

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 60331, IEC 61034, IEC 60754-2, GOST 31565-2012

3 Design

3.1 Conductor

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

3.2 Fire proof layer

Mica Glass tape overlapped around the conductor

3.3 Insulation

Extruded XLPE compound comply with EN 50288-7

Core identification*(Multi-):

Pair: White, Black

Triple: White, Black, Red

*each pair/triple is printed with number

Lay length for pair / triple:

≤70mm for 1mm²; ≤100mm for 1.5mm²; ≤150mm for 2.5mm²;

3.4 Individual screen

Aluminum-polyester tape shield with a binder tape applied on Each pair/triple, the metallic side down in electrical contact with a drain wire (0.5mm²)

3.5 Assembly and filler(optional)

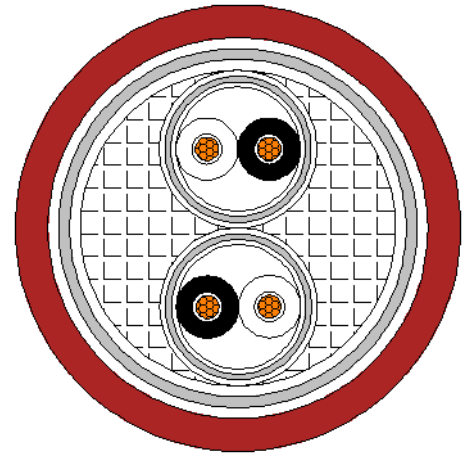
The interstices between cores filled with non-hygroscopic polypropylene rope to form substantially circular shape with a suitable binder tape

3.6 Collective screen

Aluminum-polyester tape shield applied on assembly core, the metallic side down in electrical contact with a drain wire (0.5mm²)

3.7 Binder Tape

Non-hygroscopic tape wrapped around the collective screen



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

3.8 Outer sheath

Extruded LSZH compound comply with EN 50288-7

Color: Red (Non-intrinsically safe)

Red with a blue strip (Intrinsically safe)

Orange (Telecom)

4 Cable marking-Inkjet

For example:

EAC YANGER® IEC 60331 CU/MGT/XLPE/IS/OS/LSZH 2Pair×1 SQMM 300/500V H Γ (A) - FRHF Project Cable
Code -52° C~+40° C 2020 ****M

Note: “****M” meter marking by inkjet with increased sequence with numbering

“H Γ (A) - FRHF” at least every 1 metre appear on the cable

5 Operation condition

Rated voltage, U ₀ /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
Fire resistant	IEC60331(2 h)
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, 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- 10, -52°C
Chemical resistance	Accidental



Conductor flexibility
Class 2



Lead free



Rated Voltage
U₀/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

CABLE TYPE: 300/500V CU/MGT/XLPE/IS/OS/LSZH

No.	Project Cable Code	no. of pairs or triples x cross section	Insulation		Outer Sheath	Overall Dia. (+/-10%)	Approx. Weight	DC Resistance at 20°C	AC Resistance at 90°C (50Hz)	Test Voltage		Screen isolation 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.	1 min						1 min	in air at 30°C			
			mm	mm	mm					V	V						MΩ·100m	pF/m			
1	02IP-S10-BSHN-X	2x2x1.0	0.6	0.44	1.0	15.0	214	18.1	23.2	2000	500	10000	150	300	25	14	12	0.3	White, Black	Red	
2	02IP-S15-BSHN-X	2x2x1.5	0.6	0.44	1.1	16.1	254	12.1	15.5	2000	500	10000	150	300	40	21	18	0.4	White, Black	Red	
3	02IP-S25-BSHN-X	2x2x2.5	0.7	0.53	1.2	18.6	339	7.41	9.48	2000	500	10000	150	300	60	34	29	0.7	White, Black	Red	
4	02IT-S10-BSHN-X	2x3x1.0	0.6	0.44	1.1	16.8	282	18.1	23.2	2000	500	10000	150	300	25	14	12	0.4	White, Black, Red	Red	
5	02IT-S15-BSHN-X	2x3x1.5	0.6	0.44	1.1	17.8	329	12.1	15.5	2000	500	10000	150	300	40	21	18	0.6	White, Black, Red	Red	
6	03IP-S10-BSHN-X	3x2x1.0	0.6	0.44	1.1	16.1	259	18.1	23.2	2000	500	10000	150	300	25	14	12	0.4	White, Black	Red	
7	03IP-S15-BSHN-X	3x2x1.5	0.6	0.44	1.1	17.1	303	12.1	15.5	2000	500	10000	150	300	40	21	18	0.6	White, Black	Red	
8	03IP-S25-BSHN-X	3x2x2.5	0.7	0.53	1.2	19.8	409	7.41	9.48	2000	500	10000	150	300	60	34	29	1.0	White, Black	Red	
9	03IT-S10-BSHN-X	3x3x1.0	0.6	0.44	1.1	17.8	338	18.1	23.2	2000	500	10000	150	300	25	14	12	0.6	White, Black, Red	Red	
10	03IT-S15-BSHN-X	3x3x1.5	0.6	0.44	1.2	19.2	411	12.1	15.5	2000	500	10000	150	300	40	21	18	0.9	White, Black, Red	Red	
11	03IT-S25-BSHN-X	3x3x2.5	0.7	0.53	1.3	22.2	561	7.41	9.48	2000	500	10000	150	300	60	34	29	1.5	White, Black, Red	Red	
12	04IP-S10-BSHN-X	4x2x1.0	0.6	0.44	1.1	17.6	312	18.1	23.2	2000	500	10000	150	300	25	14	12	0.5	White, Black	Red	
13	04IP-S15-BSHN-X	4x2x1.5	0.6	0.44	1.1	18.7	368	12.1	15.5	2000	500	10000	150	300	40	21	18	0.8	White, Black	Red	
14	04IP-S25-BSHN-X	4x2x2.5	0.7	0.53	1.2	21.7	500	7.41	9.48	2000	500	10000	150	300	60	34	29	1.4	White, Black	Red	
15	04IT-S10-BSHN-X	4x3x1.0	0.6	0.44	1.1	19.5	413	18.1	23.2	2000	500	10000	150	300	25	14	12	0.8	White, Black, Red	Red	
16	08IP-S10-BSHN-X	8x2x1.0	0.6	0.44	1.3	23.9	568	18.1	23.2	2000	500	10000	150	300	25	14	12	1.1	White, Black	Red	
17	08IP-S15-BSHN-X	8x2x1.5	0.6	0.44	1.3	25.6	680	12.1	15.5	2000	500	10000	150	300	40	21	18	1.6	White, Black	Red	
18	08IP-S25-BSHN-X	8x2x2.5	0.7	0.53	1.5	29.9	941	7.41	9.48	2000	500	10000	150	300	60	34	29	2.7	White, Black	Red	
19	16IP-S15-BSHN-X	16x2x1.5	0.6	0.44	1.5	33.8	1213	12.1	15.5	2000	500	10000	150	300	40	21	18	3.3	White, Black	Red	
20	16IP-S25-BSHN-X	16x2x2.5	0.7	0.53	1.7	39.6	1693	7.41	9.48	2000	500	10000	150	300	60	34	29	5.4	White, Black	Red	
21	02TP-S10-BSHN-X	2x2x1.0	0.6	0.44	1.0	15.0	214	18.1	23.2	2000	500	10000	150	300	25	14	12	0.3	White, Black	Orange	