## **SIEMENS**

Data sheet 6XV1821-2AN50

## product type designation

product description

suitability for use

## **PROFIBUS Plastic Fiber Optic Duplex Core**

Fiber-optic cable with polyoptical fiber (flat dual cores), 50m ring, unassembled

Indoor applications with low mechanical loads (e.g. laboratory set-ups or

PROFIBUS Plastic Fiber Optic, duplex core 50 m ring.



version of the assembled FO cable cable designation V-2Y 2x1 P 980/1000  vire length optical data attenuation factor per length • at 650 nm / maximum • at 660 nm / maximum 230 dB/km  bandwidth length product • at 650 nm  1 GHz·m  mechanical data number of FO cores / per FOC cable version of the FO conductor fiber of the optical fibers • of the optical fibers • of the optical fiber sheath • of the FO core sheath vertical deviation / of the outer diameter of the FOC core sheath  material • of the fiber-optic cable core • of the optical fiber sheath • of the optical fiber sheath • of the fiber-optic cable core • of the optical fiber sheath • of the fiber-optic cable core • of the spical fiber sheath • of the fiber-optic cable core • of the spical fiber sheath • of the fiber-optic cable core • of the FOC core sheath  vertical fiber sheath • of the FOC core sheat	suitability for use	inside cabinets), cable lengths up to 50 m
cable designation  wire length  optical data attenuation factor per length  • at 650 nm / maximum  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  outer diameter  • of the optical fibers  • 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  of the fiber-optic cable core  • of the optical fiber sheath  • of the fiber-optic cable core  • of the optical fiber sheath  • of the FOC core sheath  portional deviation / of the outer diameter of the FOC core sheath  • of the FOC core sheath	version of the assembled FO cable	
attenuation factor per length  • at 660 nm / maximum  • at 660 nm / maximum  bandwidth length product • at 650 nm  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 sheath • of the optical deviation / of the outer diameter of the FOC core sheath  material  • of the fiber-optic cable core • of the optical fiber sheath • of the FOC core sheath  Fluoridated special polymer  • of the FOC core sheath  pof the FOC core sheath  fluoridated special polymer  • of the FOC core sheath  sof the optical fiber sheath • of the FOC core sheath  pof the FOC core sheath  fluoridated special polymer  • of the FOC core sheath  sof the FOC core sheath  private fluoridated special polymer  • of the FOC core sheath  •	cable designation	V-2Y 2x1 P 980/1000
attenuation factor per length  • 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 FC conductor fiber  outer diameter  • of the optical fibers seath • of the optical fiber sheath • of the FCC core sheath  of the FCC core sheath  aterial  • of the fiber-optic cable core • of the optical fiber sheath • of the potical fiber sheath • of the FCC core sheath  The office of the FCC core sheath  aterial  • of the FCC core sheath • of the FCC core sheath  aterial • of the FCC core sheath • of the FCC core sheath • of the FCC core sheath  aterial • of the FCC core sheath • of the FCC core sheath  fluoridated special polymer  PE  color • of the FCC core sheath  bending radius • with single bend / minimum permissible • with multiple bends / minimum permissible • with multiple sheads / minimum • A N/cm • during operation / maximum • A N/cm  short-term shear force per length • A N/cm  weight per length • 7.6 kg/km	wire length	50 m
at 650 nm / maximum at 650 nm / maximum 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 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 material of the fiber-optic cable core of the optical fiber sheath of the FOC core sheath Fluoridated special polymer  of the FOC core sheath  fluoridated special polymer  e of the FOC core sheath  fluoridated special polymer  PE  color of the FOC core sheath gray  bending radius with single bend / minimum permissible with multiple bends / minimum permissible of then shear force per length of the roce per leng	optical data	
• at 660 nm / maximum  bandwidth length product • at 650 nm  number of fibers / per FOC core number of FO cores / per FOC cable  version of the FO conductor fiber  other disperse / 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  material • of the fiber-optic cable core • of the optical fiber sheath • of the FOC core sheath  symmetrical deviation / of the outer diameter of the FOC core sheath  material • of the fiber-optic cable core • of the FOC core sheath • of the FOC core sheath  symmetrical deviation / of the outer diameter of the FOC core sheath  material • of the fiber-optic cable core • of the FOC core sheath • of the FOC core sheath • of the FOC core sheath  symmetrical deviation / of the outer diameter of the FOC core sheath  per filter of the fiber-optic cable core • of the special fiber sheath • of the special fiber sheath • of the FOC core sheath  symmetrical deviation / of the outer diameter of the FOC core sheath  bending radius • with single bend / minimum permissible • with multiple bends /	attenuation factor per length	
bandwidth length product  at 650 nm  at 650	• at 650 nm / maximum	10 dB/km
• at 650 nm  mechanical data  number of fibers / per FOC core	at 660 nm / maximum	230 dB/km
