



# TRONIC-CY (LiY-CY) / TRONIC-DY (LiY-DY)

colour code DIN 47100, without colour repetition, EMC-preferred type



HELUKABEL® TRONIC-CY (LiY-CY) 6x0,25 QMM / 20083 CE

## TECHNICAL DATA

PVC data cable in alignment with DIN VDE 0812

<b>Temperature range</b>	flexible -5°C to +80°C fixed -40°C to +80°C
<b>Peak operating voltage</b>	0.14 mm <sup>2</sup> : 350 V 0.25 - 1.5 mm <sup>2</sup> : 500 V (not for high power current installation purposes)
<b>Test voltage core/core</b>	0.14 - 0.25 mm <sup>2</sup> : 1200 V 0.34 - 1.5 mm <sup>2</sup> : 2000 V
<b>Test voltage core/screen</b>	0.14 - 0.25 mm <sup>2</sup> : 800 V 0.34 - 1.5 mm <sup>2</sup> : 1200 V
<b>Breakdown voltage</b>	0.14 - 0.25 mm <sup>2</sup> : 2400 V 0.34 - 1.5 mm <sup>2</sup> : 4000 V
<b>Mutual capacitance core/core</b>	at 800 Hz 0.14 - 0.25 mm <sup>2</sup> : approx. 100 pF/m 0.34 - 1.5 mm <sup>2</sup> : approx. 150 pF/m
<b>Mutual capacitance core/screen</b>	at 800 Hz 0.14 - 0.25 mm <sup>2</sup> : approx. 200 pF/m 0.34 - 1.5 mm <sup>2</sup> : approx. 270 pF/m
<b>Characteristic impedance</b>	78 Ohm (approx. value)
<b>Inductance</b>	approx. 0.65 mH/km
<b>Coupling resistance</b>	at 30 MHz, approx. 250 Ohm/km
<b>Minimum bending radius</b>	flexible 10x Outer-Ø fixed 5x Outer-Ø

## CABLE STRUCTURE

- Copper wire bare, 0.5 - 1.5 mm<sup>2</sup>: finely stranded acc. to DIN VDE 0295 Class 5 / IEC 60228 Class 5
- Wire structure:  
0.14 mm<sup>2</sup>: approx. 18 x 0.10 mm  
0.25 mm<sup>2</sup>: approx. 14 x 0.15 mm  
0.34 mm<sup>2</sup>: 7 x 0.25 mm
- Core insulation: PVC acc. to DIN VDE 0207-363-3 / DIN EN 50363-3 (compound type T12)
- Core identification in alignment with DIN 47100, colour coded, without colour repetition from the 45th core

### TRONIC-DY (LiY-DY), helically wound tinned copper wires

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
20139	1 x 0.14	26	2.6	6.1	16.0
20084	1 x 0.25	24	3.0	7.2	27.0
20088	1 x 0.34	22	3.2	13.5	24.0

- x = without protective conductor
- Cores stranded in layers with optimal lay lengths
- Foil wrapping
- Drain wire, tinned copper
- Screen:  
1 core(s): helically wound tinned copper wires, approx. coverage 85 %  
2 - 61 core(s): braided screen of tinned copper wires, approx. coverage 85 %
- Outer sheath: PVC acc. to DIN VDE 0207-363-4-1 / DIN EN 50363-4-1 (compound type TM2)
- Sheath colour: grey (RAL 7001)
- Length marking: in metres

## PROPERTIES

- largely resistant to: oil, for details, see "Technical Information"
- the materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

## TESTS

- flame-retardant acc. to DIN VDE 0482-332-1-2 / DIN EN 60332-1-2 / IEC 60332-1-2

## APPLICATION

Suitable for flexible applications with free movement, without tensile stress and without forced motion control in dry, damp and wet rooms, however, not suitable for outdoor use. Used as control and signal cables in the milliampere range for computer systems, control devices, scales etc. Due to its extremely small outer-Ø, it is especially suitable for subminiature plugs, electronic devices etc. These cables with copper screening are ideally suited for interference-free data and signal transmission for measurement and control technology. EMC= Electromagnetic Compatibility; in order to optimise EMC properties, we recommend a double-sided and all-round large contact area of the copper braiding.

## NOTES

- the conductor is metrically (mm<sup>2</sup>) constructed, AWG numbers are approximated, and are for reference only

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
16001	1 x 0.5	20	3.5	15.0	40.0
16025	1 x 0.75	19	4.0	19.0	41.0



# TRONIC-CY (LiY-CY) / TRONIC-DY (LiY-DY)

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## TRONIC-CY (LiY-CY), braided screen of tinned copper wires

