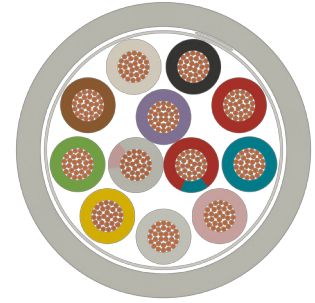
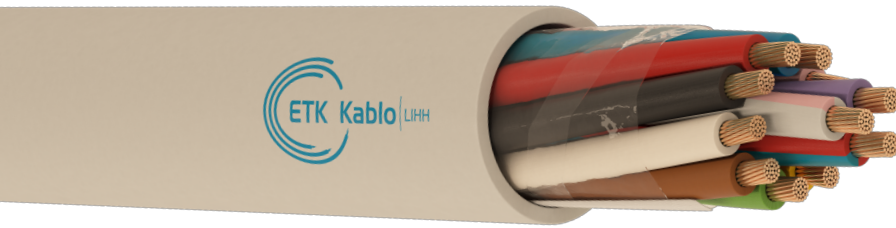


Electronic Control Cables

Signal Cables

LIHH



Application

- . In crowded indoor environments.
- . At instrumentation and control engineering.
- . At industrial electronics.
- . Computer and office devices.
- . Indoor communication systems.
- . Indoor sound systems.
- . In places where human life, valuable materials and equipments need to be protected.

Cable Construction

- 1 - Conductor : Stranded electrolytic copper conductor (Class 5) (IEC 60228, EN 60228, DIN VDE 0295)
- 2 - Insulation : Halogen-free (TS IEC 60189-2, EN 50290-2-26) (DIN 47100)
- 3 - Stranding : In layers
- 4 - Wrapping : Polyester tape
- 5 - Outer Jacket : UV resistant halogen-free outer jacket. RAL 7035 (Grey)

Technical Characteristics

Cross Section	Conductor Resistance Ω/km (20 °C)	Insulation Resistance $M \Omega/\text{km}$ (20 °C)	Mutual Capacitance pF/m	Current Carrying Capacity A	Impedance Ω	Inductance mH/km	Operating Voltage $V \text{ DC}$	Test Voltage $V \text{ (DC, 1 minute)}$
0.14 mm ²	138	200	110	2	78	0.67	250	1200
0.22 mm ²	85	200	110	2.5	78	0.67	250	1200
0.25 mm ²	77.8	200	110	4.5	78	0.67	250	1200
0.34 mm ²	56	200	110	6	78	0.67	250	1200
0.50 mm ²	39	20	120	9	78	0.67	300/500	2000
0.75 mm ²	26	20	120	12	78	0.67	300/500	2000
1.00 mm ²	19.5	20	130	15	78	0.67	300/500	2000
1.5 mm ²	13.3	20	140	18	78	0.67	300/500	2000
2.5 mm ²	7.98	20	150	26	78	0.67	300/500	2000
4.0 mm ²	4.95	20	150	34	78	0.67	300/500	2000
6.0 mm ²	3.3	20	150	44	78	0.67	300/500	2000
10 mm ²	1.91	20	150	61	78	0.67	300/500	2000
16 mm ²	1.21	20	150	82	78	0.67	300/500	2000

Mechanical Characteristics

Bending Radius	Temperature Range Operating
7.5xD mm	-30°C--+70°C

Standards

Smoke Density Test	Corrosive Gas Test	Halogen-free Test	Flame Retardancy Test	Flame Propagation Test
IEC 61034-2, VDE 0482-1034-2, EN 61034-2	IEC 60754-2, VDE 0482-267-2-3, EN 50267-2-3	IEC 60754-1, VDE 0482-267-2-1, EN 50267-2-1	IEC 60332-1-2, EN 60332-1-2, VDE 0482-332-1-2	IEC 60332-3-24, VDE 0482-332-3-24, EN 60332-3-24

