

ramcro

special cables



**BMS CONTROL
CABLES**



Ramcro was founded in 1979, as a family Company producing Special Cables. Family Croci owns 100% of Ramcro S.p.a.. In over 42 years Ramcro successfully expanded its presence in different countries and in a few different but important segments: Oil & Gas, Fire, Railway Signal & Control, BMS, and Optical Cables.

Ramcro production capacity is 4.000 Km/Month and 50.000 Km/Year. Production dpt is 18.000 sqm, of which 3.000 sqm on stock, allowing outstanding very high flexibility in delivery, with also 1.300 sqm of offices and 750 sqm for Laboratory.

Ramcro Laboratory provides any certificates of tests run following major international specifications and it is ready to be certified ISO 17025. It is also recognized by the international body as a "Third part Laboratory". Ramcro solves any kind of technical issue in the area of the cable, assuring the Client's satisfaction thanks to high quality and personalized solutions, improving the Client's efficiency and optimizing its processes. Ramcro offers extremely flexible solutions and a complete range of services, even tailor-made, based on outstanding worldwide experience

ramcro
special cables

ABOUT COMPANY



ramcro
special cables

www.ramcro.it

A hand in a white glove holds a white cable against a background of a cityscape. The hand is positioned in the foreground, holding the cable. The cityscape is visible through the hand and the cable, showing various buildings and skyscrapers. The overall image has a futuristic and industrial feel.

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BMS AND COMMUNICATION CABLES

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INTRODUCTION

All PVC, LSZH(FRNC) and LSF sheathed multi-conductor cables are suitable for Building Management Systems (BMS), Sound, Audio, Security, Safety, Control and Instrumentation.

Where is needed to provide the solutions for the exchange and storage of information to keep businesses efficient, on top and performing, these include heating, ventilation, air conditioning as well as lighting, security systems and the operation of electric/electronic appliances.

These type of cable are suitable for a lot of installations:

- Industrial Use
- CCTV intrusion and access
- CATV Systems
- Audio and Video Systems
- Residential



AUDIO, CONTROL & INSTRUMENTATION

MULTI-CONDUCTOR CABLE



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special cables

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MULTI-CONDUCTOR CABLE

Unscreened multi-conductor cable with a PVC sheath are suitable for Building Management Systems (BMS), Sound, Audio, Security, Safety, Control and Instrumentation



CONSTRUCTION

Formation:

Plain annealed copper wire, Stranded

Insulation:

Polyolefine - PO

Cable twisting:

Two or more wire twisted

Outer Sheath:

Polyvinyl chloride - PVC

Colour Outer Sheath:

Grey

IDENTIFICATION OF CORES

2 Core: ● ●
3 Core: ● ● ○
4 Core: ● ● ○ ●
5 Core: ● ● ○ ● ●
6 Core: ● ● ○ ● ● ●
7 Core: ● ● ○ ● ● ● ●
8 Core: ● ● ○ ● ● ● ● ●

CABLE PRINTING

RAMCRO ITALY - R_____ - AUDIO CONTROL & INSTRUMENTATION
CABLE 2C 22AWG
UNSCREENED PVC 300 V 75 C IEC 60332-1/UL 1581 - RAMCRO
CODE - "PROD.WEEK/YEAR" - MADE IN ITALY + BATCH + METER
MARKING

ELECTRICAL DATA

Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

-5° C up to +50° C



CHARACTERISTICS

**Building Management
Systems Cable**



Min. Bending Radius

8 x cable diameter



Put up length 305 mt



MULTI-CONDUCTOR CABLE

PVC sheathed, unshielded cables with 22AWG to 12AWG conductors

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SSS0207HBAXH-RB	R1227	2x22AWG	3.1	13	56.7	40.0
SSS0307HBAXX-RB	R1278	3x22AWG	3.3	17	56.7	35.0
SSS0407HBAXX-RB	R1231	4x22AWG	3.6	22	56.7	45.0
SSS0607HBAXX-RB	R1265	6x22AWG	4.2	30	56.7	45.0
SSS0807HBAXX-RB	R1233	8x22AWG	4.6	38	56.7	45.0
SSS0206HBAXH-RB	R1020	2x20AWG	3.5	18	37.2	46.0
SSS0306HBAXX-RB	R1022	3x20AWG	3.7	24	37.2	47.0
SSS0406HBAXX-RB	R1024	4x20AWG	4.0	30	37.2	47.0
SSS0606HBAXX-RB	R1261	6x20AWG	4.8	42	37.2	45.0
SSS0806HBAXX-RB	R1263	8x20AWG	5.3	54	37.2	45.0
SSS0205HBAXH-RB	R1014	2x18AWG	3.9	24	22.9	52.0
SSS0305HBAXX-RB	R1016	3x18AWG	4.1	33	22.9	55.0
SSS0405HBAXX-RB	R1018	4x18AWG	4.5	42	22.9	45.0
SSS0505HBAXX-RB	R1054	5x18AWG	4.8	61	22.9	45.0
SSS0605HBAXX-RB	R1212	6x18AWG	5.4	61	22.9	50.0
SSS0705HBAXX-RB	R1239	7x18AWG	5.8	80	22.9	50.0
SSS0805HBAXX-RB	R1259	8x18AWG	6.0	78	22.9	50.0
SSS0203HBAXH-RB	R1008	2x16AWG	4.6	34	15.5	53.0
SSS0303HBAXX-RB	R1010	3x16AWG	4.9	46	15.5	56.0
SSS0403HBAXX-RB	R1012	4x16AWG	5.4	59	15.5	55.0
SSS0603HBAXX-RB	R1253	6x16AWG	6.5	85	15.5	48.0
SSS0803HBAXX-RB	R1255	8x16AWG	7.1	111	15.5	45.0
SSS0201HBAXH-RB	R1002	2x14AWG	5.5	51	9.3	51.0
SSS0301HBAXX-RB	R1004	3x14AWG	5.9	72	9.3	55.0
SSS0401HBAXX-RB	R1006	4x14AWG	6.5	93	9.3	55.0
SSS0601HBAXX-RB	R1249	6x14AWG	7.8	135	9.3	50.0
SSS0801HBAXX-RB	R1251	8x14AWG	8.7	177	9.3	50.0
SSS0252HBAXH-RB	R1323	2x12AWG	6.7	79	5.7	60.0
SSS0352HBAXX-RB	R1325	3x12AWG	7.1	112	5.7	60.0
SSS0452HBAXX-RB	R1327	4x12AWG	7.9	146	5.7	60.0
SSS0552HBAXX-RB	R1329	5x12AWG	8.1	163	5.7	60.0
SSS0652HBAXX-RB	R1331	6x12AWG	8.7	180	5.7	60.0
SSS0852HBAXX-RB	R1333	8x12AWG	9.6	214	5.7	60.0

MULTI-CONDUCTOR CABLE

Screened multi-conductor cable with a PVC sheath are suitable for Building Management Systems (BMS), Sound, Audio, Security, Safety, Control and Instrumentation



CONSTRUCTION

Formation:

Plain annealed copper wire, Stranded

Insulation:

Polyolefine - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinned copper drain wire

Outer Sheath:

Polyvinyl chloride - PVC Colour Outer

Sheath:

Grey

IDENTIFICATION OF CORES

2 Core: ● ●
3 Core: ● ● ○
4 Core: ● ● ○ ●
5 Core: ● ● ○ ● ●
6 Core: ● ● ○ ● ● ●
7 Core: ● ● ○ ● ● ● ●
8 Core: ● ● ○ ● ● ● ● ●

CABLE PRINTING

RAMCRO ITALY - R_____ - AUDIO CONTROL & INSTRUMENTATION
CABLE 2C 22AWG
SCREENED PVC 300 V 75 C IEC 60332-1/UL 1581 - RAMCRO CODE
- "PROD.WEEK/YEAR" - MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

-5° C up to +50° C



CHARACTERISTICS

**Building Management
Systems Cable**



Min. Bending Radius

8 x cable diameter



Put up length 305 mt



MULTI-CONDUCTOR CABLE

PVC sheathed, screened cables with 22AWG to 12AWG conductors

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SAS0207HBAXH-RB	R1226	2x22AWG	3.2	16	56.7	78.0
SAS0307HBAXX-RB	R1228	3x22AWG	3.4	20	56.7	75.0
SAS0407HBAXX-RB	R1230	4x22AWG	3.6	24	56.7	70.0
SAS0607HBAXX-RB	R1264	6x22AWG	4.3	33	56.7	64.0
SAS0807HBAXX-RB	R1232	8x22AWG	4.7	41	56.7	60.0
SAS0206HBAXH-RB	R1019	2x20AWG	3.6	21	37.2	100.0
SAS0306HBAXX-RB	R1021	3x20AWG	3.8	26	37.2	90.0
SAS0406HBAXX-RB	R1023	4x20AWG	4.1	32	37.2	90.0
SAS0406HBAXX-RB	R1023	4x20AWG	4.1	32	37.2	90.0
SAS0606HBAXX-RB	R1260	6x20AWG	4.9	45	37.2	90.0
SAS0806HBAXX-RB	R1262	8x20AWG	5.4	57	37.2	75.0
SAS0205HBAXH-RB	R1013	2x18AWG	4.0	27	22.9	95.0
SAS0305HBAXX-RB	R1015	3x18AWG	4.2	36	22.9	90.0
SAS0405HBAXX-RB	R1017	4x18AWG	4.6	45	22.9	75.0
SAS0605HBAXX-RB	R1211	6x18AWG	5.5	64	22.9	75.0
SAS0705HBAXX-RB	R1239	7x18AWG	5.8	75	22.9	75.0
SAS0805HBAXX-RB	R1258	8x18AWG	6.0	72	22.9	75.0
SAS0203HBAXH-RB	R1007	2x16AWG	4.7	81	15.5	105.0
SAS0303HBAXX-RB	R1009	3x16AWG	5.0	49	15.5	105.0
SAS0403HBAXX-RB	R1011	4x16AWG	5.4	62	15.5	90.0
SAS0603HBAXX-RB	R1252	6x16AWG	6.5	88	15.5	80.0
SAS0803HBAXX-RB	R1254	8x16AWG	7.2	114	15.5	80.0
SAS0201HBAXH-RB	R1001	2x14AWG	5.6	54	9.3	105.0
SAS0301HBAXX-RB	R1003	3x14AWG	5.9	75	9.3	100.0
SAS0401HBAXX-RB	R1005	4x14AWG	6.5	96	9.3	98.0
SAS0501HBAXX-RB	R1209	5x14AWG	6.8	111	9.3	98.0
SAS0601HBAXX-RB	R1248	6x14AWG	7.9	139	9.3	96.0
SAS0801HBAXX-RB	R1250	8x14AWG	8.7	180	9.3	95.0
SAS0252HBAXH-RB	R1322	2x12AWG	6.8	82	5.7	105.0
SAS0352HBAXX-RB	R1324	3x12AWG	7.2	115	5.7	105.0
SAS0452HBAXX-RB	R1326	4x12AWG	8.0	149	5.7	100.0
SAS0552HBAXX-RB	R1328	5x12AWG	8.2	161	5.7	100.0
SAS0652HBAXX-RB	R1330	6x12AWG	9.7	217	5.7	100.0
SAS0852HBAXX-RB	R1332	8x12AWG	10.8	284	5.7	100.0

MULTI-CONDUCTOR CABLE

Unscreened multi-conductor cable with a LSZH(FRNC) sheath are suitable for Building Management Systems (BMS), Sound, Audio, Security, Safety, Control and Instrumentation



CONSTRUCTION

Formation:

Plain annealed copper wire, Stranded

Insulation:

Polyolefine - PO

Cable twisting:

Two or more wire twisted

Outer Sheath:

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

IDENTIFICATION OF CORES

2 Core: ● ●
3 Core: ● ● ○
4 Core: ● ● ○ ●
5 Core: ● ● ○ ● ●
6 Core: ● ● ○ ● ● ●
7 Core: ● ● ○ ● ● ● ●
8 Core: ● ● ○ ● ● ● ● ●

CABLE PRINTING

RAMCRO ITALY - R_____ - AUDIO CONTROL & INSTRUMENTATION
CABLE 2C 22AWG SCREENED
LSZH(FRNC) 300 V 75 C IEC 60332-1/UL 1581 - RAMCRO CODE -
"PROD.WEEK/YEAR" - MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

-5° C up to +50° C



CHARACTERISTICS

Building Management Systems Cable



Min. Bending Radius

8 x cable diameter



Put up length 305 mt



MULTI-CONDUCTOR CABLE

LSZH(FRNC) sheathed, unshielded cables with 22AWG to 12AWG conductors

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SSS0207HXEDH-RB	R1742	2x22AWG	3.3	14	56.7	65.0
SSS0307HXEDX-RB	R1744	3x22AWG	3.5	18	56.7	70.0
SSS0407HXEDX-RB	R1746	4x22AWG	3.8	22	56.7	72.0
SSS0607HXEDX-RB	R1748	6x22AWG	4.5	31	56.7	75.0
SSS0807HXEDX-RB	R1750	8x22AWG	4.9	40	56.7	75.0
SSS0206HXEDH-RB	R1732	2x20AWG	3.5	17	37.2	65.0
SSS0306HXEDX-RB	R1734	3x20AWG	3.7	23	37.2	65.0
SSS0406HXEDX-RB	R1736	4x20AWG	4.0	29	37.2	68.0
SSS0506HXEDX-RB	R1753	5x20AWG	4.2	35	37.2	68.0
SSS0606HXEDX-RB	R1738	6x20AWG	4.8	41	37.2	70.0
SSS0806HXEDX-RB	R1740	8x20AWG	5.3	52	37.2	70.0
SSS0205HXEDH-RB	R1722	2x18AWG	3.9	24	22.9	65.0
SSS0305HXEDX-RB	R1724	3x18AWG	4.1	33	22.9	70.0
SSS0405HXEDX-RB	R1726	4x18AWG	4.5	42	22.9	72.0
SSS0605HXEDX-RB	R1728	6x18AWG	5.4	60	22.9	75.0
SSS0805HXEDX-RB	R1730	8x18AWG	6.0	77	22.9	75.0
SSS0203HXEDH-RB	R1712	2x16AWG	4.6	33	15.5	65.0
SSS0303HXEDX-RB	R1714	3x16AWG	4.9	45	15.5	72.0
SSS0403HXEDX-RB	R1716	4x16AWG	5.4	58	15.5	72.0
SSS0603HXEDX-RB	R1718	6x16AWG	6.5	85	15.5	74.0
SSS0803HXEDX-RB	R1720	8x16AWG	7.1	110	15.5	75.0
SSS0201HXEDH-RB	R1702	2x14AWG	5.5	51	9.3	75.0
SSS0301HXEDX-RB	R1704	3x14AWG	5.9	71	9.3	75.0
SSS0401HXEDX-RB	R1706	4x14AWG	6.5	92	9.3	77.0
SSS0601HXEDX-RB	R1708	6x14AWG	7.8	134	9.3	80.0
SSS0801HXEDX-RB	R1710	8x14AWG	8.7	176	9.3	80.0
SSS0252HXEDH-RB	R1335	2x12AWG	6.7	78	5.7	75.0
SSS0352HXEDX-RB	R1337	3x12AWG	7.1	110	5.7	76.0
SSS0452HXEDX-RB	R1339	4x12AWG	7.9	144	5.7	80.0
SSS0552HXEDX-RB	R1341	5x12AWG	8.1	151	5.7	80.0
SSS0652HXEDX-RB	R1343	6x12AWG	9.6	211	5.7	80.0
SSS0852HXEDX-RB	R1345	8x12AWG	10.7	277	5.7	80.0

MULTI-CONDUCTOR CABLE

Screened multi-conductor cable with a LSZH(FRNC) sheath are suitable for Building Management Systems (BMS), Sound, Audio, Security, Safety, Control and Instrumentation



CONSTRUCTION

Formation:

Plain annealed copper wire, Stranded

Insulation:

Polyolefine - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over
tinne copper drain wire

Outer Sheath:

Thermoplastic low smoke, Halogen free -
LSZH(FRNC)

Colour Outer Sheath:

Violet

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMCRO ITALY - R_____ - AUDIO CONTROL & INSTRUMENTATION
CABLE 2C 22AWG UNSCREENED

LSZH(FRNC) 300 V 75 C IEC 60332-1/UL 1581 - RAMCRO CODE -
"PROD.WEEK/YEAR" - MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