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
20001	2 x 0.14	26	3.9	12.0	20.0
20002	3 x 0.14	26	4.0	13.0	27.0
20003	4 x 0.14	26	4.3	14.5	32.0
20004	5 x 0.14	26	4.7	15.5	37.0
20005	6 x 0.14	26	5.2	18.2	42.0
20006	7 x 0.14	26	5.2	19.0	48.0
20007	8 x 0.14	26	5.9	21.3	55.0
20008	10 x 0.14	26	6.5	28.7	65.0
20009	12 x 0.14	26	6.7	30.5	77.0
20010	14 x 0.14	26	6.9	32.0	79.0
20011	16 x 0.14	26	7.3	43.2	89.0
20012	18 x 0.14	26	7.6	51.0	103.0
20013	20 x 0.14	26	8.3	55.0	116.0
20014	21 x 0.14	26	8.4	56.0	120.0
20015	24 x 0.14	26	8.9	62.0	131.0
20091	25 x 0.14	26	9.1	61.0	136.0
20016	27 x 0.14	26	9.2	65.0	142.0
20017	30 x 0.14	26	9.5	69.0	157.0
20018	32 x 0.14	26	9.9	76.0	163.0
20019	36 x 0.14	26	10.2	83.0	182.0
20020	40 x 0.14	26	11.1	88.0	209.0
20021	42 x 0.14	26	11.2	94.0	217.0
20022	44 x 0.14	26	11.5	110.0	226.0
20023	48 x 0.14	26	11.7	115.0	240.0
20024	52 x 0.14	26	12.3	124.0	270.0
20025	56 x 0.14	26	12.5	132.0	320.0
20026	61 x 0.14	26	12.8	146.0	370.0
20029	2 x 0.25	24	4.3	15.8	31.0
20030	3 x 0.25	24	4.5	18.6	36.0
20031	4 x 0.25	24	4.8	22.0	40.0
20032	5 x 0.25	24	5.4	26.5	51.0
20083	6 x 0.25	24	5.8	32.4	58.0
20033	7 x 0.25	24	5.8	35.0	64.0
20034	8 x 0.25	24	7.0	42.1	82.0
20035	10 x 0.25	24	7.3	49.9	85.0
20036	12 x 0.25	24	7.5	58.0	90.0
20037	14 x 0.25	24	8.1	62.0	98.0
20038	16 x 0.25	24	8.5	67.0	110.0
20039	18 x 0.25	24	9.1	78.0	142.0
20086	19 x 0.25	24	9.1	79.0	146.0
20040	20 x 0.25	24	9.5	88.0	152.0
20041	21 x 0.25	24	9.6	91.0	150.0
20042	24 x 0.25	24	10.4	96.0	163.0
20092	25 x 0.25	24	10.6	99.0	169.0
20043	27 x 0.25	24	10.7	122.0	176.0
20044	30 x 0.25	24	11.1	132.0	189.0
20045	32 x 0.25	24	11.5	138.0	204.0
20046	36 x 0.25	24	11.9	146.0	219.0
20087	37 x 0.25	24	11.9	152.0	230.0
20047	40 x 0.25	24	12.9	157.0	247.0
20048	42 x 0.25	24	13.0	160.0	269.0
20049	44 x 0.25	24	13.7	162.0	292.0
20050	48 x 0.25	24	13.9	168.0	317.0
20051	52 x 0.25	24	14.3	175.0	330.0
20052	56 x 0.25	24	14.7	189.0	343.0
20053	61 x 0.25	24	15.2	204.0	365.0
20056	2 x 0.34	22	4.9	18.0	30.0
20057	3 x 0.34	22	5.1	22.0	37.0
20058	4 x 0.34	22	5.5	28.0	48.0
20059	5 x 0.34	22	6.0	31.0	54.0
20085	6 x 0.34	22	6.6	45.0	61.0
20060	7 x 0.34	22	6.6	51.0	67.0
20061	8 x 0.34	22	7.7	54.0	81.0
20062	10 x 0.34	22	8.4	65.0	103.0
20063	12 x 0.34	22	8.6	70.0	110.0
20064	14 x 0.34	22	9.0	81.0	153.0