Notes

Color code could be JZ, OZ, JB, OB according to customer demand.
Reference Standard: DIN VDE 0812

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Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.2.3.3.0022.0.0002	2	0.22	3.6	4.3	15	100/500/1000
3.512.2.3.3.0022.0.0003	3	0.22	3.8	6.4	19	100/500/1000
3.512.2.3.3.0022.0.0004	4	0.22	4.1	8.5	23	100/500/1000
3.512.2.3.3.0022.0.0005	5	0.22	4.5	10.7	28	100/500/1000
3.512.2.3.3.0022.0.0006	6	0.22	4.9	12.8	33	100/500/1000
3.512.2.3.3.0022.0.0007	7	0.22	4.9	14.9	36	100/500/1000
3.512.2.3.3.0022.0.0008	8	0.22	5.5	17.1	43	100/500/1000
3.512.2.3.3.0022.0.0009	9	0.22	5.8	19.2	47	100/500/1000
3.512.2.3.3.0022.0.0010	10	0.22	6.3	21.3	52	100/500/1000
3.512.2.3.3.0022.0.0012	12	0.22	6.6	25.6	60	100/500/1000
3.512.2.3.3.0022.0.0014	14	0.22	7	29.9	70	100/500/1000
3.512.2.3.3.0022.0.0016	16	0.22	7.3	34.1	77	100/500/1000
3.512.2.3.3.0022.0.0018	18	0.22	7.7	38.4	85	100/500/1000
3.512.2.3.3.0022.0.0019	19	0.22	7.8	40.5	90	100/500/1000
3.512.2.3.3.0022.0.0020	20	0.22	8.2	42.7	95	100/500/1000
3.512.2.3.3.0022.0.0021	21	0.22	8.2	44.8	98	100/500/1000
3.512.2.3.3.0022.0.0024	24	0.22	9.1	51.2	113	100/500/1000
3.512.2.3.3.0022.0.0025	25	0.22	9.1	53.3	116	100/500/1000
3.512.2.3.3.0022.0.0027	27	0.22	9.3	57.6	123	100/500/1000
Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.2.3.3.0025.0.0002	2	0.25	3.8	4.8	17	100/500/1000
3.512.2.3.3.0025.0.0003	3	0.25	4	7.2	21	100/500/1000
3.512.2.3.3.0025.0.0004	4	0.25	4.3	9.6	26	100/500/1000
3.512.2.3.3.0025.0.0005	5	0.25	4.8	12	31	100/500/1000
3.512.2.3.3.0025.0.0006	6	0.25	5.2	14.4	36	100/500/1000
3.512.2.3.3.0025.0.0007	7	0.25	5.2	16.8	40	100/500/1000
3.512.2.3.3.0025.0.0008	8	0.25	5.8	19.2	48	100/500/1000
3.512.2.3.3.0025.0.0009	9	0.25	6.2	21.6	53	100/500/1000
3.512.2.3.3.0025.0.0010	10	0.25	6.7	24	58	100/500/1000
3.512.2.3.3.0025.0.0012	12	0.25	7	28.8	68	100/500/1000
3.512.2.3.3.0025.0.0014	14	0.25	7.4	33.6	78	100/500/1000
3.512.2.3.3.0025.0.0016	16	0.25	7.8	38.4	87	100/500/1000
3.512.2.3.3.0025.0.0018	18	0.25	8.2	43.2	95	100/500/1000
3.512.2.3.3.0025.0.0019	19	0.25	8.3	45.6	101	100/500/1000
3.512.2.3.3.0025.0.0020	20	0.25	8.7	48	106	100/500/1000
3.512.2.3.3.0025.0.0021	21	0.25	8.7	50.4	110	100/500/1000
3.512.2.3.3.0025.0.0024	24	0.25	9.7	57.6	127	100/500/1000
3.512.2.3.3.0025.0.0025	25	0.25	9.7	60	130	100/500/1000
3.512.2.3.3.0025.0.0027	27	0.25	9.9	64.8	138	100/500/1000

