Base Load Power Hub (BLPH)

TECHNICAL DATASHEET For Instrument Cables

Document Number: 123A90-DDL-IN-DS-40064

Document Class: 2

01	30/08/2024	Accepted for Construction (AFC)	VBA	LCA	DLO
00	12/03/2024	Issue for Review (IFR)	VBA	LCA	DLO
Rev.	Date	Description	Prepared	Reviewed	Approved

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Revision / Change Log

Rev.	Description
00	ISSUE FOR REVIEW (IFR)
01	ACCEPTED FOR CONSTRUCTION (AFC)

HOLDS LIST

No.	Description
1.	
2.	
3.	
4.	

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GENERAL REQUIREMENTS / NOTES

1) This datasheet is to be read in conjunction with following documents:
   a) Instrumentation for Package Unit Specification (123A90-DDL-IN-SP-40094);

2) Ambient Temperature Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C.

3) Information with asterisk (*) shall be confirmed or provided by manufacturer according to the service condition.

4) All cable shall be suitable to operate in a marine enviroment.

5) Instrument cables shall be constructed in accordance with IEC-60092-376 or EPR in accordance with IEC 60502-1.

6) Insulation material shall be cross linked Polyethylene applied to comply with EN 60228.

7) Outer sheath material shall be Low Smoke Zero Halogen (LSZH) compound to EN 50290-2-27.

8) Inner sheat material shall be Low Smoke Zero Halogen (LSZH) compound to EN 50290-2-27.

9) Cables for aboveground in the plant shall be protected with steel wire braiding (SWB) even if they are used in cable trays.

10) Voltage Grade for all cable will be 300 / 300 V.

11) Conductors shall be soft annealed copper conductor (7-stranded, class-2) according to IEC 60228.

12) The outer sheath of Instrument cables shall be immune to the effects of ultra violet radiation.

13) Twisted wire crossovers per meter as per Standard Vendor.

14) Outer sheath of the cables shall be marked every meter with the following:
   Manufacturers Name and Year of manufacturing; National / International Standard Identification; Cable Designation i.e. number of pairs/triads/ cores and conductor size, voltage grade sheath and insulation type, Standard Code Flame Retardant or Fire Resistant, wherever applicable.

15) All cable drums shall have their identification reference clearly stencilled on the outside of both flanges in 50 mm high lettering. Drum identification labels shall be attached on the 'outside and inside of the drum flange.

16) Earthing cable shall be single core, PVC insulated stranded annealed copper conductor. The voltage designation shall be 450/750 volts.

17) The inner sheath of Instrument cables shall be extended to fill all spaces between cores to prevent the passage of gas or other noxious substance along the cable.

18) The preferred shielding is copper film with an overall spiral wrap that has 25- percent overlap. The shield should be electrically in contact with a copper drain wire that is along the pair of signal wires. The shield should be electrically insulated both inside and outside.

19) The overall jacket material shall be suitable for marine enviromental, abrasion resistant and compatible with the environment and flame retardant specified as per IEC 60332. When cable is used in Emergency Shutdown System or Fire and Gas applications, overall jacket as specified material shall be fire resistant as per IEC 60331.

20) Allowances on delivered lengths shall be at least +5%.

21) The wire or cable should have a temperature rating of 90°C as minimum.

22) All cables shall be suitable to be installed in ATEX Zone 2 IIC T1. Cable shall be in accordance with IEC 60079-14.

