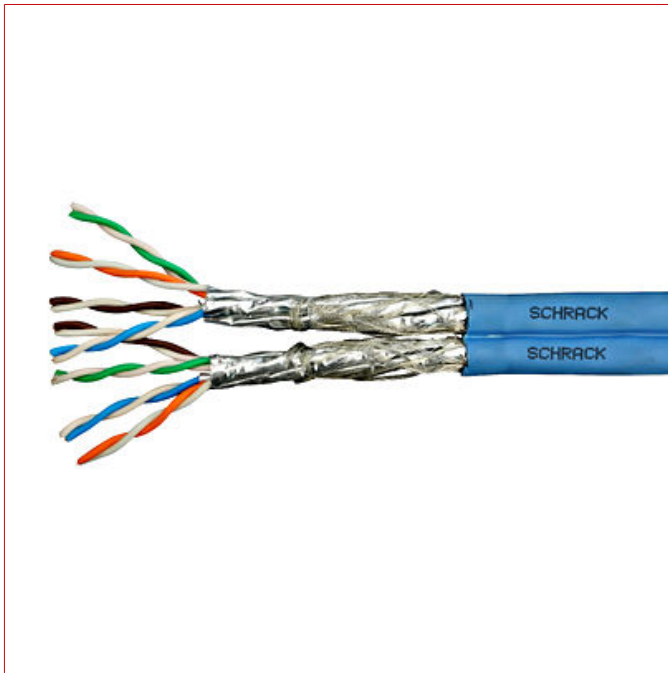


Data Sheet for Article: HSKP822HB9

# S/FTP Cable Cat.7a, 2x(4x2xAWG22/1) 1.250MHz LS0H-3 Cca 50%

blue RAL5015, Sale per meter



## SCHRACK-Info

Installationcables for generic, structured network cabling systems. Support all applications requiring Class D to Class F<sub>A</sub> (e.g. 10GBase-T, 1000Base-T, 100Base-TX, ATM) as well as VoIP, 4PPoE.

Supports 25Gbase-T (ISO/IEC TR 11801-9905).

Due to the cable construction and the high braid coverage of 50%, the cable reaches the coupling attenuation (Type I) of  $\geq 85$  dB.



## Technical Data

|                    |                                                                                              |
|--------------------|----------------------------------------------------------------------------------------------|
| Category           | Cat.7 <sub>A</sub>                                                                           |
| Cable shielding    | S/FTP                                                                                        |
| Conductor material | Solid bare copper AWG22/1 (0.64mm)                                                           |
| Color code pairs   | Pair 1 White / Blue<br>Pair 2 White / Orange<br>Pair 3 White / Green<br>Pair 4 White / Brown |
| Number of pairs    | 2 x 4, all twisted together                                                                  |

## Technical Data - continued

|                                                                                  |                                                                                                                           |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Insulation material                                                              | Foamed polyethylene                                                                                                       |
| Nominal diameter over insulation (mm)                                            | 1,54                                                                                                                      |
| Shielding                                                                        | shielded                                                                                                                  |
| Pair-Foil                                                                        | Laminated aluminium polyester, Aluminium facing outside (PiMF)                                                            |
| Overall Shield                                                                   | Solid tinned copper                                                                                                       |
| Braid coverage (%)                                                               | 50                                                                                                                        |
| Ripcord                                                                          | Nylon                                                                                                                     |
| Cable jacket                                                                     | LS0H-3                                                                                                                    |
| Jacket                                                                           | LS0H-3, FRNC according to:<br>IEC 61034-1/2, EN 50268-1/2<br>IEC 60754-1/2, EN 50267-1/2<br>IEC 60332-3-24, EN 60332-3-24 |
| Euroclass acc. to EN50575                                                        | Cca                                                                                                                       |
| Smoke production                                                                 | s1                                                                                                                        |
| Droplets                                                                         | d1                                                                                                                        |
| Acidity                                                                          | a1                                                                                                                        |
| Burning load (kJ/m)                                                              | 1400                                                                                                                      |
| Outside diameter (mm)                                                            | 17,10                                                                                                                     |
| Weight nominal (kg/km)                                                           | 130                                                                                                                       |
| Sheath colour                                                                    | blue, RAL 5015                                                                                                            |
| Colour                                                                           | Blue                                                                                                                      |
| Temperature range - Operation (°C)                                               | -30 to +60                                                                                                                |
| Temperature range - Transport/storage (°C)                                       | -30 to +60                                                                                                                |
| Temperature range - Installation (°C)                                            | +0 to +50                                                                                                                 |
| Bending radii cable - Operation (longterm) (Ø)                                   | 4                                                                                                                         |
| Bending radii cable - Installation (shortterm) (Ø)                               | 8                                                                                                                         |
| Max. pulling tension (N)                                                         | 220                                                                                                                       |
| Rated voltage                                                                    | ≤72V DC and ≤50V AC                                                                                                       |
| Max. continuous current per conductor (25°C) (A)                                 | 1,5                                                                                                                       |
| DC resistance at 20° C (Ohm/100m)                                                | ≤9,5                                                                                                                      |
| Resistance unbalance: within a pair / between pairs (%)                          | ≤2 / ≤4                                                                                                                   |
| D.C. insulation resistance: conductor – conductor and conductor – screen (MΩ*km) | ≥ 5000                                                                                                                    |
| Dielectric strength conductor – conductor (2 sec) (kV DC)                        | 2,5                                                                                                                       |
| Dielectric strength conductor – screen (2 sec) (kV DC)                           | 2,5                                                                                                                       |
| Mutual capacitance (nF/km)                                                       | ≤56                                                                                                                       |
| Capacitance unbalance pair to ground (pF/km)                                     | ≤1600                                                                                                                     |
| SKEW (ns/100m)                                                                   | ≤ 25                                                                                                                      |
| NVP (%)                                                                          | 73                                                                                                                        |
| IEEE Compliance                                                                  | PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4                                                                          |
| Length/Put-ups                                                                   | 100m                                                                                                                      |