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Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.2.3.3.0034.0.0002	2	0.34	4.3	6.7	22	100/500/1000
3.512.2.3.3.0034.0.0003	3	0.34	4.5	10	27	100/500/1000
3.512.2.3.3.0034.0.0004	4	0.34	4.9	13.3	33	100/500/1000
3.512.2.3.3.0034.0.0005	5	0.34	5.4	16.7	41	100/500/1000
3.512.2.3.3.0034.0.0006	6	0.34	5.9	20	47	100/500/1000
3.512.2.3.3.0034.0.0007	7	0.34	5.9	23.3	52	100/500/1000
3.512.2.3.3.0034.0.0008	8	0.34	6.5	26.7	60	100/500/1000
3.512.2.3.3.0034.0.0009	9	0.34	7.5	30	69	100/500/1000
3.512.2.3.3.0034.0.0010	10	0.34	7.6	33.3	76	100/500/1000
3.512.2.3.3.0034.0.0012	12	0.34	7.8	40	86	100/500/1000
3.512.2.3.3.0034.0.0014	14	0.34	8.3	46.7	99	100/500/1000
3.512.2.3.3.0034.0.0016	16	0.34	8.7	53.3	111	100/500/1000
3.512.2.3.3.0034.0.0018	18	0.34	9.4	60	127	100/500/1000
3.512.2.3.3.0034.0.0019	19	0.34	9.4	63.3	132	100/500/1000
3.512.2.3.3.0034.0.0020	20	0.34	9.9	66.7	139	100/500/1000
3.512.2.3.3.0034.0.0021	21	0.34	10.1	70	149	100/500/1000
3.512.2.3.3.0034.0.0024	24	0.34	11.1	80	169	100/500/1000
3.512.2.3.3.0034.0.0025	25	0.34	11.1	83.3	174	100/500/1000
3.512.2.3.3.0034.0.0027	27	0.34	11.3	90	185	100/500/1000
Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.2.3.3.0050.0.0002	2	0.5	4.9	8.8	28	100/500/1000
3.512.2.3.3.0050.0.0003	3	0.5	5.2	13.2	36	100/500/1000
3.512.2.3.3.0050.0.0004	4	0.5	5.6	17.6	44	100/500/1000
3.512.3.3.3.0050.0.0005	5	0.5	6.2	22	53	100/500/1000
3.512.3.3.3.0050.0.0006	6	0.5	6.7	26.4	64	100/500/1000
3.512.3.3.3.0050.0.0007	7	0.5	6.7	30.8	68	100/500/1000
3.512.3.3.3.0050.0.0008	8	0.5	7.4	35.2	83	100/500/1000
3.512.3.3.3.0050.0.0009	9	0.5	8.6	39.6	94	100/500/1000
3.512.3.3.3.0050.0.0010	10	0.5	8.6	44	98	100/500/1000
3.512.3.3.3.0050.0.0012	12	0.5	9	52.8	114	100/500/1000
3.512.3.3.3.0050.0.0014	14	0.5	9.5	61.6	131	100/500/1000
3.512.3.3.3.0050.0.0016	16	0.5	10	70.4	146	100/500/1000
3.512.3.3.3.0050.0.0018	18	0.5	10.6	79.2	166	100/500/1000
3.512.3.3.3.0050.0.0019	19	0.5	10.6	83.6	170	100/500/1000
3.512.3.3.3.0050.0.0020	20	0.5	11.2	88	184	100/500/1000
3.512.3.3.3.0050.0.0021	21	0.5	11.2	92.4	194	100/500/1000
3.512.3.3.3.0050.0.0024	24	0.5	12.5	105.6	217	100/500/1000
3.512.3.3.3.0050.0.0025	25	0.5	12.5	110	226	100/500/1000
3.512.3.3.3.0050.0.0027	27	0.5	12.7	118.8	237	100/500/1000