2 Core:	● ●
3 Core:	● ● ○
4 Core:	● ● ○ ●
5 Core:	● ● ○ ● ●
6 Core:	● ● ○ ● ● ●
7 Core:	● ● ○ ● ● ● ●
8 Core:	● ● ○ ● ● ● ● ●

CHARACTERISTICS

Building Management
Systems Cable



Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



MULTI-CONDUCTOR CABLE

LSZH(FRNC) sheathed, screened cables with 22AWG to 12AWG conductors

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SAS0207HXEDH-RB	R1741	2x22AWG	3.4	16	56.7	115.0
SAS0307HXEDX-RB	R1743	3x22AWG	3.6	21	56.7	110.0
SAS0407HXEDX-RB	R1745	4x22AWG	3.9	25	56.7	110.0
SAS0607HXEDX-RB	R1747	6x22AWG	4.6	35	56.7	105.0
SAS0807HXEDX-RB	R1749	8x22AWG	5.0	43	56.7	100.0
SAS1207HXEDX-RB	R1752	12x22AWG	6.1	73	56.7	100.0
SAS0206HXEDH-RB	R1731	2x20AWG	3.6	20	37.2	138.0
SAS0306HXEDX-RB	R1733	3x20AWG	3.8	26	37.2	140.0
SAS0406HXEDX-RB	R1735	4x20AWG	4.1	32	37.2	120.0
SAS0606HXEDX-RB	R1737	6x20AWG	4.9	44	37.2	115.0
SAS0806HXEDX-RB	R1739	8x20AWG	5.4	56	37.2	115.0
SAS0205HXEDH-RB	R1721	2x18AWG	4.0	27	22.9	150.0
SAS0305HXEDX-RB	R1723	3x18AWG	4.2	35	22.9	150.0
SAS0405HXEDX-RB	R1725	4x18AWG	4.6	45	22.9	150.0
SAS0605HXEDX-RB	R1727	6x18AWG	5.5	63	22.9	140.0
SAS0805HXEDX-RB	R1729	8x18AWG	6.0	81	22.9	135.0
SAS0203HXEDH-RB	R1711	2x16AWG	4.7	36	15.5	170.0
SAS0303HXEDX-RB	R1713	3x16AWG	5.0	48	15.5	168.0
SAS0403HXEDX-RB	R1715	4x16AWG	5.4	62	15.5	165.0
SAS0603HXEDX-RB	R1717	6x16AWG	6.5	88	15.5	150.0
SAS0803HXEDX-RB	R1719	8x16AWG	7.2	113	15.5	146.0
SAS0201HXEDH-RB	R1701	2x14AWG	5.6	54	9.3	190.0
SAS0301HXEDX-RB	R1703	3x14AWG	5.9	74	9.3	185.0
SAS0401HXEDX-RB	R1705	4x14AWG	6.5	95	9.3	183.0
SAS0601HXEDX-RB	R1707	6x14AWG	7.9	118	9.3	178.0
SAS0801HXEDX-RB	R1709	8x14AWG	8.7	140	9.3	173.0
SAS0252HXEDH-RB	R1334	2x12AWG	6.8	81	5.7	190.0
SAS0352HXEDX-RB	R1336	3x12AWG	7.2	114	5.7	190.0
SAS0452HXEDX-RB	R1338	4x12AWG	8.0	147	5.7	190.0
SAS0552HXEDX-RB	R1340	5x12AWG	8.3	165	5.7	190.0
SAS0652HXEDX-RB	R1342	6x12AWG	9.7	215	5.7	180.0
SAS0852HXEDX-RB	R1344	8x12AWG	10.8	281	5.7	176.0

MULTI-CONDUCTOR CABLE

Unscreened multi-conductor cable with a LSF sheath are suitable for Building Management Systems (BMS), Sound, Audio, Security, Safety, Control and Instrumentation



CONSTRUCTION

Formation:

Plain annealed copper wire, Stranded

Insulation:

Polyolefine - PO

Cable twisting:

Two or more wire twisted

Outer Sheath:

Low Smoke Fume - PVC

Colour Outer Sheath:

Grey

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

-5° C up to +50° C



CABLE PRINTING

RAMCRO ITALY - R____ - AUDIO CONTROL & INSTRUMENTATION
CABLE 2C 22AWG UNSCREENED LSF
300 V 75 C IEC 60332-1/UL 1581 - RAMCRO CODE - "PROD.WEEK/
YEAR" - MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

- 2 Core: ● ●
3 Core: ● ● ○
4 Core: ● ● ○ ●
5 Core: ● ● ○ ● ●
6 Core: ● ● ○ ● ● ●
7 Core: ● ● ○ ● ● ● ●
8 Core: ● ● ○ ● ● ● ● ●

CHARACTERISTICS

**Building Management
Systems Cable**



Min. Bending Radius

8 x cable diameter



Put up length 305 mt



MULTI-CONDUCTOR CABLE

MULTI-CONDUCTOR CABLE

LSF sheathed, Unscreened cables with 22AWG to 12AWG conductors

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SSS0207HBSXH-RB	R4060	2x22AWG	3.1	13	56.7	40.0
SSS0307HBSXX-RB	R4061	3x22AWG	3.3	17	56.7	35.0
SSS0407HBSXX-RB	R4062	4x22AWG	3.6	22	56.7	45.0
SSS0607HBSXX-RB	R4063	6x22AWG	4.2	30	56.7	45.0
SSS0807HBSXX-RB	R4064	8x22AWG	4.6	38	56.7	45.0
SSS0206HBSXH-RB	R4084	2x20AWG	3.5	18	37.2	46.0
SSS0306HBSXX-RB	R4085	3x20AWG	3.7	24	37.2	47.0
SSS0406HBSXX-RB	R4086	4x20AWG	4.0	30	37.2	47.0
SSS0606HBSXX-RB	R4087	6x20AWG	4.8	42	37.2	45.0
SSS0806HBSXX-RB	R4088	8x20AWG	5.3	54	37.2	45.0
SSS0205HBSXH-RB	R4028	2x18AWG	3.9	24	22.9	52.0
SSS0305HBSXX-RB	R4029	3x18AWG	4.1	33	22.9	55.0
SSS0405HBSXX-RB	R4030	4x18AWG	4.5	42	22.9	45.0
SSS0505HBSXX-RB	R4031	5x18AWG	4.7	53	22.9	45.0
SSS0605HBSXX-RB	R4032	6x18AWG	5.4	61	22.9	50.0
SSS0605HBSXX-RB	R4033	7x18AWG	5.7	75	22.9	50.0
SSS0805HBSXX-RB	R4034	8x18AWG	6.0	78	22.9	50.0
SSS1205HBSXX-RB	R4035	12x18AWG	7.0	95	22.9	50.0
SSS0203HBSXH-RB	R4023	2x16AWG	4.6	34	15.5	53.0
SSS0303HBSXX-RB	R4024	3x16AWG	4.9	46	15.5	56.0
SSS0403HBSXX-RB	R4025	4x16AWG	5.4	59	15.5	55.0
SSS0603HBSXX-RB	R4026	6x16AWG	6.5	85	15.5	48.0
SSS0803HBSXX-RB	R4027	8x16AWG	7.1	111	15.5	45.0
SSS0201HBSXH-RB	R4080	2x14AWG	5.5	51	9.3	51.0
SSS0301HBSXX-RB	R4082	3x14AWG	5.9	72	9.3	55.0
SSS0401HBSXX-RB	R4084	4x14AWG	6.5	93	9.3	55.0
SSS0601HBSXX-RB	R4086	6x14AWG	7.8	135	9.3	50.0
SSS0801HBSXX-RB	R4088	8x14AWG	8.7	177	9.3	50.0
SSS0252HBSXH-RB	R4052	2x12AWG	6.7	79	5.7	60.0
SSS0352HBSXX-RB	R4054	3x12AWG	7.1	112	5.7	60.0
SSS0452HBSXX-RB	R4056	4x12AWG	7.9	146	5.7	60.0
SSS0652HBSXX-RB	R4058	6x12AWG	8.7	180	5.7	60.0

MULTI-CONDUCTOR CABLE

Screened multi-conductor cable with a LSF sheath are suitable for Building Management Systems (BMS), Sound, Audio, Security, Safety, Control and Instrumentation



CONSTRUCTION

Formation:

Plain annealed copper wire, Stranded

Insulation:

Polyolefine - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Outer Sheath:

Low Smoke Fume - LSF Colour Outer

Sheath:

Grey

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMCRO ITALY - R_____ - AUDIO CONTROL & INSTRUMENTATION
CABLE 2C 22AWG SCREENED LSF
300 V 75 C IEC 60332-1/UL 1581 - RAMCRO CODE - "PROD.WEEK/
YEAR" - MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

- 2 Core: ● ●
- 3 Core: ● ● ○
- 4 Core: ● ● ○ ●
- 5 Core: ● ● ○ ● ●
- 6 Core: ● ● ○ ● ● ●
- 7 Core: ● ● ○ ● ● ● ●
- 8 Core: ● ● ○ ● ● ● ● ●

CHARACTERISTICS

Building Management Systems Cable



Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



MULTI-CONDUCTOR CABLE

LSF sheathed, Unscreened cables with 22AWG to 12AWG conductors

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SAS0207HBSXH-RB	R4133	2x22AWG	3.2	16	56.7	78.0
SAS0307HBSXX-RB	R4135	3x22AWG	3.4	20	56.7	75.0
SAS0407HBSXX-RB	R4137	4x22AWG	3.6	24	56.7	70.0
SAS0607HBSXX-RB	R4138	6x22AWG	4.3	33	56.7	64.0
SAS0807HBSXX-RB	R4139	8x22AWG	4.7	41	56.7	60.0
SAS0206HBSXH-RB	R4115	2x20AWG	3.6	21	37.2	100.0
SAS0306HBSXX-RB	R4116	3x20AWG	3.8	26	37.2	90.0
SAS0406HBSXX-RB	R4117	4x20AWG	4.1	32	37.2	90.0
SAS0606HBSXX-RB	R4118	6x20AWG	4.9	45	37.2	90.0
SAS0806HBSXX-RB	R4119	8x20AWG	5.4	57	37.2	75.0
SAS0205HBSXH-RB	R4016	2x18AWG	4.0	27	22.9	95.0
SAS0305HBSXX-RB	R4017	3x18AWG	4.2	36	22.9	90.0
SAS0405HBSXX-RB	R4018	4x18AWG	4.6	45	22.9	75.0
SAS0505HBSXX-RB	R4019	5x18AWG	4.8	45	22.9	75.0
SAS0705HBSXX-RB	R4021	6x18AWG	5.0	55	22.9	75.0
SAS0605HBSXX-RB	R4020	6x18AWG	5.5	64	22.9	75.0
SAS0805HBSXX-RB	R4022	8x18AWG	6.0	72	22.9	75.0
SAS0203HBSXH-RB	R4171	2x16AWG	4.7	81	15.5	105.0
SAS0303HBSXX-RB	R4173	3x16AWG	5.0	49	15.5	105.0
SAS0403HBSXX-RB	R4175	4x16AWG	5.4	62	15.5	90.0
SAS0603HBSXX-RB	R4177	6x16AWG	6.5	88	15.5	80.0
SAS0803HBSXX-RB	R4179	8x16AWG	7.2	114	15.5	80.0
SAS0201HBSXH-RB	R4161	2x14AWG	5.6	54	9.3	105.0
SAS0301HBSXX-RB	R4163	3x14AWG	5.9	75	9.3	100.0
SAS0401HBSXX-RB	R4165	4x14AWG	6.5	96	9.3	98.0
SAS0601HBSXX-RB	R4167	6x14AWG	7.9	139	9.3	96.0
SAS0801HBSXX-RB	R4169	8x14AWG	8.7	180	9.3	95.0
SAS0252HBSXH-RB	R4123	2x12AWG	6.8	82	5.7	105.0
SAS0352HBSXX-RB	R4124	3x12AWG	7.2	115	5.7	105.0
SAS0452HBSXX-RB	R4125	4x12AWG	8.0	149	5.7	100.0
SAS0652HBSXX-RB	R4127	6x12AWG	9.7	217	5.7	100.0
SAS0852HBSXX-RB	R4128	8x12AWG	10.8	284	5.7	100.0

MULTI-CONDUCTOR CABLE

Screened multi-conductor cable with a PVC or LSZH(FRNC) sheath are suitable for Building Management Systems (BMS), Sound, Audio, Security, Safety, Control and Instrumentation



CONSTRUCTION

Formation:

Tinned copper wire, Stranded

Insulation:

Polyolefine - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Outer Sheath:

Polyvinyl Chloride - PVC

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Grey - PVC

Violet - LSZH(FRNC)

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

3 Core: ● ● ○

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CABLE PRINTING

RAMCRO ITALY - R_____ - AUDIO CONTROL & INSTRUMENTATION
CABLE 3C 22AWG SCREENED LSF
300 V 75 C IEC 60332-1/UL 1581 - RAMCRO CODE - "PROD.WEEK/
YEAR" - MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Inductance:	< 1 mH/km
Operating Voltage:	300 V

CHARACTERISTICS

Building Management
Systems Cable



Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



MULTI-CONDUCTOR CABLE

Multi Conductor Cables 22 to 18 AWG Screened PVC or LSZH(FRNC) Sheath 3 Cores

Cable with PO/SCREEN/PVC

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SAS0305HBADX-T-RB	R1225	3x18AWG	6.0	56	23.2	75.0
SAS0306HBADX-T-RB	R1245	3x20AWG	4.9	39	38.5	75.0
SAS0307HBADX-T-RB	R1215	3x22AWG	4.7	32	57.4	75.0

Cable with PO/SCREEN/LSZH(FRNC)

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SAS0305HXEDX-T-RB	R1410	3x18AWG	6.0	36	23.2	80.0
SAS0306HXEDX-T-RB	R1411	3x20AWG	4.9	57	38.5	80.0
SAS0307HXEDX-T-RB	R1412	3x22AWG	4.7	83	57.4	80.0

ramcro
special cables



CONTROL CABLE



ramcro
special cables

www.ramcro.com

LIYY

These cables are used for power supply and control signal transmission in mechanical engineering for tooling machinery, for production lines and transport equipment, as well as in industrial installations. They meet the requirements of the EEC directive concerning electromagnetic compatibility (EMC), and ensure interference-free transmission providing protection against external pulses.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Outer Sheath:

Polyvinyl chloride Flame Retardant - PVC FR

Colour Outer Sheath:

Grey RAL 7001

CABLE PRINTING

RAMCRO - LiYY 2x0.14 mm² - 450/750V - VDE 0812 - IEC 60332 3
- EN 50575: 2014+A1:2016 CPR Class B2_{ca} + BATCH + METER
MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	
From 0,14 mm ² to 0,75 mm ² :	300/500 V
From 1,00 mm ² to 4,00 mm ² :	450/750 V

PACKAGE



STANDARD REFERENCES

- VDE 0812
- IEC 60332-1
- IEC 60332-3-24

CPR CLASSIFICATION

EN 50575:2016 - B2_{CA} s2, d0, a3*

*Available also in EN 50575:2016 - C_{CA} s2, d0, a3

IDENTIFICATION OF CORES

- In according to DIN VDE 47100
- **OZ**: Black Numbered
- **JZ**: Black Numbered + Green/Yellow

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

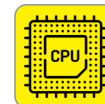
-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****European Market**

