## SIEMENS

## Data sheet

## 6XV1870-2F

industrial Ethemet TP Torsion Cable. 222 (PROFINIP Mexile applications (crosin), sold by the meter, max. delivery unit 1000 m, minimum order quantity 20 m         suitability for use       Continuous motion control when using robots         cable designation       02YS C11Y 1x4x0.75/1,5-100 LI VZN FRNC GN SF/UTP         Obstrated       02YS C11Y 1x4x0.75/1,5-100 LI VZN FRNC GN SF/UTP         Obstrated       02YS C11Y 1x4x0.75/1,5-100 LI VZN FRNC GN SF/UTP         Obstrated       0.081 dB/m         • at 10 MHz / maximum       0.41 dB/m         • at 10 MHz / maximum       0.41 dB/m         • at 10 MHz / maximum       0.41 dB/m         • of the characteristic impedance at 1 MHz 100 MHz       100 D         relative symmetrical tolerance       1 MHz 100 MHz         • of the characteristic impedance at 1 MHz 100 Mhz       10 mD/m         • or the characteristic impedance at 1 MHz 100 Mhz       10 mD/m         • or the characteristic impedance at 1 MHz 100 Mhz       10 mD/m         • or the characteristic impedance at 1 MHz 100 Mhz       0.5 dB/m         • or the characteristic impedance at 1 MHz 100 Mhz       10 mD/m         • or the characteristic impedance at 1 MHz 100 Mhz       0.5 dB/m         • or the system       70 %         meachanical data       0.7 mm         or charbet shead       0.7 mm	product description	Highly flexible bus cable (4-core), sold by the meter, unassembled
cable designation         02YS C11Y 1x4x0,75/1,5-100 LI VZN FRNC GN SF/UTP           electrical data         attenuation factor per length		Industrial Ethernet TP Torsion Cable, 2x2 (PROFINET Type C), TP
cable designation         02YS C11Y 1x4x0,75/1,5-100 LI VZN FRNC GN SF/UTP           electrical data         attenuation factor per length	suitability for use	Continuous motion control when using robots
olectrical data         attenuation factor per length         • at 10 MHz / maximum         impedance         • at 1 MHz 100 MHz         relative Symmetrical Iolerance         • of the characteristic impedance at 1 MHz 100 MHz         Inservent crosstalk per length         • at 1 MHz 100 MHz         Inservent crosstalk per length         • at 1 MHz 100 MHz         Inservent crosstalk per length / at 10 MHz         Ioon maximum         Ioon able         Io		
atternuation factor per length       0.081 dB/m         • at 100 MHz / maximum       0.41 dB/m         impedance       0.41 dB/m         • at 100 MHz       100 Q         relative symmetrical tolerance       100 Q         • of the characteristic impedance at 1 MHz 100 MHz       15 %         near-end crosstalk per length       0.5 dB/m         • at 1 MHz 100 MHz       100 mQ/m         loop resistance per length / at 10 MHz       100 mQ/m         loop resistance per length / maximum       0.5 dB/m         operating voltage       80 V         • RMS value       80 V         number of electrical cores       4         number of electrical cores       4         overlapped aluminum-clad foil, sheathed in a braided screen of timplated copper wires         type of electrical connection / FastConnect       No         core diameter       0.76 mm         of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable       0.2 mm         of cable sheath       polyethylene (PE)         of cable sheath       polyethylene (PE)         of cable sheath       polyethylene (PE)         of cable sheath       green		
• at 10 MHz / maximum       0.081 dB/m         • at 10 MHz / maximum       0.41 dB/m         impedance       0.001 MHz         • at 1 MHz 100 MHz       100 Ω         relative symmetrical tolerance       15 %         • at 1 MHz 100 MHz       15 %         mear-end crosstalk per length       0.5 dB/m         • at 1 MHz 100 MHz       100 mΩ/m         loop resistance per length / at 10 MHz       100 mΩ/m         loop resistance per length / at 10 MHz       100 mΩ/m         loop resistance per length / maximum       120 mΩ/m         operating voltage       80 V         • RNX value       80 V         NVP value in percent       70 %         mechanical data       Overlapped aluminum-clad foil, sheathed in a braided screen of timplated copper wires         type of electrical cores       4         outer diameter       0.76 mm         of almeter       0.76 mm         of cable sheath       6.5 mm         of the wire insulation       1.5 mm         • of the wire insulation       0.2 mm         symmetrical tolerance of the outer diameter / of cable       0.2 mm         olor       of cable sheath       0.2 mm         of the wire insulation       polyethylene (PE) <td></td> <td></td>		
