

## UNITRONIC® BUS FF-844 H1 LSZH

DS 382200017

valid from: 2018-03-31

**Application**

UNITRONIC® BUS FF incorporates a complete cabling solution for the implementation of field automation and field control. Fieldbus is a Digital, Serial, Multidrop, data bus for communication with low level industrial control and instrumentation devices such as transducers, actuators, and local controllers.

**Design**

Conductor	18 AWG tinned copper conductor with maximum DCR – 23.5 Ohms/km at 20 °C.
Standard	FF 844
Insulation	cross linked polyethylene insulated, blue & orange
Shielding	individual and overall shielded with polyester backed aluminium tape.
Inner sheath	special zero halogen compound with flame retardant low smoke properties
Outer sheath	special zero halogen compound with flame retardant low smoke properties. Colour Orange.
Armouring	GI Armoured – either wire or strip. (Unarmoured version also available)

**Electrical properties**

Nominal voltage	300 V
Test voltage	1000 V AC core to core
Characteristic impedance	100Ω +/- 20Ω @ 31.25 kHz
Max propagation delay change	7.8 KHz to 39 KHz = 1.7 μS/KM
Attenuation	< 3 dB/km @ 39 kHz wire to shield capacitance unbalance - the difference in capacitance between one wire (+) and the shield and the other wire (-) and the shield FF-844 - No more than 4pF/meter Sample length = 30 meter of cable.
Jacket resistance	1Mohm/330 meter – tested in water 500 V for 1 min.

**Mechanical properties**

Min. bending radius	fixed installation: unarmoured 12 x OD   armoured 20 x OD   steel braided 13 x OD.
Temperature range	fixed installation: -30 °C up to +90 °C max. conductor temperature

**Flame and other tests**

Flammability	in acc. with IEC 60332-1
Oxygen index	>29 % in acc. to IS 10810 Part - 58
Temperature index	>250°C in acc. to IS 10810 Part - 64
Smoke density	Max.60% in acc. to IS 10810 Part - 63
Acid gas generation	Max. 5% by weight as per IS 10810 Part - 59

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## Special properties

This product conforms to RoHS directive (Restriction of the use of certain hazardous substances)

Article number	Number of cores and mm <sup>2</sup> per conductor	Nominal outer diameter (mm)	Copper weight (kg/km) Approx.	Weight (kg/km) Approx.
<b>UNITRONIC® BUS FF-844 H1 LSZH - HXOR</b>				
382200017	1P 18AWG	8.6	15.4	90.3
382200041	2P 18AWG	14.7	30.7	220.4
382200065	3P 18AWG	15.7	46.1	278.0
382200089	4P 18AWG	17.4	61.4	349.2
382200113	5P 18AWG	19.2	76.8	423.1
382200137	6P 18AWG	21.0	92.1	489.8
382200161	7P 18AWG	21.0	107.5	538.3
382200185	8P 18AWG	23.8	122.8	625.5
382200209	9P 18AWG	26.0	138.2	708.9
382200233	10P 18AWG	27.4	153.5	785.2
382200257	11P 18AWG	27.4	168.9	833.8
382200281	12P 18AWG	28.3	184.2	892.9
382200293	13P 18AWG	30.0	199.6	974.6
382200301	14P 18AWG	30.0	214.9	1023.2
382200309	15P 18AWG	31.7	230.3	1092.5
382200317	16P 18AWG	31.7	245.6	1141.1
382200325	17P 18AWG	33.6	261.0	1227.9
382200333	18P 18AWG	33.6	276.4	1276.5
382200341	19P 18AWG	33.6	291.7	1325.1
382200349	20P 18AWG	35.8	307.1	1417.9
382200357	21P 18AWG	35.8	322.4	1466.5
382200365	22P 18AWG	37.8	337.8	1541.5
382200373	23P 18AWG	37.8	353.1	1590.1
382200381	24P 18AWG	39.9	368.5	1684.7
382200389	25P 18AWG	39.9	383.8	1733.3
<b>UNITRONIC® BUS FF-844 H1 LSZH - HXSHXOR</b>				
382200023	1P 18AWG	12.6	15.4	222.3
382200047	2P 18AWG	18.9	30.7	443.1
382200071	3P 18AWG	20.3	46.1	532.7
382200095	4P 18AWG	21.8	61.4	620.2
382200119	5P 18AWG	23.8	76.8	728.5
382200143	6P 18AWG	25.8	92.1	832.0
382200167	7P 18AWG	25.8	107.5	880.6
382200191	8P 18AWG	28.8	122.8	1027.9
382200215	9P 18AWG	31.2	138.2	1158.2
382200239	10P 18AWG	32.4	153.5	1249.9
382200263	11P 18AWG	32.4	168.9	1298.5
382200287	12P 18AWG	33.3	184.2	1370.7
<b>UNITRONIC® BUS FF-844 H1 LSZH - HXSHXUVAROR</b>				
382200024	1P 18AWG	12.6	15.4	222.3
382200048	2P 18AWG	18.9	30.7	443.1
382200072	3P 18AWG	20.3	46.1	532.7
382200096	4P 18AWG	21.8	61.4	620.2
382200120	5P 18AWG	23.8	76.8	728.5
382200144	6P 18AWG	25.8	92.1	832.0
382200168	7P 18AWG	25.8	107.5	880.6
382200192	8P 18AWG	28.8	122.8	1027.9
382200216	9P 18AWG	31.2	138.2	1158.2
382200240	10P 18AWG	32.4	153.5	1249.9
382200264	11P 18AWG	32.4	168.9	1298.5
382200288	12P 18AWG	33.3	184.2	1370.7
<b>UNITRONIC® BUS FF-844 H1 LSZH - HXSSAHXOR</b>				
382200066	3P 18AWG	20.7	46.1	768.0
382200090	4P 18AWG	22.2	61.4	873.9
382200114	5P 18AWG	24.2	76.8	1012.1
382200138	6P 18AWG	26.2	92.1	1148.4
382200162	7P 18AWG	26.2	107.5	1197.0
382200186	8P 18AWG	29.2	122.8	1382.8
382200210	9P 18AWG	31.6	138.2	1549.4
382200234	10P 18AWG	32.8	153.5	1648.3
382200258	11P 18AWG	32.8	168.9	1696.8
382200282	12P 18AWG	33.7	184.2	1783.2
382200294	13P 18AWG	35.6	199.6	1935.1
382200302	14P 18AWG	35.6	214.9	1983.7
382200310	15P 18AWG	37.5	230.3	2128.2
382200318	16P 18AWG	37.5	245.6	2176.8