ON REQUEST

Personalized colour code and outer sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
SSS0214HBSAC	2x0.14	3.3	154.0
SSS0414HBSAC	4x0.14	3.6	154.0
SSS0814HBSAC	8x0.14	4.5	154.0
SSS1014HBSAC	10x0.14	5.3	154.0
SSS0226HBSAC	2x0.25	3.8	83.1
SSS0426HBSAC	4x0.25	4.1	83.1
SSS0826HBSAC	8x0.25	5.4	83.1
SSS1026HBSAC	10x0.25	6.4	83.1
SSS0234HBSAC	2x0.34	3.9	57.2
SSS0434HBSAC	4x0.34	4.3	57.2
SSS0834HBSAC	8x0.34	5.7	57.2
SSS1034HBSAC	10x0.34	6.6	57.2
SSS0250HBSAC	2x0.50	4.5	40.6
SSS0450HBSAC	4x0.50	5.0	40.6
SSS0850HBSAC	8x0.50	6.9	40.6
SSS1050HBSAC	10x0.50	7.8	40.6
SSS0275HBSAC	2x0.75	4.9	27.1
SSS0475HBSAC	4x0.75	5.6	27.1
SSS0875HBSAC	8x0.75	7.5	27.1
SSS1075HBSAC	10x0.75	9.0	27.1
SSS0210HBSAC	2x1.00	5.5	20.3
SSS0410HBSAC	4x1.00	6.3	20.3
SSS0810HBSAC	8x1.00	8.6	20.3
SSS1010HBSAC	10x1.00	9.8	20.3
SSS0215HBSAC	2x1.50	6.5	13.8
SSS0415HBSAC	4x1.50	7.2	13.8
SSS0815HBSAC	8x1.50	9.8	13.8
SSS1015HBSAC	10x1.50	11.6	13.8
SSS0225HBSAC	2x2.50	7.7	8.3
SSS0425HBSAC	4x2.50	9.0	8.3
SSS0825HBSAC	8x2.50	12.5	8.3
SSS1025HBSAC	10x2.50	14.4	8.3
SSS0240HBSAC	2x4.00	9.4	5.1
SSS0440HBSAC	4x4.00	10.8	5.1
SSS0840HBSAC	8x4.00	14.5	5.1
SSS1040HBSAC	10x4.00	16.7	5.1

FROR

Suitable for connection of movable equipment or for fixed laying in areas with risk of fire.
To be used in dry or wet interiors and for occasional or temporary use outdoor. Not allowed for laying underground even if protected.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Outer Sheath:

Polyvinyl chloride - PVC

Colour Outer Sheath:

Grey RAL 7032

CABLE PRINTING

RAMCRO - FROR 2x0.14 mm² - 450/750V - VDE 0812 -
IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class Eca + BATCH +
METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- EN 50414
- CEI EN 60332-1-2
- CEI 20-22 II
- CEI EN 50267-2

CPR CLASSIFICATION

EN 50575:2016 - E_{CA}

IDENTIFICATION OF CORES

In according to HD 308

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

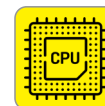
-5° C up to +50° C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****Italian Market**

ON REQUEST

Personalized colour code and outer sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
SSS0214HAAAL	2x0.14	3.3	154.0
SSS0414HAAAG	4x0.14	3.6	154.0
SSS0814HAAAD	6x0.14	4.5	154.0
SSS1014HAAAD	10x0.14	5.3	154.0
SSS0226HAAAL	2x0.25	3.8	83.1
SSS0426HAAAG	4x0.25	4.1	83.1
SSS0826HAAAD	6x0.25	5.4	83.1
SSS1026HAAAD	10x0.25	6.4	83.1
SSS0234HAAAL	2x0.34	3.9	57.2
SSS0434HAAAG	4x0.34	4.3	57.2
SSS0834HAAAD	6x0.34	5.7	57.2
SSS1034HAAAD	10x0.34	6.6	57.2
SSS0250HAAAL	2x0.50	4.5	40.6
SSS0450HAAAG	4x0.50	5.0	40.6
SSS0850HAAAD	6x0.50	6.9	40.6
SSS1050HAAAD	10x0.50	7.8	40.6
SSS0275HAAAL	2x0.75	4.9	27.1
SSS0475HAAAG	4x0.75	5.6	27.1
SSS0875HAAAD	6x0.75	7.5	27.1
SSS1075HAAAD	10x0.75	9.0	27.1
SSS0210HAAAL	2x1.00	5.5	20.3
SSS0410HAAAG	4x1.00	6.3	20.3
SSS0810HAAAD	6x1.00	8.6	20.3
SSS1010HAAAD	10x1.00	9.8	20.3
SSS0215HAAAL	2x1.50	6.5	13.8
SSS0415HAAAG	4x1.50	7.2	13.8
SSS0815HAAAD	6x1.50	9.8	13.8
SSS1015HAAAD	10x1.50	11.6	13.8
SSS0225HAAAL	2x2.50	7.7	8.3
SSS0425HAAAG	4x2.50	9.0	8.3
SSS0825HAAAD	6x2.50	12.5	8.3
SSS1025HAAAD	10x2.50	14.4	8.3
SSS0240HAAAL	2x4.00	9.4	5.1
SSS0440HAAAG	4x4.00	10.8	5.1
SSS0840HAAAD	6x4.00	14.5	5.1
SSS1040HAAAD	10x4.00	16.7	5.1

FROR16

Suitable for connection of movable equipment or for fixed laying in areas with risk of fire.
To be used in dry or wet interiors and for occasional or temporary use outdoor. Not allowed for laying underground even if protected.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Outer Sheath:

Polyvinyl chloride Flame Retardant - PVC FR

Colour Outer Sheath:

Grey RAL 7032

CABLE PRINTING

RAMCRO - FROR16 2x0.14 mm² - 450/750V - VDE 0812 - IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class Cca + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- EN 50414
- CEI EN 60332-1-2
- CEI 20-22 II
- CEI EN 50267-2

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s2, d0, a3

IDENTIFICATION OF CORES

In according to HD 308

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

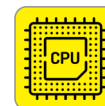
-5° C up to +50° C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****Italian Market**

ON REQUEST

Personalized colour code and outer sheath

FROR16

From 0,14 mm² to 4,00 mm²

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
SSS0214HASAL-CPRC	2x0.14	3.3	154.0
SSS0414HASAG-CPRC	4x0.14	3.6	154.0
SSS0814HASAD-CPRC	6x0.14	4.5	154.0
SSS1014HASAD-CPRC	10x0.14	5.3	154.0
SSS0226HASAL-CPRC	2x0.25	3.8	83.1
SSS0426HASAG-CPRC	4x0.25	4.1	83.1
SSS0826HASAD-CPRC	6x0.25	5.4	83.1
SSS1026HASAD-CPRC	10x0.25	6.4	83.1
SSS0234HASAL-CPRC	2x0.34	3.9	57.2
SSS0434HASAG-CPRC	4x0.34	4.3	57.2
SSS0834HASAD-CPRC	6x0.34	5.7	57.2
SSS1034HASAD-CPRC	10x0.34	6.6	57.2
SSS0250HASAL-CPRC	2x0.50	4.5	40.6
SSS0450HASAG-CPRC	4x0.50	5.0	40.6
SSS0850HASAD-CPRC	6x0.50	6.9	40.6
SSS1050HASAD-CPRC	10x0.50	7.8	40.6
SSS0275HASAL-CPRC	2x0.75	4.9	27.1
SSS0475HASAG-CPRC	4x0.75	5.6	27.1
SSS0875HASAD-CPRC	6x0.75	7.5	27.1
SSS1075HASAD-CPRC	10x0.75	9.0	27.1
SSS0210HASAL-CPRC	2x1.00	5.5	20.3
SSS0410HASAG-CPRC	4x1.00	6.3	20.3
SSS0810HASAD-CPRC	6x1.00	8.6	20.3
SSS1010HASAD-CPRC	10x1.00	9.8	20.3
SSS0215HASAL-CPRC	2x1.50	6.5	13.8
SSS0415HASAG-CPRC	4x1.50	7.2	13.8
SSS0815HASAD-CPRC	6x1.50	9.8	13.8
SSS1015HASAD-CPRC	10x1.50	11.6	13.8
SSS0225HASAL-CPRC	2x2.50	7.7	8.3
SSS0425HASAG-CPRC	4x2.50	9.0	8.3
SSS0825HASAD-CPRC	6x2.50	12.5	8.3
SSS1025HASAD-CPRC	10x2.50	14.4	8.3
SSS0240HASAL-CPRC	2x4.00	9.4	5.1
SSS0440HASAG-CPRC	4x4.00	10.8	5.1
SSS0840HASAD-CPRC	6x4.00	14.5	5.1
SSS1040HASAD-CPRC	10x4.00	16.7	5.1

FROR16

Suitable for connection of movable equipment or for fixed laying in areas with risk of fire.
To be used in dry or wet interiors and for occasional or temporary use outdoor. Not allowed for laying underground even if protected.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Outer Sheath:

Polyvinyl chloride Flame Retardant - PVC FR

Colour Outer Sheath:

Grey RAL 7032

CABLE PRINTING

RAMCRO - FROR16 2x0.14 mm² - 450/750V - VDE 0812 - IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class B2ca + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- EN 50414
- CEI EN 60332-1-2
- CEI 20-22 II
- CEI EN 50267-2

CPR CLASSIFICATION

EN 50575:2016 - B2_{CA} s2, d0, a3

IDENTIFICATION OF CORES

In according to HD 308

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

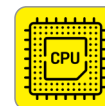
-5° C up to +50° C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****Italian Market**

ON REQUEST

Personalized colour code and outer sheath

FROR16

From 0,14 mm² to 4,00 mm²

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
SSS0214HASAL	2x0.14	3.3	154.0
SSS0414HASAG	4x0.14	3.6	154.0
SSS0814HASAD	6x0.14	4.5	154.0
SSS1014HASAD	10x0.14	5.3	154.0
SSS0226HASAL	2x0.25	3.8	83.1
SSS0426HASAG	4x0.25	4.1	83.1
SSS0826HASAD	6x0.25	5.4	83.1
SSS1026HASAD	10x0.25	6.4	83.1
SSS0234HASAL	2x0.34	3.9	57.2
SSS0434HASAG	4x0.34	4.3	57.2
SSS0834HASAD	6x0.34	5.7	57.2
SSS1034HASAD	10x0.34	6.6	57.2
SSS0250HASAL	2x0.50	4.5	40.6
SSS0450HASAG	4x0.50	5.0	40.6
SSS0850HASAD	6x0.50	6.9	40.6
SSS1050HASAD	10x0.50	7.8	40.6
SSS0275HASAL	2x0.75	4.9	27.1
SSS0475HASAG	4x0.75	5.6	27.1
SSS0875HASAD	6x0.75	7.5	27.1
SSS1075HASAD	10x0.75	9.0	27.1
SSS0210HASAL	2x1.00	5.5	20.3
SSS0410HASAG	4x1.00	6.3	20.3
SSS0810HASAD	6x1.00	8.6	20.3
SSS1010HASAD	10x1.00	9.8	20.3
SSS0215HASAL	2x1.50	6.5	13.8
SSS0415HASAG	4x1.50	7.2	13.8
SSS0815HASAD	6x1.50	9.8	13.8
SSS1015HASAD	10x1.50	11.6	13.8
SSS0225HASAL	2x2.50	7.7	8.3
SSS0425HASAG	4x2.50	9.0	8.3
SSS0825HASAD	6x2.50	12.5	8.3
SSS1025HASAD	10x2.50	14.4	8.3
SSS0240HASAL	2x4.00	9.4	5.1
SSS0440HASAG	4x4.00	10.8	5.1
SSS0840HASAD	6x4.00	14.5	5.1
SSS1040HASAD	10x4.00	16.7	5.1

LIYCY

These cables are used for power supply and control signal transmission in mechanical engineering for tooling machinery, for production lines and transport equipment, as well as in industrial installations. They meet the requirements of the EEC directive concerning electromagnetic compatibility (EMC), and ensure interference-free transmission providing protection against external pulses.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

Tinned Copper Wire Braid

Outer Sheath:

Polyvinyl chloride Flame Retardant - PVC FR

Colour Outer Sheath:

Grey RAL 7001

CABLE PRINTING

RAMCRO - LiYCY 2x0,14 mm² - 300/500V - VDE 0812 - IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class B2ca + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- VDE 0812
- IEC 60332-1
- IEC 60332-3-24

CPR CLASSIFICATION

EN 50575:2016 - B2_{CA} s2, d0, a3*

*Available also in EN 50575:2016 - C_{CA} s2, d0, a3

IDENTIFICATION OF CORES

- In according to DIN VDE 47100
- **OZ**: Black Numbered
- **JZ**: Black Numbered + Green/Yellow

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

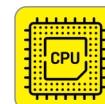
-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****European Market**

ON REQUEST

Personalized colour code and outer sheath

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
STS0214HBAAC	2x0.14	3.7	154.0
STS0414HBAAC	4x0.14	4.0	154.0
STS0814HBAAC	6x0.14	4.5	154.0
STS1014HBAAC	10x0.14	5.7	154.0
STS0226HBAAC	2x0.25	4.2	83.1
STS0426HBAAC	4x0.25	4.5	83.1
STS0826HBAAC	6x0.25	5.4	83.1
STS1026HBAAC	10x0.25	6.8	83.1
STS0226HBAAC	2x0.34	4.3	57.2
STS0426HBAAC	4x0.34	4.7	57.2
STS0826HBAAC	6x0.34	5.6	57.2
STS1026HBAAC	10x0.34	7.0	57.2
STS0250HBAAC	2x0.50	4.9	40.6
STS0450HBAAC	4x0.50	5.6	40.6
STS0850HBAAC	6x0.50	6.7	40.6
STS1050HBAAC	10x0.50	8.6	40.6
STS0275HBAAC	2x0.75	5.5	27.1
STS0475HBAAC	4x0.75	6.0	27.1
STS0875HBAAC	6x0.75	7.3	27.1
STS1075HBAAC	10x0.75	9.4	27.1
STS0210HBAAC	2x1.00	5.9	20.3
STS0410HBAAC	4x1.00	6.7	20.3
STS0810HBAAC	6x1.00	7.9	20.3
STS1010HBAAC	10x1.00	10.6	20.3
STS0215HBAAC	2x1.50	6.9	13.8
STS0415HBAAC	4x1.50	7.6	13.8
STS0815HBAAC	6x1.50	9.3	13.8
STS1015HBAAC	10x1.50	12.0	13.8
STS0225HBAAC	2x2.50	6.9	8.3
STS0425HBAAC	4x2.50	9.4	8.3
STS0825HBAAC	6x2.50	11.5	8.3
STS1025HBAAC	10x2.50	14.8	8.3
STS0240HBAAC	2x4.00	9.8	5.1
STS0440HBAAC	4x4.00	11.2	5.1
STS0840HBAAC	6x4.00	13.7	5.1
STS1040HBAAC	10x4.00	17.1	5.1

FROHR2

Suitable for connection of movable equipment or for fixed laying in areas with risk of fire.

To be used in dry or wet interiors and for occasional or temporary use outdoor. Not allowed for laying underground even if protected.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

Tinned Copper Wire Braid

Outer Sheath:

Polyvinyl chloride - PVC Colour

Outer Sheath:

Grey RAL 7032

CABLE PRINTING

RAMCRO - FR2OH2R 2x0,14 mm² - 300/500V - VDE 0812 - IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class Eca + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- EN 50414
- CEI EN 60332-1-2
- CEI 20-22 II
- CEI EN 50267-2

CPR CLASSIFICATION

EN 50575:2016 - E_{ca}

IDENTIFICATION OF CORES

In according to HD 308

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

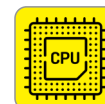
-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****Italian Market**

ON REQUEST

- Armour in steel wire braid
- Personalized colour code and outer sheath

FROHR2

From 0,14 mm² to 4,00 mm²

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
FR60214HAAAL	2x0.14	3.7	154.0
FR60414HAAAG	4x0.14	4.0	154.0
FR60814HAAAD	6x0.14	4.5	154.0
FR61014HAAAD	10x0.14	5.7	154.0
FR60226HAAAL	2x0.25	4.2	83.1
FR60426HAAAG	4x0.25	4.5	83.1
FR60826HAAAD	6x0.25	5.4	83.1
FR61026HAAAD	10x0.25	6.8	83.1
FR60234HAAAL	2x0.34	4.3	57.2
FR60434HAAAG	4x0.34	4.7	57.2
FR60834HAAAD	6x0.34	5.6	57.2
FR61034HAAAD	10x0.34	7.0	57.2
FR60250HAAAL	2x0.50	4.9	40.6
FR60450HAAAG	4x0.50	5.6	40.6
FR60850HAAAD	6x0.50	6.7	40.6
FR61050HAAAD	10x0.50	8.6	40.6
FR60275HAAAL	2x0.75	5.5	27.1
FR60475HAAAG	4x0.75	6.0	27.1
FR60875HAAAD	6x0.75	7.3	27.1
FR61075HAAAD	6x0.75	9.4	27.1
FR60210HAAAL	2x1.00	5.9	20.3
FR60410HAAAG	4x1.00	6.7	20.3
FR60810HAAAD	6x1.00	7.9	20.3
FR61010HAAAD	10x1.00	10.6	20.3
FR60215HAAAL	2x1.50	6.9	13.8
FR60415HAAAG	4x1.50	7.6	13.8
FR60815HAAAD	6x1.50	9.3	13.8
FR61015HAAAD	10x1.50	12.0	13.8
FR60225HAAAL	2x2.50	6.9	8.3
FR60425HAAAG	4x2.50	9.4	8.3
FR60825HAAAD	6x2.50	11.5	8.3
FR61025HAAAD	10x2.50	14.8	8.3
FR60240HAAAL	2x4.00	9.8	5.1
FR60440HAAAG	4x4.00	11.2	5.1
FR60840HAAAD	6x4.00	13.7	5.1
FR61040HAAAD	10x4.00	17.1	5.1

FROH2R16

Suitable for connection of movable equipment or for fixed laying in areas with risk of fire.

