

# HDGs, HDGszo FE180/PH120/E90

RoHS 2015/863/EU



LVD 2014/35/EU

24 months warranty

Fire resistant, halogen-free power cable 300/500V

BITNER HDGszo FE180/PH120/E90



internal application



EN 60332-1

IEC 60332-3  
EN 60332-3halogen-free  
EN 60754low smoke emission  
EN 61034insulation  
resistance to fire 180minPH120 fire  
integrity functionE90 fire  
integrity function

## Technical data:

### Thermal parameters:

#### Temperature range:

operating temperature: -30°C to 80°C

Min. installation temp.: -10°C

**Conductor operating temperature:** 90°C**Conductor operating temperature in short-circuit:** 250°C

### Electrical parameters:

**Operating voltage:** 300/500V

#### Test voltage:

AC 3000V

DC 7200V

**Insulation resistance (min.):** 100M $\Omega$ xkm

### Mechanical parameters:

**Min. bending radius:** 10x $\phi$ 

## Cable characteristics:

- fire resistant
- halogen-free
- flame retardant
- no corrosive gases
- low smoke emission
- insulation resistance to fire exposure (FE180)
- fire integrity function (PH120)
- low fire load (calorific value)

## Design:

### Conductors:

bare, solid copper conductor, class 1 acc to EN 60228, IEC 60228

### Insulation:

special ceramic silicone rubber

### Core identification:

#### HDGs

2-core – blue, brown

3-core – brown, black, grey

4-core – blue, brown, black, grey

5-core – blue, brown, black, grey, black

above 5 cores – in each layer:

brown (starting conductor), blue (reference conductor),

remaining conductors – any freely selected colours with exception of green, yellow, brown, blue

#### HDGszo

3-core – green/yellow, blue, brown

4-core – green/yellow, brown, black, grey

5-core – green/yellow, blue, brown, black, grey

above 5 cores – in external layer:

green/yellow (starting conductor), blue (reference

conductor) remaining conductors – any freely selected

colours with exception of green, yellow, brown, blue

polyester tape

halogen-free compound

red

### Wrapping:

### Outer sheath:

### Sheath color:

## Application:

Halogen-free fire resistant cables designed for installations in places where it is necessary to ensure operation of devices under fire conditions. They are recommended for emergency lighting installations, smoke extraction systems, alarm systems, signalling systems, sound warning and control systems, fire alarm signalling and automation and other safety ensuring circuits. Under fire conditions those cables ensure correct functioning of installation for at least 120 minutes (PH120) and insulation resistance to fire exposure for 180 minutes (FE180). During burning they do not emit corrosive gases or dense smoke. Cables are suitable for fixed installations inside buildings.

## Tests:

Flame test for a single insulated cable: EN 60332-1, IEC 60332-1

Flame test for vertically-mounted bunched cables: EN 60332-3-22, IEC 60332-3-22 cat.A

Test on corrosive gases emitted during burning: EN 60754-2, IEC 60754-2, IEC 60754-2

Smoke density emission during burning: EN 61034-2, IEC 61034-2

Insulation resistance to long term fire exposure FE180: IEC 60331-21, IEC 60331-21

Fire integrity function of cable support system E90: VDE 4102-12

Fire integrity function of cable installations (PH120): EN 50200

# HDGs, HDGszo FE180/PH120/E90

Fire resistant, halogen-free power cable 300/500V

## Cables without green-yellow core HDGs

Cat. no.	nxmm <sup>2</sup>	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]
B52000	2x1,0	6,7	54	19,2
B52001	2x1,5	7,5	67	28,8
B52002	2x2,5	9,1	103	48,0
B52003	2x4,0	10,0	136	76,8
B52004	2x6,0	10,9	201	115,2
B52005	2x10,0	12,7	296	192,0
B52006	3x1,0	7,1	69	28,8
B52007	3x1,5	7,9	88	43,2
B52008	3x2,5	9,6	136	72,0
B52009	3x4,0	10,8	189	115,2
B52010	3x6,0	11,7	252	172,8
B52011	3x10,0	12,7	375	288,0
B52012	4x1,0	8,0	90	38,4
B52013	4x1,5	9,1	120	57,6
B52014	4x2,5	10,8	176	96,0
B52015	4x4,0	11,9	240	153,6
B52016	4x6,0	13,0	328	230,4
B52017	4x10,0	15,0	491	384,0
B52018	5x1,0	8,7	116	48,0
B52019	5x1,5	9,8	150	72,0
B52020	5x2,5	11,6	223	120,0
B52021	5x4,0	12,9	301	192,0
B52022	5x6,0	14,1	405	288,0
B52023	5x10,0	16,5	620	480,0
B52024	7x1,0	9,5	143	67,2
B52025	7x1,5	10,9	191	100,8
B52026	7x2,5	12,7	278	168,0
B52027	10x1,0	12,0	204	96,0
B52028	10x1,5	13,6	265	144,0
B52029	10x2,5	16,6	411	240,0
B52030	12x1,0	12,4	234	115,2
B52031	12x1,5	14,0	306	172,8
B52032	12x2,5	17,1	475	288,0

## Cables with green-yellow core HDGszo

Cat. no.	nxmm <sup>2</sup>	Outer diameter [mm]	Approximate cable weight [kg/km]	Cu [kg/km]
B52050	3x1,0	7,1	69	28,8
B52051	3x1,5	7,9	88	43,2
B52052	3x2,5	9,6	136	72,0
B52053	3x4,0	10,8	189	115,2
B52054	3x6,0	11,7	252	172,8
B52055	3x10,0	12,7	375	288,0
B52056	4x1,0	8,0	90	38,4
B52057	4x1,5	9,1	120	57,6
B52058	4x2,5	10,8	176	96,0
B52059	4x4,0	11,9	240	153,6
B52060	4x6,0	13,0	328	230,4
B52061	4x10,0	15,0	491	384,0
B52062	5x1,0	8,7	116	48,0
B52063	5x1,5	9,8	150	72,0
B52064	5x2,5	11,6	223	120,0
B52065	5x4,0	12,9	301	192,0
B52066	5x6,0	14,1	405	288,0
B52067	5x10,0	16,5	620	480,0
B52068	7x1,0	9,5	143	67,2
B52069	7x1,5	10,9	191	100,8
B52070	7x2,5	12,7	278	168,0
B52071	10x1,0	12,0	204	96,0
B52072	10x1,5	13,6	265	144,0
B52073	10x2,5	16,6	411	240,0
B52074	12x1,0	12,4	234	115,2
B52075	12x1,5	14,0	306	172,8
B52076	12x2,5	17,1	475	288,0

Cable Factory BITNER reserves the right to modify specifications without prior notification  
Note: On customer's request other cross sections or number of cores can be produced