

Middle East Specialized Cables Co.

INSTRUMENTATION CABLE

MULTI PAIR INDIVIDUAL & COLLECTIVELY SCREENED, ARMORED FIRE RESISTANT

CU/MICA/XLPE/IS/OS/LSHF/SWA/LSHF

SPECIFICATION: BS EN 50288-7, IEC 60331-21(90) & IEC 60332-3 CAT A

MESC Doc. No.: TD-U100576-03-00

Date: 22/07/2014

Customer PO No.: 2133



CONSTRUCTION

Conductor	Stranded annealed plain circular copper Class 2 as per IEC 60228.
Insulation	Mica impregnated glass tape + XLPE.
Color Code	Multi pair: Black & White with each core numbered. Multi triad: Black, White & Red with each core numbered.
Pair Construction	Two insulated conductors are uniformly twisted to form a pair with 10-14 twists per meter.
Collective Screen	Aluminum backed Mylar tape (25µm) is applied over each pair with an overlap of 25% with the metallic side down in contact with a stranded tinned copper drain wire of 0.5mm ² (7x0.3mm). All pair/triad shields are electrically isolated from each other.
Cabling	Required numbers of individually pairs/triads are assembled with non-hygroscopic filler if required and the assembly is wrapped with a polyester binder tape.
Collective Screen	Aluminum backed Mylar tape (25µm) is applied with an overlap of 25% with the metallic side down in contact with a stranded tinned copper drain wire of 0.5mm ² (7x0.3mm) run longitudinally over the binder tape.
Inner Sheath	Low Smoke Halogen Free Thermoplastics in Black Color
Wire Armor	A single layer of galvanized steel wire armor to BS EN 10257 is applied spirally over the inner sheath.
Over sheath	Low Smoke Halogen Free Thermoplastics to BS 7655. The outer sheath color is as per Dimension sheet
Printing on the sheath	INSTRUMENTATION CABLE CU/MIICA/XLPE/SWA/LSHF SHIELDED NO OF PAIRS/TRIADS X 2/3 X ...MM2 500V MESC YEAR BS EN 50288-7 IEC 60331 IEC 60332-3 CAT A LENGTH METER MARKING

Technical Data:

Temperature Range	-5°C to 50°C (during installation) & -20°C to 90°C (during operation)
Voltage Rating	500 Volts
Conductor Resistance	≤ 12.3 (1.5mm ²) Ω/km at 20°C
Mutual Capacitance (at 1kHz)	≤ 100nF/km
Capacitance Unbalance (at 1kHz)	≤ 500pF/500m (Not applicable for single pair/triad)
L/R Ratio	≤ 40 (1.5mm ²) µH/Ω
Insulation Resistance	≥ 5000MΩ-km at 20°C (500 V _{DC} for 1 minute)
Dielectric Strength Test (core to core & core to screen)	2000 V _{AC} / 3000 V _{DC} for 1 minute

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Flame Behavior Characteristics:

Flame Retardant	IEC 60332-3 CAT A
Fire Resistance	IEC 60331-21(90)
Halogen Acid Gas (Outer Sheath)	MAX. 0.5% (IEC 60754-1)
Limiting Oxygen Index (Outer Sheath)	≥ 30% (ASTM D2863)
Light Transmission	≥ 30% (IEC 61034)
UV / Sunlight Resistance (Outer Sheath)	Passes after 720 hrs
Oil Resistance (Outer Sheath)	Passes (ICEA S-73-532)
Min. Bending Radius	12 x Cable Overall Diameter

DIMENSIONAL DATA

SERIAL NO.	MESC CODE	OUTER SHEATH COLOR	PAIR	SIZE (mm ²)	STRAND x DIA. (n x mm)	INSULATION THICKNESS (mm)	INNER SHEATH THICKNESS (mm)	DIA. OVER INNER SHEATH (mm)	ARMOR WIRE DIA. (mm)	DIA. OVER ARMOR (mm)	OUTER SHEATH THICKNESS (mm)	APPROX. OVERALL DIA. (mm)	APPROX. CABLE WEIGHT (kg/km)
11	041E-02P00150-W0BK8-L5	Black	2P	1.5	7X0.53	0.5	1.1	14.6	0.9	16.4	1.5	19.7	596
12	041E-02P00150-W0BL8-L5	Blue	2P	1.5	7X0.53	0.5	1.1	14.6	0.9	16.4	1.5	19.7	596
13	041E-05P00150-W0BK8-L5	Black	5P	1.5	7X0.53	0.5	1.3	19.2	1.25	21.7	1.6	25.2	1068
14	041E-10P00150-W0BK8-L5	Black	10P	1.5	7X0.53	0.5	1.5	27.2	1.6	30.4	1.8	34.4	1860

Note: The tolerance on the cable overall diameter shall be ± 2.5mm up to 30mm & ± 3.0mm above 30mm.