To be used in dry or wet interiors and for occasional or temporary use outdoor. Not allowed for laying underground even if protected.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

Tinned Copper Wire Braid

Outer Sheath:

Polyvinyl chloride Flame Retardant - PVC FR

Colour Outer Sheath:

Grey RAL 7032

CABLE PRINTING

RAMCRO - FROH2R16 2x0,14 mm² - 300/500V - VDE 0812 - IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class Cca + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- EN 50414
- CEI EN 60332-1-2
- CEI 20-22 II
- CEI EN 50267-2

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1, d0, a3

IDENTIFICATION OF CORES

In according to HD 308

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

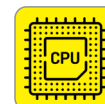
-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****Italian Market**

ON REQUEST

- Armour in steel wire braid
- Personalized colour code and outer sheath

FROH2R16

From 0,14 mm² to 4,00 mm²

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
FR60214HASAL-CPRC	2x0.14	3.7	154.0
FR60414HASAG-CPRC	4x0.14	4.0	154.0
FR60814HASAD-CPRC	6x0.14	4.5	154.0
FR61014HASAD-CPRC	10x0.14	5.7	154.0
FR60226HASAL-CPRC	2x0.25	4.2	83.1
FR60426HASAG-CPRC	4x0.25	4.5	83.1
FR60826HASAD-CPRC	6x0.25	5.4	83.1
FR61026HASAD-CPRC	10x0.25	6.8	83.1
FR60234HASAL-CPRC	2x0.34	4.3	57.2
FR60434HASAG-CPRC	4x0.34	4.7	57.2
FR60834HASAD-CPRC	6x0.34	5.6	57.2
FR61034HASAD-CPRC	10x0.34	7.0	57.2
FR60250HASAL-CPRC	2x0.50	4.9	40.6
FR60450HASAG-CPRC	4x0.50	5.6	40.6
FR60850HASAD-CPRC	6x0.50	6.7	40.6
FR61050HASAD-CPRC	10x0.50	8.6	40.6
FR60275HASAL-CPRC	2x0.75	5.5	27.1
FR60475HASAG-CPRC	4x0.75	6.0	27.1
FR60875HASAD-CPRC	6x0.75	7.3	27.1
FR61075HASAD-CPRC	10x0.75	9.4	27.1
FR60210HASAL-CPRC	2x1.00	5.9	20.3
FR60410HASAG-CPRC	4x1.00	6.7	20.3
FR60810HASAD-CPRC	6x1.00	7.9	20.3
FR61010HASAD-CPRC	10x1.00	10.6	20.3
FR60215HASAL-CPRC	2x1.50	6.9	13.8
FR60415HASAG-CPRC	4x1.50	7.6	13.8
FR60815HASAD-CPRC	6x1.50	9.3	13.8
FR61015HASAD-CPRC	10x1.50	12.0	13.8
FR60225HASAL-CPRC	2x2.50	6.9	8.3
FR60425HASAG-CPRC	4x2.50	9.4	8.3
FR60825HASAD-CPRC	6x2.50	11.5	8.3
FR61025HASAD-CPRC	10x2.50	14.8	8.3
FR60240HASAL-CPRC	2x4.00	9.8	5.1
FR60440HASAG-CPRC	4x4.00	11.2	5.1
FR60840HASAD-CPRC	6x4.00	13.7	5.1
FR61040HASAD-CPRC	10x4.00	17.1	5.1

FROH2R16

Suitable for connection of movable equipment or for fixed laying in areas with risk of fire.

To be used in dry or wet interiors and for occasional or temporary use outdoor. Not allowed for laying underground even if protected.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

Tinned Copper Wire Braid

Outer Sheath:

Polyvinyl chloride Flame Retardant - PVC FR

Colour Outer Sheath:

Grey RAL 7032

CABLE PRINTING

RAMCRO - FROH2R16 2x0,14 mm² - 300/500V - VDE 0812 - IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class B2ca + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- EN 50414
- CEI EN 60332-1-2
- CEI 20-22 II
- CEI EN 50267-2

CPR CLASSIFICATION

EN 50575:2016 - B2_{CA} s1, d0, a3

IDENTIFICATION OF CORES

In according to HD 308

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

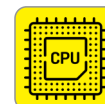
-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****Italian Market**

ON REQUEST

- Armour in steel wire braid
- Personalized colour code and outer sheath

FROH2R16

From 0,14 mm² to 4,00 mm²

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
FR60214HASAL	2x0.14	3.7	154.0
FR60414HASAG	4x0.14	4.0	154.0
FR60814HASAD	6x0.14	4.5	154.0
FR61014HASAD	10x0.14	5.7	154.0
FR60226HASAL	2x0.25	4.2	83.1
FR60426HASAG	4x0.25	4.5	83.1
FR60826HASAD	6x0.25	5.4	83.1
FR61026HASAD	10x0.25	6.8	83.1
FR60234HASAL	2x0.34	4.3	57.2
FR60434HASAG	4x0.34	4.7	57.2
FR60834HASAD	6x0.34	5.6	57.2
FR61034HASAD	10x0.34	7.0	57.2
FR60250HASAL	2x0.50	4.9	40.6
FR60450HASAG	4x0.50	5.6	40.6
FR60850HASAD	6x0.50	6.7	40.6
FR61050HASAD	10x0.50	8.6	40.6
FR60275HASAL	2x0.75	5.5	27.1
FR60475HASAG	4x0.75	6.0	27.1
FR60875HASAD	6x0.75	7.3	27.1
FR61075HASAD	10x0.75	9.4	27.1
FR60210HASAL	2x1.00	5.9	20.3
FR60410HASAG	4x1.00	6.7	20.3
FR60810HASAD	6x1.00	7.9	20.3
FR61010HASAD	10x1.00	10.6	20.3
FR60215HASAL	2x1.50	6.9	13.8
FR60415HASAG	4x1.50	7.6	13.8
FR60815HASAD	6x1.50	9.3	13.8
FR61015HASAD	10x1.50	12.0	13.8
FR60225HASAL	2x2.50	6.9	8.3
FR60425HASAG	4x2.50	9.4	8.3
FR60825HASAD	6x2.50	11.5	8.3
FR61025HASAD	10x2.50	14.8	8.3
FR60240HASAL	2x4.00	9.8	5.1
FR60440HASAG	4x4.00	11.2	5.1
FR60840HASAD	6x4.00	13.7	5.1
FR61040HASAD	10x4.00	17.1	5.1

FROHH2R

Suitable for connection of movable equipment or for fixed laying in areas with risk of fire.
To be used in dry or wet interiors and for occasional or temporary use outdoor. Not allowed for laying underground even if protected.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

Aluminium / PETP + Tinned Copper Braid

Outer Sheath:

Polyvinyl chloride - PVC Colour

Outer Sheath:

Grey RAL 7032

CABLE PRINTING

RAMCRO - FR2OHH2R 2x0,14 mm² - 300/500V - VDE 0812 - IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class B2ca + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- EN 50414
- CEI EN 60332-1-2
- CEI 20-22 II
- CEI EN 50267-2

CPR CLASSIFICATION

EN 50575:2016 - E_{CA} s1, d0, a3

IDENTIFICATION OF CORES

In according to HD 308

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

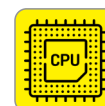
-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****Italian Market**

ON REQUEST

- Armour in steel wire braid
- Personalized colour code and outer sheath

FROHH2R

From 0,50 mm² to 6,00 mm²

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
SMS0250HAAAL	2x0.50	5.0	40.6
SMS0350HAAAG	3x0.50	5.5	40.6
SMS0450HAAAF	4x0.50	5.9	40.6
SMS0550HAAAT	5x0.50	6.5	40.6
SMS0650HAAAD	6x0.50	7.0	40.6
SMS0275HAAAL	2x0.75	5.6	27.1
SMS0375HAAAG	3x0.75	5.9	27.1
SMS0475HAAAF	4x0.75	6.6	27.1
SMS0575HAAAT	5x0.75	7.1	27.1
SMS0675HAAAD	6x0.75	7.6	27.1
SMS0210HAAAL	2x1.00	6.0	20.3
SMS0310HAAAG	3x1.00	6.5	20.3
SMS0410HAAAF	4x1.00	7.0	20.3
SMS0510HAAAT	5x1.00	7.6	20.3
SMS0610HAAAD	6x1.00	8.6	20.3
SMS0215HAAAL	2x1.50	7.0	13.8
SMS0315HAAAG	3x1.50	7.3	13.8
SMS0415HAAAF	4x1.50	8.0	13.8
SMS0515HAAAT	5x1.50	9.0	13.8
SMS0615HAAAD	6x1.50	9.8	13.8
SMS0250HAAAL	2x2.50	8.6	8.3
SMS0350HAAAG	3x2.50	9.1	8.3
SMS0450HAAAF	4x2.50	9.9	8.3
SMS0550HAAAT	5x2.50	11.1	8.3
SMS0650HAAAD	6x2.50	12.0	8.3
SMS0250HAAAL	2x4.00	9.9	5.1
SMS0350HAAAG	3x4.00	10.8	5.1
SMS0450HAAAF	4x4.00	11.8	5.1
SMS0550HAAAT	5x4.00	13.2	5.1
SMS0650HAAAD	6x4.00	14.3	5.1
SMS0250HAAAL	2x6.00	11,8	3.4
SMS0350HAAAG	3x6.00	12.9	3.4
SMS0450HAAAF	4x6.00	14.0	3.4
SMS0550HAAAT	5x6.00	15.3	3.4
SMS0650HAAAD	6x6.00	16.6	3.4

FROHH2R16

Suitable for connection of movable equipment or for fixed laying in areas with risk of fire.
To be used in dry or wet interiors and for occasional or temporary use outdoor. Not allowed for laying underground even if protected.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

Aluminium / PETP + Tinned Copper Braid

Outer Sheath:

Polyvinyl chloride Flame Retardant - PVC FR

Colour Outer Sheath:

Grey RAL 7032

CABLE PRINTING

RAMCRO - FROHH2R16 2x0,14 mm² - 300/500V - VDE 0812 - IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class B2ca + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- EN 50414
- CEI EN 60332-1-2
- CEI 20-22 II
- CEI EN 50267-2

CPR CLASSIFICATION

EN 50575:2016 - C_{CA} s1, d0, a3

IDENTIFICATION OF CORES

In according to HD 308

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

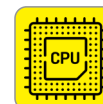
-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****Italian Market**

ON REQUEST

- Armour in steel wire braid
- Personalized colour code and outer sheath

FROHH2R16

From 0,50 mm² to 6,00 mm²

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
SMS0250HASAL-CPRC	2x0.50	5.0	40.6
SMS0350HASAG-CPRC	3x0.50	5.5	40.6
SMS0450HASAF-CPRC	4x0.50	5.9	40.6
SMS0550HASAT-CPRC	5x0.50	6.5	40.6
SMS0650HASAD-CPRC	6x0.50	7.0	40.6
SMS0250HASAL-CPRC	2x0.75	5.6	27.1
SMS0350HASAG-CPRC	3x0.75	5.9	27.1
SMS0450HASAF-CPRC	4x0.75	6.6	27.1
SMS0550HASAT-CPRC	5x0.75	7.1	27.1
SMS0650HASAD-CPRC	6x0.75	7.6	27.1
SMS0250HASAL-CPRC	2x1.00	6.0	20.3
SMS0350HASAG-CPRC	3x1.00	6.5	20.3
SMS0450HASAF-CPRC	4x1.00	7.0	20.3
SMS0550HASAT-CPRC	5x1.00	7.6	20.3
SMS0650HASAD-CPRC	6x1.00	8.6	20.3
SMS0250HASAL-CPRC	2x1.50	7.0	13.8
SMS0350HASAG-CPRC	3x1.50	7.3	13.8
SMS0450HASAF-CPRC	4x1.50	8.0	13.8
SMS0550HASAT-CPRC	5x1.50	9.0	13.8
SMS0650HASAD-CPRC	6x1.50	9.8	13.8
SMS0250HASAL-CPRC	2x2.50	8.6	8.3
SMS0350HASAG-CPRC	3x2.50	9.1	8.3
SMS0450HASAF-CPRC	4x2.50	9.9	8.3
SMS0550HASAT-CPRC	5x2.50	11.1	8.3
SMS0650HASAD-CPRC	6x2.50	12.0	8.3
SMS0250HASAL-CPRC	2x4.00	9.9	5.1
SMS0350HASAG-CPRC	3x4.00	10.8	5.1
SMS0450HASAF-CPRC	4x4.00	11.8	5.1
SMS0550HASAT-CPRC	5x4.00	13.2	5.1
SMS0650HASAD-CPRC	6x4.00	14.3	5.1
SMS0250HASAL-CPRC	2x6.00	11.8	3.4
SMS0350HASAG-CPRC	3x6.00	12.9	3.4
SMS0450HASAF-CPRC	4x6.00	14.0	3.4
SMS0550HASAT-CPRC	5x6.00	15.3	3.4
SMS0650HASAD-CPRC	6x6.00	16.6	3.4

FROHH2R16

Suitable for connection of movable equipment or for fixed laying in areas with risk of fire.
To be used in dry or wet interiors and for occasional or temporary use outdoor. Not allowed for laying underground even if protected.



CONSTRUCTION

Formation:

Plain annealed copper wire, Multistrand

Insulation:

Polyvinyl chloride - PVC

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

Aluminium / PETP + Tinned Copper Braid

Outer Sheath:

Polyvinyl chloride Flame Retardant - PVC FR

Colour Outer Sheath:

Grey RAL 7032

CABLE PRINTING

RAMCRO - FROHH2R16 2x0,14 mm² - 300/500V - VDE 0812 - IEC 60332-3 - EN 50575: 2014+A1:2016 CPR Class B2ca + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage:

From 0,14 mm² to 0,75 mm²: 300/500 V

From 1,00 mm² to 4,00 mm²: 450/750 V

PACKAGE



STANDARD REFERENCES

- EN 50414
- CEI EN 60332-1-2
- CEI 20-22 II
- CEI EN 50267-2

CPR CLASSIFICATION

EN 50575:2016 - B2_{CA} s1, d0, a3

IDENTIFICATION OF CORES

In according to HD 308

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

-5° C up to +50° C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter

**Control Cable****Italian Market**

ON REQUEST

- Armour in steel wire braid
- Personalized colour code and outer sheath

FROHH2R16

From 0,50 mm² to 6,00 mm²

RAMCRO CODE	FORMATION [n° x mm ²]	OUTER DIAMETER [mm]	MAX RESISTANCE AT 20°C [Ohm/km]
SMS0250HASAL	2x0.50	5.0	40.6
SMS0350HASAG	3x0.50	5.5	40.6
SMS0450HASAF	4x0.50	5.9	40.6
SMS0550HASAT	5x0.50	6.5	40.6
SMS0650HASAD	6x0.50	7.0	40.6
SMS0250HASAL	2x0.75	5.6	27.1
SMS0350HASAG	3x0.75	5.9	27.1
SMS0450HASAF	4x0.75	6.6	27.1
SMS0550HASAT	5x0.75	7.1	27.1
SMS0650HASAD	6x0.75	7.6	27.1
SMS0250HASAL	2x1.00	6.0	20.3
SMS0350HASAG	3x1.00	6.5	20.3
SMS0450HASAF	4x1.00	7.0	20.3
SMS0550HASAT	5x1.00	7.6	20.3
SMS0650HASAD	6x1.00	8.6	20.3
SMS0250HASAL	2x1.50	7.0	13.8
SMS0350HASAG	3x1.50	7.3	13.8
SMS0450HASAF	4x1.50	8.0	13.8
SMS0550HASAT	5x1.50	9.0	13.8
SMS0650HASAD	6x1.50	9.8	13.8
SMS0250HASAL	2x2.50	8.6	8.3
SMS0350HASAG	3x2.50	9.1	8.3
SMS0450HASAF	4x2.50	9.9	8.3
SMS0550HASAT	5x2.50	11.1	8.3
SMS0650HASAD	6x2.50	12.0	8.3
SMS0250HASAL	2x4.00	9.9	5.1
SMS0350HASAG	3x4.00	10.8	5.1
SMS0450HASAF	4x4.00	11.8	5.1
SMS0550HASAT	5x4.00	13.2	5.1
SMS0650HASAD	6x4.00	14.3	5.1
SMS0250HASAL	2x6.00	11.8	3.4
SMS0350HASAG	3x6.00	12.9	3.4
SMS0450HASAF	4x6.00	14.0	3.4
SMS0550HASAT	5x6.00	15.3	3.4
SMS0650HASAD	6x6.00	16.6	3.4

RS-232

Hand shake interface used for low data rates. Computer to printer or to modem or to other device. Max. speed 19.2 kbit/sec. Max. distance acc. to standard 15 m. Cables used are 6 to 25 conductors. Long distance transmission requires low capacitance (standard calls for 2500 pF link), No impedance specified.