• at 100 MHz / maximum     0.41 dB/m       impedance     100 Ω       • at 1 MHz 100 MHz     100 Ω       • of the characteristic impedance at 1 MHz 100     15 %       MHz     0.5 dB/m       • at 1 MHz 100 MHz     0.5 dB/m       • of average per length / at 10 MHz     100 mΩ/m       • of the shield     70 %       • of the shield     Overlapped aluminum-clad foil, sheathed in a braided screen of timplated copper wires       • Up of electrical connection / FastConnect     No       • of inner conductor     0.76 mm       • of the wire insulation     1.5 mm       • of inner conductor     0.76 mm       • of inner conductor     0.76 mm       • of the wire insulation     6.5 mm       • of able sheath     6.5 mm       • of the wire insulation     90/yethylene (PE) <t< td=""><td></td><td>0.081 dB/m</td></t<>		0.081 dB/m
impedance       at 1 MHz 100 MHz       100 Ω         relative symmetrical tolerance       100 Ω         of the characteristic impedance at 1 MHz 100       15 %         MHz       near-end crosstalk per length       0.5 dB/m         itransfer impedance per length / at 10 MHz       0.5 dB/m         loop resistance per length / maximum       120 mΩ/m         operating voltage       80 V         • RNS value       80 V         NVP value in percent       70 %         mechanical data       0.5 dB/m         number of electrical cores       4         design of the shield       Overlapped aluminum-clad foil, sheathed in a braided screen of timplated copper wires         voer diameter       0.76 mm         outer diameter       0.76 mm         • of anker sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable sheath       0.2 mm         material       of the wire insulation       1.5 mm         • of cable sheath       0.2 mm         sheath       polyethylene (PE)         of the wire insulation       polyethylene (PE)         • of cable sheath       polyethylene (PE)         • of cable sheath       polyethylene (PE)         • of cable sheath       polyethylene (PE)		
• at 1 MHz 100 MHz     100 Ω       relative symmetrical tolerance     15 %       • of the characteristic impedance at 1 MHz 100 MHz     15 %       • at 1 MHz 100 MHz     0.5 dB/m       transfer impedance per length     0.0 mΩ/m       loop resistance per length / raximum     120 mΩ/m       operating voltage     80 V       • RMS value     80 V       NVP value in percent     70 %       mechanical data     0.2 related copper wires       number of electrical cores     4       Overlapped aluminum-clad foil, sheathed in a braided screen of tin-plated copper wires       type of electrical connection / FastConnect     No       core diameter     0.76 mm       • of AWG22 insulated conductor     0.76 mm       • of dawles sheath     6.5 mm       symmetrical tolerance of the outer diameter / of cable     9.2 mm       sheath     9.2 mm       sheath     9.2 mm       of the wire insulation     9.2 mm       of th		
relative symmetrical tolerance       • of the characteristic impedance at 1 MHz 100       15 %         near-end crosstalk per length       • 0.5 dB/m         • at 1 MHz 100 MHz       0.5 dB/m         transfer impedance per length / at 10 MHz       100 mΩ/m         loop resistance per length / maximum       120 mQ/m         operating voltage       80 V         • RMS value       80 V         NVP value in percent       70 %         mumber of electrical cores       4         design of the shield       Overlapped aluminum-clad foil, sheathed in a braided screen of timplated copper wires         type of electrical connection / FastConnect       No         core diameter       0.76 mm         outer diameter       0.76 mm         • of inner conductor       0.76 mm         • of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable sheath       0.2 mm         • of the wire insulation       polyethylene (PE)         • of cable sheath       PUR (TPE-U)         co	•	100 Q
• of the characteristic impedance at 1 MHz 100       15 %         near-end crosstalk per length       0.5 dB/m         • at 1 MHz 100 MHz       0.5 dB/m         transfer impedance per length / at 10 MHz       100 mΩ/m         loop resistance per length / maximum       120 mΩ/m         operating voltage       80 V         • RMS value       80 V         NVP value in percent       70 %         mechanical data       Overlapped aluminum-clad foil, sheathed in a braided screen of timplated copper wires         type of electrical connection / FastConnect       No         core diameter       0.76 mm         outer diameter       0.76 mm         of the wire insulation       1.5 mm         • of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable       0.2 mm         • of the wire insulation       polyethylene (PE)         • of the wire insulation       PUR (TPE-U)         color       white/yellow/blue/orange         • of cable sheath       green		
