

INSTRUMENTATION CABLES

AS PER BS EN 50288-7 (CU/MICA/XLPE/IS/OS/LSZH/LC/LSZH/SWA/LSZH)

APPLICATION

Lead sheath instrumentation cables provide robust mechanical protection and durability, ideal for industrial and commercial applications. These cables ensure reliable transmission of analogue signals in harsh environments, including chemical, petrochemical, oil & gas, power plants, and marine settings. They offer enhanced protection against chemical exposure, vibration, moisture, and extreme temperatures, making them suitable for process control, automated systems, and hazardous areas. Especially recommended for use in hazardous or confined spaces such as control rooms, tunnels, and public buildings where fire safety and low toxic emissions are critical, maintaining functionality even under extreme conditions. The lead sheath also shields against electromagnetic interference, ensuring consistent performance and signal integrity.

CONSTRUCTION

Conductor:	Stranded (Class 2) Annealed Plain Copper Conductor to BS EN 60228
Insulation:	MICA + Cross linked polyethylene (XLPE)
Insulation Color:	Multi Pair: Black & White with number printed on each cores. Multi Triad: Black, White & Red with number printed on each cores. Other colors are available upon request or as per BS EN 50288-7.
Pair / Triad:	Uniformly twisted insulated conductors with suitable twists per meter.
Individual Screen & Drain Wire:	Aluminum backed Mylar tape (25µm) (AL-PET Foil) is applied over each pair / triad with 100% coverage and an overlap of 25% with metal side, in contact with a stranded tinned copper drain wire of size 0.5 mm ² (Class 2). All pair shields are electrically isolated from each other.
Assembly:	The required number of screened pairs / triads are assembled together with non-hygroscopic fillers (if required) and wrapped with a binder tape.
Overall Screen & Drain Wire:	Aluminum backed Mylar tape (25µm) (AL-PET-Foil) is applied over assembly with 100% coverage and an overlap of 25% with metal side in contact with a stranded tinned copper drain wire of size 0.5 mm ² (class 2).
Inner Sheath:	Extruded Low Smoke Zero Halogen (LSZH) in Black colour. Other colors are available upon request.
Lead Covering:	Extruded Lead Alloy Sheath as per BS EN 50307
Bedding:	Extruded Low Smoke Zero Halogen (LSZH) in Black colour. Other colors are available upon request.
Armoring:	A serving of single layer of round galvanized steel wires is applied as per BS EN 10257-1.
Outer Sheath:	Extruded Low Smoke Zero Halogen (LSZH) in Black colour. Other colors are available upon request.



**Printing Text on the
Outer Sheath:**

INSTRUMENTATION CABLE CU/MICA/XLPE/IS/OS/LSZH/LC/
LSZH/SWA/LSZH NO OF PAIRS / TRIADS X 2 / 3 X...MM2 500 V
BS EN 50288-7 IEC 60331 TEKAB YEAR MADE IN UAE LENGTH
METER MARKING

TECHNICAL DATA

Operating Temperature:	During Normal Operation - 90°C During Short Circuit Condition - 250°C
Voltage Rating:	500V
Voltage Withstand:	2000 V a.c. r.m.s. for 1 minutes
Insulation Resistance MΩ/km:	≥ 1000
Mutual Capacitance nf/km:	< 150
Inductance to resistance ratio (L/R) μH/Ω	< 25 (up to 1mm ²) < 40 (1.5 mm ²) < 60 (2.5 mm ²)
Halogen Acid Gas Emission:	0.5% (BS EN 60754-1)
Smoke Emission:	60% (BS EN 61034-2)
Fire Resistant:	IEC 60331
Flame Retardant Test:	IEC 60332-3-24 (CAT C), IEC 60332-1-2

* Solid (Class-1) / Flexible (Class-5), Tinned / Thermocouple conductor can be provided upon request.

** Flame Retardant Cross linked polyethylene (FR-XLPE) can be provided upon request.

*** Screening: - Copper Tape / CU-PET tape / Braiding & any other drain wire size can be provided upon request.

**** Other special sheath materials are also available with Flame Retardant: - IEC 60332-3-22 (CAT A), UV / Sunlight Resistant, Oil Resistant, Anti-Termite, And Anti-Rodent.

- Construction in core formation also can be provided upon request.
- 300V or any customized voltage grade rated cables up to 600/1000V can be provided upon request.

SERIAL NO.	TEKAB CODE	NO. OF PAIRS (P) / TRIADS (T) X CONDUCTOR SIZE (No. x sq.mm)	NO. OF STRANDS	MINIMUM INSULATION THICKNESS (mm)	APPROX. OVERALL DIAMETER (mm)	APPROX. WEIGHT (kg/km)
1	MXA8A7Z1LZ1Z2Z1	2P X 0.5	7	0.44	26	1950
2	MXA8A7Z1LZ1Z2Z1	5P X 0.5	7	0.44	30	2550
3	MXA8A7Z1LZ1Z2Z1	10P X 0.5	7	0.44	37.5	3800
4	MXA8A7Z1LZ1Z2Z1	12P X 0.5	7	0.44	40	4200
5	MXA8A7Z1LZ1Z2Z1	16P X 0.5	7	0.44	46	5600
6	MXA8A7Z1LZ1Z2Z1	20P X 0.5	7	0.44	50	6450
7	MXA8A7Z1LZ1Z2Z1	2P X 0.75	7	0.44	27	2075
8	MXA8A7Z1LZ1Z2Z1	5P X 0.75	7	0.44	31.5	2700
9	MXA8A7Z1LZ1Z2Z1	10P X 0.75	7	0.44	39	4150
10	MXA8A7Z1LZ1Z2Z1	12P X 0.75	7	0.44	42.5	4750

