

ICON[®] Instrumentation Cable Zero Halogen, Flame Retardant

EN 50288-7
90 °C / 300 V

Single & Multi-Triple, XLPE-Insulation, Collective Screen, Armour, LSZH-Sheath

RE-2X(St)HSAWAH

Application

For transmission of analogue and digital signals in instrument and control systems; allowed for use in zone 1 and zone 2 group II classified areas (IEC 60079-14); not allowed for direct connection to low impedance source, e.g. the public mains electricity supply.

Recommended for indoor and outdoor installation, on racks, trays, in conduits, in dry and wet locations; for direct burial. Recommended for use as fire protection measure for people and important material assets.

Construction

Conductor.....	plain annealed copper, 7 stranded, size, 0.5 mm ² , 0.75 mm ² , 1 mm ² , 1.3 mm ² , 1.5 mm ²
Insulation.....	cross-linked polyethylene XLPE
Colour code.....	black / white / red, continuously numbered on white core (1, 2..) for multitruples
Wrapping.....	at least 1 layer of plastic tape
Collective screen.....	24 µm aluminium PETP tape over 7-stranded tinned copper drain wire, 0.5 mm ²
Inner sheath.....	zero halogen flame retardant compound LSZH, black
Armour.....	galvanised round steel wires
Outer sheath.....	zero halogen flame retardant compound LSZH, black; blue for intrinsically safe systems
Cable marking.....	LEONI KERPEN ICON INSTRUMENTATION CABLE 300 V LSZH EN 50288-7 CE PLC LM



Technical data

Flame propagation	
Test on single cable	IEC 60332-1-2
Test on bunched cables	IEC 60332-3-24 (Cat. C)
Amount of halogen acid gas	IEC 60754-1 (0%)
Degree of acidity of gases	IEC 60754-2 (pH > 4.3, C < 10µS/mm)
Smoke density	IEC 61034-2 (L.T. > 60%)
Sunlight resistance	UL 1581 section 1200
Oil resistance	ICEA S-73-532*

Temperature range:	-30 °C up to 90 °C (during operation) -5 °C up to 50 °C (during installation)
Min. bending radius:	10 x cable-Ø

Abbreviations

RE-	Instrumentation Cable
2X	insulation of XLPE
(St)	collective screen
H	inner sheath of LSZH
SWA	steel wire armour
H	LSZH Sheath
PLC	Production Lot Code
LM	Length Marking

Electrical data at 20 °C

Conductor	nom.	mm ²	0.5	0.75	1	1.3	1.5
Conductor resistance	max.	Ω/km	36.7	25.0	18.5	14.2	12.3
Insulation resistance	min.	MΩ x km	5000				
Mutual capacitance	max.	nF/km					
single triple:			115	115	115	115	115
up to 4 triples:			90	90	90	102	102
above 4 triples:			75	75	75	85	85
Inductance	max.	mH/km	1				
L/R (ratio)	max.	µH/Ω	25	25	25	40	40
Test voltage U _{rms} (core : core)		V	1500				
Test voltage U _{rms} (core : screen)		V	1500				
Operating voltage		V	300				

*(Test temperature + 60 °C; duration 4 h. Retention: min. 60 % of tensile strength/min. 60 % of elongation)