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Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.2.3.3.0075.0.0002	2	0.75	5.3	13.2	35	100/500/1000
3.512.2.3.3.0075.0.0003	3	0.75	5.6	19.8	45	100/500/1000
3.512.2.3.3.0075.0.0004	4	0.75	6.1	26.4	55	100/500/1000
3.512.3.3.3.0075.0.0005	5	0.75	6.7	33	69	100/500/1000
3.512.3.3.3.0075.0.0006	6	0.75	7.3	39.6	82	100/500/1000
3.512.3.3.3.0075.0.0007	7	0.75	7.3	46.2	87	100/500/1000
3.512.3.3.3.0075.0.0008	8	0.75	8.1	52.8	106	100/500/1000
3.512.3.3.3.0075.0.0009	9	0.75	9.4	59.4	120	100/500/1000
3.512.3.3.3.0075.0.0010	10	0.75	9.4	66	126	100/500/1000
3.512.3.3.3.0075.0.0012	12	0.75	9.8	79.2	147	100/500/1000
3.512.3.3.3.0075.0.0014	14	0.75	10.4	92.4	169	100/500/1000
3.512.3.3.3.0075.0.0016	16	0.75	10.9	105.6	189	100/500/1000
3.512.3.3.3.0075.0.0018	18	0.75	11.6	118.8	216	100/500/1000
3.512.3.3.3.0075.0.0019	19	0.75	11.6	125.4	221	100/500/1000
3.512.3.3.3.0075.0.0020	20	0.75	12.2	132	239	100/500/1000
3.512.3.3.3.0075.0.0021	21	0.75	12.4	138.6	259	100/500/1000
3.512.3.3.3.0075.0.0024	24	0.75	13.7	158.5	282	100/500/1000
3.512.3.3.3.0075.0.0025	25	0.75	13.7	165.1	294	100/500/1000
3.512.3.3.3.0075.0.0027	27	0.75	14	178.3	309	100/500/1000
Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.2.3.3.0100.0.0002	2	1	5.7	16.5	40	100/500/1000
3.512.2.3.3.0100.0.0003	3	1	6	24.8	52	100/500/1000
3.512.3.3.3.0100.0.0004	4	1	6.7	33	67	100/500/1000
3.512.3.3.3.0100.0.0005	5	1	7.4	41.3	84	100/500/1000
3.512.3.3.3.0100.0.0006	6	1	8	49.5	100	100/500/1000
3.512.3.3.3.0100.0.0007	7	1	8	57.8	106	100/500/1000
3.512.3.3.3.0100.0.0008	8	1	8.8	66	128	100/500/1000
3.512.3.3.3.0100.0.0009	9	1	10.3	74.3	146	100/500/1000
3.512.3.3.3.0100.0.0010	10	1	10.3	82.5	152	100/500/1000
3.512.3.3.3.0100.0.0012	12	1	10.7	99	178	100/500/1000
3.512.3.3.3.0100.0.0014	14	1	11.4	115.5	205	100/500/1000
3.512.3.3.3.0100.0.0016	16	1	12	132	230	100/500/1000
3.512.3.3.3.0100.0.0018	18	1	12.7	148.5	262	100/500/1000
3.512.3.3.3.0100.0.0019	19	1	12.7	156.8	269	100/500/1000
3.512.3.3.3.0100.0.0020	20	1	13.4	165.1	291	100/500/1000
3.512.3.3.3.0100.0.0021	21	1	13.5	173.3	310	100/500/1000
3.512.3.3.3.0100.0.0024	24	1	14.9	198.1	338	100/500/1000
3.512.3.3.3.0100.0.0025	25	1	14.9	206.3	353	100/500/1000
3.512.3.3.3.0100.0.0027	27	1	15.2	222.8	372	100/500/1000