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1	GENERAL	Cable Code	1x2x0.75mm2
2		Drum Details.	SMICV01-1X2X0.75
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu Cl.2-XLPE-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Single Pair: 1Pr x 0.75mm2 (20 twists/meter)
10		Cable Length [mt]	2700
11		Cable Diameter (min / nor / max) - OVER ALL	9.5±10% mm
12		Cable diameter(under armour)	6.5±10% mm
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	XLPE / 0.5
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.1 mm / Grey
43		Weight	154 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	2x2x0.75mm2
2		Drum Details.	SMICV02-2X2X0.75
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu CI2-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Pair: 2Pr x 0.75mm2 (20 twists/meter)
10		Cable Length [mt]	700
11		Cable Diameter (min / nor / max) - OVER ALL	15.2±10% mm
12		Cable diameter(under armour)	11.4±10% mm
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	XLPE / 0.5
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	Yes
34		Shield type and material	PET min Thk 0.010 tape helically wound (overlap≥25 %)
35		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.2 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.3 mm / Grey
43		Weight	362 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	6x2x0.75mm2
2		Drum Details.	SMICV03-6X2X0.75
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu Cl2-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Pair: 6Pr x 0.75mm2 (20 twists/meter)
10		Cable Length [mt]	200
11		Cable Diameter (min / nor / max) - OVER ALL	19.4±10% mm
12		Cable diameter(under armour)	15.2±10% mm
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	XLPE / 0.5
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	Yes
34		Shield type and material	PET min Thk 0.010 tape helically wound (overlap≥25 %)
35		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.3 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.5 mm / Grey
43		Weight	572 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
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50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	12x2x0.75mm2
2		Drum Details.	SMICV04-12X2X0.75
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu CI2-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Pair: 12Pr x 0.75mm2 (20 twists/meter)
10		Cable Length [mt]	900
11		Cable Diameter (min / nor / max) - OVER ALL	24.8±10% mm
12		Cable diameter(under armour)	20.2±10% mm
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	XLPE / 0.5
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	Yes
34		Shield type and material	PET min Thk 0.010 tape helically wound (overlap≥25 %)
35		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.5 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.7 mm / Grey
43		Weight	899 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	2x2.5mm2
2		Drum Details.	SMICV05-2X2.5
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Digital Output Commands ; Non-Intrinsically Safe
7		Cable Description	Cu Cl2 -XLPE-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Dual Cores: 2 x 2.5mm2
10		Cable Length [mt]	500
11		Cable Diameter (min / nor / max) - OVER ALL	12.1±10% mm
12		Cable diameter(under armour)	8.9±10% mm
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	7.86
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	XLPE / 0.6
26		Conductor Color Coding	BLACK (Numbered);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	-
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	-
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 1.0 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.1 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.2 mm / Grey
43		Weight	259 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
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1	GENERAL	Cable Code	12x2.5mm2
2		Drum Details.	SMICV06-12X2.5
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Digital Output Commands ; Non-Intrinsically Safe
7		Cable Description	Cu Cl2 -XLPE-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Cores: 12 x 2.5mm2
10		Cable Length [mt]	100
11		Cable Diameter (min / nor / max) - OVER ALL	20.8±10% mm
12		Cable diameter(under armour)	16.6±10% mm
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	7.86
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	XLPE / 0.6
26		Conductor Color Coding	BLACK (Numbered);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	-
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	-