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 fiber sheath • of the FOC core sheath symmetrical deviation / of the outer diameter of the FOC core sheath  • 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 core • of the optical fiber sheath • of the FOC core sheath  Fluoridated special polymer • of the FOC core sheath  • of the FOC core sheath • of the FOC core sheath  • of the FOC core sheath  bending radius • with single bend / minimum permissible • with multiple bends / minimum permissible  • with multiple bends / minimum permissible  • with multiple bends / minimum permissible  • with single peration / maximum  10 N  short-term shear force per length  continuous shear force per length  7.6 kg/km  ambient conditions	bandwidth length product	
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 fiber sheath • of the FOC core sheath symmetrical deviation / of the outer diameter of the FOC core sheath  material • 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 core • 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  bending radius • with single bend / minimum permissible • with multiple bends / minimum permissible  • with multiple bends / minimum permissible  • with multiple bends / minimum permissible  • with short-term shear force per length continuous shear force per length  7.6 kg/km  ambient conditions	• 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  symmetrical deviation / of the outer diameter of the FOC core sheath  material • of the fiber-optic cable core • of the FOC core sheath • of the FOC core sheath  fluoridated special polymer  of the FOC core sheath  per fluoridated special polymer  e of the FOC core sheath  color • of the FOC core sheath  bending radius • with single bend / minimum permissible  with single bends / minimum permissible  e with untiliple bends / minimum permissible  tensile load • during operation / maximum  short-term shear force per length  outer fluoridated special polymer  25 mm  4 N/cm  weight per length  7.6 kg/km  ambient conditions	mechanical data	
version of the FO conductor fiber outer diameter  • 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  material • of the fiber-optic cable core • of the optical fiber sheath • of the optical fiber sheath • of the FOC core sheath  Color • of the FOC core sheath  bending radius • with single bend / minimum permissible • with multiple bends / minimum permissible 25 mm • with multiple bends / minimum permissible a during operation / maximum  short-term shear force per length  continuous shear force per length  ambient conditions	number of fibers / per FOC core	1
outer diameter  • 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  • of the fiber-optic cable core  • of the optical fiber sheath  • of the optical fiber sheath  • of the optical fiber sheath  • of the FOC core sheath  Fluoridated special polymer  • of the FOC core sheath  color  • of the FOC core sheath  bending radius  • with single bend / minimum permissible  • with multiple bends / minimum permissible  • with multiple bends / minimum permissible  tensile load  • during operation / maximum  short-term shear force per length  continuous shear force per length  weight per length  ambient conditions	number of FO cores / per FOC cable	2
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  material  of the fiber-optic cable core of the optical fiber sheath fluoridated special polymer  of the FOC core sheath  color  of the FOC core sheath  gray  bending radius  with single bend / minimum permissible with multiple bends / minimum permissible tensile load of during operation / maximum  short-term shear force per length  contribuous shear force per length  ambient conditions	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  material     of the fiber-optic cable core     of the optical fiber sheath     of the FOC core sheath      of the FOC core sheath     of the FOC core sheath  color     of the FOC core sheath  bending radius     with single bend / minimum permissible     with multiple bends / minimum permissible     with multiple bends / minimum permissible     during operation / maximum  short-term shear force per length     continuous shear force per length     respectively.  ambient conditions	outer diameter	
of the FOC core sheath     symmetrical deviation / of the outer diameter of the FOC core sheath  material     of the fiber-optic cable core     of the optical fiber sheath     of the FOC core sheath  color     of the FOC core sheath  bending radius     with single bend / minimum permissible     with multiple bends / minimum permissible     during operation / maximum     short-term shear force per length     conditions  on the FOC core sheath  2.2 mm  O.1 mm  On mm  On mm  On mm  Polymethylmethacrylate (PMMA)  Fluoridated special polymer  PE  Say  Polymethylmethacrylate (PMMA)  Fluoridated special polymer  PE  Say  On m  On	<ul> <li>of the optical fibers</li> </ul>	980 μm
symmetrical deviation / of the outer diameter of the FOC core sheath  material  of the fiber-optic cable core of the optical fiber sheath of the FOC core sheath  e of the FOC core sheath  color of the FOC core sheath  bending radius with single bend / minimum permissible with multiple bends / minimum permissible of during operation / maximum  of the FOC core sheath  10 N  short-term shear force per length continuous shear force per length continuous shear force per length reflections  0.1 mm  0.1 mm  0.1 mm  0.1 mm  0.1 mm  0.1 mm  Polymethylmethacrylate (PMMA) Fluoridated special polymer PE  25 mm  25 mm  10 N  short-term shear force per length reflections  10 N  short-term shear force per length reflections	<ul> <li>of the optical fiber sheath</li> </ul>	1000 μm