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
20065	16 x 0.34	22	9.6	88.0	159.0
20066	18 x 0.34	22	10.1	103.0	172.0
20089	19 x 0.34	22	10.1	106.0	181.0
20067	20 x 0.34	22	10.8	112.0	191.0
20068	21 x 0.34	22	10.9	116.0	199.0
20069	24 x 0.34	22	11.7	129.0	229.0
20093	25 x 0.34	22	12.0	120.0	241.0
20070	27 x 0.34	22	12.1	138.0	258.0
20071	30 x 0.34	22	12.6	158.0	290.0
20072	32 x 0.34	22	13.0	163.0	305.0
20073	36 x 0.34	22	13.8	178.0	330.0
20090	37 x 0.34	22	13.8	192.0	348.0
20074	40 x 0.34	22	14.8	198.0	364.0
20075	42 x 0.34	22	14.9	203.0	389.0
20076	44 x 0.34	22	15.6	214.0	414.0
20077	48 x 0.34	22	15.8	227.0	420.0
20078	52 x 0.34	22	16.3	242.0	450.0
20079	56 x 0.34	22	16.8	267.0	480.0
20080	61 x 0.34	22	17.2	295.0	520.0
16002	2 x 0.5	20	5.3	29.0	45.0
16003	3 x 0.5	20	5.6	39.0	55.0
16004	4 x 0.5	20	6.3	46.0	61.0
16005	5 x 0.5	20	6.8	52.0	76.0
16006	6 x 0.5	20	7.3	66.0	89.0
16007	7 x 0.5	20	7.3	68.0	98.0
16008	8 x 0.5	20	8.6	80.0	117.0
16009	10 x 0.5	20	9.4	93.0	135.0
16010	12 x 0.5	20	9.6	117.0	157.0
16011	14 x 0.5	20	10.1	122.0	190.0
16012	16 x 0.5	20	10.6	129.0	210.0
16013	18 x 0.5	20	11.3	152.0	217.0
16526	19 x 0.5	20	11.3	156.0	246.0
16014	20 x 0.5	20	12.0	173.0	275.0
16015	24 x 0.5	20	13.2	236.0	337.0
16016	25 x 0.5	20	13.7	250.0	351.0
16527	27 x 0.5	20	13.8	265.0	373.0
16017	30 x 0.5	20	14.2	297.0	396.0
16018	32 x 0.5	20	14.7	301.0	431.0
16164	34 x 0.5	20	15.4	312.0	440.0
16019	36 x 0.5	20	15.5	320.0	445.0
16528	37 x 0.5	20	15.5	325.0	458.0
16020	40 x 0.5	20	16.4	345.0	470.0
16021	50 x 0.5	20	18.2	407.0	570.0
16022	61 x 0.5	20	19.2	508.0	650.0
16026	2 x 0.75	19	5.8	38.0	59.0
16027	3 x 0.75	19	6.3	50.0	66.0
16028	4 x 0.75	19	6.8	57.0	77.0
16029	5 x 0.75	19	7.4	70.0	93.0
16030	6 x 0.75	19	8.2	87.0	113.0
16031	7 x 0.75	19	8.2	96.0	130.0
16032	8 x 0.75	19	9.7	110.0	145.0
16033	10 x 0.75	19	10.3	140.0	180.0
16034	12 x 0.75	19	10.5	151.0	202.0
16035	14 x 0.75	19	11.3	167.0	225.0
16036	16 x 0.75	19	11.9	183.0	275.0
16037	18 x 0.75	19	12.7	207.0	292.0
16529	19 x 0.75	19	12.7	221.0	322.0
16038	20 x 0.75	19	13.6	238.0	362.0
16039	24 x 0.75	19	14.9	270.0	435.0
16040	25 x 0.75	19	15.0	278.0	415.0
16041	27 x 0.75	19	15.1	287.0	467.0
16042	30 x 0.75	19	16.0	315.0	486.0
16043	32 x 0.75	19	16.5	330.0	530.0
16163	34 x 0.75	19	17.1	350.0	570.0
16044	36 x 0.75	19	17.4	370.0	600.0
16530	37 x 0.75	19	17.4	386.0	640.0

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# TRONIC-CY (LiY-CY) / TRONIC-DY (LiY-DY)

colour code DIN 47100, without colour repetition, EMC-preferred type



## TRONIC-CY (LiY-CY), braided screen of tinned copper wires

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
16045	40 x 0.75	19	18.7	395.0	680.0
16120	42 x 0.75	19	18.9	408.0	714.0
16047	61 x 0.75	19	22.0	555.0	900.0
16475	2 x 1	18	6.4	46.0	65.0
16476	3 x 1	18	6.7	56.0	80.0
16477	4 x 1	18	7.2	69.0	98.0
16478	5 x 1	18	8.0	89.0	127.0
16479	6 x 1	18	8.7	105.0	144.0
16480	7 x 1	18	8.7	111.0	158.0
16481	8 x 1	18	10.3	130.0	197.0
16482	10 x 1	18	11.2	140.0	232.0
16483	12 x 1	18	11.4	168.0	260.0
16484	14 x 1	18	12.0	198.0	302.0
16485	16 x 1	18	12.8	218.0	346.0
16486	19 x 1	18	13.6	268.0	412.0
16487	24 x 1	18	16.0	320.0	493.0
16488	27 x 1	18	16.4	360.0	562.0

Part no.	No. cores x cross-sec. mm <sup>2</sup>	AWG, approx.	Outer Ø mm, approx.	Cu-weight kg/km	Weight kg/km, approx.
16489	37 x 1	18	18.6	485.0	790.0
16500	2 x 1.5	16	7.0	63.0	88.0
16501	3 x 1.5	16	7.4	76.0	100.0
16502	4 x 1.5	16	8.1	98.0	126.0
16503	5 x 1.5	16	9.0	116.0	160.0
16504	6 x 1.5	16	9.8	140.0	192.0
16505	7 x 1.5	16	9.8	152.0	208.0
16506	8 x 1.5	16	11.0	172.0	244.0
16507	10 x 1.5	16	12.6	193.0	315.0
16508	12 x 1.5	16	12.8	254.0	338.0
16509	14 x 1.5	16	13.5	272.0	383.0
16510	16 x 1.5	16	14.6	285.0	424.0
16511	19 x 1.5	16	15.6	387.0	506.0
16512	24 x 1.5	16	18.1	448.0	690.0
16513	27 x 1.5	16	18.7	506.0	781.0
16514	37 x 1.5	16	21.4	682.0	941.0

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