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 1.0 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.4 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.5 mm / Grey
43		Weight	775 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
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1	GENERAL	Cable Code	24x2.5mm2
2		Drum Details.	SMICV07-24X2.5
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Digital Output Commands ; Non-Intrinsically Safe
7		Cable Description	Cu Cl2 -XLPE-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Cores: 24 x 2.5mm2
10		Cable Length [mt]	150
11		Cable Diameter (min / nor / max) - OVER ALL	27.8±10% mm
12		Cable diameter(under armour)	23.0±10% mm
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	7.86
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	XLPE / 0.6
26		Conductor Color Coding	BLACK (Numbered);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	-
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	-
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 1.0 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.6 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.8 mm / Grey
43		Weight	1337 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	1x2x0.75mm2
2		Drum Details.	SMICV08-1X2X0.75-1; SMICV08-1X2X0.75-2
3		Number of Drums	2
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Single Pair: 1Pr x 0.75mm2 (20 twists/meter)
10		Cable Length [mt]	3400
11		Cable Diameter (min / nor / max) - OVER ALL	11.7±10% mm
12		Cable diameter(under armour)	8.5±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.5mm
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0.5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.1 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.2 mm / Orange
43		Weight	217 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	2x2x0.75mm2
2		Drum Details.	SMICV09-2X2X0.75
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Pair: 2Pr x 0.75mm2 (20 twists/meter)
10		Cable Length [mt]	600
11		Cable Diameter (min / nor / max) - OVER ALL	19.3±10% mm
12		Cable diameter(under armour)	15.1±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.5mm
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	Yes
34		Shield type and material	PET min Thk 0.010 tape helically wound (overlap≥25 %)
35		Drain wire / size	7 Stranded Tinned annealed copper drain / 0.5 mm^2
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.3 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.5 mm / Orange
43		Weight	535 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	6x2x0.75mm2
2		Drum Details.	SMICV10-6X2X0.75
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Pair: 6Pr x 0.75mm2 (20 twists/meter)
10		Cable Length [mt]	600
11		Cable Diameter (min / nor / max) - OVER ALL	25.2±10% mm
12		Cable diameter(under armour)	20.6±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.5mm
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	Yes
34		Shield type and material	PET min Thk 0.010 tape helically wound (overlap≥25 %)
35		Drain wire / size	7 Stranded Tinned annealed copper drain / 0.5 mm^2
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.5 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.7 mm / Orange
43		Weight	823 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	12x2x0.75mm2
2		Drum Details.	SMICV11-12X2X0.75
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Pair: 12Pr x 0.75mm2 (20 twists/meter)
10		Cable Length [mt]	400
11		Cable Diameter (min / nor / max) - OVER ALL	32.9±10% mm
12		Cable diameter(under armour)	27.7±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.5mm
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	Yes
34		Shield type and material	PET min Thk 0.010 tape helically wound (overlap≥25 %)
35		Drain wire / size	7 Stranded Tinned annealed copper drain / 0.5 mm^2
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.8 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 2 mm / Orange
43		Weight	1329 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	2x2.5mm2
2		Drum Details.	SMICV12-2X2.5
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Digital Output Commands ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Dual Cores: 2 x 2,5mm2
10		Cable Length [mt]	3200
11		Cable Diameter (min / nor / max) - OVER ALL	14.1±10% mm
12		Cable diameter(under armour)	10.3±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	7.86
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.6mm
26		Conductor Color Coding	BLACK (Numbered)