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Geometrical data

No. of elem.	RT of insulation nom. mm	RT of inner sheath nom. mm	Ø over inner sheath approx. mm	Ø of armour wire nom. mm	RT of outer sheath nom. mm	Overall diameter approx. mm	Cable weight approx. kg/km	Part. No. Colour black
0.5 mm²/7								
1	0.35	0.8	5.4	0.90	1.3	9.8	200	8112E316
2	0.35	0.9	8.4	0.90	1.4	13.0	326	8112E319
4	0.35	1.0	9.8	0.90	1.4	14.4	386	8112E322
5	0.35	1.0	10.8	0.90	1.4	15.4	454	8112E325
6	0.35	1.0	12.1	0.90	1.4	16.7	513	8112E328
8	0.35	1.1	13.1	0.90	1.5	17.9	570	8112E331
10	0.35	1.1	14.7	0.90	1.5	19.5	658	8112E334
12	0.35	1.1	15.2	0.90	1.5	20.0	844	8112E337
16	0.35	1.2	17.4	0.90	1.6	22.4	1001	8112E340
20	0.35	1.2	19.1	1.25	1.6	24.8	1177	8112E343
24	0.35	1.3	20.9	1.25	1.7	26.8	1327	8112E346
0.75 mm²/7								
1	0.38	0.9	6.1	0.90	1.3	10.5	220	8112E349
2	0.38	0.9	9.3	0.90	1.4	13.9	369	8112E352
4	0.38	1.0	10.9	0.90	1.4	15.5	462	8112E355
5	0.38	1.0	12.0	0.90	1.4	16.6	526	8112E358
6	0.38	1.1	13.7	0.90	1.5	18.5	614	8112E361
8	0.38	1.1	14.7	0.90	1.5	19.5	697	8112E364
10	0.38	1.2	16.7	0.90	1.5	21.5	918	8112E367
12	0.38	1.2	17.3	0.90	1.6	22.3	1027	8112E370
16	0.38	1.3	19.7	1.25	1.6	25.4	1237	8112E373
20	0.38	1.3	21.7	1.25	1.7	27.6	1443	8112E376
24	0.38	1.4	23.7	1.25	1.7	29.6	1628	8112E379
1 mm²/7								
1	0.4	0.9	6.6	0.90	1.3	11.0	244	8112E382
2	0.4	1.0	10.4	0.90	1.4	15.0	403	8112E385
4	0.4	1.0	11.9	0.90	1.4	16.5	528	8112E388
5	0.4	1.0	13.2	0.90	1.5	18.0	619	8112E391
6	0.4	1.1	15.0	0.90	1.5	19.8	829	8112E394
8	0.4	1.1	16.1	0.90	1.5	20.9	945	8112E397
10	0.4	1.2	18.4	1.25	1.6	24.1	1074	8112E400
12	0.4	1.2	19.0	1.25	1.6	24.7	1212	8112E403
16	0.4	1.3	21.7	1.25	1.7	27.6	1478	8112E406
20	0.4	1.4	24.1	1.25	1.7	30.0	1736	8112E409
24	0.4	1.4	26.1	1.25	1.8	32.2	2197	8112E412

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1.3 mm²/7								
1	0.45	0.9	7.2	0.90	1.3	11.6	268	8112E415
2	0.45	1.0	11.5	0.90	1.4	16.1	488	8112E418
4	0.45	1.1	13.4	0.90	1.5	18.2	620	8112E421
5	0.45	1.1	14.8	0.90	1.5	19.6	720	8112E424
6	0.45	1.2	16.9	0.90	1.5	21.7	952	8112E427
8	0.45	1.2	18.1	1.25	1.6	23.8	1076	8112E430
10	0.45	1.3	20.7	1.25	1.7	26.6	1320	8112E433
12	0.45	1.3	21.4	1.25	1.7	27.3	1454	8112E436
16	0.45	1.4	24.4	1.25	1.8	30.5	1785	8112E439
20	0.45	1.5	27.1	1.25	1.8	33.2	2323	8112E442
24	0.45	1.6	29.6	1.60	1.9	36.6	2633	8112E445
1.5 mm²/7								
1	0.45	0.9	7.5	0.90	1.3	11.9	293	8112E448
2	0.45	1.0	11.9	0.90	1.4	16.5	491	8112E451
4	0.45	1.1	14.0	0.90	1.5	18.8	673	8112E454
5	0.45	1.1	15.4	0.90	1.5	20.2	894	8112E457
6	0.45	1.2	17.6	0.90	1.6	22.6	1021	8112E460
8	0.45	1.3	19.1	1.25	1.6	24.8	1208	8112E463
10	0.45	1.3	21.6	1.25	1.7	27.5	1433	8112E466
12	0.45	1.4	22.5	1.25	1.7	28.4	1565	8112E469
16	0.45	1.5	25.7	1.25	1.8	31.8	2157	8112E472
20	0.45	1.6	28.6	1.25	1.9	34.9	2510	8112E475
24	0.45	1.7	31.1	1.60	2.0	38.3	2873	8112E478

RT = Radial Thickness