

**1 Application**

For used in control systems for analogue or digital signal transmission. suitable for outdoor use at temperature range from -52°C to +80°C.

**2 Standard & specification**

Cable design comply with EN 50288-7, IEC 60228, GOST 22483-2012, IEC 60332-3-22, IEC 61034, IEC 60754-2

**3 Design**

**3.1 Conductor**

Plain annealed stranded circular copper conductor in accordance with IEC 60228 Class 2

**3.2 Insulation**

Extruded XLPE compound comply with EN 50288-7

Core identification(single):

Pair: White, Black

Triple: White, Black, Red

**3.3 Twisted core**

To form a pair/ triple, the insulated conductors twisted together

Lay length for pair / triple:

≤70mm for 1mm<sup>2</sup>; ≤100mm for 1.5mm<sup>2</sup>; ≤150mm for 2.5mm<sup>2</sup>;

**3.4 Assembly and filler(optional)**

The interstices between cores filled with non-hygroscopic polypropylene rope to form substantially circular shape with a suitable binder tape

**3.5 Collective screen**

Aluminum-polyester tape shield applied on assembly core, the metallic side down in electrical contact with a drain wire (0.5mm<sup>2</sup>)

**3.6 Inner sheath**

Extruded LSZH compound comply with EN 50288-7

Color: Black

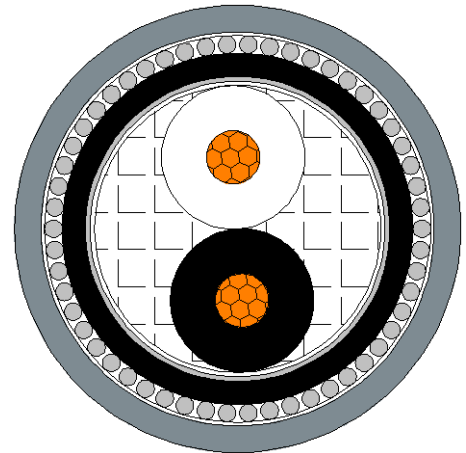
**3.7 Metal amour**

A layer of galvanize steel wires with suitable binder tape helically applied on the inner sheath

**3.8 Outer sheath**

Extruded LSZH compound comply with EN 50288-7

Color: Grey (Non-intrinsically safe)



Cable Drawing for Reference



Conductor flexibility  
Class 2



Lead free



Rated Voltage  
Uo/U  
300/500V



Max. conductor temp.in service  
90°C



Flame retardant  
IEC 60332-3-22



Smoke density  
IEC 61034



Halogen free  
IEC 60754-2

Light Blue (Intrinsically safe)  
Orange (Telecom)

**4 Cable marking-Inkjet**

For example:

EAC YANGER® IEC 60332-3-22 CU/XLPE/OS/LSZH/SWA/LSZH 1Pair×1.5 SQMM 300/500V H Γ (A) - HF Project  
Cable Code -52° C~+40° C 2020 \*\*\*\*M

Note: “\*\*\*\*M” meter marking by inkjet with increased sequence with numbering  
“H Γ (A) - HF” at least every 1 metre appear on the cable

**5 Operation condition**

|  |   |
|--|---|
| Rated voltage, U <sub>0</sub> /U, V                  | 300/500   |
| Rated, operating temperature range, °C               | -52~+80   |
| Min. installation temperature without preheating, °C | -30   |
| Max. conductor temperature in service, °C            | 90  |
| Max. permissible short-circuit temperature,5 sec, °C | 250   |
| Min. bending radius, D overall diameter of cable     | 15D   |
| Flame retardant                                      | IEC 60332-3-22                                    |
| Halogen Gas Emission                                 | IEC 60754-1, < 0.5%                               |
| Low Smoke Emission                                   | IEC 61034-1/2                                     |
| UV resistant   | UL 1581   |
| Oil resistant  | IEC60811(IRM 902 - 4h at 70°C,<br>variation ±40%) |
| Oxygen Index (Sheath)                                | ASTM D 2863                                       |
| Cold bend  | IEC 60811-1-4, -52°C                              |
| Cold impact  | IEC 60811-1-4 & CSA C22.2 No.38-<br>10, -52°C     |
| Chemical resistance                                  | Accidental  |