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	-
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	-
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 1 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.1 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.3 mm / Orange
43		Weight	342 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	12x2.5mm2
2		Drum Details.	SMICV13-12X2.5
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Digital Output Commands ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Cores: 12 x 2.5mm2
10		Cable Length [mt]	800
11		Cable Diameter (min / nor / max) - OVER ALL	24.2±10% mm
12		Cable diameter(under armour)	19.8±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	7.86
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.6mm
26		Conductor Color Coding	BLACK (Numbered)
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	-
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	-
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 1 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.5 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.6 mm / Orange
43		Weight	940 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	24x2.5mm2
2		Drum Details.	SMICV17-24X2.5
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Digital Output Commands ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Cores: 24 x 2.5mm2
10		Cable Length [mt]	300
11		Cable Diameter (min / nor / max) - OVER ALL	32.8±10% mm
12		Cable diameter(under armour)	19.8±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	7.86
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.6mm
26		Conductor Color Coding	BLACK (Numbered)
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	-
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	-
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 1 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.8 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 2 mm / Orange
43		Weight	1638 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	1x3x2.5mm2
2		Drum Details.	SMICV14-1X3X2.5
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Single Triad: 1Tr x 2.5mm2 (20 twists/meter)
10		Cable Length [mt]	2500
11		Cable Diameter (min / nor / max) - OVER ALL	14.7±10% mm
12		Cable diameter(under armour)	10.9±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	7.86
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.6mm
26		Conductor Color Coding	RED (+), WHITE (mA),BLACK (COM);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	-
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 1 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.1 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.3 mm / Orange
43		Weight	368 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	6x3x2.5mm2
2		Drum Details.	SMICV15-6X3X2.5
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Triad: 6Tr x 2.5mm2 (20 twists/meter)
10		Cable Length [mt]	600
11		Cable Diameter (min / nor / max) - OVER ALL	32.9±10% mm
12		Cable diameter(under armour)	27.7±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	7.86
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.6mm
26		Conductor Color Coding	RED (+), WHITE (mA),BLACK (COM);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	Yes
34		Shield type and material	PET min Thk 0.010 tape helically wound (overlap≥25 %)
35		Drain wire / size	7 Stranded Tinned annealed copper drain / 1 mm^2
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 1 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.8 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 2 mm / Orange
43		Weight	1598 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
53			
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1	GENERAL	Cable Code	12x3x2.5mm2
2		Drum Details.	SMICV16-12X3X2.5
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Analogue Input/Outputs & Digital Input Signals ; Non-Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Triad: 12Tr x 2.5mm2 (20 twists/meter)
10		Cable Length [mt]	350
11		Cable Diameter (min / nor / max) - OVER ALL	43.7±10% mm
12		Cable diameter(under armour)	37.3±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	7.86
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-5 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.6mm
26		Conductor Color Coding	RED (+), WHITE (mA),BLACK (COM);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	Yes
34		Shield type and material	PET min Thk 0.010 tape helically wound (overlap≥25 %)
35		Drain wire / size	7 Stranded Tinned annealed copper drain / 1 mm^2
