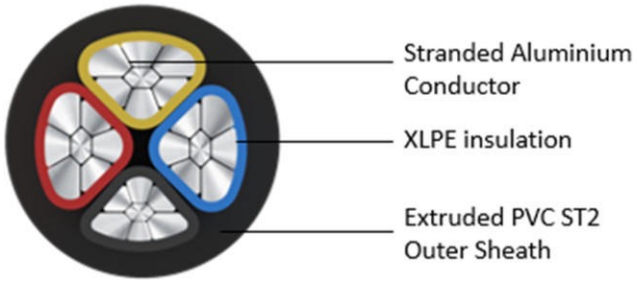
LOW VOLTAGE POWER CABLE · LV AL IEC 60502-1 · UNARMOURED

0.6/1 (1.2) KV · ALUMINIUM, UNARMOURED

Stranded compacted aluminium conductor · XLPE insulated · unarmoured · PVC sheathed to IEC 60502-1

0.6/1 (1.2) kV Nominal voltage	**+90** °C max. Operating temperature	**250** °C Short-circuit temperature	**3.5** kV AC Test voltage

CABLE / SIDE VIEW · INDOCABLES sheath print



CROSS-SECTION · construction callouts

Images not to scale. Follow table for dimensions

APPLICATION

INDOCABLES LV AL IEC 60502-1 0.6/1 KV MC-4 UA §, stranded compacted aluminium conductor, XLPE insulated, and PVC sheathed unarmoured cable confirming to IEC 60502-1 is suitable for fixed installation such as distribution network or industrial installation. These cable cables are designed for systems with rated AC voltage 1KV (Um=1.2 KV) & ≤1.5 KV (with a maximum 1.8 KV DC) between two live conductor.

§ The filename and running header designate this sheet MC-3.5 UA (3.5 core), while the application text reads MC-4 UA, the core identification lists four full-size cores, the cross-section shows four equal cores and the source product codes read 4C — reproduced as written, flagged for check. Codes below are derived on 04 = 4 core; the register token for 3.5 core is 3H.

CONSTRUCTION

Conductor	Circular Compacted or Stranded Aluminium conductor as per IEC 60228, class 2
Insulation	XLPE as per IEC 60502-1
Outer sheath	Extruded Polyvinylchloride (ST2) or Polyethylene (ST7) or Halogen free (ST8) as per IEC 60502-1
Core identification	Red, Yellow, Blue and Black
Bending radius	Fixed Installation: 12 x Overall diameter

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OUTSTANDING FEATURES

- High life
- High insulation resistance
- Flame retardant
- Low halogen · Low smoke
- UV resistant

STANDARD FOLLOWS

IEC 60228 | IEC 60502-1 | IEC 60332-1-2

NOTES

The above cable is also available with EPR/HEPR insulation type.

COMPLIANCE

Conductor resistance	IEC 60228
Insulation resistance	IEC 60502-1
Shrinkage test	IEC 60811-503
Flame Retardant test	IEC 60332-1-2

OUR ACCREDITATIONS & APPROVAL

ISI
Bureau of Indian Standards · CM/L 6200267409

ISO 9001
Cert. 99 100 22646 (TÜV SÜD)

RoHS
Compliant

REACH
Compliant

Make in India
Manufactured in India

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WEIGHT & DIMENSION DATA

Product code	Nominal cross-sectional area mm²	Nominal insulation thickness mm	Nominal sheath thickness mm	Overall diameter (approx.) mm	Weight (approx.) Kg/Km
IC-PW-04-00400-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	4	0.70	1.60	19.2	450
IC-PW-04-00600-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	6	0.70	1.70	21.4	570
IC-PW-04-01000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	10	0.70	1.80	25.0	780
IC-PW-04-01600-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	16	0.70	1.90	28.7	1040
IC-PW-04-02500-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	25	0.90	2.10	32.3	1380
IC-PW-04-03500-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	35	0.90	2.20	35.9	1720
IC-PW-04-05000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	50	1.00	2.30	40.1	2080
IC-PW-04-07000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	70	1.10	2.50	44.6	2580
IC-PW-04-09500-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	95	1.10	2.60	49.8	3250
IC-PW-04-12000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	120	1.20	2.80	55.0	4010
IC-PW-04-15000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	150	1.40	3.10	61.4	5200
IC-PW-04-18500-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	185	1.60	3.30	69.9	6490
IC-PW-04-24000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	240	1.70	3.60	77.9	8100
IC-PW-04-30000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	300	1.80	1.60 ‡	19.2 ‡	450 ‡
IC-PW-04-40000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	400	2.00	1.70 ‡	21.4 ‡	570 ‡
IC-PW-04-50000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	500	2.20	1.80 ‡	25.0 ‡	780 ‡
IC-PW-04-63000-AL-2XL-A2XY-1100-IEC60502P1-FRLS †	630	2.40	1.90 ‡	28.7 ‡	1040 ‡

The above data is approximate & subject to manufacturing tolerance. Codes read 04 = 4 core · AL · 2XL XLPE · A2XY unarmoured, PVC sheathed · 1100 V grade · IEC 60502-1 · FRLS.

† All seventeen codes are derived from the Indo Cables code structure — the Item Master carries no IEC 60502-1 rows at all, so none could be looked up. Flagged for the Item Master Steward. ‡ The source repeats the sheath thickness, overall diameter and weight of the 4, 6, 10 and 16 mm² rows on 300, 400, 500 and 630 mm² — reproduced as written, flagged for check.

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ELECTRICAL CHARACTERISTICS

Current ratting and maximum DC conductor resistance.

Nominal cross-sectional area mm^2	Buried direct in the ground at 20°C Amp.	In single way Ducts at 30°C Amp.	In air at 30°C Amp.	Maximum DC conductor resistance at 20°C Ω/km
4	38	36	35	7.41
6	50	46	46	4.61
10	62	57	59	3.08
16	80	74	76	1.91
25	103	95	102	1.2
35	123	113	125	0.868
50	145	134	152	0.641
70	177	164	193	0.443
95	213	196	238	0.32
120	241	222	274	0.253
150	269	248	312	0.206
185	305	281	362	0.164
240	353	324	431	0.125
300	399	364	497	0.1
400	454	412	579	0.0778
500	516	463	673	0.0605
630	585	518	783	0.0469

Maximum conductor temperature **90°C** · Ambient air temperature **30°C** · Ground temperature **20°C** · Depth of laying **750 mm** · Thermal resistivity of soil **1.5 Km/W**

Soil thermal resistivity is printed “1.5 Km/W” in the source — reproduced as written, flagged for check (the IEC unit is K·m/W).

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DE-RATING FACTOR

Current rating de-rating factors for other than 30°C ambient air temperature.

Air temperature	20	25	35	40	45	50	55	60
De-rating factor	1.08	1.04	0.96	0.91	0.87	0.82	0.76	0.71

Current rating de-rating factors for other than 20°C ground temperature.

Ground temperature	10	15	25	30	35	40	45	50
De-rating factor	1.07	1.04	0.96	0.93	0.89	0.85	0.8	0.76

Current rating de-rating factors for other than 30°C ground temperature for cables in Ducts.

Ground temperature	15	25	35	40	45	50
De-rating factor	1.12	1.04	0.96	0.91	0.87	0.82

Source captions the duct table “other than 30°C ground temperature” while the buried-cable table above it reads 20°C, and the duct row carries six columns against the other tables’ eight — reproduced as written, flagged for check.

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