strain relief      color sheath     or the process of the strain relief      color sheath     or the process of the strain relief      color sheath     or the process of the process of the strain relief      color sheath     of the process of the pr	version of the FO conductor fiber	Step index fiber 980/1000 µm
of the optical fiber sheath     of the FOC core sheath  symmetrical deviation / of the outer diameter of the FOC core sheath  Outer diameter / of the cable symmetrical deviation / of the outer diameter of the line  material     of the fiber-optic cable core     of the optical fiber sheath     of the off the FOC core sheath     of the fiber-optic cable sheath     of the fiber-optic cable sheath     of the fiber-optic cable sheath     of the strain relief  color     of the FOC core sheath     of the SOC core sheath     of the strain relief  color     of the FOC core sheath     of cable sheath     orange/black     orange/black     orange/black     orange/black     with single bend / minimum permissible     with multiple bends / minimum permissible     with multiple bends / minimum permissible     orange/black     during installation / short-term     during operation / maximum  100 N	outer diameter	
of the FOC core sheath     symmetrical deviation / of the outer diameter of the FOC core sheath  outer diameter / of the cable     symmetrical deviation / of the outer diameter of the line     symmetrical deviation / of the outer diameter of the line     symmetrical deviation / of the outer diameter of the line     of the fiber-optic cable core     of the optical fiber sheath     of the of the FOC core sheath     of the fiber-optic cable sheath     of the fiber-optic cable sheath     of the strain relief  color     of the FOC core sheath     of cable sheath     of cable sheath     of cable sheath     of able sheath     of able sheath     with single bend / minimum permissible     with multiple bends / minimum permissible     of during installation / short-term     of during operation / maximum  100 N	<ul> <li>of the optical fibers</li> </ul>	980 μm
symmetrical deviation / of the outer diameter of the FOC core sheath  outer diameter / of the cable  symmetrical deviation / of the outer diameter of the line  of the giber-optic cable core of the optical fiber sheath of the FOC core sheath of the FOC core sheath of the strain relief  color of the FOC core sheath of the FOC core sheath of the FOC core sheath of the strain relief  color of the FOC core sheath of cable sheath violet  bending radius with single bend / minimum permissible of unring installation / short-term of unring operation / maximum  100 N	<ul> <li>of the optical fiber sheath</li> </ul>	1000 μm
sheath  outer diameter / of the cable  symmetrical deviation / of the outer diameter of the line  material  of the fiber-optic cable core of the optical fiber sheath of the FOC core sheath of the fiber-optic cable sheath  of the fiber-optic cable sheath  of the strain relief  color of the FOC core sheath of cable sheath of the FOC core sheath of the strain relief  color of the FOC core sheath of cable sheath to of cable sheath to orange/black	<ul> <li>of the FOC core sheath</li> </ul>	2.2 mm
symmetrical deviation / of the outer diameter of the line  material  of the fiber-optic cable core of the optical fiber sheath of the FOC core sheath of the FOC core sheath  of the strain relief  color of the FOC core sheath of the FOC core sheath of the strain relief  color of the FOC core sheath orange/black of cable sheath Violet  bending radius with single bend / minimum permissible owith multiple bends / minimum permissible of during installation / short-term of during operation / maximum  100 N	•	0.1 mm
material  of the fiber-optic cable core of the optical fiber sheath Fluoridated special polymer  of the FOC core sheath of the fiber-optic cable sheath of the strain relief  color  of the FOC core sheath of the strain relief  color  of the FOC core sheath of cable sheath violet  bending radius with single bend / minimum permissible with multiple bends / minimum permissible of uning installation / short-term of during operation / maximum  100 N	outer diameter / of the cable	7.8 mm
<ul> <li>of the fiber-optic cable core</li> <li>Of the optical fiber sheath</li> <li>of the FOC core sheath</li> <li>of the fiber-optic cable sheath</li> <li>of the strain relief</li> <li>Color</li> <li>of the FOC core sheath</li> <li>of the FOC core sheath</li> <li>of the FOC core sheath</li> <li>of able sheath</li> <li>of cable sheath</li> <li>with single bend / minimum permissible</li> <li>with multiple bends / minimum permissible</li> <li>of uring installation / short-term</li> <li>during operation / maximum</li> <li>POUD MEMAN</li> <li>Fluoridated special polymer</li> <li>PA</li> <li>Revial polymethylmethacrylate (PMMA)</li> <li>Fluoridated special polymer</li> <li>PA</li> <li>PA</li> <li>PA</li> <li>PA</li> <li>PA</li> <li>Devial polymethylmethacrylate (PMMA)</li> <li>Fluoridated special polymer</li> <li>PA</li> <li>Or ma</li> <li>100 N</li> <li>Or N</li> <li>Or M</li> <li>Or M</li></ul>	symmetrical deviation / of the outer diameter of the line	0.3 mm
<ul> <li>of the optical fiber sheath</li> <li>of the FOC core sheath</li> <li>of the fiber-optic cable sheath</li> <li>of the strain relief</li> <li>color</li> <li>of the FOC core sheath</li> <li>of cable sheath</li> <li>bending radius</li> <li>with single bend / minimum permissible</li> <li>with multiple bends / minimum permissible</li> <li>tensile load</li> <li>during installation / short-term</li> <li>during operation / maximum</li> </ul>	material	
