



# I-V (ZN) HH BREAKOUT CABLE

CONSTRUCTION | FEATURES | TECHNICAL DATA

TANNER WIRE | CONNECTIVITY SOLUTIONS

## Construction:

<b>Core type:</b>	tight buffer, GRP support element
<b>Strain relief elements:</b>	aramide
<b>Outer sheath material:</b>	FRNC compound
<b>Outer sheath material:</b>	orange

## Outstanding features:

- ▶ According to DIN VDE 0888
- ▶ Indoor use

## Technical data:

<b>Temperature range:</b>	
<i>fixed laying:</i>	- 20°C to + 60°C
<i>flexible application:</i>	- 5°C to + 50°C
<b>Resistance:</b>	
<b>Halogen-free:</b>	acc. to IEC 60754-1 DIN VDE 0482 part.267-1 EN 50267-1
<b>Low corrosiveness combustion gas:</b>	acc. to EN 50267-2-3 IEC 60754-2 DIN VDE 0482 part 267-2
<b>Flame retardant:</b>	acc. to IEC 60332-3 DIN VDE 0482 part.266-2-5 EN 50266-2-5
<b>Low smoke emission:</b>	acc. to IEC 61034-1 DIN VDE 0482 part.268-2 EN 50268-1



### Single-mode

Part.no	No. of fibres and fibre type	No. of fibres x core	Outer Ø ca.mm ±10%	Max. tensile force. N	Min stat. bending radius mm	Caloric load ca. MJ/m	Max. transverse pressure N/cm	Weight ca. kg/km
00040813OR	2E9/125	1	7.5	400	120	1.20	100	40
00040814OR	4E9/125	1	7.5	800	120	1.40	100	45
00040815OR	6E9/125	1	9.0	1200	140	1.70	100	70
00040816OR	8E9/125	1	11.0	1600	170	2.05	100	100
00040818OR	12E9/125	1	14.5	2400	220	2.20	150	165
00040819OR	16E9/125	1	15.0	2400	230	2.40	150	170
00040821OR	24E9/125	1	17.5	2400	270	3.20	150	220

### Multi-mode

Part.no	No. of fibres and fibre type	No. of fibres x core	Outer Ø ca.mm ±10%	Max. tensile force. N	Min stat. bending radius mm	Caloric load ca. MJ/m	Max. transverse pressure N/cm	Weight ca. kg/km
00040743OR	2G50/125	1	7.5	400	120	1.20	100	40
00040799OR	2G62.5/125	1	7.5	400	120	1.20	100	40
00040753OR	4G50/125	1	7.5	800	120	1.40	100	45
00040800OR	4G62.5/125	1	7.5	800	120	1.40	100	45
00040754OR	6G50/125	1	9.0	1200	140	1.70	100	70
00048769OR	6G62.5/125	1	9.0	1200	140	1.70	100	70
00040688OR	8G50/125	1	11.0	1600	270	2.05	100	100
00040801OR	8G62.5/125	1	11.0	1600	120	2.05	100	100
00040795OR	12G50/125	1	14.5	2400	120	2.20	150	165
00040803OR	12G62.5/125	1	14.5	2400	140	2.20	150	165
00040796OR	16G50/125	1	15.0	2400	170	2.40	150	170
00040804OR	16G62.5/125	1	15.0	2400	220	2.40	150	170
00040798OR	24G50/125	1	17.5	2400	230	3.20	150	220
00040806OR	24G62.5/125	1	17.5	2400	270	3.20	150	220

Other dimensions and colours are possible on request.

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## INDUSTRIAL LOW VOLTAGE CABLES FG7 (O) RAR 0.6/1 kV



### Construction:

<b>Conductor:</b>	flexible red copper conductor Cl.5, acc. to IEC 60228
<b>Insulation:</b>	rubber, type G7
<b>Colour cores:</b>	acc. to DIN VDE 0293-308, HD 308 S2 from 6 cores black cores with consecutive numbers acc. to EN 50334; green-yellow earth-wire from 3 cores
<b>Inner sheath:</b>	PVC compound
<b>Armour:</b>	braid of galvanized steel wires
<b>Outer sheath:</b>	grey (RAL 7035), PVC, type Rz

### Resistance:



**Flame retardant acc. to:**  
DIN VDE 0482 part 265-2-1  
EN 60332-1-2 CEI 20-22II



**Corrosiveness of conflagration gases acc. to:**  
DIN VDE 0482 part 267  
EN 50267-2-2  
IEC 60754-2 (equivalent DIN VDE 0472 part 813)

### Technical data:

<b>Nominal voltage:</b>	0,6/1 kV
<b>Test voltage:</b>	4 kV
<b>Temperature range:</b>	- 15 °C / + 90 °C
<b>Max short circuit temperature:</b>	+ 250 °C
<b>Min. bending radius:</b>	10 x d

### Features:

according to IEC 60502-1  
EN 60332-1-2 CEI 20-22II comparable to IEC 60332-3-22

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## INDUSTRIAL LOW VOLTAGE CABLES FG7 (O) RAR 0.6/1 kV



Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca. mm ± 10%	Copper weight kg/km	Cable weight approx. kg/km	AWG no. *)
46120G83020M15	2x1,5	10,3	28,8	162	16
46120G82031M15	3G1,5	10,8	48	188	16
46120G82041M15	4G1,5	11,6	57,6	212	16
46120G82051M15	5G1,5	12,5	72	237	16
46120G80071M15	7G1,5	13,4	100,8	273	16
46120G80101M15	10G1,5	16,4	144	399	16
46120G80121M15	12G1,5	17,2	172,8	481	16
46120G80161M15	16G1,5	19,1	230,4	596	16
46120G80191M15	19G1,5	20,2	273,6	666	16
46120G80241M15	24G1,5	22,8	345,6	861	16
46120G80301M15	30G1,5	24,6	432	1029	16
46120G80361M15	36G1,5	26,7	518,4	1197	16
46120G80481M15	48G1,5	30,3	691,2	1470	16
46120G83020M25	2x2,5	11,4	48	190	14
46120G82031M25	3G2,5	12	72	230	14
46120G82041M25	4G2,5	12,9	96	268	14
46120G82051M25	5G2,5	14	120	328	14
46120G80071M25	7G2,5	15,3	168	407	14
46120G80101M25	10G2,5	18,7	240	579	14
46120G80121M25	12G2,5	19,7	288	671	14
46120G80161M25	16G2,5	21,9	384	824	14
46120G80191M25	19G2,5	23	456	947	14
46120G80241M25	24G2,5	26,1	576	1187	14
46120G80301M25	30G2,5	28,3	720	1520	14
46120G80361M25	36G2,5	30,5	864	1640	14
46120G83020M40	2x4	12,7	76,8	242	12
46120G82031M40	3G4	13,3	115,2	299	12
46120G82041M40	4G4	14,7	153,6	360	12
46120G82051M40	5G4	15,9	192	410	12
46120G80071M40	7G4	17,4	268,8	530	12
46120G80101M40	10G4	21,5	384	851	12
46120G80121M40	12G4	22,5	460,8	989	12
46120G80161M40	16G4	25,1	614,4	1344	12
46120G80191M40	19G4	26,4	729,6	1560	12
46120G83020M60	2x6	14,2	115,2	327	10

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## INDUSTRIAL LOW VOLTAGE CABLES FG7 (O) H2RAR 0.6/1 kV



### Construction:

<b>Conductor:</b>	flexible red copper conductor Cl.5, acc. to IEC 60228
<b>Insulation:</b>	rubber, type G7
<b>Colour cores:</b>	acc. to DIN VDE 0293-308, HD 308 S2 from 6 cores black cores with consecutive numbers acc. to EN 50334; green-yellow earth-wire from 3 cores
<b>Screen:</b>	red copper braid
<b>Inner sheath:</b>	PVC compound
<b>Armour:</b>	braid of galvanized steel wires
<b>Outer sheath:</b>	grey (RAL 7035), PVC, type Rz

### Resistance:



**Flame retardant acc. to:**  
DIN VDE 0482 part 265-2-1  
EN 60332-1-2 CEI 20-22II



**Corrosiveness of conflagration gases acc. to:**  
DIN VDE 0482 part 267  
EN 50267-2-2  
IEC 60754-2 (equivalent DIN VDE 0472 part 813)

### Technical data:

<b>Nominal voltage:</b>	0,6/1 kV
<b>Test voltage:</b>	4 kV
<b>Temperature range:</b>	- 20 °C / + 90 °C
<b>Max short circuit temperature:</b>	+ 250 °C
<b>Min. bending radius:</b>	15 x d

### Features:

according to IEC 60502-1

EN 60332-1-2 CEI 20-22II comparable to IEC 60332-3-22

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## INDUSTRIAL LOW VOLTAGE CABLES FG7 (O) H2RAR 0.6/1 kV



Part no.	No. of cores x cross section n x mm <sup>2</sup>	Outer-Ø ca. mm ± 10%	Cable weight approx. kg/km	AWG no. *)
46130G83020M15	2x1,5	16,1	239	16
46130G82031M15	3G1,5	17,1	260	16
46130G82041M15	4G1,5	17,6	306	16
46130G82051M15	5G1,5	18,7	338	16
46130G80071M15	7G1,5	19,7	388	16
46130G80101M15	10G1,5	23,3	552	16
46130G80121M15	12G1,5	23,8	573	16
46130G80161M15	16G1,5	25,6	722	16
46130G80191M15	19G1,5	26,6	779	16
46130G80241M15	24G1,5	30	948	16
46130G83020M25	2x2,5	16,1	299	14
46130G82031M25	3G2,5	17,1	329	14
46130G82041M25	4G2,5	19,1	387	14
46130G82051M25	5G2,5	20	440	14
46130G83020M40	2x4	18,6	361	12
46130G82031M40	3G4	19,1	414	12
46130G82041M40	4G4	19,5	493	12
46130G82051M40	5G4	21,8	573	12
46130G82031M60	3G6	20,6	488	10
46130G82041M60	4G6	22,1	599	10
46130G82051M60	5G6	23,4	703	10
46130G83020M61	2x10	64,8	567	8
46130G82031M61	3G10	68,4	673	8
46130G82041M61	4G10	24,6	818	8
46130G82051M61	5G10	34,1	997	8
46130G83020M62	2x16	24,1	767	6
46130G82031M62	3G16	25,1	915	6
46130G82041M62	4G16	27,1	1000	6
46130G83020M63	2x25	17,1	1084	4
46130G82031M63	3G25	18,1	1318	4
46130G82041M63	4G25	31,6	1677	4

Other dimensions and colours available on request.