material  of the fiber-optic cable core of the optical fiber sheath of the FOC core sheath  e of the FOC core sheath  color of the FOC core sheath  bending radius with single bend / minimum permissible of with multiple bends / minimum permissible tensile load of during operation / maximum  short-term shear force per length conditions  Polymethylmethacrylate (PMMA) Fluoridated special polymer  PE  25 mm  25 mm  10 N  short-term shear force per length 30 N/cm  continuous shear force per length 7.6 kg/km	of the FOC core sheath	2.2 mm
of the fiber-optic cable core     of the optical fiber sheath     of the FOC core sheath     of the FOC core sheath      of the FOC core sheath      pe  color     of the FOC core sheath  bending radius     with single bend / minimum permissible     with multiple bends / minimum permissible     of the short-term shear force per length  continuous shear force per length  weight per length  ambient conditions  Polymethylmethacrylate (PMMA)  Fluoridated special polymer  PE  25 mm  25 mm  25 mm  10 N  30 N/cm  4 N/cm  7.6 kg/km	•	0.1 mm
of the optical fiber sheath     of the FOC core sheath  color     of the FOC core sheath  permissible     with single bend / minimum permissible     with multiple bends / minimum permissible     with multiple bends / minimum permissible     ouring operation / maximum  tensile load     ouring operation / maximum  short-term shear force per length     continuous shear force per length  weight per length  ambient conditions  Fluoridated special polymer  PE  25 mm  25 mm  10 N  4 N/cm  4 N/cm  7.6 kg/km	material	
<ul> <li>of the FOC core sheath</li> <li>of the FOC core sheath</li> <li>gray</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 operation / maximum</li> <li>short-term shear force per length</li> <li>ontinuous shear force per length</li> <li>wight per length</li> <li>7.6 kg/km</li> </ul>	<ul> <li>of the fiber-optic cable core</li> </ul>	Polymethylmethacrylate (PMMA)
color  • of the FOC core sheath  bending radius  • with single bend / minimum permissible  • with multiple bends / minimum permissible  25 mm  tensile load  • during operation / maximum  short-term shear force per length  continuous shear force per length  weight per length  7.6 kg/km	<ul> <li>of the optical fiber sheath</li> </ul>	Fluoridated special polymer
of the FOC core sheath  bending radius  owith single bend / minimum permissible  with multiple bends / minimum permissible  tensile load  oduring operation / maximum  short-term shear force per length  continuous shear force per length  weight per length  ambient conditions  gray  25 mm  10 N  30 N/cm  4 N/cm  7.6 kg/km	of the FOC core sheath	PE
bending radius  • with single bend / minimum permissible  • with multiple bends / minimum permissible  25 mm  tensile load  • during operation / maximum  short-term shear force per length  continuous shear force per length  weight per length  7.6 kg/km	color	
<ul> <li>with single bend / minimum permissible</li> <li>with multiple bends / minimum permissible</li> <li>tensile load</li> <li>during operation / maximum</li> <li>short-term shear force per length</li> <li>continuous shear force per length</li> <li>weight per length</li> <li>7.6 kg/km</li> </ul>	of the FOC core sheath	gray
<ul> <li>with multiple bends / minimum permissible</li> <li>tensile load</li> <li>during operation / maximum</li> <li>short-term shear force per length</li> <li>continuous shear force per length</li> <li>weight per length</li> <li>ambient conditions</li> </ul>	bending radius	
tensile load  • during operation / maximum  short-term shear force per length  continuous shear force per length  weight per length  ambient conditions  10 N  30 N/cm  4 N/cm  7.6 kg/km	<ul><li>with single bend / minimum permissible</li></ul>	25 mm
● during operation / maximum  short-term shear force per length  continuous shear force per length  weight per length  ambient conditions	with multiple bends / minimum permissible	25 mm
short-term shear force per length continuous shear force per length 4 N/cm weight per length 7.6 kg/km ambient conditions	tensile load	
continuous shear force per length 4 N/cm weight per length 7.6 kg/km ambient conditions	during operation / maximum	10 N
weight per length 7.6 kg/km ambient conditions		
ambient conditions		4 N/cm
		7.6 kg/km
ambient temperature	ambient conditions	
	ambient temperature	

<ul> <li>during operation</li> </ul>	-55 +85 °C
during storage	-55 +85 °C
during transport	-55 +85 °C
during installation	-5 +50 °C
fire behavior	flame-resistant in accordance with the VW-1 flame test acc. to UL 1581
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>	Yes
• 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> <li>RoHS conformity</li> </ul>	Yes
reference code	
<ul> <li>according to IEC 81346-2</li> </ul>	WH
<ul> <li>according to IEC 81346-2:2019</li> </ul>	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
<ul> <li>to website: Industrial communication</li> </ul>	http://www.siemens.com/simatic-net
to website: Industry Mall	https://mall.industry.siemens.com
• to website: Information and Download Center	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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