of the FOC core sheath     of the fiber-optic cable sheath     of the strain relief     Kevlar fibers  color     of the FOC core sheath     orange/black     of cable sheath     violet  bending radius     with single bend / minimum permissible     with multiple bends / minimum permissible     with multiple bends / minimum permissible     oduring installation / short-term     oduring operation / maximum  oduring operation / maximum  oduring operation / maximum  PA  Reviar fibers  Violet  100 mm  150 mm	<ul> <li>of the fiber-optic cable core</li> </ul>	Polymethylmethacrylate (PMMA)
of the fiber-optic cable sheath     of the strain relief  color     of the FOC core sheath     orange/black     of cable sheath  bending radius     with single bend / minimum permissible     with multiple bends / minimum permissible  with multiple bends / minimum permissible  during installation / short-term  during operation / maximum  PVC  Kevlar fibers  For all parts  Kevlar fibers  100 mm  100 mm  100 mm  100 N  100 N	<ul> <li>of the optical fiber sheath</li> </ul>	Fluoridated special polymer
of the strain relief      color     of the FOC core sheath     orange/black     of cable sheath      bending radius     with single bend / minimum permissible     with multiple bends / minimum permissible      tensile load     during installation / short-term     during operation / maximum      verification     loo N      loo N      loo N      loo In Seval of the FOC core sheath     violet      lootet      loo mm      loo N      loo N      loo N	<ul> <li>of the FOC core sheath</li> </ul>	PA
color  of the FOC core sheath orange/black of cable sheath Violet  bending radius with single bend / minimum permissible with multiple bends / minimum permissible 150 mm  tensile load of during installation / short-term during operation / maximum 100 N	<ul> <li>of the fiber-optic cable sheath</li> </ul>	PVC
of the FOC core sheath     orange/black     of cable sheath      bending radius     with single bend / minimum permissible     with multiple bends / minimum permissible     tensile load     during installation / short-term     during operation / maximum      orange/black     Violet  100 mm  100 mm  100 N	of the strain relief	Kevlar fibers
● of cable sheath  bending radius  ● with single bend / minimum permissible  ● with multiple bends / minimum permissible  100 mm  150 mm  tensile load  ● during installation / short-term  ● during operation / maximum  100 N	color	
bending radius  • with single bend / minimum permissible  • with multiple bends / minimum permissible  150 mm  tensile load  • during installation / short-term  • during operation / maximum  100 N	<ul> <li>of the FOC core sheath</li> </ul>	orange/black
<ul> <li>with single bend / minimum permissible</li> <li>with multiple bends / minimum permissible</li> <li>tensile load</li> <li>during installation / short-term</li> <li>during operation / maximum</li> <li>100 N</li> <li>100 N</li> </ul>	of cable sheath	Violet
<ul> <li>with multiple bends / minimum permissible</li> <li>tensile load</li> <li>during installation / short-term</li> <li>during operation / maximum</li> <li>100 N</li> <li>100 N</li> </ul>	bending radius	
tensile load  • during installation / short-term • during operation / maximum  100 N  100 N	<ul><li>with single bend / minimum permissible</li></ul>	100 mm
<ul> <li>during installation / short-term</li> <li>during operation / maximum</li> <li>100 N</li> <li>100 N</li> </ul>	with multiple bends / minimum permissible	150 mm
during operation / maximum     100 N	tensile load	
	<ul> <li>during installation / short-term</li> </ul>	100 N
short-term shear force per length 100 N/cm	during operation / maximum	100 N
	short-term shear force per length	100 N/cm

weight per length	65 kg/km
ambient conditions	
ambient temperature	
during operation	-30 +70 °C
during storage	-30 +70 °C
during transport	-30 +70 °C
during installation	50 °C
fire behavior	flame-resistant acc. to IEC 60332-1-2
class of burning behaviour / according to EN 13501-6	Eca
chemical resistance	
• to mineral oil	conditional resistance
• to grease	conditional resistance
radiological resistance / to UV radiation	not resistant
product features, product functions, product components / general	
product feature	
<ul> <li>halogen-free</li> </ul>	No
• silicon-free	Yes
product component / rodent protection	No
wire length	
<ul><li>for POF FOC / with PROFIBUS / maximum</li></ul>	80 m
standards, specifications, approvals	
certificate of suitability	
UL approval	Yes; UL approval: cULus OFN FT1 (NEC Article 770, UL 1651) / CSA approval: OFN (CSA standard C22.2 No. 232)
RoHS conformity	Yes
reference code	
<ul> <li>according to IEC 81346-2</li> </ul>	WH
• according to IEC 81346-2:2019	WHA
further information / internet links	
internet link	
<ul> <li>to web page: selection aid TIA Selection Tool</li> </ul>	http://www.siemens.com/tia-selection-tool
• to website: Industrial communication	http://www.siemens.com/simatic-net
• to website: Industry Mall	https://mall.industry.siemens.com
<ul> <li>to website: Information and Download Center</li> </ul>	http://www.siemens.com/industry/infocenter
<ul> <li>to website: Selection guide for cables and connectors</li> </ul>	https://sie.ag/2QdlxcP
• to website: Image database	http://automation.siemens.com/bilddb
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