

readycable® bus cable according to AIDA
specification, extension cable socket-pin, axis 1-6
MAT904152121



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1-6

Product description

Introducing the readycable® bus cable, designed for heavy-duty applications with torsion movements. This extension cable features a durable PUR outer jacket that is oil, coolant, and flame retardant, making it perfect for both indoor and outdoor use. Its robust design ensures resistance to UV rays, hydrolysis, and microbes, making it ideal for robots, 3D movements, and lead screw drives. Experience reliability and performance with the readycable® bus cable, tailored to meet AIDA specifications.

Connectors

Connector A	AIDA Profinet - RJ-45 pin
Connector B	AIDA Profinet - RJ-45 pin

General properties

Bus system	Profinet
Number of cores and conductor nominal cross-section	(4x0.34)C
Outer diameter (d) max. mm	7 mm
Weight per km	64 kg/km
Copper index kg/km	32 kg/km

Electricity attributes

Nominal voltage	50V
UL Voltage Rating	30 V
Test voltage	500V
Wave resistance approx.	100 Ω



Properties and approvals

UV resistance	High
Oil resistance	Oil-resistant (according to DIN EN 50363-10-2), Class 3
Flame-retardant	According to IEC 60332-1-2, FT1
Silicone-free	Free from silicone which can affect paint adhesion (according to PV 3.10.7 – status 1992)
UL verified	Certificate no. V293650: "The igus 4-year chainflex cable guarantee and service life calculator based on 2 billion test cycles per year"
UL/CSA AWM	Style 1598 and 20236, 30 V, 80 °C
REACH	In accordance with Regulation (EC) No. 1907/2006 (REACH)
Lead-free	According to 2011/65/EU (RoHS-II/RoHS-III)
Cleanroom	According to ISO Class 1. The outer jacket material of this series complies with CF77.UL.05.12.D - tested by IPA according to standard DIN EN ISO 14644-1
CE	According to 2014/35/EU

Cable structure

Conductor	Stranded conductor in an especially bend-resistant version consisting of bare copper wires (according to DIN EN 60228).
Core insulation	According to bus specification.
 Conductor colours	white, orange, blue, yellow (star quad stranding) black, brown, grey, blue
Core group 1 core structure	(4x0.38)C
Core group 1 colour code	white, orange, blue, yellow (star-quad stranding)
Overall shield	Torsion-resistant, tinned braided copper shield. Cover approx. 80% optical
Outer jacket	Low-adhesion, halogen-free PUR mixture, adapted to suit the requirements in e-chains® (according to DIN EN 50363-10-2).
Outer jacket colour	Steel blue (comparable to RAL 5011)



Dynamic properties

	Min. bend radius, e-chain (factor)	10 x d
	Min. bend radius, e-chain	70 mm
	Min. bend radius, flexible (factor)	8 x d
	Min. bend radius, fixed (factor)	5 x d
	Temperature e-chain®	-25°C up to +70°C
	Temperature, flexible	-40°C to +70°C (according to DIN EN 60811-504)
	Temperature, fixed	-50°C to +70°C (according to DIN EN 50305)
	v max. unsupported (speed)	10 m/s
	travel length	Class 8
	torsion	Torsion ±360°, with 1 m cable length, Class 4



chainflex®Lifetime

Guaranteed service life for this series according to guarantee conditions

Further information: [chainflex® guarantee](#)

Cycles*			5 million	7.5 million	10 million
Temperature,	v max. [°/s]	a max. [°/s²]	Torsion max.	R min. [Factor x d]	R min. [Factor x d]
from/to [°C]	twisted	twisted	[°/m]	[°/m]	[°/m]
-25 / -15			±330	±240	±150
-15 / +60	360	60	±360	±270	±180
+60 / +70			±330	±240	±150

* Higher number of double strokes possible - use the service life calculation function on this page.

Technical note on bus cables

chainflex® bus cables have been specially developed and tested for continuously moving use in e-chains® applications. Depending on the outer jacket material and the design principle, the bus cables are designed for different mechanical requirements and media resistance. The cables have been electrically designed in such a way that, on the one hand, the electrical requirements of the respective bus specification are reliably met and, on the other, that great value is placed on a high degree of EMC reliability. It is also ensured that the electrical values remain stable over the long term in spite of permanent movement. However, the overall quality of transmission in a complete bus communication system is not solely dependent on the cable used. Rather, it requires precise co-ordination of all components (electronic components,

connection technology and cable) as well as observing the maximum transmission levels depending on the respective systems in relation to the required data transmission rates. A cable is therefore not solely responsible for the secure transmission of signals.

igus® advises you when you are designing your bus system to take all these factors into account and, with extensive tests, helps you to ensure the process reliability of your system from the very beginning.

Certificates and standards