RS-422

Balanced digital circuit. Medium speed data exchange. Long line modems and Daisy chain configuration. Maximum transmission speed 10 Mbit/second (normal use under 1Mbit/sec). Max. transmission distance is 1200 metres. Ten nodes per bus. Cables used have mainly 24AWG conductors, two twisted pairs or multi-pair and Impedance of 100 Ohm.

RS-485

Balanced digital circuit. Medium speed fieldbus interfaces. Maximum transmission speed 35 Mbit/second (normal use 1 or 0.5 Mbit/sec). Max. transmission distance is 1200 metres, 32 nodes per bus. Cables used have mainly 24AWG conductors, one twisted pair or multi-pair and impedance of 120 Ohm.

KNX

Is a standardised (EN 50090, ISO/IEC 14543), OSI-based network communications protocol for intelligent buildings. KNX is the successor to, and convergence of, three previous standards: the European Home Systems Protocol (EHS), Bati-BUS, and the European Installation Bus (EIB or Instabus).

CATEGORY LAN

Ethernet cables are grouped into sequentially numbered categories ("cat") based on different specifications; sometimes the category is updated with further clarification or testing standards LonWorks is a networking platform specifically created to address the needs of control applications. The platform is built on a protocol created by Echelon Corporation for networking devices over media such as twisted pair, power lines, fibre optics, and RF. It is used for the automation of various functions within buildings such as lighting and HVAC.

M- BUS (METER-BUS)

Ethernet cables are grouped into sequentially numbered categories ("cat") based on different specifications; sometimes the category is updated with further clarification or testing standards LonWorks is a networking platform specifically created to address the needs of control applications. The platform is built on a protocol created by Echelon Corporation for networking devices over media such as twisted pair, power lines, fibre optics, and RF. It is used for the automation of various functions within buildings such as lighting and HVAC.

BACNET

is a communications protocol for building automation and control networks. It was designed to allow communication of building automation and control systems for applications such as heating, ventilation, air-conditioning, lighting, access, and fire detection systems and their associated equipment. BACnet over IP can utilize Cat 6.

MODBUS

is a serial communications protocol published by Modicon in 1979 for use with its programmable logic controllers (PLCs). Simple and robust, it has since become one of the de facto standard communications protocols in the industry.

ramcro
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DATA LAN CABLE

MULTI-CONDUCTOR CABLE



ramcro
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RS-485 APPLICATIONS

Balanced digital circuit. Medium speed fieldbus interfaces. Maximum transmission speed 35 Mbit/second (normal use 1 or 0.5 Mbit/sec). Max. transmission distance is 1200 metres, 32 nodes per bus. Cables used have mainly 24AWG conductors, one twisted pair or multi-pair and impedance of 120 Ohm



CONSTRUCTION

Formation:

Tinned copper wire, Stranded

Insulation:

Polyolefine base - PO

Foam Polyetilene - FPE

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Braiding:

Tinned copper wire braid

Outer Sheath:

Polyvinyl Chloride - PVC

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Grey - PVC

Violet - LSZH(FRNC)

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE - RS 485 - 1PR 24AWG
SCREENED PVC
300 V 75 C IEC 60332-1/UL 1581 - RAMCRO CODE - "PROD.
WEEK/YEAR" - MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	>200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

- 1 pair: 
- 2 pair: 
- 3 pair: 
- 4 pair: 

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



RS-485 APPLICATIONS

4AWG conductors, one twisted pair or multi-pair and impedance of 120 Ohm

Cable with 24AWG CONDUCTORS - FOAM PE/SCREEN (CAM+TCWB)/PVC

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAR0108HBADX-T-RB	R1189	1x2x24AWG	5.7	38	15.46	41.0
MAR0208HBADX-T-RB	R1190	2x2x24AWG	8.4	60	15.46	41.0
MAR0308HBADX-T-RB	R1191	3x2x24AWG	8.9	73	15.46	41.0
MAR0408HBADX-T-RB	R1192	4x2x24AWG	9.7	87	15.46	41.0

Cable with 24AWG CONDUCTORS - SOLID PO/SCREEN (CAM+TCWB)/LSZH(FRNC)

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAR0108HXEDX-T-RB	R1318	1x2x24AWG	5.6	36	15.46	41.0
MAR0208HXEDX-T-RB	R1319	2x2x24AWG	8.2	57	15.46	42.0
MAR0308HXEDX-T-RB	R1320	3x2x24AWG	8.7	69	15.46	42.0
MAR0408HXEDX-T-RB	R1321	4x2x24AWG	9.5	83	15.46	42.0

Cable with 22AWG CONDUCTORS - FOAM PE/SCREEN (CAM+TCWB)/PVC

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAR0107HBADX-T-RB	R1080	1x2x22AWG	6.4	48	73.1	36.0
MAR0207HBADX-T-RB	R1295	2x2x22AWG	9.8	76	73.1	37.0
MAR0307HBADX-T-RB	R1296	3x2x22AWG	10.4	93	73.1	38.0
MAR0407HBADX-T-RB	R1297	4x2x22AWG	11.4	113	73.1	38.0

Cable with 22AWG CONDUCTORS - SOLID PO/SCREEN (CAM+TCWB)/LSZH(FRNC)

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAR0107HXEDX-T-RB	R1401	1x2x22AWG	6.0	40	73.1	36.0
MAR0207HXEDX-T-RB	R1402	2x2x22AWG	9.1	66	73.1	37.0
MAR0307HXEDX-T-RB	R1403	3x2x22AWG	10.1	83	73.1	38.0
MAR0407HXEDX-T-RB	R1404	4x2x22AWG	11.0	100	73.1	38.0

Cable with 18AWG CONDUCTORS - SOLID PE/SCREEN (CAM+TCWB)/LSZH(FRNC)

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAR0105HXEDX-T-RB	R1405	1x2x18AWG	8.9	75	90.0	32.0
MAR0205HXEDX-T-RB	R1406	2x2x18AWG	11.5	111	90.0	35.0
MAR0305HXEDX-T-RB	R1407	3x2x18AWG	13.5	138	90.0	38.0
MAR0405HXEDX-T-RB	R1408	4x2x18AWG	14.8	194	90.0	38.0

RS-422 APPLICATIONS

Balanced digital circuit. Medium speed data exchange. Long line modems and Daisy chain configuration. Maximum transmission speed 10 Mbit/second (normal use under 1Mbit/sec). Max. transmission distance is 1200 metres. Ten nodes per bus. Cables used have mainly 24AWG conductors, two twisted pairs or multi-pair and Impedance of 100 Ohm



CONSTRUCTION

Formation:

Tinned copper wire, Stranded

Insulation:

Foam Polyethylene - FPE

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Individual Screen:

0,026 mm Aluminium / PETP tape over tinned copper drain wire

Outer Sheath:

Polyvinyl Chloride - PVC

Colour Outer Sheath:

Grey

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE - RS 422 - 2PR 24AWG
IND. SCREENED PVC 300 V 75 C IEC 60332-1/UL 1581 - RAM-
CRO CODE - "PROD.WEEK/YEAR" - MADE IN ITALY + BATCH +
METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	>200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

- Pair 1: ● ●
Pair 2: ● ○
Pair 3: ● ●
Pair 4: ● ●
Pair 5: ● ●
Pair 6: ● ●

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up length 305 mt



RS-422 APPLICATIONS

24AWG conductors – PE insulation – PVC or LSZH(FRNC) sheath for RS-422 applications

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAP0208HBADX-T-RB	R1382	2x2x24AWG	7.2	42	88.0	41.0
MAP0308HBADX-T-RB	R1383	3x2x24AWG	8.3	61	88.0	41.0
MAP0408HBADX-T-RB	R1384	4x2x24AWG	9.2	76	88.0	41.0
MAP0608HBADX-T-RB	R1386	6x2x24AWG	10.5	105	88.0	41.0

RS-232 APPLICATIONS

Hand shake interface used for low data rates. Computer to printer or modem or to the other device. Cables used are 4 to 25 conductors. Long distance transmission requires low capacitance (standard calls for 2500 pF link).



CONSTRUCTION

Formation:

Tinned copper wire, Stranded

Insulation:

Polyvinyl Chloride - PVC

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Outer Sheath:

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE - RS 232 - 1PR 24AWG
SCREENED PVC 300 V 75 C IEC 60332-1/UL 1581 - RAMCRO
CODE - "PROD.WEEK/YEAR" - MADE IN ITALY + BATCH + METER
MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	>200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

- Pair 1: ● ●
- Pair 2: ● ○
- Pair 3: ● ●
- Pair 4: ● ●
- Pair 5: ● ●
- Pair 6: ● ●
- Pair 7: ● ●
- Pair 8: ● ○

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



RS-232 APPLICATIONS

24AWG conductors – PVC/LSZH(FRNC) insulation – PVC or LSZH(FRNC) sheath for RS-232 applications

Cable with 24AWG CONDUCTORS - PVC/PVC

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAS0108HBAAH-T-RB	R1181	1x2x24AWG	3.7	21	88.0	135
MAS0208HBAAX-T-RB	R1182	2x2x24AWG	5.2	34	88.0	76
MAS0308HBAAX-T-RB	R1183	3x2x24AWG	5.5	41	88.0	76
MAS0408HBAAX-T-RB	R1184	4x2x24AWG	5.7	43	88.0	80
MAS0508HBAAX-T-RB	R1185	5x2x24AWG	6.5	52	88.0	80
MAS0608HBAAX-T-RB	R1186	6x2x24AWG	6.9	53	88.0	80
MAS0708HBAAX-T-RB	R1187	7x2x24AWG	6.9	59	88.0	80
MAS0808HBAAX-T-RB	R1188	8x2x24AWG	7.7	66	88.0	80

Cable with 24AWG CONDUCTORS - LSZH(FRNC)/LSZH(FRNC)

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAS0108HXEEH-T-RB	R1640	1x2x24AWG	3.7	16	88.0	135
MAS0208HXEEX-T-RB	R1641	2x2x24AWG	5.2	27	88.0	76
MAS0308HXEEX-T-RB	R1642	3x2x24AWG	5.5	33	88.0	76
MAS0408HXEEX-T-RB	R1643	4x2x24AWG	5.7	37	88.0	80
MAS0508HXEEX-T-RB	R1644	5x2x24AWG	6.5	45	88.0	80
MAS0608HXEEX-T-RB	R1645	6x2x24AWG	6.9	48	88.0	80
MAS0708HXEEX-T-RB	R1646	7x2x24AWG	6.9	54	88.0	80
MAS0808HXEEX-T-RB	R1647	8x2x24AWG	7.7	61	88.0	80

MODBUS APPLICATIONS

Modbus is a serial communications protocol published by Modicon in 1979 for use with its programmable logic controllers (PLCs). Simple and robust, it has since become one of the factor standard communications protocols in the industry.



CONSTRUCTION

Formation:

Tinned copper wire, Stranded

Insulation:

Polyolefine base - PO

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Braiding:

Tinned copper wire braid

Outer Sheath:

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE - MODBUS - 2PR
22AWG IND. SCREENED PVC 300 V 75 C
IEC 60332-1/UL 1581 - RAMCRO CODE - "PROD.WEEK/YEAR" -
MADE IN ITALY + BATCH + METER MAR- KING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	>200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

- Pair 1: ● ●
Pair 2: ● ○
Pair 3: ● ●
Pair 4: ● ●
Pair 5: ● ●
Pair 6: ● ●
Pair 7: ● ●
Pair 8: ● ○

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



MODBUS APPLICATIONS

22AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for MODBUS applications

Cable with 22AWG CONDUCTORS - PO/PVC

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAP0207HBADH-T-RB	R1196	2x2x22AWG	5.8	36	57.4	100
MAP0307HBADX-T-RB	R1197	3x2x22AWG	6.3	50	57.4	100
MAP0607HBADX-T-RB	R1214	6x2x22AWG	8.0	83	57.4	100

Cable with 24AWG CONDUCTORS - LSZH(FRNC)/LSZH(FRNC)

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAS0108HXEEH-T-RB	R1281	2x2x24AWG	6.3	47	57.4	150
MAS0208HXEEH-T-RB	R1282	3x2x24AWG	6.8	63	57.4	155
MAS0508HXEEH-T-RB	R1314	6x2x24AWG	9.3	110	57.4	155

M-BUS APPLICATIONS

M-BUS (Meter-Bus) is a European standard (EN 13757-2) physical and link layer, EN 13757-3 application layer) for the remote reading of gas or electricity meters. M-Bus is also suitable for other types of consumption meters.



CONSTRUCTION

Formation:

Tinned copper wire, Stranded

Insulation:

Thermoplastic Low Smoke, Halogen Free - LSZH(FRNC)

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Outer Sheath:

Polyvinyl chloride - PVC

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Polyolefine base - PO

Colour Outer Sheath:

Grey for PVC

Violet for LSZH (FRNC)

Black for LDPE

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE - M-BUS - 1PR 22AWG

SCREENED PVC 300 V 75 C IEC

60332-1/UL 1581 - RAMCRO CODE - "PROD.WEEK/YEAR" -

MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Inductance: < 1 mH/km

Operating Voltage: 300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: ● ○

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

-5° C up to +50° C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up length 305 mt



M-BUS APPLICATIONS

24AWG and 12AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for M-BUS applications

Cable with PO/UNSCREENED/PVC

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MSE0107HBADN-T-RB	R1301	1x2x22AWG	3.9	19	57.40	70
MSE0106HBADN-T-RB	R1300	1x2x20AWG	4.2	24	35.75	70
MSE0105HBADN-T-RB	R1203	1x2x18AWG	4.8	32	22.70	70
MSE0103HBADN-T-RB	R1198	1x2x16AWG	6.6	58	15.47	50
MSE0101HBADN-T-RB	R1222	1x2x14AWG	8.4	91	9.3	108
MSE0152HBADN-T-RB	R1302	1x2x12AWG	9.5	110	5.9	115

Cable with LSZH/UNSCREENED/LSZH

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MSE0107HXEEN-T-RB	R1311	1x2x22AWG	3.3	14	57.40	85
MSE0106HXEEN-T-RB	R1309	1x2x20AWG	3.5	17	35.75	80
MSE0105HXEEN-T-RB	R1271	1x2x18AWG	3.9	24	22.70	80
MSE0103HXEEN-T-RB	R1307	1x2x16AWG	4.6	33	15.47	75
MSE0101HXEEN-T-RB	R1306	1x2x14AWG	5.5	51	9.3	75
MSE0152HXEEN-T-RB	R1304	1x2x12AWG	6.7	78	5.9	75

Cable with PO/UNSCREENED/LDPE

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MSE0107HEDDN-T-RB	R1879	1x2x22AWG	4.2	14	57.40	70
MSE0106HEDDN-T-RB	R1878	1x2x20AWG	5.0	19	35.75	70
MSE0105HEDDN-T-RB	R1874	1x2x18AWG	5.5	25	22.70	70
MSE0103HEDDN-T-RB	R1872	1x2x16AWG	7.3	45	15.47	50
MSE0101HEDDN-T-RB	R1876	1x2x14AWG	8.4	66	9.3	108
MSE0152HEDDN-T-RB	R1880	1x2x12AWG	9.5	94	5.9	115

M-BUS APPLICATIONS

24AWG and 22AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for M-BUS applications.