SERIAL NO.	TEKAB CODE	NO. OF PAIRS (P) / TRIADS (T) X CONDUCTOR SIZE (No. x sq.mm)	NO. OF STRANDS	MINIMUM INSULATION THICKNESS (mm)	APPROX. OVERALL DIAMETER (mm)	APPROX. WEIGHT (kg/km)
11	MXA8A7Z1LZ1Z2Z1	16P X 0.75	7	0.44	48.5	6175
12	MXA8A7Z1LZ1Z2Z1	20P X 0.75	7	0.44	52.71	7150
13	MXA8A7Z1LZ1Z2Z1	2P X 1.0	7	0.44	27	2150
14	MXA8A7Z1LZ1Z2Z1	5P X 1.0	7	0.44	33	3050
15	MXA8A7Z1LZ1Z2Z1	10P X 1.0	7	0.44	41	4500
16	MXA8A7Z1LZ1Z2Z1	12P X 1.0	7	0.44	45	5450
17	MXA8A7Z1LZ1Z2Z1	16P X 1.0	7	0.44	50	6550
18	MXA8A7Z1LZ1Z2Z1	20P X 1.0	7	0.44	55	7725
19	MXA8A7Z1LZ1Z2Z1	2P X 1.5	7	0.44	28.5	2275
20	MXA8A7Z1LZ1Z2Z1	5P X 1.5	7	0.44	35	3325
21	MXA8A7Z1LZ1Z2Z1	10P X 1.5	7	0.44	43	4900
22	MXA8A7Z1LZ1Z2Z1	12P X 1.5	7	0.44	47	5950
23	MXA8A7Z1LZ1Z2Z1	16P X 1.5	7	0.44	53	7225
24	MXA8A7Z1LZ1Z2Z1	20P X 1.5	7	0.44	57	8450
25	MXA8A7Z1LZ1Z2Z1	2P X 2.5	7	0.53	30.5	2575
26	MXA8A7Z1LZ1Z2Z1	5P X 2.5	7	0.53	38	3975
27	MXA8A7Z1LZ1Z2Z1	10P X 2.5	7	0.53	49	6425
28	MXA8A7Z1LZ1Z2Z1	12P X 2.5	7	0.53	53	7275
29	MXA8A7Z1LZ1Z2Z1	16P X 2.5	7	0.53	59	8925
30	MXA8A7Z1LZ1Z2Z1	2T X 0.5	7	0.44	27	2075
31	MXA8A7Z1LZ1Z2Z1	5T X 0.5	7	0.44	31.5	2750
32	MXA8A7Z1LZ1Z2Z1	10T X 0.5	7	0.44	39	4200
33	MXA8A7Z1LZ1Z2Z1	12T X 0.5	7	0.44	42.5	4825
34	MXA8A7Z1LZ1Z2Z1	16T X 0.5	7	0.44	48.5	6275
35	MXA8A7Z1LZ1Z2Z1	20T X 0.5	7	0.44	53	7275
36	MXA8A7Z1LZ1Z2Z1	2T X 0.75	7	0.44	28	2225
37	MXA8A7Z1LZ1Z2Z1	5T X 0.75	7	0.44	33.5	3175
38	MXA8A7Z1LZ1Z2Z1	10T X 0.75	7	0.44	42	4750
39	MXA8A7Z1LZ1Z2Z1	12T X 0.75	7	0.44	46	5750
40	MXA8A7Z1LZ1Z2Z1	16T X 0.75	7	0.44	51	6975
41	MXA8A7Z1LZ1Z2Z1	20T X 0.75	7	0.44	56	8150
42	MXA8A7Z1LZ1Z2Z1	2T X 1.0	7	0.44	28.5	2300

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43	MXA8A7Z1LZ1Z2Z1	5T X 1.0	7	0.44	35	3400
44	MXA8A7Z1LZ1Z2Z1	10T X 1.0	7	0.44	43	5050
45	MXA8A7Z1LZ1Z2Z1	12T X 1.0	7	0.44	47.5	6150
46	MXA8A7Z1LZ1Z2Z1	16T X 1.0	7	0.44	53	7450
47	MXA8A7Z1LZ1Z2Z1	20T X 1.0	7	0.44	57.5	8700
48	MXA8A7Z1LZ1Z2Z1	2T X 1.5	7	0.44	29.5	2450
49	MXA8A7Z1LZ1Z2Z1	5T X 1.5	7	0.44	37	3750
50	MXA8A7Z1LZ1Z2Z1	10T X 1.5	7	0.44	46.5	5975
51	MXA8A7Z1LZ1Z2Z1	12T X 1.5	7	0.44	50	6750
52	MXA8A7Z1LZ1Z2Z1	16T X 1.5	7	0.44	56	8300
53	MXA8A7Z1LZ1Z2Z1	20T X 1.5	7	0.44	60.5	9650
54	MXA8A7Z1LZ1Z2Z1	2T X 2.5	7	0.53	32.5	3000
55	MXA8A7Z1LZ1Z2Z1	5T X 2.5	7	0.53	40.5	4475
56	MXA8A7Z1LZ1Z2Z1	10T X 2.5	7	0.53	52	7350
57	MXA8A7Z1LZ1Z2Z1	12T X 2.5	7	0.53	56	8375