## REFERENCE STANDARD AT 20°C: IEC 61156-5

| Frequency   | 1*   | 4    | 10   | 16   | 30   | 62,5 | 100  | 155  | 250  | 500  | 600  | 1000 | 1250* | MHz     |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|-------|---------|
| Attenuation | 2,1  | 3,7  | 5,8  | 7,3  | 10,3 | 14,6 | 18,5 | 23,2 | 29,7 | 42,8 | 47,1 | 61,9 | 69,94 | dB/100m |
| NEXT        | 78   | 78   | 78   | 78   | 78   | 78   | 76   | 73,1 | 70   | 65,5 | 64,3 | 61   | 59,5  | dB/100m |
| PS NEXT     | 75   | 75   | 75   | 75   | 75   | 75   | 73   | 70,1 | 67   | 62,5 | 61,3 | 58   | 56,5  | dB/100m |
| ACR-N       | 75,9 | 74,3 | 72,2 | 70,7 | 67,7 | 63,4 | 57,5 | 49,9 | 40,3 | 22,7 | 17,2 | -0,9 | -10,4 | dB/100m |
| PS ACR-N    | 72,9 | 71,3 | 69,2 | 67,7 | 64,7 | 60,4 | 54,5 | 46,9 | 37,3 | 19,7 | 14,2 | -3,9 | -13,4 | dB/100m |
| ACR-F       | 78   | 78   | 75,3 | 71,2 | 65,4 | 59,4 | 55,3 | 51,5 | 47,3 | 41,3 | 39,7 | 35,3 | 33,4  | dB/100m |
| PS ACR-F    | 75   | 75   | 72,3 | 68,2 | 62,4 | 56,4 | 52,3 | 48,5 | 44,3 | 38,3 | 36,7 | 32,3 | 30,4  | dB/100m |
| RL          | 20   | 23   | 25   | 25   | 23,6 | 21,5 | 20,1 | 18,8 | 17,3 | 17,3 | 17,3 | 15,1 | 14,1  | dB/100m |

\* Limits below 4 MHz and values at 1250 MHz are for information only.

## ELECTRICAL CHARACTERISTICS AT 20°C ACCORDING TO IEC 61156-5

|                                                     | Freq. (MHz)    | Specification                    | Unit     |
|-----------------------------------------------------|----------------|----------------------------------|----------|
| NVP (Nominal velocity of propagation)               | 4 – 1000       | 0.73                             | c        |
| Skew                                                | 4 – 1000       | ≤ 25                             | ns/ 100m |
| Propagation delay                                   | 4 – 1000       | ≤ 534 + 36/Vf                    | ns/ 100m |
| Attenuation                                         | 5 – 1000       | ≤ 1.8 * Vf + 0.005 * f + 0.25/Vf | dB       |
| TCL, level 1 (Transverse conversion loss)           | 1 – 250        | > 40 – 10 * log (f)              | dB       |
| ELTCL (Equal level transverse conversion loss)      | 1 – 30         | > 35 – 20 * log (f)              | dB       |
| NEXT (Near end cross talk)                          | 4 – 1000       | ≥ 106-15 * log (f) (78 max.)     | dB       |
| PS NEXT (Power sum near end cross talk)             | 4 – 1000       | ≥ 103-15 * log (f) (75 max.)     | dB       |
| ACR-N (Attenuation cross talk ratio)                | 4 – 1000       | NEXT – Dämpfung                  | dB       |
| PS ACR-N (Power sum attenuation cross talk ratio)   | 4 – 1000       | PSNEXT – Dämpfung                | dB       |
| ACR-F (Equal level far end cross talk)              | 4 – 1000       | ≥ 95.3-20 * log (f) (78 max.)    | dB       |
| PS ACR-F (Power sum equal level far end cross talk) | 4 – 1000       | ≥ 92.3-20 * log (f) (75 max.)    | dB       |
| PS ANEXT (Power sum alien near end cross talk)      | 4 – 1000       | ≥ 107.5-15 * log (f) (67 min.)   | dB       |
| PS AACR-F (Power sum alien far end cross talk)      | 4 – 1000       | ≥ 92.3-20 * log (f) (67 min.)    | dB       |
| Input impedance open / short (Zo/s)                 | 4 – 1000       | 100                              | Ω        |
| RL (Return loss)                                    | 4 ≤ f ≤ 10     | ≥ 20 + 5 * log (f)               | dB       |
|                                                     | 10 ≤ f ≤ 20    | ≥ 25                             | dB       |
|                                                     | 20 ≤ f ≤ 600   | ≥ 25-7 * log (f/20) (17.3 min.)  | dB       |
|                                                     | 600 ≤ f ≤ 1000 | ≥ 17.3-10 * log (f/600)          | dB       |
| Coupling attenuation (type I)                       | 30 – 100       | ≥ 85                             | dB       |
|                                                     | 100 – 1000     | ≥ 85-20 * log (f/100)            | dB       |
| Transfer impedance (ZI, grade 1)                    | 1              | < 10                             | mΩ/m     |
|                                                     | 10             | < 10                             | mΩ/m     |
|                                                     | 30             | < 30                             | mΩ/m     |
|                                                     | 100            | < 100                            | mΩ/m     |