MHz         near-end crosstalk per length         • at 1 MHz 100 MHz         transfer impedance per length / at 10 MHz         loop resistance per length / maximum         operating voltage         • RMS value         0 V         NVP value in percent         number of electrical cores         4         design of the shield         Overlapped aluminum-clad foil, sheathed in a braided screen of timplated copper wires         type of electrical connection / FastConnect         No         core diameter         • of AWG22 insulated conductor         of ammetrical tolerance of the outer diameter / of cable sheath         • of cable sheath         • of cable sheath         • of cable sheath         • of the wire insulation         • of the wire insulation         • of the wire insulation         • of cable sheath         • of the wire insulation         • of cable sheath         • of cable	-	15 %
• at 1 MHz     0.5 dB/m       transfer impedance per length / at 10 MHz     100 mΩ/m       loop resistance per length / maximum     120 mΩ/m       operating voltage     80 V       • RMS value     80 V       NVP value in percent     70 %       mechanical data     0verlapped aluminum-clad foll, sheathed in a braided screen of timplated copper wires       type of electrical connection / FastConnect     No       core diameter     0.76 mm       • of AWG22 insulated conductor     0.76 mm       • of the wire insulation     1.5 mm       • of cable sheath     6.5 mm       symmetrical tolerance of the outer diameter / of cable     0.2 mm       • of the wire insulation     polyethylene (PE)       • of the wire insulation     polyethylene (PE)       • of the wire insulation     polyethylene (PE)       • of the insulation of data wires     white/yellow/blue/orange       • of cable sheath     green		
transfer impedance per length / at 10 MHz       100 mΩ/m         loop resistance per length / maximum       120 mΩ/m         operating voltage       80 V         • RMS value       80 V         NVP value in percent       70 %         mechanical data       100 mΩ/m         number of electrical cores       4         design of the shield       Overlapped aluminum-clad foil, sheathed in a braided screen of timplated copper wires         type of electrical connection / FastConnect       No         core diameter       0.76 mm         • of AWG22 insulated conductor       0.76 mm         outer diameter       0.76 mm         • of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable       0.2 mm         material       of the wire insulation         • of the wire insulation       polyethylene (PE)         • of cable sheath       PUR (TPE-U)         color       of the insulation of data wires         • of cable sheath       green	near-end crosstalk per length	
loop resistance per length / maximum       120 mΩ/m         operating voltage       80 V         • RMS value       80 V         NVP value in percent       70 %         mechanical data       70 %         number of electrical cores       4         design of the shield       Overlapped aluminum-clad foil, sheathed in a braided screen of tin-plated copper wires         type of electrical connection / FastConnect       No         core diameter       0.76 mm         • of AWG22 insulated conductor       0.76 mm         outer diameter       0.76 mm         • of the wire insulation       1.5 mm         • of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable       0.2 mm         material       of the wire insulation         • of the wire insulation       polyethylene (PE)         • of cable sheath       PUR (TPE-U)         color       of the insulation of data wires         • of cable sheath       green	• at 1 MHz 100 MHz	0.5 dB/m
operating voltage       80 V         NVP value in percent       70 %         mochanical data       70 %         number of electrical cores       4         design of the shield       Overlapped aluminum-clad foil, sheathed in a braided screen of tin-plated copper wires         type of electrical connection / FastConnect       No         core diameter       0.76 mm         outer diameter       0.76 mm         of the wire insulation       1.5 mm         of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable       0.2 mm         of the wire insulation       polyethylene (PE)         of cable sheath       PUR (TPE-U)         color       of the insulation of data wires         white/yellow/blue/orange       of cable sheath         green       bending radius	transfer impedance per length / at 10 MHz	100 mΩ/m