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Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.2.3.3.0150.0.0002	2	1.5	6.4	25.7	54	100/500/1000
3.512.2.3.3.0150.0.0003	3	1.5	6.8	38.6	71	100/500/1000
3.512.2.3.3.0150.0.0004	4	1.5	7.5	51.4	91	100/500/1000
3.512.3.3.3.0150.0.0005	5	1.5	8.3	64.3	112	100/500/1000
3.512.3.3.3.0150.0.0006	6	1.5	9	77.2	136	100/500/1000
3.512.3.3.3.0150.0.0007	7	1.5	9	90	146	100/500/1000
3.512.3.3.3.0150.0.0008	8	1.5	9.9	102.9	175	100/500/1000
3.512.3.3.3.0150.0.0009	9	1.5	11.6	115.7	200	100/500/1000
3.512.3.3.3.0150.0.0010	10	1.5	11.6	128.6	210	100/500/1000
3.512.3.3.3.0150.0.0012	12	1.5	12.1	154.3	246	100/500/1000
3.512.3.3.3.0150.0.0014	14	1.5	12.8	180	284	100/500/1000
3.512.3.3.3.0150.0.0016	16	1.5	13.5	205.7	319	100/500/1000
3.512.3.3.3.0150.0.0018	18	1.5	14.3	231.5	363	100/500/1000
3.512.3.3.3.0150.0.0019	19	1.5	14.3	244.3	374	100/500/1000
3.512.3.3.3.0150.0.0020	20	1.5	15.1	257.2	403	100/500/1000
3.512.3.3.3.0150.0.0021	21	1.5	15.1	270	425	100/500/1000
3.512.3.3.3.0150.0.0024	24	1.5	16.9	308.6	475	100/500/1000
3.512.3.3.3.0150.0.0025	25	1.5	16.9	321.5	495	100/500/1000
3.512.3.3.3.0150.0.0027	27	1.5	17.3	347.2	524	100/500/1000
Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.2.3.3.0250.0.0002	2	2.5	7.6	42.9	79	100/500/1000
3.512.2.3.3.0250.0.0003	3	2.5	8.1	64.3	106	100/500/1000
3.512.2.3.3.0250.0.0004	4	2.5	9	85.7	139	100/500/1000
3.512.3.3.3.0250.0.0005	5	2.5	10.1	107.2	178	100/500/1000
3.512.3.3.3.0250.0.0006	6	2.5	11	128.6	212	100/500/1000
3.512.3.3.3.0250.0.0007	7	2.5	11	150	229	100/500/1000
3.512.3.3.3.0250.0.0008	8	2.5	12.1	171.5	274	100/500/1000
3.512.3.3.3.0250.0.0009	9	2.5	14.2	192.9	311	100/500/1000
3.512.3.3.3.0250.0.0010	10	2.5	14.2	214.3	328	100/500/1000
3.512.3.3.3.0250.0.0012	12	2.5	14.8	257.2	385	100/500/1000
3.512.3.3.3.0250.0.0014	14	2.5	15.6	300	444	100/500/1000
3.512.3.3.3.0250.0.0016	16	2.5	16.5	342.9	501	100/500/1000
3.512.3.3.3.0250.0.0018	18	2.5	17.5	385.8	570	100/500/1000
3.512.3.3.3.0250.0.0019	19	2.5	17.5	407.2	587	100/500/1000
3.512.3.3.3.0250.0.0020	20	2.5	18.5	428.6	633	100/500/1000
3.512.3.3.3.0250.0.0021	21	2.5	18.5	450.1	670	100/500/1000
3.512.3.3.3.0250.0.0024	24	2.5	20.6	514.4	739	100/500/1000
3.512.3.3.3.0250.0.0025	25	2.5	20.6	535.8	764	100/500/1000
3.512.3.3.3.0250.0.0027	27	2.5	21	578.7	818	100/500/1000