CONSTRUCTION

Formation:

Tinned copper wire, Stranded

Insulation:

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Braiding:

Tinned copper wire braid

Outer Sheath:

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE - M-BUS - 1PR 22AWG
UNSCREENED PVC 300 V 75 C IEC
60332-1/UL 1581 - RAMCRO CODE - "PROD.WEEK/YEAR" -
MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C:	> 200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: ● ○

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



M-BUS APPLICATIONS

24AWG and 12AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for M-BUS applications

Cable with 24AWG CONDUCTORS - PO/SCREENED/PVC

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAS0107HBADN-T-RB	R1199	1x2x22AWG	4.3	25	57.40	75.0
MAS0106HBADN-T-RB	R1195	1x2x20AWG	5.1	31	35.75	75.0
MAS0105HBADN-T-RB	R1193	1x2x18AWG	5.5	42	22.70	75.0
MAS0103HBADN-T-RB	R1213	1x2x16AWG	7.5	69	15.47	60.0
MAS0101HBADN-T-RB	R1224	1x2x14AWG	8.5	94	9.3	76.0
MAS0152HBADN-T-RB	R1313	1x2x12AWG	9.3	115	5.9	77.0

Cable with 24AWG CONDUCTORS - LSZH/SCREENED/LSZH

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAS0107HXEEN-T-RB	R1310	1x2x22AWG	3.4	17	57.40	130.0
MAS0106HXEEN-T-RB	R1308	1x2x20AWG	3.6	20	35.75	128.0
MAS0105HXEEN-T-RB	R1272	1x2x18AWG	4.0	27	22.70	125.0
MAS0103HXEEN-T-RB	R1270	1x2x16AWG	4.7	36	15.47	120.0
MAS0101HXEEN-T-RB	R1305	1x2x14AWG	5.6	54	9.3	120.0
MAS0152HXEEN-T-RB	R1303	1x2x12AWG	6.8	81	5.9	120.0

Cable with 24AWG CONDUCTORS - PO/SCREENED/LDPE

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MAS0107HEDDN-T-RB	R1881	1x2x22AWG	4.3	19	57.40	75.0
MAS0106HEDDN-T-RB	R1877	1x2x20AWG	5.1	25	35.75	75.0
MAS0105HEDDN-T-RB	R1875	1x2x18AWG	5.5	36	22.70	75.0
MAS0103HEDDN-T-RB	R1870	1x2x16AWG	7.5	58	15.47	60.0
MAS0101HEDDN-T-RB	R1871	1x2x14AWG	8.5	78	9.3	76.0
MAS0152HEDDN-T-RB	R1873	1x2x12AWG	9.3	105	5.9	77.0

LONWORKS APPLICATIONS

22AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for LONWORKS applications



CONSTRUCTION

Formation:

Tinned copper wire, Solid

Insulation:

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Braiding:

Tinned copper wire braid

Outer Sheath:

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE - LONWORKS - 1PR
22AWG SCREENED PVC 300 V 75 C IEC
60332-1/UL 1581 - RAMCRO CODE - "PROD.WEEK/YEAR" -
MADE IN ITALY + BATCH + METER MARKING


ELECTRICAL DATA


Insulation Resistance @ 20°C:	> 200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: 

Pair 2: 

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



LONWORKS APPLICATIONS

22AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for LONWORKS applications

Cable with 24AWG CONDUCTORS - PO/UNSCREENED/LSZH(FRNC)

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SSR0107HXEDX-RB	R1346	1x2x22AWG	3.2	13	57.4	46.0
SSR0107HXEDX-RB	R1347	2x2x22AWG	5.0	24	57.4	46.0

Cable with 24AWG CONDUCTORS - PO/SCREENED/LSZH(FRNC)

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SAM0107HXEDX-RB	R1348	1x2x22AWG	4.9	33	57.4	46.0
SAM0207HXEDX-RB	R1349	2x2x22AWG	8.0	72	57.4	46.0

KNX OR GENERAL BUS APPLICATIONS

0.8 mm conductors – PE insulation – PVC or LSZH(FRNC) sheath for EIB applications



CONSTRUCTION

Formation:

Plain annealed copper wire, Solid

Insulation:

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Outer Sheath:

Polyvinyl chloride - PVC or

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: ●

Pair 2: ●

Pair 3: ○

Pair 4: ●

CABLE PRINTING

RAMCRO ITALY - R_____ - EIB CABLE 4x0.8mm SCREENED LSZH (FRNC) - - RAMCRO CODE - "PROD.

WEEK/YEAR" - MADE IN ITALY + BATCH + METER MARKING

TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

-5° C up to +50° C



ELECTRICAL DATA

Insulation Resistance @ 20°C: > 200 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km

Inductance: < 1 mH/km

Operating Voltage: 300 V

CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



KNX OR GENERAL BUS APPLICATIONS

0.8 mm conductors – PO insulation – PVC or LSZH(FRNC) sheath for EIB applications

Cable with 24AWG CONDUCTORS - PO/SCREEN/PVC - CERTIFIED KNX REG. N. 566/16623/20

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SAM0108HIADH-RB	☆ R1219 ☆	1x2x24AWG	5.1	38	37.0	100.0
SAM4108HIADX-RB	☆ R1217 ☆	1x4x24AWG	5.7	53	37.0	100.0

Cable with 24AWG CONDUCTORS - PO/SCREEN/LSZH(FRNC) - CERTIFIED KNX REG. N. 566/16624/20

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SAM0108HIEDH-RB	☆ R1220 ☆	1x2x24AWG	5.1	36	37.0	100.0
SAM4108HIEDX-RB	☆ R1218 ☆	1x4x24AWG	5.7	51	37.0	100.0

Cable with 24AWG CONDUCTORS - PO/SCREEN/PE

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SAM0108HIDDH-RB	R1901	1x2x24AWG	5.1	48	37.0	100.0
SAM4108HIDDX-RB	R1900	1x4x24AWG	5.7	33	37.0	100.0

CAT3

CAT3



CONSTRUCTION

Formation:

Plain annealed copper wire, Solid

Insulation:

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Outer Sheath:

Polyvinyl chloride - PVC or

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE 4 PAIRS UTP CAT 3

RAMCRO CODE - "PROD.WEEK/YEAR" -

MADE IN ITALY + BATCH + METER MARKING

ELECTRICAL DATA

Insulation Resistance @ 20°C: > 200 MOhm*Km

Test Voltage Core-Core: 2000 V

Test Voltage Core-Screen: 2000 V

Mutual Capacitance: < 150 nF/km


Inductance: < 1 mH/km

Operating Voltage: 300 V


STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: 

Pair 2: 

Pair 3: 

Pair 4: 

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up length 305 mt



Cable with 24AWG CONDUCTORS - PO/SCREEN/PVC

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
CAT3-2P-RB	R1031	2x2x24AWG	3.6	16	96.0	66
CAT3-6P-RB	R1266	6x2x24AWG	5.5	39	96.0	66
CAT3-12P-RB	R1267	12x2x24AWG	7.4	73	96.0	66
CAT3-25P-RB	R1032	25x2x24AWG	11.8	154	96.0	66
CAT3-50P-RB	R1033	50x2x24AWG	15.5	280	96.0	66
CAT3-100P-RB	R1034	100x2x24AWG	21.6	530	96.0	66
CAT3-150P-RB	R1268	150x2x24AWG	26.8	800	96.0	66
CAT3-200P-RB	R1269	200x2x24AWG	29.4	1040	96.0	66

TECHNICAL PERFORMANCE

FREQUENCY [MHz]	MAX. ATTENUATION [dB/100m]	MAX. NEXT [dB]	MIN. RETURN LOSS [dB]	IMPEDANCE [Ohm]
1	2.6	41.3	12.0	100 ± 15
4	5.6	32.3	12.0	100 ± 15
8	8.5	27.8	12.0	100 ± 15
10	9.7	26.3	12.0	100 ± 15
16	13.1	23.3	12.0	100 ± 15

COLOR CODE

PAIR N°	PAIR COLOR	PAIR N°	PAIR COLOR	PAIR N°	PAIR COLOR
1	WHITE/BLUE	10	RED/GREY	19	YELLOW/BROWN
2	WHITE/ORANGE	11	BLACK/BLUE	20	YELLOW/GREY
3	WHITE/GREEN	12	BLACK/ORANGE	21	PURPLE/BLUE
4	WHITE/BROWN	13	BLACK/GREEN	22	PURPLE/ORANGE
5	WHITE/GREY	14	BLACK/BROWN	23	PURPLE/GREEN
6	RED/BLUE	15	BLACK/GREY	24	PURPLE/BROWN
7	RED/ORANGE	16	YELLOW/BLUE	25	PURPLE/GREY
8	RED/GREEN	17	YELLOW/ORANGE		
9	RED/BROWN	18	YELLOW/GREEN		

* Each group of 25 pairs, have a different color of numbered tapes

FTP UTP 5E

FTP UTP 5e



CONSTRUCTION

Formation:

Plain annealed copper wire, Solid

Insulation:

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Outer Sheath:

Polyvinyl chloride - PVC or

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE 4 PAIRS UTP CAT.5
24AWG PVC 500 MHz ISO/IEC 11801
ANSI/TIA/EIA-568 C2 IEC 60332-1/UL 1685 - RAMCRO CODE -
"PROD.WEEK/YEAR" + BATCH + METER MARKING


ELECTRICAL DATA


Insulation Resistance @ 20°C:	> 200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V


STANDARD REFERENCES


- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: 

Pair 2: 

Pair 3: 

Pair 4: 

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



FTP UTP 5E

FTP / UTP 5e

Cable with 24AWG CONDUCTORS - PO/SCREEN/PVC

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
UTPLEVEL5-4X2X0.22-RB	R1035	U-UTP	PVC	5.0	30	93.8
UTPLEVEL5-4X2X0.22ZA-RB	R1235	U-UTP	PVC	5.0	29	93.8
FTPLEVEL54X2X0.22-RB	R1036	U-FTP	LSZH(FRNC)	6.3	42	93.8
FTPLEVEL54X2X0.22ZA-RB	R1236	U-FTP	LSZH(FRNC)	6.3	43	93.8

Cable with 24AWG CONDUCTORS - PO/SCREEN/PVC

FREQUENCY [MHz]	MIN.RETURN LOSS [dB/100m]	MAX. ATTENUATION [dB]	MIN. NEXT [dB]	MAX. TIME DELAY [ns/100m]	MAX. PSNEXT [dB]	MIN. ELFEXT [dB]	MIN. PSELFEXT [dB]
1	20.0	2.0	65.3	570.00	62.3	64.0	61.0
4	23.0	4.1	56.3	552.00	53.3	52.0	49.0
8	24.5	5.8	51.8	546.73	48.8	45.9	42.9
10	25.0	6.5	50.3	545.38	47.3	44.0	41.0
16	25.0	8.2	47.2	543.00	44.4	39.9	36.9
20	25.0	9.3	45.8	542.05	42.8	38.0	35.0
25	24.3	10.4	44.3	541.20	41.3	35.8	33.0
31.25	23.6	11.7	42.9	540.44	39.9	34.1	31.1
62.5	21.5	17.0	38.4	538.55	35.4	28.1	25.1
100	20.1	22.0	35.3	537.60	32.3	24.0	21.0

FTP UTP 6

24AWG and 22AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for RS-485 applications



CONSTRUCTION

Formation:

Plain annealed copper wire, 7 Strand

Insulation:

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Outer Sheath:

Polyvinyl chloride - PVC or

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE 4 PAIRS UTP CAT.6
23AWG PVC 500 MHz ISO/IEC 11801
ANSI/TIA/EIA-568 C2 IEC 60332-1/UL 1685 - RAMCRO CODE -
"PROD.WEEK/YEAR" + BATCH + METER MARKING

ELECTRICAL DATA


Insulation Resistance @ 20°C:	> 200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V


STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: 

Pair 2: 

Pair 3: 

Pair 4: 

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



FTP UTP 6

FTP / UTP 6

Cable with 24AWG CONDUCTORS - PO/SCREEN/PVC

RAMCRO CODE	PART N°	TYPE	SHEATH	NOM. OUTER DIAMETER [mm]	NOM. WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
UTPLEVEL6-4X2X0.22-RB	R1037	U-UTP	PVC	6.2	42	93.8
UTPLEVEL6-4X2X0.22ZA-RB	R1237	U-UTP	LSZH(FRNC)	6.2	42	93.8
FTPLEVEL64X2X0.22-RB-RB	R1038	U-FTP	PVC	7.4	56	93.8
FTPLEVEL64X2X0.	R1238	U-FTP	LSZH(FRNC)	7.4	54	93.8

TECHNICAL PERFORMANCE

FREQUENCY [MHz]	MIN.RETURN LOSS [dB/100m]	MAX. ATTENUATION [dB]	MIN. NEXT [dB]	MAX. TIME DELAY [ns/100m]	MAX. PSNEXT [dB]	MIN. ELFEXT [dB]	MIN. PSELFEXT [dB]
1	20.0	2.0	74.3	570.00	72.3	67.8	64.8
4	23.0	3.8	65.3	552.00	63.3	55.8	52.8
8	24.5	5.3	60.8	546.73	58.8	49.7	46.7
10	25.0	6.0	59.3	545.38	57.3	47.8	44.8
16	25.0	7.6	56.2	543.00	54.2	43.7	40.7
20	25.0	8.5	54.8	542.05	52.8	41.8	38.8
25	24.3	9.5	53.3	541.20	51.3	39.8	36.8
31.25	23.6	10.7	51.9	540.44	49.9	37.9	34.9
62.5	21.5	15.4	47.4	538.55	45.4	31.9	28.9
100	20.1	19.8	44.3	537.80	42.3	27.8	24.8
200	18.0	29.0	39.8	536.54	37.8	21.8	18.8
250	17.3	32.8	38.3	536.27	36.3	19.8	16.8

FTP UTP 6A

24AWG and 22AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for RS-485 applications



CONSTRUCTION

Formation:

Plain annealed copper wire, 7 Strand

Insulation:

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Outer Sheath:

Polyvinyl chloride - PVC or

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE 4 PAIRS UTP CAT.6A
23AWG PVC 500 MHz ISO/IEC 11801
ANSI/TIA/EIA-568 C2 IEC 60332-1/UL 1685 - RAMCRO CODE -
"PROD.WEEK/YEAR" + BATCH + METER MARKING


ELECTRICAL DATA


Insulation Resistance @ 20°C:	> 200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V


STANDARD REFERENCES


- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: 

Pair 2: 

Pair 3: 

Pair 4: 

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



FTP UTP 6A

FTP / UTP 6A

RAMCRO CODE	PART N°	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
UTPLEVEL6A4X2X0.22-RB	R1055	U-UTP	PVR	7.0	160	93.8
UTPLEVEL6A4X2X0.22ZA-RB	R1200	U-UTP	LSZH(FRNR)	7.0	155	93.8
FTPLEVEL6A4X2X0.22-RB	R1056	F-UTP	PVR	7.2	200	76.9
FTPLEVEL6A4X2X0.22ZA-RB	R1052	F-UTP	LSZH(FRNR)	7.2	196	76.9
UFTPLEVEL6A4X2X0.22-RB	R1057	U-FTP	PVR	7.8	210	76.9
UFTPLEVEL6A4X2X0.22ZA-RB	R1053	U-FTP	LSZH(FRNR)	7.8	206	76.9

TECHNICAL PERFORMANCE

FREQUENCY [MHz]	MIN. RETURN LOSS [dB/100m]	MAX. ATTENUATION [dB]	MIN. NEXT [dB]	MAX. TIME DELAY [ns/100m]	MAX. PSNEXT [dB]	MIN. ELFEXT [dB]	MIN. PSELFEXT [dB]
1	20.0	3.7	74.3	72.3	55.9	100 ± 15	61.0
10	25.0	5.8	59.3	57.3	47.8	100 ± 15	49.0
31.25	23.6	10.4	51.9	49.9	37.9	100 ± 15	42.9
100	20.1	19.0	44.3	42.3	27.8	100 ± 15	41.0
300	17.3	34.2	37.1	35.1	18.1	100 ± 25	36.9
500	17.3	45.2	33.8	31.8	14.0	100 ± 15	35.0