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 1 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 2.1 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 2.4 mm / Orange
43		Weight	2843 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
53			
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1	GENERAL	Cable Code	1x2x0,75mm2
2		Drum Details.	SMICV18-1X2X0.75
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Digital Input Signals; Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Single Pair: 1Pr x 0,75mm2
10		Cable Length [mt]	550
11		Cable Diameter (min / nor / max) - OVER ALL	11.7±10% mm
12		Cable diameter(under armour)	8.5±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-20 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.5mm
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	-
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	-
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0.5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.1 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.2 mm / Blue
43		Weight	217 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	6x2x0,75mm2
2		Drum Details.	SMICV19-6X2X0.75
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Digital Input Signals; Intrinsically Safe
7		Cable Description	Cu CL 2 -MGT-XLPE-IS-OS-LSZH-SWB-LSZH 150/250 V
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	Multi Pair: 6Pr x 0,75mm2 (20 twists/meter)
10		Cable Length [mt]	200
11		Cable Diameter (min / nor / max) - OVER ALL	25.2±10% mm
12		Cable diameter(under armour)	20.6±10% mm
13		Fire Performance	Fire Resistant as per IEC 60331
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	7-strands
17		Conductor material	Soft Annealed Copper IEC 60228 class 2
18		Capacity nF/Km	- (non IS circuit)
19		Inductance mH/K	- (non IS circuit)
20		Resistance Ohm / K	26
21		Bending Radius	10xO.D.
22		Minimum Laying Temperature	-20 °C
23		Standards	Class 2 IEC 60228
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Miica/Glass Tape (MGT) plus XLPE / 0.5mm
26		Conductor Color Coding	WHITE (+),BLACK (-);
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	150 / 250V
29		Insulation test Voltage (V)	1.5kV a.c. for 5' (Between Cores) / 1.5kV a.c. for 5' (Between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required, (20 twists/meter)
33		Individual Shielding	Yes
34		Shield type and material	PET min Thk 0.010 tape helically wound (overlap≥25 %)
35		Drain wire / size	7 Stranded Tinned annealed copper drain / 0.5 mm^2
36		Pair / triad twist	Required
37		Overall Shielding	Yes
38		Shield type and material	Al min Thk 0.008 mm / PET min Thk 0.010 tape helically wound (overlap ≥ 25 %)
39		Drain wire / size	7 Stranded Tinned annealed copper drain / 0,5 mm^2
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.5 mm / Black
41		Armour	Galvanized Steel Wire Brai Armour (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic Compound (O.I. ≥ 30%), SHF1 to IEC 60093.360. average Thk 1.7 mm / Blue
43		Weight	823 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48		ATEX certification	Note 22
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	FO12 OM2
2		Drum Details.	TELCV01-12FO
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Communication cables - Fiber Optic type
7		Cable Description	FO-LSZH-SWB-LSZH
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	12 Cores, Multi Mode OM2 - 50/125 µm
10		Cable Length [mt]	200
11		Cable Diameter (min / nor / max) - OVER ALL	8.5mm
12		Cable diameter(under armour)	
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15	FIBER	Mode	Multi Mode OS2 50/125 µm
16		Total No. of Cores	12
17		Size (Corer / Cladding / Buffer)	50/125 µm
18		Fiber Optic Cores Identification	According to TIA-598
19		Index Profile	Gradual
20		Number of Fiber Strands per tube	12
21		Standards	IEC 60793-1&2, IEC60794, IEC 61034-2, IEC 61280-4-1-9, TIA-526-14-B (by ITU-T G.651.1)
22		Attenuation	
23	LOOSE TUBE & FILLER	Material	
24		Colour	According to IEC 60304
25		Loose Tube Diameter	
26		Loose Tube Gel	Thixotropic Filling Gel (*)
27		Number of Loose Tube Gel	1
28		Number of Dummy Fillers	0
29		Filler Color	
30	SZ CORE	Sequence on elements in core	
31		Water Blocking Compound	Thixotropic Filling Gel (*)
32		Peripheral Strength Member	Glass Yarn over the SZ Core (*)
33		Core Wrapping	
34	CONSTRUCTION	Inner Sheath Material / Colour	Note 8
35		Inner Sheath Rip Cord	One rip cord inner sheath (*)
36		Inner Sheath Thickness	
37		Outer Sheath Material / Colour	Note 7 / ORANGE