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# INSTRUMENTATION CABLES



## FR2XHOHRAR 300/500V and 450/750V



### Construction:

- Conductor:** flexible red or tinned copper conductor  
Cl.5, acc. to IEC 60228
- Insulation:** PVC, type R2
- Colour cores:** blue-black, with black progressively  
numbered
- Stranding:** conductors twisted in pairs  
in concentric layers
- Screen**
- Individual:* electrostatic screen of plastic and  
aluminium tape + tinned drain-wire
- Overall:* electrostatic screen of plastic and  
aluminium tape + tinned drain-wire
- Armour:** braid of galvanized steel wires
- Outer sheath:** black (RAL 9005), blue (RAL 5015)  
or grey (RAL 7001), PVC, type RZ

### Resistance:

-  **Flame retardant acc. to:**  
DIN VDE 0482 part 265-2-1  
EN 50265-2-1  
IEC 60332-1  
EN 60332-3-24 CEI 20-22 III
-  **Low smoke emission acc to:**  
CEI 20-37, IEC 60754

### Technical data:

- Nominal voltage:** up to 0,75 mm<sup>2</sup>:  
U<sub>0</sub>/U 300/500 V  
from 1 mm<sup>2</sup>:  
U<sub>0</sub>/U 450/750 V
- Test voltage:** up to 0,75 mm<sup>2</sup>: 2 kV  
from 1 mm<sup>2</sup>: 2,5 kV

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## INSTRUMENTATION CABLES FR2XHOHRAR 300/500V and 450/750V



Part no.	No. of pairs x cross section n x mm <sup>2</sup>	Outer-Ø ca.mm ± 10%	Copper weight kg/km	Cable weight approx. kg/km	Inductance L (µH/m)
47040D.X022M05	2x2x0,50	10	33,6	150	0,90
47040D.X032M05	3x2x0,50	10,5	48	170	0,90
47040D.X042M05	4x2x0,50	11,5	62,4	200	0,90
47040D.X052M05	5x2x0,50	12,5	76,8	230	0,90
47040D.X062M05	6x2x0,50	13,5	91,2	270	0,90
47040D.X082M05	8x2x0,50	14,3	120	320	0,90
47040D.X102M05	10x2x0,50	16	148,8	380	0,90
47040D.X122M05	12x2x0,50	16,7	177,6	430	0,90
47040D.X162M05	16x2x0,50	18,8	235,2	550	0,90
47040D.X202M05	20x2x0,50	20,7	292,8	675	0,90
47040D.X242M05	24x2x0,50	22,3	350	790	0,90
47040D.X022M07	2x2x0,75	11,3	43,2	175	0,85
47040D.X032M07	3x2x0,75	12	62,4	210	0,85
47040D.X042M07	4x2x0,75	13	81,6	255	0,85
47040D.X052M07	5x2x0,75	14	96	295	0,85
47040D.X062M07	6x2x0,75	15,3	120	340	0,85
47040D.X082M07	8x2x0,75	16,3	158,4	405	0,85
47040D.X102M07	10x2x0,75	18,5	196,8	500	0,85
47040D.X122M07	12x2x0,75	19	235,2	555	0,85
47040D.X162M07	16x2x0,75	21,8	312	730	0,85
47040D.X202M07	20x2x0,75	23,5	388,8	855	0,85
47040D.X242M07	24x2x0,75	25,2	465,6	990	0,85
47040E.X022M10	2x2x1	12	52,8	200	0,85
47040E.X032M10	3x2x1	12,7	76,8	240	0,85
47040E.X042M10	4x2x1	14	100,8	295	0,85
47040E.X052M10	5x2x1	15,3	124,8	345	0,85
47040E.X062M10	6x2x1	16,5	148,8	395	0,85
47040E.X082M10	8x2x1	17,5	196,8	465	0,85
47040E.X102M10	10x2x1	20	244,8	580	0,85
47040E.X122M10	12x2x1	21	292,8	675	0,85
47040E.X162M10	16x2x1	23,5	388,8	840	0,85
47040E.X202M10	20x2x1	25,5	448,8	1000	0,85
47040E.X242M10	24x2x1	27,5	580,8	1160	0,85

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# I-V (ZN) HH BREAKOUT CABLE

INDUSTRIAL LOW VOLTAGE CABLES

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