CAT 7

24AWG and 22AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for RS-485 applications



CONSTRUCTION

Formation:

Plain annealed copper wire, 7 Strand

Insulation:

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Outer Sheath:

Polyvinyl chloride - PVC or

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE 4 PAIRS S/FTP CAT.7
23AWG PVC 500 MHz ISO/IEC 11801
ANSI/TIA/EIA-568 C2 IEC 60332-1/UL 1685 - RAMCRO CODE -
"PROD.WEEK/YEAR" + BATCH + METER MARKING

ELECTRICAL DATA


Insulation Resistance @ 20°C:	> 200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V


STANDARD REFERENCES

- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: 

Pair 2: 

Pair 3: 

Pair 4: 

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



RAMCRO CODE	PART N°	TYPE	SHEATH	NOM. OUTER DIAMETER [mm]	NOM. WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SFTPLEVEL7-RB	R1039	S-FTP	LSZH(FRNC)	7.8	68	57.9

TECHNICAL PERFORMANCE

FREQUENCY [MHz]	MIN. RETURN LOSS [dB/100m]	MAX. ATTENUATION [dB]	MIN. NEXT [dB]	MAX. TIME DELAY [ns/100m]	MAX. PSNEXT [dB]	MIN. ELFEXT [dB]	MIN. PSELFEXT [dB]
1	100 ± 15	20.0	2.0	80	75	78	75
4	100 ± 15	23.0	3.7	80	75	78	75
10	100 ± 15	25.0	5.9	80	75	74	71
16	100 ± 15	25.0	7.4	80	75	70	67
20	100 ± 15	25.0	8.3	80	75	68	65
31.25	100 ± 15	23.6	10.4	80	75	64	61
62.5	100 ± 15	21.5	14.9	75.5	72.5	58	55
100	100 ± 15	20.1	19.0	72.4	69.4	64	51
200	100 ± 25	17.3	27.5	67.9	64.9	48	45
250	100 ± 25	17.3	31.0	66.5	63.5	46	43
300	100 ± 25	17.3	34.2	61.9	62.2	40	37
600	100 ± 25	17.3	50.1	60.8	57.7	38	35

CAT 7A

24AWG and 22AWG conductors – PO insulation – PVC or LSZH(FRNC) sheath for RS-485 applications



CONSTRUCTION

Formation:

Plain annealed copper wire, 7 Strand

Insulation:

Polyolefine base - PO

Wrapping:

at least 1 layer of plastic tape 0,023 mm

Collective Screen:

0,026 mm Aluminium / PETP tape over tinne copper drain wire

Outer Sheath:

Polyvinyl chloride - PVC or

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet

CABLE PRINTING

RAMCRO ITALY - R_____ - DATA LAN CABLE 4 PAIRS S/FTP CAT.7A

23AWG PVC 500 MHz ISO/IEC

11801 ANSI/TIA/EIA-568 C2 IEC 60332-1/UL 1685 - RAMCRO

CODE - "PROD.WEEK/YEAR" + BATCH + METER MARKING


ELECTRICAL DATA


Insulation Resistance @ 20°C:	> 200 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Mutual Capacitance:	< 150 nF/km
Inductance:	< 1 mH/km
Operating Voltage:	300 V


STANDARD REFERENCES


- (BS) EN 50290-2
- IEC 60228
- IEC 60332-1 for PVC sheath
- IEC 60332-3-24 for LSZH(FRNC) sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

IDENTIFICATION OF CORES

Pair 1: 

Pair 2: 

Pair 3: 

Pair 4: 

TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +50°C



CHARACTERISTICS

Min. Bending Radius

8 x cable diameter



Put up lenght 305 mt



RAMCRO CODE	PART N°	TYPE	SHEATH	NOM. OUTER DIAMETER [mm]	NOM. WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]
SFTPLEVEL7A-RB	R1201	S-FTP	LSZH(FRNR)	7.8	68	

TECHNICAL PERFORMANCE

FREQUENCY [MHz]	IMPEDANCE [OHM]	MIN. RETURN LOSS [dB/100m]	MAX. ATTENUATION [dB/100m]	MAX. TIME DELAY [ns/100m]	MIN. NEXT [dB]	MIN. PSNEXT [dB]
4	100 ± 15	23.0	3.7	80.0	77.0	78.0
10	100 ± 15	25.0	5.9	80.0	77.0	74.3
16	100 ± 15	25.0	7.3	80.0	77.0	72.8
20	100 ± 15	25.0	8.2	80.0	77.0	71.9
31.25	100 ± 15	23.6	10.3	80.0	77.0	69.9
62.5	100 ± 15	21.5	14.6	80.0	77.0	60.6
100	100 ± 15	20.1	18.5	78.4	75.4	53.9
300	100 ± 15	17.3	32.7	71.2	68.2	38.6
600	100 ± 25	17.3	47.1	66.7	63.7	19.6
800	100 ± 25	17.3	54.9	64.9	61.9	9.93
1000	100 ± 25	16.0	61.9	63.4	60.4	1.47

EV CABLES – CONNECTION FOR CHARGING STATIONS

APPLICATION

The EV RAMCRO Cable is suitable for EV charging unit power and flow monitoring. The cable is a combination of power cores and screened Cat6A data cable offering a solution for quick installation including connection to CTs, eliminating the need to run two separate cables. Suitable for installation in air, clipped to surface, on tray/ladder, embedded in concrete, and for direct burial when mechanical protection is in place.

CHARACTERISTICS

Voltage	0.6/1kV
Test Voltage	5000V
Temperature Rating	Fixed: -30°C to +80°C
Minimum Bending Radius	6 x outer diameter

CONSTRUCTION

Conductor

Power Cores: Class 5 flexible stranded Copper Cat6A Pairs: Class 1 solid Copper

Insulation

Power Cores: XLPE (Cross- Linked Polyethylene) Cat6A Pairs: HDPE (High Density Polyethylene)

Individual & Collective Screen (Cat6A F/FTP Pairs only)

Al/PET (Aluminium/Polyester Tape) with tinned copper drain wire

Cat6A Sheath

LSZH (Low Smoke Zero Halogen)

Tape and Interstitial Fillers

Outer Sheath

LSZH (Low Smoke Zero Halogen) - UV Resistant

Sheath Color

Black

CABLE WARRANTY

This cable has a warranty period of 25 years

STANDARDS

IEC 60502-1, IEC/EN 60228, TIA/EIA 568-B.10, IEC 61158-5

UV Resistant to EN 50396
Abrasion Resistant to EN 50289-3-7
Low Smoke Zero Halogen according to IEC/EN 61034-1/2, IEC/EN 60754-1/2
Flame retardant according to IEC/EN 60332-1-2, IEC/EN 60332-3-24

REGULATORY COMPLIANCE

This cable is compliant with European Regulation EN 50575, the Construction Products Regulation

This cable meets the requirements of the Low Voltage Directive 2014/35/EU and the RoHS Directive 2011/65/EU.

Core Identification

Power - 3 Cores:

● Blue ● Brown ● Green/Yellow

Power - 4 Cores:

● Blue ● Brown ● Black ● Green/Yellow

Power - 5 Cores:

● Blue ● Brown ● Black ● Grey ● Green/Yellow

Cat6A Pairs:

Pair 1: ● Blue ● White/Blue

Pair 2: ● Orange ● White/Orange

Pair 3: ● Green ● White/Green

Pair 4: ● Brown ● White/Brown

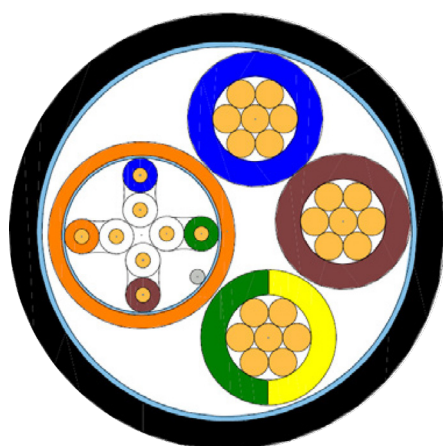
EV CABLES – CONNECTION FOR CHARGING STATIONS

Dimension

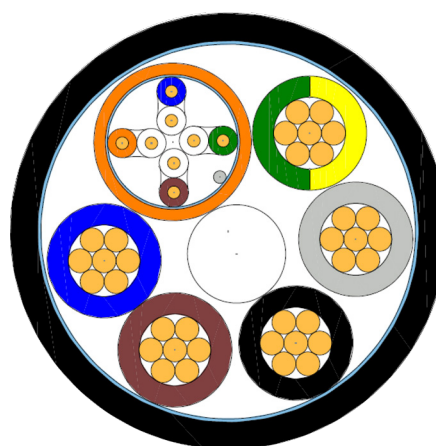
RAMCRO CODE	NUMBER OF CORES	NOMINAL CROSS SECTIONAL AREA POWER CORES mm ²	NOMINAL AWG SIZE CAT6A DATA AWG	NOMINAL DIAMETER CAT6A mm	NOMINAL THICKNESS INSULATION (POWER) mm	NOMINAL OVERALL DIAMETER mm	NOMINAL PULLING TENSION N	NOMINAL WEIGHT kg/km
VCS0325HEEXM-CL5-FFTP6A	3	2.50	23	6.9	0.7	13.3	434	355
VCS0425HEEXF-CL5-FFTP6A	4	2.50	23	6.9	0.7	13.9	545	402
VCS0525HEEXX-CL5-FFTP6A	5	2.50	23	6.9	0.7	14.7	657	450
VCS0340HEEXM-CL5-FFTP6A	3	4.00	23	6.9	0.8	14.5	609	435
VCS0440HEEXF-CL5-FFTP6A	4	4.00	23	6.9	0.8	15.4	779	508
VCS0540HEEXZ-CL5-FFTP6A	5	4.00	23	6.9	0.8	16.5	948	584
VCS0360HEEXM-CL5-FFTP6A	3	6.00	23	6.9	0.9	16.1	899	560
VCS0460HEEXF-CL5-FFTP6A	4	6.00	23	6.9	0.9	17.5	1166	662
VCS0560HEEXZ-CL5-FFTP6A	5	6.00	23	6.9	0.9	19.1	1343	770

Electrical Characteristics

NOMINAL CROSS SECTIONAL AREA POWER CORES mm ²	POWER CONDUCTOR DC RESISTANCE AT 20 °C Ω/km	NCAT6A DATA CONDUCTOR DC RESISTANCE AT 20 °C Ω/km	INSULATION RESISTANCE AT 20 °C MΩ/km	MUTUAL CAPACITANCE max nF/km	INDUCTANCE max mH/km	L/R RATIO max uH/Ω	CURRENT CARRYING CAPACITY AT 30°C Amps
2.50	8.3	93.8	1000	140	1	60	26
4.00	5.1	93.8	1000	130	1	60	35
6.00	3.4	93.8	1000	115	1	60	44



LAN Cat. 6 4x2x23AWG + 3x2.50 mm²



LAN Cat. 6 4x2x23AWG + 5x6.0 mm²

The information contained within this datasheet is for guidance only and is subject to change without notice or liability. All the information is provided in good faith and is believed to be correct at the time of publication. When selecting cable accessories, please note that actual cable dimensions may vary due to manufacturing tolerances

DEFENCE STANDARD 61-12 PART 4 CABLE

These Multi-Core flexible cables are designed for high density wiring between components within instruments and electronic equipment. They are extensively used in aircraft, process control systems, computers, data processors, military vehicles and military equipment.



CONSTRUCTION

Voltage Rating

Cores with 7/0.2 mm conductors:
440V r.m.s. at frequencies up to 1.6 kHz

Maximum Resistance of Conductor at 20°C

7/0.2 mm: 92 ohms/km

Temperature Rating

Fixed: -30°C to +70°C

Flexed: -15°C to +70°C

Minimum Bending Radius

Fixed: 7.5 x overall diameter

CONSTRUCTION

Conductor

Stranded tinned copper conductor; 0.22mm² (7/0.2mm)

Insulation

PVC (Polyvinyl Chloride)

Screen

TCWB (Tinned Copper Wire Braid)

Sheath

PVC (Polyvinyl Chloride)

Sheath Colour

Black

Circular Conductor, PVC Insulated, PVC Sheathed, Def Stan 61/12 Part 4

NO. OF CORES	NOMINAL THICKNESS OF SHEATH mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	0.45	3.35	13
3	0.45	3.35	16
4	0.45	3.85	20
6	0.45	4.55	30
12	0.55	6.1	53
18	0.65	7.4	80
25	0.65	8.7	100
36	0.65	9.8	140
50	0.75	11.6	200

Circular Conductor, PVC Insulated, Collectively Screened Cores, PVC Sheathed, Def Stan 61/12 Part 4

NO. OF CORES	NOMINAL THICKNESS OF SHEATH mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	0.45	3.85	23
3	0.45	3.95	27
4	0.45	4.35	32
6	0.55	5.6	55
8	0.55	5.6	60
12	0.55	6.9	83
18	0.65	8.2	110
25	0.65	9.5	150
36	0.75	10.8	200
50	0.75	12.6	270

DEFENCE STANDARD 61-12 PART 4 CABLE

These Multi-Core flexible cables are designed for high density wiring between components within instruments and electronic equipment. They are extensively used in aircraft, process control systems, computers, data processors, military vehicles and military equipment.

Circular Conductor, PVC Insulated, Individually Screened Cores, PVC Sheathed, Def Stan 61/12 Part 4

NO. OF CORES	NOMINAL THICKNESS OF SHEATH mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	0.45	4.25	22
3	0.45	4.55	29
4	0.55	5.1	40
6	0.55	6.1	58
12	0.65	8.2	110
18	0.65	9.6	150
25	0.75	11.65	210
36	0.75	13.1	290
50	0.9	15.6	410

DEFENCE STANDARD 61-12 PART 4 LSZH CABLE

These multi-core flexible cables are designed for high density wiring between components within instruments and electronic equipment. They are extensively used in aircraft, process control systems, computers, data processors, military vehicles and military equipment. The LSZH construction ensures enhanced performance in the event of fire reducing the emissions of smoke and toxic fumes making them a perfect solution for sensitive equipment areas. For installations where fire, smoke emissions and toxic fumes create a potential threat to life and equipment.



CONSTRUCTION

Voltage Rating

440V r.m.s. at frequencies up to 1.6kHz

Maximum Resistance of Conductor at 20°C

7/0.2: 92ohms/km

Temperature Rating

Fixed: -30°C to +60°C

Flexed: -15°C to +60°C

Minimum Bending Radius

Fixed: 7.5 x overall diameter

NO. OF CORES	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	3.7	23
3	4	27
4	4.3	32
6	5.1	60
12	6.6	83
18	7.8	110
25	9.2	150

NO. OF CORES	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	3.9	23
3	4.1	27
4	4.4	32
6	5.6	53
8	5.9	61
12	6.9	62
18	8.2	144
25	9.5	148

STANDARDS

Defence Standard 61-12 Part 4, UL 1581, BS EN IEC 60574-1 BS EN IEC 60574-2, BS EN/IEC 61034-2

CONSTRUCTION

Conductor

Class 2 Stranded tinned copper conductor

Insulation

LSZH (Low Smoke Zero Halogen)

Tape

Mylar

Drain Wire

Stranded tinned copper

Screen

Al-foil (Aluminium foil)

Tape

Mylar

Rip Cord

Nylon

Sheath

LSZH (Low Smoke Zero Halogen)

Sheath Colour

Black

DEFENCE STANDARD 61-12 PART 5 CABLE

These Multi-Core flexible cables are designed for high density wiring between components and within instruments and electronic equipment. They are extensively used in aircraft, process control systems, computers, data processors, military vehicles and military equipment.