38		Outer Sheath Rip Cord	One rip cord under the outer sheath (*)
39		Outer Sheath Thickness	1.5mm
40		Bending Radius	20xO.D During Installation, Permanent 10xO.D.
41		Minimum Laying Temperature	-40 °C
42		Strength Member Type / Diameter	FRP ROD / 2.8mm
		Armour	Steel Wire braiding (SWB)
43		Weight	100 Kg/Km
44	TESTS AND CERTIFICATES	Certificate of Conformity	Required
45		Material certification	Required
46		Test Report / Certification	Required
48			
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	FO12 OS2
2		Drum Details.	TELCV02-12FO
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Communication cables - Fiber Optic type
7		Cable Description	FO-LSZH-SWB-LSZH
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	12 Cores, Single Mode OS2 - 9/125 µm
10		Cable Length [mt]	200
11		Cable Diameter (min / nor / max) - OVER ALL	8.5mm
12		Cable diameter(under armour)	
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15	FIBER	Mode	Single Mode OS2 9/125 µm
16		Total No. of Cores	12
17		Size (Corer / Cladding / Buffer)	9/125 µm
18		Fiber Optic Cores Identification	According to TIA-598
19		Index Profile	Gradual
20		Number of Fiber Strands per tube	4
21		Standards	IEC 60793-1&2, IEC60794, IEC 61034-2, IEC 61280-4-1-9, TIA-526-14-B (by ITU-T G.651.1)
22		Attenuation	
23	LOOSE TUBE & FILLER	Material	
24		Colour	According to IEC 60304
25		Loose Tube Diameter	
26		Loose Tube Gel	Thixotropic Filling Gel (*)
27		Number of Loose Tube Gel	1
28		Number of Dummy Fillers	0
29		Filler Color	
30	SZ CORE	Sequence on elements in core	
31		Water Blocking Compound	Thixotropic Filling Gel (*)
32		Peripheral Strength Member	Glass Yarn over the SZ Core (*)
33		Core Wrapping	VTA
34	CONSTRUCTION	Inner Sheath Material / Colour	Note 8
35		Inner Sheath Rip Cord	One rip cord inner sheath (*)
36		Inner Sheath Thickness	VTA
37		Outer Sheath Material / Colour	Note 7 / YELLOW
38		Outer Sheath Rip Cord	One rip cord under the outer sheath (*)
39		Outer Sheath Thickness	1.5mm
40		Bending Radius	20xO.D During Installation, Permanent 10xO.D.
41		Minimum Laying Temperature	-40 °C
42		Strength Member Type / Diameter	FRP ROD / 2.8mm
		Armour	Steel Wire braiding (SWB)
43		Weight	100 Kg/Km
44	TESTS AND CERTIFICATES	Certificate of Conformity	Required
45		Material certification	Required
46		Test Report / Certification	Required
48			
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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1	GENERAL	Cable Code	CAT-6A
2		Drum Details.	TELCV03-4X2X23AWG
3		Number of Drums	1
4		Ambient temperature min	Min: -8.4 °C, Norm: 10.5 °C, Max: +25.0 °C
5		Vendor Cable Code	(*)
6		Service	Communication cables - CAT-6A
7		Cable Description	FTP-LSZH-IS-OS-SWB-LSZH
8		Cable Installation	Above Ground
9		Cable Type / Conductor size	CAT. 6A S/FTP 4X2X23AWG
10		Cable Length [mt]	2000
11		Cable Diameter (min / nor / max) - OVER ALL	10.7±10% mm
12		Cable diameter(under armour)	7.5±10% mm
13		Fire Performance	Flame Retardant as per IEC 60332
14		Hazardous Area Classification	Zone-2, Gr IIC (II-B + H2), T1
15			
16	CONDUCTOR	Conductor Type / Class	Solid
17		Conductor material	Annealed copper
18		Capacity nF/Km	43
19		Inductance mH/K	
20		Resistance Ohm / K	154
21		Bending Radius	8 O.D. (in fixed installation)
22		Minimum Laying Temperature	0 °C
23		Standards	EIA-TIA 568
24		Mica Glass Tape	-
25		Insulation / Thickness (mm)	Foamskin PE / 1.38
26		Conductor Color Coding	(1) blue/white, (2) orange/white, (3) green/white, (4) brown/white
27		Conductor/Screen numbering	-
28		Nominal Voltage (V)	-
29		Insulation test Voltage (V)	1000 Vdc for 1' (Between Cores) / 1000 V for 1' (between Cores - Shield)
30			
31			
32	CONSTRUCTION	Conductor Twist	Required
33		Individual Shielding	Al-laminated plastic foil
34		Shield type and material	-
35		Drain wire / size	-
36		Pair / triad twist	Required
37		Overall Shielding	Tinned copper braid
38		Shield type and material	
39		Drain wire / size	
40		Inner Sheath / Colour	Extruder LSZH Thermoplastic compound / Blue
41		Armour	Galvanized Steel Wire Braid (coverage ≥ 90%)
42		Outer Sheath / Colour	Extruder LSZH Thermoplastic compound (O.I. ≥ 30%, SHF1 to IEC 60093.360, average Thk 1.2 mm / Grey
43		Weight	101 Kg/Km
44			
45	TESTS AND CERTIFICATES	Certificate of Conformity	Required
46		Material certification	Required
47		Test Report / Certification	Required
48			
49			
50	MISC	Manufacturer	FLEI
51		MR number	123A90-DDL-IN-MR-40065
52		PO number	1724001170
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NOTE:
DW: Drain Wire

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