Conductor flexibility  
Class 2



Lead free



Rated Voltage  
U<sub>0</sub>/U  
300/500V



Max. conductor temp.in service  
90°C



Flame retardant  
IEC 60332-3-22



Smoke density  
IEC 61034



Halogen free  
IEC 60754-2

**YANGER®**

300/500V  
CU/XLPE/OS/LSZH/SWA/LSZH  
Instrument Cable

Page 3 of 3

CABLE TYPE: 300/500V CU/XLPE/OS/LSZH/SWA/LSZH

| No. | Project Cable Code | no. of pairs or triples x cross section | Insulation  |             | Inner Sheath | Under armour Dia. (+/- 10%) | Steel wire | Outer Sheath | Overall Dia. (+/- 10%) | Approx. Weight | DC Resistance at 20°C | AC Resistance at 90°C (50Hz) | Test Voltage | Insulation resistance | Max. mutual capacitance | Max. Capacitance between conductor and shield | Max. L/R ratio | Current Rating |           | Max. allowable Pulling tension | Insulation Core Color | Outer Sheath Color |
|-----|--------------------|---|-------------|-------------|--------------|-----------------------------|------------|--------------|------------------------|----------------|-----------------------|------------------------------|--------------|-----------------------|-------------------------|---|----------------|----------------|-----------|--------------------------------|-----------------------|--------------------|
|     |                    |   | Nom. Thick. | Min. Thick. |              |                             |            |              |                        |                |                       |                              |              |                       |                         |   |                | Nom. Thick.    | Nom. Dia. |                                |                       |                    |
|     |                    | mm <sup>2</sup>                         | mm          | mm          | mm           | mm                          | mm         | mm           | kg/km                  | Ω/km           | Ω/km                  | V                            | MΩ·100m      | pF/m                  | pF/m                    | μH/Ω  | A              | A              | KN        |                                |                       |                    |
| 1   | 01IP-S10-IFHNW     | 1x2x1                                   | 0.6         | 0.44        | 0.9          | 7.0                         | 0.9        | 1.3          | 12.0                   | 275            | 18.1                  | 23.2                         | 2000         | 10000                 | 150                     | 300   | 25             | 14             | 12        | 0.1                            | White, Black          | Grey               |
| 2   | 01IP-S15-IFHNW     | 1x2x1.5                                 | 0.6         | 0.44        | 0.9          | 7.5                         | 0.9        | 1.3          | 12.5                   | 298            | 12.1                  | 15.5                         | 2000         | 10000                 | 150                     | 300   | 40             | 21             | 18        | 0.2                            | White, Black          | Grey               |
| 3   | 01IP-S25-IFHNW     | 1x2x2.5                                 | 0.7         | 0.53        | 0.9          | 8.8                         | 0.9        | 1.4          | 14.0                   | 365            | 7.41                  | 9.48                         | 2000         | 10000                 | 150                     | 300   | 60             | 34             | 29        | 0.3                            | White, Black          | Grey               |
| 4   | 01IT-S10-IFHNW     | 1x3x1                                   | 0.6         | 0.44        | 0.9          | 7.4                         | 0.9        | 1.3          | 12.4                   | 297            | 18.1                  | 23.2                         | 2000         | 10000                 | 150                     | 300   | 25             | 14             | 12        | 0.2                            | White, Black, Red     | Grey               |
| 5   | 01IT-S15-IFHNW     | 1x3x1.5                                 | 0.6         | 0.44        | 0.9          | 8.0                         | 0.9        | 1.4          | 13.2                   | 336            | 12.1                  | 15.5                         | 2000         | 10000                 | 150                     | 300   | 40             | 21             | 18        | 0.3                            | White, Black, Red     | Grey               |
| 6   | 01IT-S25-IFHNW     | 1x3x2.5                                 | 0.7         | 0.53        | 1.0          | 9.5                         | 0.9        | 1.4          | 14.7                   | 418            | 7.41                  | 9.48                         | 2000         | 10000                 | 150                     | 300   | 60             | 34             | 29        | 0.5                            | White, Black, Red     | Grey               |