CONSTRUCTION

Voltage Rating

440V r.m.s. at frequencies up to 1.6kHz

Maximum Resistance of Conductor at 20°C

16/0.2 : 40.1 ohms/km

Current Carrying Capacity

2.5 Amps

Temperature Rating

Fixed: -30°C to +70°C

Flexed: -15°C to +70°C

Minimum Bending Radius

Fixed: 7.5 x overall diameter

CONSTRUCTION

Conductor

Class 5 flexible tinned copper conductor

Insulation

PVC (Polyvinyl Chloride)

Screen

TCWB (Tinned Copper Wire Braid)

Sheath

PVC (Polyvinyl Chloride)

Sheath Colour

Black

Circular Conductor, PVC Insulated, PVC Sheathed, Def Stan 61/12 Part 4

NO. OF CORES	NOMINAL THICKNESS OF SHEATH mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	0.9	5.5	34
3	0.9	5.8	42
4	0.9	6.3	54
6	0.9	7.3	75
8	0.9	8.5	96
12	0.9	9.5	120
18	0.9	11	180
25	0.9	13.1	230

Circular Conductor, PVC Insulated, Collectively Screened Cores, PVC Sheathed, Def Stan 61/12 Part 5

NO. OF CORES	NOMINAL THICKNESS OF SHEATH mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	0.9	6.5	69
3	0.9	6.8	79
4	0.9	7.3	92
6	0.9	8.3	120
8	0.9	8.9	140
10	0.9	9.3	165
12	0.9	10.6	190
18	0.9	12	250
25	0.9	14	320

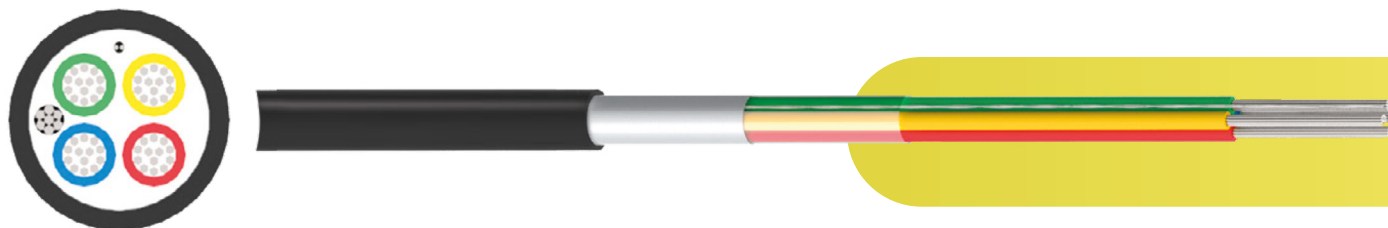
DEFENCE STANDARD 61-12 PART 5 CABLE

Circular Conductor, PVC Insulated, Individually Screened Cores, PVC Sheathed, Def Stan 61/12 Part 5

NO. OF CORES	NOMINAL THICKNESS OF SHEATH mm	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	0.9	6	47
3	0.9	6.8	60
4	0.9	7.4	75
6	0.9	8.7	110
7	0.9	8.7	120
12	0.9	11.3	190
18	0.9	13.3	270
25	0.9	15.9	360

DEFENCE STANDARD 61-12 PART 5 LSZH CABLE

These multicore flexible cables are designed for high density wiring between components within instruments and electronic equipment. They are extensively used in aircraft, process control systems, computers, data processors, military vehicles and military equipment. For installations where fire, smoke emissions and toxic fumes create a potential risk to life and equipment.



CONSTRUCTION

Voltage Rating

440V r.m.s. at frequencies up to 1.6kHz

Maximum Resistance of Conductor at 20°C

16/0.2: 40.1ohms/km

Current Carrying Capacity

2.5 Amps

Temperature Rating

Fixed: -30°C to +60°C

Flexed: -15°C to +60°C

Minimum Bending Radius

Fixed: 7.5 x overall diameter

LSZH Insulated, Foil Screen, LSZH Sheath

NO. OF CORES	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	4.8	45
4	6.2	60
6	7.2	81
8	8.2	104
12	9.7	132
18	12.6	198

LSZH Insulated, TCWB (Tinned Copper Wire Braid), LSZH Sheath

NO. OF CORES	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	6.5	66
3	6.8	76
4	7.3	90
6	8.3	114
8	8.9	135
5 Pair	11.3	179
12	10.5	183
18	12.5	256
25	14.1	321

STANDARDS

Defence Standard 61-12 Part 5, UL 1581, BS EN IEC 60574-1/2, BS EN/IEC 61034-2

CONSTRUCTION

Conductor

Class 5 flexible Stranded tinned copper conductor

Sizes

16 strands/0.2 mm

Insulation

LSZH (Low Smoke Zero Halogen)

Tape

Mylar

Drain Wire

Stranded tinned copper

Screen

Al-foil (Aluminium foil)

Tape

Mylar

Rip Cord

Nylon

Sheath

LSZH (Low Smoke Zero Halogen)

Sheath Colour

Black

LSZH Insulated, TCWB (Tinned Copper Wire Braid), LSZH Sheath

NO. OF CORES	NOMINAL OVERALL DIAMETER mm	NOMINAL WEIGHT kg/km
2	5.5	35
3	5.8	45
4	6.5	73
6	7.3	128
8	9.5	178
10	11	247
12	13.4	345
18	15.1	463
25	17.6	543

A photograph of a modern industrial factory floor. Several large, yellow robotic arms are visible, some in the foreground and others in the background. They are positioned around a production line, with some holding parts. The background shows a complex network of metal structures and overhead lighting. The overall scene is brightly lit and conveys a sense of high-tech manufacturing.

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PROFIBUS DP_{Type}

Profibus DP cables are suitable for communication between masters and slaves in a Profibus system, cyclical exchange data with all of the slaves assigned to a master, one at a time, according to its list of assigned slaves taken from the master record. Suitable for fast and cyclical exchange data with Master and its Slaves, where the class 1 master uses the bandwidth by realizing asynchronous data exchanges with the Slaves using both confirmed (read inputs, read outputs) and/or not confirmed services (freeze, sync).



CONSTRUCTION

Formation:

Bare copper solid or flexible

Insulation:

Foam polyolefin - FPE

1st overall shield:

overlapped shielding tape aluminium/polyester tape

- Coverage $\geq 100\%$

2nd overall shield:

braid shield tinned copper - Coverage $\geq 65\%$

Outer Sheath:

Polyvinyl Chloride - PVC

Thermoplastic low smoke, Halogen free - LSZH(FRNC)

Colour Outer Sheath:

Violet - PVC

Violet - LSZH(FRNC)

IDENTIFICATION OF CORES

2 Cores: ● ●

ELECTRICAL DATA

Nominal Impedance:	150±10% ohm
Capacitance:	≤ 30 pF/m
Transmission speed:	Up to 12Mbit/s
Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	2000 V
Test Voltage Core-Screen:	2000 V
Operating Voltage:	300 V

Cable with FPE/DoubleSCREEN/PVC

RAMCRO CODE	Copper Class	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MRT0122HXA4X-DP	Solid	1x2x22AWG	8	65	55.4	30.0
SDS0107HXA4X-DP	Flexible	1x2x22AWG	8	65	55.4	30.0

Cable with FPE/DoubleSCREEN/LSZH(FRNC)

RAMCRO CODE	Copper Class	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MRT0122HXE4X-DP	Solid	1x2x22AWG	8	65	55.4	30.0
SDS0107HXE4X-DP	Flexible	1x2x22AWG	8	65	55.4	30.0

STANDARD REFERENCES

- DIN EN 61784-1
- DIN EN 61158
- NETBUS L2/F.I.P.(Factor, Instrumentation, Protocol)
- PROFIBUS® DP (DIN 19245)
- RS 485
- IEC 60332-1-2 for PVC sheath
- IEC 60754-1&2 for LSZH(FRNC) sheath
- IEC 61034 for LSZH(FRNC) sheath

CHARACTERISTICS

Building Management Systems Cable



Min. Bending Radius

10 x cable diameter



Put up length 305 mt



TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

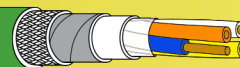
During Installation:

-5° C up to +50° C



ETHER CAT_{Type}

This range of cables accommodates any application, including drag-chain applications involving up to 20 million alternating bending cycles. Not only that, but EtherCAT and fieldbus cables also enable secure data transmission that is optimized for industrial applications and harsh environmental conditions. Fully tested, the cables feature a high-quality 360° shield connection for optimum electromagnetic compatibility.



CONSTRUCTION

Formation:

Bare copper solid
Tinned copper flexible

Insulation:

Polyolefin - PE

1st overall shield:

Overlapped shielding tape aluminium tape

- Coverage 2nd overall shield:

Braid shield tinned copper - Coverage $\geq 85\%$

Outer Sheath:

Polyvinyl Chloride - PVC

Colour Outer Sheath:

Green

IDENTIFICATION OF CORES

4 Cores: ○ ● ● ●

ELECTRICAL DATA

Nominal Impedance:	100±15% ohm
Capacitance:	≤ 60 pF/m
Transmission speed:	Up to 100Mbit/s
Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	3000 V
Test Voltage Core-Screen:	3000 V
Operating Voltage:	1000 V

STANDARD REFERENCES

- DIN VDE 0295, IEC 60228 or CEI 20-29
- 1581, 758(UL); C22.2 n° 210(CSA)
- IEC 61156-3(EU);
- CEI EN 50288-2-1(EU); EIA/TIA 568-B.2
- ISO/IEC 11801-1 (CL. D)

CHARACTERISTICS

Building Management
Systems Cable



Min. Bending Radius

10 x cable diameter



Put up length 305 mt



TEMPERATURE RANGE

During Operation:

-30° C up to +80°C

During Installation:

-5° C up to +80°C

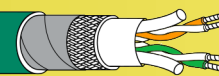


Cable with PE/DoubleSCREEN/PVC

RAMCRO CODE	Copper Class	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
SDS4107HIADX-T-ETC	Tinned / Flexible	1x4x22AWG	6,5	63	55,4	< 60,0
MRT4122HIADX-ETC	Bare / Solid	1x4x22AWG	6,5	63	55,4	< 60,0

ETHERNET_{Type}

Ethernet cables are standard wires that connect computers to a network. These cables are specifically designed to facilitate easy communication between disparate electronic equipment. These electronic devices can either be fax machines, printers, scanners, or personal computers. An Ethernet cable facilitates communication between the internet servers and your personal computer. The cable provides stable internet connection. This means that you can work all day and download and upload your files without stress.



CONSTRUCTION

Formation:

Bare copper solid or flexible

Insulation:

Foam polyolefin - FPE

1st overall shield:

Overlapped shielding tape aluminium/polyester tape

- Coverage $\geq 100\%$

2nd overall shield:

Braid shield tinned copper - Coverage $\geq 85\%$

Outer Sheath:

Polyvinyl Chloride - PVC

Colour Outer Sheath:

Green

IDENTIFICATION OF CORES

2 Cores: ○ ● ○ ●

ELECTRICAL DATA

Nominal Impedance:	100±15% ohm
Capacitance:	≤ 44 pF/m, ≤ 50 pF/m
Transmission speed:	Up to 10Gbit/s
Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	500 V / 2000 V
Test Voltage Core-Screen:	500 V / 2000 V
Operating Voltage:	30 V / 300 V

STANDARD REFERENCES

- DIN VDE 0295, IEC 60228 or CEI 20-29
- 1581, 444, 758(UL); C22.2 n° 210(CSA); ANSI/TIA/EIA 568-B.2-1;
- IEC EN 61156-5(EU); ISO/IEC 11801-1 (CL.F)
- 1581, 758(UL); C22.2 n° 210(CSA); IEC 61156-3(EU); CEI EN
- 50288-2-1(EU); EIA/TIA 568-B.2; ISO/IEC 11801-1 (CL.D)

CHARACTERISTICS

Building Management Systems Cable



Min. Bending Radius
10 x cable diameter



Put up length 305 mt



TEMPERATURE RANGE

During Operation:
-30° C up to +80°C
During Installation:
-5° C up to +80°C



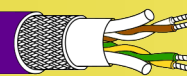
RAMCRO CODE	Copper Class	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MRT0408HIA4X-ETN	Solid	4x2x24AWG	6,3	54	90	< 44,0

Cable with FPE/DoubleSCREEN/PVC - 300 V

RAMCRO CODE	Copper Class	FORMATION [n° x AWG]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MRT0208HIA4X-ETN	Solid	2x2x24AWG	5,8	42	90	< 44,0

CANOPEN_{Type}

The CANopen has been standardized since late 2002 as CENELEC EN 50325-4. It is now well established in a various industrial communication areas including manufacturing, transport systems, maritime electronics, medical devices, and building automation. CANopen enables communications between devices from different manufacturers and ensures compatibility between and interchangeability of these devices.



CONSTRUCTION

Formation:

Bare copper solid or flexible

Insulation:

Foam polyolefin - FPE / Polyolefin - PE

1st overall shield:

Overlapped shielding tape aluminium/polyester tape

- Coverage $\geq 100\%$

2nd overall shield:

braid shield tinned copper - Coverage $\geq 85\%$ (+ drain wire if required)

Outer Sheath:

Polyvinyl Chloride - PVC

Colour Outer Sheath:

Violet

IDENTIFICATION OF CORES

DIN 47100

ELECTRICAL DATA

Nominal Impedance:	120 \pm 15% ohm
Capacitance:	≤ 50 pF/m
Transmission speed:	Up to 1Mbit/s
Insulation Resistance @ 20°C:	> 25 MOhm*Km
Test Voltage Core-Core:	500 V
Test Voltage Core-Screen:	2000 V
Operating Voltage:	30 V or 300 V

Cable with PE/SCREEN/PVC - 30 V

RAMCRO CODE	Copper Class	FORMATION [n° x Sec.]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MSS0106HXADC-COP	Solid	1x2x20AWG	6,7	65	43,6	<50
STS0334HXADC-COP	Flexible	1x2x0,34+1x0,34	6,9	70	55,4	<50
MSS4134HXADC-COP	Flexible	1x4x0,34	6,8	66	55,4	<50
MSS0234HXADC-COP	Flexible	2x2x0,34	7	71	55,4	<50

Cable with FPE/SCREEN/PVC - 300 V

RAMCRO CODE	Copper Class	FORMATION [n° x mm2]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MSS0122HXA4C-COP	Flexible	1x2x0,22	5,9	44	90	<50

STANDARD REFERENCES

- DIN VDE 0295, IEC 60228 or CEI 20-29
- 1581, 758(UL); C22.2 n° 210(CSA); ISO 11898; RS 485

CHARACTERISTICS

Building Management
Systems Cable



Min. Bending Radius
10 x cable diameter



Put up length 305 mt



TEMPERATURE RANGE

During Operation:

-30° C up to +80° C

During Installation:

-5° C up to +80° C



Controller Area Network Cables are suitable for a complete support for automotive and industrial applications. These cables help the combination straightforward intuitive CAN API with support for an extensible range of external and on-chip CAN controllers.



CONSTRUCTION

Formation:
Bare copper solid or flexible

Insulation:
Foam polyolefin - FPE

Outer Sheath:
Polyvinyl Chloride - PVC

Colour Outer Sheath:
Violet

STANDARD REFERENCES

- DIN VDE 0295, IEC 60228 or CEI 20-29
- 1581, 758(UL); C22.2 n° 210(CSA); ISO 11898; RS 485

IDENTIFICATION OF CORES

DIN 47100

CHARACTERISTICS

Building Management Systems Cable



Min. Bending Radius
10 x cable diameter



Put up length 305 mt



ELECTRICAL DATA

Nominal Impedance: 100±15% ohm

Capacitance: ≤ 50 pF/m

Transmission speed: Up to 1Mbit/s

Insulation Resistance @ 20°C: > 25 MOhm*Km

Test Voltage Core-Core: 500 V / 2000 V

Operating Voltage: 30 V / 300 V

TEMPERATURE RANGE

During Operation:
-30° C up to +80°C

During Installation:
-5° C up to +80°C



Cable with PE/PVC - 30 V

RAMCRO CODE	Copper Class	FORMATION [n° x Sec.]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MSE0106HXADC-COP	Solid	1x2x20AWG	6,3	65	43,6	<50
SSS0334HXADC-COP	Flexible	1x2x0,34+1x0,34	6,5	70	55,4	<50
MSE4134HXADC-COP	Flexible	1x4x0,34	6,4	66	55,4	<50
MSE0234HXADC-COP	Flexible	2x2x0,34	6,6	71	55,4	<50

Cable with FPE/PVC - 300 V

RAMCRO CODE	Copper Class	FORMATION [n° x mm2]	NOM. OUTER DIAMETER [mm]	NOM WEIGHT [kg/km]	MAX RESISTANCE AT 20°C [Ohm/km]	NOM. CAPACITANCE [pF/m]
MSE0122HXA4C-COP	Flexible	1x2x0,22	5,5	44	90	<50



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V I O





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