

Conductor Bushings

BS 161..., BS 162..., BS 163...

Type of Explosion Protection:

 I M2 EEx d I

EC-Type Examination

Certificate: IBExU 04 ATEX 1082 U

Description

- Are used for the establishment of electrical connections between flameproof enclosures (Ex d) and terminal boxes (Ex e/ Ex i)
- A threaded or plug-in metallic bush forms a flameproof joint together with the wall of the flameproof enclosure; one or more conductors are potted within the bush (EN 60079-0 / 60079-1)



Accessories

- Lock nut
- Lock plate
- Locking adhesive

Technical Specifications

Rated Voltage: 250 V, 300/500 V, 450/750 V, 1800/3000 V

BS 161.-....: Threaded bushing
M 10 x 1 to M 48 x 1.5

BS 162.-....: Plug-in bushing for direct insertion
Ø 22 mm to Ø 48mm

BS 163.-....: Plug-in bushing with threaded liner
M 33 x 1.5 to M 56 x 1.5

Dimensions: According to selection table

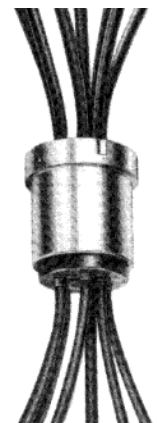
Conductor Cross-Sections: 0.25 mm² to 150 mm²

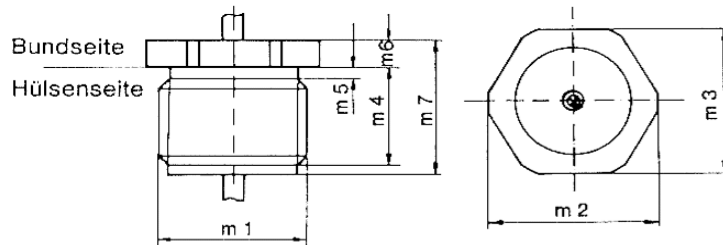
Quantity of Conductors: According to selection table

BS 161-... screwable type



BS 162-... plug-in type



Selection Table BS 16.-... 250 Volt


Qty. of C'ductors	Conductor Cross-Section	Thread Size m1		Length m7	Ø-Bush m11	Length m17	Rated Current
up to max	mm ²			min. in mm	min. in mm	min. in mm	at 40 °C
1	0.25 - 0.5	M 10 x 1	Pg 7	20	Ø 22	42	2 A for 0.25 mm ²
1	0.25 - 0.5	M 12 x 1.5	Pg 9	25	Ø 22	42	
6	0.25 - 0.5	M 16 x 1		25	Ø 22	42	
6	0.25 - 0.5	M 16 x 1.5	Pg 11	25	Ø 22	42	
10	0.25 - 0.5		Pg 13.5	25			
13	0.25 - 0.5		Pg 16	25			
15	0.25 - 0.5	M 24 x 1.5	Pg 21	26	Ø 22	42	
15	0.25 - 0.5	M 25 x 1.5		46	Ø 22	42	
20	0.25 - 0.5	M 33 x 1.5		30	Ø 41 / Ø 48	42	
26	0.25 - 0.5	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42 / 48	
33	0.25 - 0.5	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48	4 A for 0.5 mm ²
40	0.25 - 0.5	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48	
56	0.25 - 0.5	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48	

m1	m2	m3	m4	m5	m6
M 10 x 1	13.5	12	12	1.5	4
M 12 x 1.5	16.5	15	17	2.0	5
M 16 x 1	21	19	16	1.5	5
M 16 x 1.5	21	19	17	2.0	5
M 24 x 1.5	29	27	18	2.0	5
M 25 x 1.5	29	27	35	2.0	5
M 33 x 1.5	Ø 38 - 40	36	18	2.0	7
M 36 x 1.5	Ø 42 - 44	40 - 41	25	2.0	7
M 38 x 1.5	Ø 40 - 44	37 - 41	24	2.0	8
M 42 x 1.5	Ø 48 - 50	46	25	2.0	7
M 48 x 1.5	Ø 52 - 55	50	25	2.0	7

m1	m2	m3	m4	m5	m6
Pg 7	15.5	14	12	1.5	4
Pg 9	18.5	17	17	2.0	5
Pg 11	23	21	17	2.0	5
Pg 13.5	25	23	17	2.0	5
Pg 16	27	25	18	2.0	5
Pg 21	32	30	18	2.0	5
Pg 29	Ø 42 - 44	40 - 41	25	2.0	7
Pg 36	Ø 52 - 55	50	25	2.0	7

m11	m12	m13	m14	m16	m17	m21	m23	m24	m25	m26	m27	
Ø 22 g8 / H8	26	31.5	27	8	42	M 33 x 1.5	36	16	2	15	35	≤ 10 mm ² ≤ 16 mm ²
Ø 34 g8 / H8	38	43.5	27	8	42	M 42 x 1.5	46	16	2	15	35	
Ø 41 g8 / H8	48	53.5	27	8	42	M 48 x 1.5	55	16	2	15	35	
Ø 41 g8 / H8	48	53.5	33	8	48	M 48 x 1.5	55	16	2	15	41	
Ø 48 g8 / H8	58	63.5	33	8	48	M 56 x 1.5	65	16	2	15	41	