• RMS value       80 V         NVP value in percent       70 %         mechanical data       70 %         number of electrical cores       4         design of the shield       Overlapped aluminum-clad foil, sheathed in a braided screen of tin-plated copper wires         type of electrical connection / FastConnect       No         core diameter       0.76 mm         • of AWG22 insulated conductor       0.76 mm         outer diameter       0.76 mm         • of the wire insulation       1.5 mm         • of the wire insulation       6.5 mm         symmetrical tolerance of the outer diameter / of cable       0.2 mm         sheath       polyethylene (PE)         • of cable sheath       PUR (TPE-U)         color       of the insulation of data wires         white/yellow/blue/orange       of cable sheath	loop resistance per length / maximum	120 mΩ/m
NVP value in percent       70 %         mechanical data	operating voltage	
mechanical data           number of electrical cores         4           design of the shield         Overlapped aluminum-clad foil, sheathed in a braided screen of tin- plated copper wires           type of electrical connection / FastConnect         No           core diameter         0.76 mm           outer diameter         0.76 mm           of the wire insulation         1.5 mm           of cable sheath         6.5 mm           symmetrical tolerance of the outer diameter / of cable         0.2 mm           of the wire insulation         0.2 mm           sheath         PUR (TPE-U)           color         of the insulation of data wires           white/yellow/blue/orange         of cable sheath	RMS value	80 V
number of electrical cores         4           design of the shield         Overlapped aluminum-clad foil, sheathed in a braided screen of tin- plated copper wires           type of electrical connection / FastConnect         No           core diameter         0.76 mm           outer diameter         0.76 mm           of the wire insulation         1.5 mm           of cable sheath         6.5 mm           symmetrical tolerance of the outer diameter / of cable sheath         0.2 mm           of the wire insulation         9.1 mm           of the wire insulation         0.2 mm           sheath         9.1 mm           of cable sheath         9.2 mm           color         of the wire insulation of data wires           white/yellow/blue/orange         of cable sheath	NVP value in percent	70 %
design of the shield       Overlapped aluminum-clad foil, sheathed in a braided screen of tin- plated copper wires         type of electrical connection / FastConnect       No         core diameter       0.76 mm         outer diameter       0.76 mm         of the wire insulation       1.5 mm         of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable sheath       0.2 mm         material       of the wire insulation         of cable sheath       PUR (TPE-U)         color       of the insulation of data wires         white/yellow/blue/orange       green	mechanical data	
type of electrical connection / FastConnect       No         core diameter	number of electrical cores	4
type of electrical connection / FastConnect       No         core diameter       0.76 mm         outer diameter       0.76 mm         • of inner conductor       0.76 mm         • of the wire insulation       1.5 mm         • of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable sheath       0.2 mm         material       of the wire insulation         • of cable sheath       PUR (TPE-U)         color       white/yellow/blue/orange         • of cable sheath       green	design of the shield	
core diameter       0.76 mm         outer diameter       0.76 mm         o of inner conductor       0.76 mm         • of inner conductor       0.76 mm         • of the wire insulation       1.5 mm         • of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable       0.2 mm         sheath       0.2 mm         material       • of the wire insulation         • of cable sheath       PUR (TPE-U)         color       • of the insulation of data wires         • of cable sheath       white/yellow/blue/orange         • of cable sheath       green	type of electrical connection / FastConnect	
• of AWG22 insulated conductor0.76 mmouter diameter.76 mm• of inner conductor0.76 mm• of the wire insulation1.5 mm• of cable sheath6.5 mmsymmetrical tolerance of the outer diameter / of cable sheath0.2 mmmaterial• of the wire insulationpolyethylene (PE) PUR (TPE-U)color• of the insulation of data wireswhite/yellow/blue/orange• of cable sheathgreen		
