

# TOPSERV® Hybrid

Hybrid cable for SICK Hiperface DSL® motorfeedbacksystems



## Technical data

- **TOPSERV® PUR**
- Special PUR drag chain cable acc. to UL AWM Style 21223 CSA AWM
- **Temperature range**  
flexing -30°C to +80°C  
fixed installation -40°C to +90°C
- **Nominal voltage**  
VDE  
power supply cores U<sub>0</sub>/U 600/1000 V  
control cores U<sub>0</sub>/U 300/500 V  
UL/CSA 1000 V
- **A.c. test voltage**, 50 Hz  
power supply cores 4000 V  
control cores 1000 V
- **Insulation resistance**  
min. 20 MOhm x km
- **Coupling resistance**  
max. 250 Ohm/km
- **Minimum bending radius**  
flexing 7,5x cable Ø  
fixed installation 4x cable Ø  
min. 5 mio. cycles

## Cable structure

- Bare copper conductor, to DIN VDE 0295 cl.6, extra fine wire, IEC 60228 cl.6
- Core insulation halogen-free PP
- Core identification  
**power supply cores**  
core 1: black with imprint U/L1/C/L+  
core 2: black with imprint V/L2  
core 3: black with imprint W/L3/D/L-  
**control cores**  
pair 1: black with number no. 5+6  
pair 2: white and blue
- GN-YE conductor
- Screening of the control cores in pairs wrapped with tinned copper braid
- Power supply cores laid up with optimal lay length and stabilising filler
- Overall screening from tinned copper braid, optimal coverage approx. 85%
- Outer sheath of PVC or PUR
- Sheath colour: orange (RAL 2003) acc. to DESINA®

## Properties

- Low capacitance
- PUR outer sheath: low adhesion, extremely abrasion resistant, halogen-free, resistant to UV-, oil-, hydrolysis and microbial attack
- Optimum compliance with requirements for electromagnetic compatibility (EMC) by approx. 85% coverage from the braided screen
- These cables are produced to high quality specifications and conform to the DESINA® standard.
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

## Tests

- PUR outer sheath self-extinguishing and flame retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

## Note

- The technical data for **TOPSERV® Hybrid PVC** cables are available on request.

## Application

The supply conductors for these cables are ideally combined with the control conductors for the brake function and the transmission of the Sick Hiperface DSL protocols. Applications include machine, plant and robot construction. Please observe applicable installation regulations for use in energy supply chains.

**EMC** = Electromagnetic compatibility

To optimize the EMC features we recommend a large round contact of the copper braiding on both ends.

CE = Product conforms with Low-Voltage Directive 2014/35/EU.

### TOPSERV® Hybrid PVC for fixed or not constantly movements

Part no.	No. cores x cross-sec. mm <sup>2</sup>	Sheath colour	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
709930	(4G0,5 + (2x0,34) + (2x26 AWG))	Orange RAL 2003	9,3	72,0	123,0	26
709931	(4G0,75 + (2x0,34) + (2x26 AWG))	Orange RAL 2003	9,9	88,0	153,0	26
709932	(4G1 + (2x0,75) + (2x22 AWG))	Orange RAL 2003	11,6	130,0	208,0	22
709933	(4G1,5 + (2x0,75) + (2x22 AWG))	Orange RAL 2003	12,2	152,0	248,0	22
709934	(4G2,5 + (2x1) + (2x22 AWG))	Orange RAL 2003	13,8	207,0	326,0	22
709935	(4G4 + (2x1) + (2x22 AWG))	Orange RAL 2003	15,3	273,0	415,0	22
709936	(4G6 + (2x1) + (2x22 AWG))	Orange RAL 2003	17,2	357,0	538,0	22
709937	(4G10 + (2x1,5) + (2x22 AWG))	Orange RAL 2003	20,3	530,0	752,0	22
709938	(4G16 + (2x1,5) + (2x22 AWG))	Orange RAL 2003	22,6	768,0	1005,0	22

### TOPSERV® Hybrid PUR, high flexible for drag chain

Part no.	No. cores x cross-sec. mm <sup>2</sup>	Sheath colour	Outer Ø app. mm	Cop. weight kg / km	Weight app. kg / km	AWG-No.
709703	(4G0,5 + (2x0,34) + (2x26 AWG))	Orange RAL 2003	9,3	76,0	127,0	26
709704	(4G0,75 + (2x0,34) + (2x26 AWG))	Orange RAL 2003	9,9	88,0	153,0	26
708543	(4G1 + (2x0,75) + (2x22 AWG))	Orange RAL 2003	11,6	133,0	212,0	22
710081	(4G1,5 + (2x0,75) + (2x24 AWG))	Orange RAL 2003	11,7	146,0	229,0	24
708544	(4G1,5 + (2x0,75) + (2x22 AWG))	Orange RAL 2003	12,7	155,0	269,0	22
708545	(4G2,5 + (2x1) + (2x22 AWG))	Orange RAL 2003	13,9	205,0	310,0	22
708546	(4G4 + (2x1) + (2x22 AWG))	Orange RAL 2003	15,7	280,0	420,0	22
708547	(4G6 + (2x1) + (2x22 AWG))	Orange RAL 2003	18,0	363,0	540,0	22
708548	(4G10 + (2x1,5) + (2x22 AWG))	Orange RAL 2003	21,0	538,0	760,0	22
709705	(4G16 + (2x1,5) + (2x22 AWG))	Orange RAL 2003	23,4	775,0	1020,0	22

Dimensions and specifications may be changed without prior notice.

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