Article number	Number of cores and mm <sup>2</sup> per conductor	Nominal outer diameter (mm)	Copper weight (kg/km) Approx.	Weight (kg/km) Approx.
382200326	17P 18AWG	39.4	261.0	2320.0
382200334	18P 18AWG	39.4	276.4	2368.6
382200342	19P 18AWG	39.4	291.7	2417.2
382200350	20P 18AWG	41.6	307.1	2578.8
382200358	21P 18AWG	41.6	322.4	2627.4
382200366	22P 18AWG	44.0	337.8	2814.4
382200374	23P 18AWG	44.0	353.1	2863.0
382200382	24P 18AWG	46.3	368.5	3049.9
382200390	25P 18AWG	46.3	383.8	3098.5
<b>UNITRONIC® BUS FF-844 H1 LSZH - HXSSAHXUVAROR</b>				
382200068	3P 18AWG	20.7	46.1	768.0
382200092	4P 18AWG	22.2	61.4	873.9
382200116	5P 18AWG	24.2	76.8	1012.1
382200140	6P 18AWG	26.2	92.1	1148.4
382200164	7P 18AWG	26.2	107.5	1197.0
382200188	8P 18AWG	29.2	122.8	1382.8
382200212	9P 18AWG	31.6	138.2	1549.4
382200236	10P 18AWG	32.8	153.5	1648.3
382200260	11P 18AWG	32.8	168.9	1696.8
382200284	12P 18AWG	33.7	184.2	1783.2
382200296	13P 18AWG	35.6	199.6	1935.1
382200304	14P 18AWG	35.6	214.9	1983.7
382200312	15P 18AWG	37.5	230.3	2128.2
382200320	16P 18AWG	37.5	245.6	2176.8
382200328	17P 18AWG	39.4	261.0	2320.0
382200336	18P 18AWG	39.4	276.4	2368.6
382200344	19P 18AWG	39.4	291.7	2417.2
382200352	20P 18AWG	41.6	307.1	2578.8
382200360	21P 18AWG	41.6	322.4	2627.4
382200368	22P 18AWG	44.0	337.8	2814.4
382200376	23P 18AWG	44.0	353.1	2863.0
382200384	24P 18AWG	46.3	368.5	3049.9
382200392	25P 18AWG	46.3	383.8	3098.5
<b>UNITRONIC® BUS FF-844 H1 LSZH - HXSWAHXOR</b>				
382200018	1P 18AWG	13.2	15.4	330.0
382200042	2P 18AWG	19.7	30.7	634.9
<b>UNITRONIC® BUS FF-844 H1 LSZH - HXSWAHXUVAROR</b>				
382200020	1P 18AWG	13.2	15.4	330.0
382200044	2P 18AWG	19.7	30.7	634.9
<b>UNITRONIC® BUS FF-844 H1 LSZH - HXUVAROR</b>				
382200019	1P 18AWG	8.6	15.4	90.3
382200043	2P 18AWG	14.7	30.7	220.4
382200067	3P 18AWG	15.7	46.1	278.0
382200091	4P 18AWG	17.4	61.4	349.2
382200115	5P 18AWG	19.2	76.8	423.1
382200139	6P 18AWG	21.0	92.1	489.8
382200163	7P 18AWG	21.0	107.5	538.3
382200187	8P 18AWG	23.8	122.8	625.5
382200211	9P 18AWG	26.0	138.2	708.9
382200235	10P 18AWG	27.4	153.5	785.2
382200259	11P 18AWG	27.4	168.9	833.8
382200283	12P 18AWG	28.3	184.2	892.9
382200295	13P 18AWG	30.0	199.6	974.6
382200303	14P 18AWG	30.0	214.9	1023.2
382200311	15P 18AWG	31.7	230.3	1092.5
382200319	16P 18AWG	31.7	245.6	1141.1
382200327	17P 18AWG	33.6	261.0	1227.9
382200335	18P 18AWG	33.6	276.4	1276.5
382200343	19P 18AWG	33.6	291.7	1325.1
382200351	20P 18AWG	35.8	307.1	1417.9
382200359	21P 18AWG	35.8	322.4	1466.5
382200367	22P 18AWG	37.8	337.8	1541.5
382200375	23P 18AWG	37.8	353.1	1590.1
382200383	24P 18AWG	39.9	368.5	1684.7
382200391	25P 18AWG	39.9	383.8	1733.3