

ICON[®] Instrumentation Cable Fire Resistant (CI), Flame Retardant

EN 50288-7
90 °C / 500 V

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

RE-2X(St)HSAWH CI

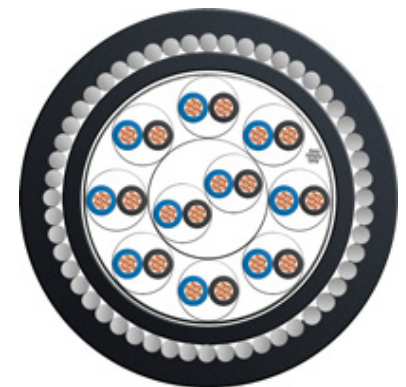
Application

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 over the MICA-tape wrapped conductor
Colour code.....	black / blue, continuously numbered on blue core (1, 2..) for multipair
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 CI 500 V LSZH GEN. TO 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)
Circuit Integrity	IEC 60331-21
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
CI	circuit integrity
PLC	Production Lot Code
LM	Length Marking

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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 pair:			100	100	100	100	100
up to 4 pairs:			78	78	78	90	90
above 4 pairs:			65	65	65	75	75
Capacitance unbalance		pF/500 m	0	500			
Inductance	max.	mH/km	1				
L/R (ratio)	max.	μH/Ω	25	25	25	40	40
Test voltage U _{rms} (core : core)		V	2000				
Test voltage U _{rms} (core : screen)		V	2000				
Operating voltage		V	500				

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

Geometrical data								
No. of elem.	Ø core	RT of inner sheath	Ø over inner sheath	Ø of armour wire	RT of outer sheath	Overall diameter	Cable weight	Part. No.
	approx. mm	nom. mm	approx. mm	nom. mm	nom. mm	approx. mm	approx. kg/km	Colour black
0.5 mm²/7								
1	2.73	0.9	7.6	0.90	1.4	12.2	266	8114F001
2	2.63	1.1	11.4	0.90	1.5	16.2	435	8114F004
4	2.63	1.2	13.8	0.90	1.5	18.6	528	8114F007
5	2.63	1.2	15.1	1.25	1.6	20.8	690	8114F151
6	2.63	1.3	16.6	1.25	1.6	22.3	819	8114F010
8	2.63	1.3	17.7	1.25	1.7	23.6	866	8114F013
10	2.63	1.4	20.2	1.25	1.7	26.1	1008	8114F016
12	2.63	1.4	21.2	1.25	1.8	27.3	1104	8114F019
16	2.63	1.5	24.1	1.25	1.8	30.2	1391	8114F022
20	2.63	1.6	26.7	1.60	1.9	33.7	1726	8114F025
24	2.63	1.7	29.1	1.60	2.0	36.3	1928	8114F028
0.75 mm²/7								
1	2.81	0.9	7.7	0.90	1.4	12.3	271	8114F031
2	2.81	1.1	12.1	0.90	1.5	16.9	449	8114F034
4	2.81	1.2	14.5	0.90	1.6	19.5	568	8114F037
5	2.81	1.2	15.9	1.25	1.6	21.6	760	8114F154
6	2.81	1.3	17.5	1.25	1.7	23.4	866	8114F040
8	2.81	1.3	18.7	1.25	1.7	24.6	967	8114F043
10	2.81	1.4	21.4	1.25	1.8	27.5	1148	8114F046
12	2.81	1.5	22.6	1.25	1.8	28.7	1271	8114F049
16	2.81	1.6	25.7	1.60	1.9	32.7	1761	8114F052
20	2.81	1.7	28.5	1.60	2.0	35.7	1933	8114F055
24	2.81	1.8	31.0	1.60	2.1	38.4	2296	8114F058

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Geometrical data								
No. of elem.	Ø core approx. 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
1 mm²/7								
1	2.99	1.0	8.3	0.90	1.4	12.9	292	8114F061
2	2.99	1.1	12.7	0.90	1.5	17.5	481	8114F064
4	2.99	1.2	15.3	1.25	1.6	21.0	748	8114F067
5	2.99	1.3	17.0	1.25	1.6	22.7	829	8114F157
6	2.99	1.3	18.4	1.25	1.7	24.3	966	8114F070
8	2.99	1.4	19.8	1.25	1.7	25.7	1055	8114F073
10	2.99	1.5	22.7	1.25	1.8	28.8	1248	8114F076
12	2.99	1.5	23.8	1.25	1.8	29.9	1359	8114F079
16	2.99	1.7	27.3	1.60	2.0	34.5	1961	8114F082
20	2.99	1.8	30.3	1.60	2.0	37.5	2140	8114F085
24	2.99	1.9	33.0	1.60	2.1	40.4	2524	8114F088
1.3 mm²/7								
1	3.17	1.0	8.6	0.90	1.4	13.2	297	8114F091
2	3.17	1.1	13.3	0.90	1.5	18.1	534	8114F094
4	3.17	1.2	16.0	1.25	1.6	21.7	799	8114F097
5	3.17	1.3	17.8	1.25	1.7	23.7	902	8114F160
6	3.17	1.4	19.6	1.25	1.7	25.5	1059	8114F100
8	3.17	1.4	20.8	1.25	1.8	26.9	1183	8114F103
10	3.17	1.5	23.9	1.25	1.8	30.0	1362	8114F106
12	3.17	1.6	25.2	1.60	1.9	32.2	1763	8114F109
16	3.17	1.7	28.7	1.60	2.0	35.9	2129	8114F112
20	3.17	1.8	31.8	1.60	2.1	39.2	2377	8114F115
24	3.17	1.9	34.7	1.60	2.2	42.3	3020	8114F118
1.5 mm²/7								
1	3.59	1.0	9.5	0.90	1.4	14.1	324	8114F121
2	3.29	1.2	13.9	0.90	1.5	18.7	526	8114F124
4	3.29	1.3	16.7	1.25	1.6	22.4	833	8114F127
5	3.29	1.3	18.3	1.25	1.7	24.2	847	8114F163
6	3.29	1.4	20.2	1.25	1.7	26.1	1075	8114F130
8	3.29	1.4	21.5	1.25	1.8	27.6	1231	8114F133
10	3.29	1.6	24.9	1.25	1.9	31.2	1300	8114F136
12	3.29	1.6	26.0	1.60	1.9	33.0	1778	8114F139
16	3.29	1.8	29.9	1.60	2.0	37.1	2274	8114F142
20	3.29	1.9	33.1	1.60	2.1	40.5	2239	8114F145
24	3.29	2.0	36.0	2.00	2.2	44.4	3224	8114F148

RT = Radial Thickness