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Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.2.3.3.0400.0.0002	2	4	8.7	68.6	119	100/500/1000
3.512.3.3.3.0400.0.0003	3	4	9.3	102.9	152	100/500/1000
3.512.3.3.3.0400.0.0004	4	4	10.2	137.2	197	100/500/1000
3.512.3.3.3.0400.0.0005	5	4	11.4	171.5	253	100/500/1000
3.512.3.3.3.0400.0.0006	6	4	12.5	205.7	302	100/500/1000
3.512.3.3.3.0400.0.0007	7	4	12.5	240	329	100/500/1000
3.512.3.3.3.0400.0.0008	8	4	13.8	274.3	391	100/500/1000
3.512.3.3.3.0400.0.0009	9	4	16.2	308.6	443	100/500/1000
3.512.3.3.3.0400.0.0010	10	4	16.2	342.9	470	100/500/1000
3.512.3.3.3.0400.0.0012	12	4	16.9	411.5	555	100/500/1000
3.512.3.3.3.0400.0.0014	14	4	17.8	480.1	642	100/500/1000
3.512.3.3.3.0400.0.0016	16	4	18.8	548.7	725	100/500/1000
3.512.3.3.3.0400.0.0018	18	4	20	617.2	826	100/500/1000
3.512.3.3.3.0400.0.0019	19	4	20	651.5	853	100/500/1000
3.512.3.3.3.0400.0.0020	20	4	21.1	685.8	918	100/500/1000
Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.3.3.3.0600.0.0002	2	6	10.6	102.9	174	100/500/1000
3.512.3.3.3.0600.0.0003	3	6	11.3	154.3	224	100/500/1000
3.512.3.3.3.0600.0.0004	4	6	12.6	205.7	294	100/500/1000
3.512.3.3.3.0600.0.0005	5	6	14.1	257.2	377	100/500/1000
3.512.3.3.3.0600.0.0006	6	6	15.4	308.6	452	100/500/1000
3.512.3.3.3.0600.0.0007	7	6	15.4	360.1	492	100/500/1000
3.512.3.3.3.0600.0.0008	8	6	16.8	411.5	577	100/500/1000
3.512.3.3.3.0600.0.0009	9	6	20	462.9	663	100/500/1000
3.512.3.3.3.0600.0.0010	10	6	20	514.4	703	100/500/1000
Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.3.3.3.1000.0.0002	2	10	13.3	178	292	100/500/1000
3.512.3.3.3.1000.0.0003	3	10	14.1	267	377	100/500/1000
3.512.3.3.3.1000.0.0004	4	10	15.6	356	487	100/500/1000
3.512.3.3.3.1000.0.0005	5	10	17.2	445	613	100/500/1000
3.512.3.3.3.1000.0.0006	6	10	18.9	534	739	100/500/1000
3.512.3.3.3.1000.0.0007	7	10	19.2	623	823	100/500/1000
3.512.3.3.3.1000.0.0008	8	10	20.6	712	949	100/500/1000
3.512.3.3.3.1000.0.0009	9	10	24.4	801	1081	100/500/1000
3.512.3.3.3.1000.0.0010	10	10	24.5	890	1157	100/500/1000
Part Number	Conductor Count	Conductor Cross-section (mm ²)	Approx. Cable Diameter (mm)	Copper Weight (kg/km)	Approx. Weight (kg/km)	Packing Lengths (m)
3.512.3.3.3.1600.0.0002	2	16	17.3	280.4	453	100/500/1000
3.512.3.3.3.1600.0.0003	3	16	18.4	420.6	604	100/500/1000
3.512.3.3.3.1600.0.0004	4	16	20.3	560.9	782	100/500/1000
3.512.3.3.3.1600.0.0005	5	16	22.5	701.1	989	100/500/1000
3.512.3.3.3.1600.0.0006	6	16	24.9	841.3	1203	100/500/1000
3.512.3.3.3.1600.0.0007	7	16	24.9	981.5	1312	100/500/1000
3.512.3.3.3.1600.0.0008	8	16	27.2	1121.7	1547	100/500/1000
3.512.3.3.3.1600.0.0009	9	16	32.2	1261.9	1750	100/500/1000
3.512.3.3.3.1600.0.0010	10	16	32.3	1402.1	1867	100/500/1000