outer diameter       0.76 mm         • of inner conductor       0.76 mm         • of the wire insulation       1.5 mm         • of cable sheath       6.5 mm         symmetrical tolerance of the outer diameter / of cable sheath       0.2 mm         material       0.10 mm         • of the wire insulation       polyethylene (PE)         • of cable sheath       PUR (TPE-U)         color       white/yellow/blue/orange         • of cable sheath       green		0.76 mm
• of inner conductor0.76 mm• of the wire insulation1.5 mm• of cable sheath6.5 mmsymmetrical tolerance of the outer diameter / of cable sheath0.2 mmmaterial0.2 mm• of the wire insulationpolyethylene (PE)• of cable sheathPUR (TPE-U)color• of the insulation of data wireswhite/yellow/blue/orange• of cable sheathgreen		
• of the wire insulation1.5 mm• of cable sheath6.5 mmsymmetrical tolerance of the outer diameter / of cable sheath0.2 mmmaterial0.2 mm• of the wire insulationpolyethylene (PE)• of cable sheathPUR (TPE-U)color• of the insulation of data wireswhite/yellow/blue/orange green• of cable sheathgreen		0.76 mm
symmetrical tolerance of the outer diameter / of cable       0.2 mm         material       of the wire insulation         • of the wire insulation       polyethylene (PE)         • of cable sheath       PUR (TPE-U)         color       white/yellow/blue/orange         • of cable sheath       green		
symmetrical tolerance of the outer diameter / of cable       0.2 mm         material       of the wire insulation         • of the wire insulation       polyethylene (PE)         • of cable sheath       PUR (TPE-U)         color       white/yellow/blue/orange         • of cable sheath       green		
material     polyethylene (PE)       • of the wire insulation     PUR (TPE-U)       color     volte insulation of data wires       • of the insulation of data wires     white/yellow/blue/orange       • of cable sheath     green       bending radius     volte	,	0.2 mm
• of the wire insulation     polyethylene (PE)       • of cable sheath     PUR (TPE-U)       color        • of the insulation of data wires     white/yellow/blue/orange       • of cable sheath     green       bending radius		
• of cable sheath     PUR (TPE-U)       color        • of the insulation of data wires     white/yellow/blue/orange       • of cable sheath     green       bending radius		polvethylene (PE)
color     • of the insulation of data wires     white/yellow/blue/orange       • of cable sheath     green       bending radius		
• of the insulation of data wires     white/yellow/blue/orange       • of cable sheath     green       bending radius		
of cable sheath green  bending radius		white/yellow/blue/orange
bending radius		
with single bend / minimum permissible     32.5 mm	-	32.5 mm

with multiple bends / minimum permissible	65 mm
number of bending cycles	Not suitable for garland usage
number of torsion cycles / with torsion by $\pm$ 180° on 1 m	5000000
cable length	
tensile load / maximum	130 N
weight per length	54 kg/km
ambient conditions	
ambient temperature	
<ul> <li>during operation</li> </ul>	-40 +80 °C
<ul> <li>during storage</li> </ul>	-40 +80 °C
<ul> <li>during transport</li> </ul>	-40 +80 °C
<ul> <li>during installation</li> </ul>	-20 +60 °C
• note	Electrical properties measured at 20 °C, tests according to DIN VDE 0472
fire behavior	flame resistant according to IEC 60332-1-2
class of burning behaviour / according to EN 13501-6	Eca
chemical resistance	
<ul> <li>to mineral oil</li> </ul>	oil resistant according to IEC 60811-2-1 (7x24h/90°C)
• to grease	resistant
• to water	resistant
radiological resistance / to UV radiation	resistant
product features, product functions, product components	/ general
product feature	
halogen-free	Yes
<ul> <li>silicon-free</li> </ul>	Yes
wire length / for Industrial Ethernet	
<ul> <li>with 100BaseTX</li> </ul>	75 m
standards, specifications, approvals	
UL/ETL listing / 300 V Rating	Yes; UL Style 21161
UL/ETL style / 600 V Rating	No
certificate of suitability	
EAC approval	Yes
CE marking	Yes
RoHS conformity	Yes
standard for structured cabling	Cat5e
Marine classification association	
<ul> <li>American Bureau of Shipping Europe Ltd. (ABS)</li> </ul>	No
<ul> <li>French marine classification society (BV)</li> </ul>	No
Det Norske Veritas (DNV)	No
Germanische Lloyd (GL)	No
Lloyds Register of Shipping (LRS)	No
Nippon Kaiji Kyokai (NK)	No
Polski Rejestr Statkow (PRS)	No
reference code	
<ul> <li>according to IEC 81346-2</li> </ul>	WG
• according to IEC 81346-2:2019	WGB
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
<ul> <li>to website: Mage database</li> <li>to website: CAx-Download-Manager</li> </ul>	http://www.siemens.com/cax
to website: Industry Online Support	https://support.industry.siemens.com
• to website, industry online oupport	<u>interandeportanduotry.ordificito.com</u>
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