## TYPICAL VALUES AT 20°C

| Frequency   | 1*  | 4   | 10  | 16  | 30  | 62,5 | 100  | 155  | 250 | 500  | 600  | 1000 | 1250* | MHz     |
|-------------|-----|-----|-----|-----|-----|------|------|------|-----|------|------|------|-------|---------|
| Attenuation | 1,8 | 3,3 | 5,3 | 6,7 | 9,3 | 13,4 | 17,1 | 20,9 | 27  | 39,4 | 43,3 | 57,7 | 65,4  | dB/100m |
| NEXT        | 103 | 100 | 98  | 97  | 95  | 94   | 93   | 92   | 91  | 90   | 89   | 88   | 87    | dB/100m |
| PS NEXT     | 100 | 97  | 95  | 94  | 92  | 91   | 90   | 89   | 88  | 87   | 86   | 85   | 84    | dB/100m |
| ACR-N       | 101 | 97  | 93  | 91  | 85  | 81   | 76   | 71   | 64  | 51   | 46   | 30   | 21    | dB/100m |
| PS ACR-N    | 98  | 94  | 90  | 88  | 82  | 78   | 73   | 68   | 61  | 48   | 43   | 27   | 18    | dB/100m |
| ACR-F       | 95  | 94  | 93  | 91  | 90  | 87   | 85   | 82   | 71  | 65   | 60   | 50   | 45    | dB/100m |
| PS ACR-F    | 92  | 91  | 90  | 88  | 87  | 84   | 82   | 79   | 68  | 62   | 57   | 47   | 42    | dB/100m |
| RL          | 27  | 30  | 32  | 32  | 35  | 33   | 32   | 31   | 27  | 23   | 23   | 19   | 18    | dB/100m |

\* Limits below 4 MHz and values at 1250 MHz are for information only.

## Article Table

| DESCRIPTION                                                                                         | NVP (%) | COPPER WEIGHT (kg/km) | Order No.  |
|-----------------------------------------------------------------------------------------------------|---------|-----------------------|------------|
| S/FTP Cable Cat.7a, 2x(4x2xAWG22/1) 1.250MHz LS0H-3 Cca 50%<br>blue RAL5015, Sale per meter         | 73      | 70                    | HSPK822HB9 |
| <b>Optional Accessories</b>                                                                         |         |                       |            |
| S-JACK Module RJ45 shielded, Cat.6a 10GB, 24 pieces box<br>4PPoE 100W, SFB                          |         |                       | HSEMRJ6GS2 |
| S-JACK Module RJ45 shielded, Cat.6a 10GB, Single Pack<br>4PPoE 100W, SFB                            |         |                       | HSEMRJ6GS1 |
| TOOLLESS LINE Jack RJ45 shielded, Cat.6a 10GB 4PPoE 100W<br>(SFA)                                   |         |                       | HSEMRJ6GWA |
| TOOLLESS LINE Jack RJ45 shielded, Cat.6a 10GB, 24 pieces box<br>4PPoE 100W, (SFB), Type: HSEMRJ6GBA |         |                       | HSEMRJ6GB2 |
| TOOLLESS LINE Jack RJ45 shielded, Cat.6a 10GB 4PPoE 100W<br>(SFB)                                   |         |                       | HSEMRJ6GBA |
| Cable dispenser for 250kg Load for drums up to 52cm width                                           |         |                       | HTOOL00006 |
| Back to back cable tie blue 16mm x 4m                                                               |         |                       | Q7KB0416-B |
| Back to back cable tie red 16mm x 4m                                                                |         |                       | Q7KB0416-R |
| Back to back cable tie black 16mm x 4m                                                              |         |                       | Q7KB0416-S |
| Back to back cable tie yellow 16mm x 4m                                                             |         |                       | Q7KB0416-Y |
| Back to back cable tie green 16mm x 4m                                                              |         |                       | Q7KB0416-U |