Selection Table BS 16.-... 300/500 Volt

Qty. of C'ductors	Conductor Cross-Section	Thread Size		Length m7	Ø-Bush m11	Length m17	Rated Current	
		m1						
up to max	mm ²			min. in mm	min. in mm	min. in mm	at 40°C	
1	0.75	M 10 x 1	Pg 7	20	Ø 22	42	10 A	
1	0.75	M 12 x 1.5	Pg 9	25	Ø 22	42		
3	0.75	M 16 x 1.5 (1)	Pg 11	25	Ø 22	42		
5	0.75		Pg 13.5	25				
7	0.75		Pg 16	25				
8	0.75	M 24 x 1.5	Pg 21	26	Ø 22	42		
8	0.75	M 25 x 1.5		46	Ø 22	42		
19	0.75	M 33 x 1.5		30	Ø 34	42		
25	0.75	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42 / 48		
30	0.75	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48		
35	0.75	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48		
40	0.75	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48		
1	1.5	M 10 x 1	Pg 7	20	Ø 22	42		20 A
1	1.5	M 12 x 1.5	Pg 9	25	Ø 22	42		
3	1.5	M 16 x 1.5 (1)	Pg 11	25	Ø 22	42		
4	1.5		Pg 13.5	25				
5	1.5		Pg 16	25				
7	1.5	M 24 x 1.5	Pg 21	26	Ø 22	42		
7	1.5	M 25 x 1.5		46	Ø 22	42		
19	1.5	M 33 x 1.5		30	Ø 34	42		
21	1.5	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42 / 48		
24	1.5	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48		
30	1.5	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48		
37	1.5	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48		

m1	m2	m3	m4	m5	m6
M 10 x 1	13.5	12	12	1.5	4
M 12 x 1.5	16.5	15	17	2.0	5
M 16 x 1	21	19	16	1.5	5
M 16 x 1.5	21	19	17	2.0	5
M 24 x 1.5	29	27	18	2.0	5
M 25 x 1.5	29	27	35	2.0	5
M 33 x 1.5	Ø 38 - 40	36	18	2.0	7
M 36 x 1.5	Ø 42 - 44	40 - 41	25	2.0	7
M 38 x 1.5	Ø 40 - 44	37 - 41	24	2.0	8
M 42 x 1.5	Ø 48 - 50	46	25	2.0	7
M 48 x 1.5	Ø 52 - 55	50	25	2.0	7

m1	m2	m3	m4	m5	m6
Pg 7	15.5	14	12	1.5	4
Pg 9	18.5	17	17	2.0	5
Pg 11	23	21	17	2.0	5
Pg 13.5	25	23	17	2.0	5
Pg 16	27	25	18	2.0	5
Pg 21	32	30	18	2.0	5
Pg 29	Ø 42 - 44	40 - 41	25	2.0	7
Pg 36	Ø 52 - 55	50	25	2.0	7

m11	m12	m13	m14	m16	m17	m21	m23	m24	m25	m26	m27	
Ø 22 g8 / H8	26	31.5	27	8	42	M 33 x 1.5	36	16	2	15	35	≤ 10 mm ² ≥ 16 mm ²
Ø 34 g8 / H8	38	43.5	27	8	42	M 42 x 1.5	46	16	2	15	35	
Ø 41 g8 / H8	48	53.5	27	8	42	M 48 x 1.5	55	16	2	15	35	
Ø 41 g8 / H8	48	53.5	33	8	48	M 48 x 1.5	55	16	2	15	41	
Ø 48 g8 / H8	58	63.5	33	8	48	M 56 x 1.5	65	16	2	15	41	

Selection Table BS 16.-... 450/750 Volt

Qty. of C'ductors	Conductor Cross-Section	Thread Size		Length	Ø-Bush	Length	Rated Current
up to max.	mm ²	m1		m7	m11	m17	at 40°C
				min. in mm	min. in mm	min. in mm	
1	0.75	M 10 x 1	Pg 7	20	Ø 22	42	10 A
1	0.75	M 12 x 1.5	Pg 9	25	Ø 22	42	
3	0.75	M 16 x 1		25	Ø 22	42	
3	0.75	M 16 x 1.5	Pg 11	25	Ø 22	42	
4	0.75		Pg 13.5	25			
5	0.75		Pg 16	25			
7	0.75	M 24 x 1.5	Pg 21	26	Ø 22	42	
7	0.75	M 25 x 1.5		46	Ø 22	42	
15	0.75	M 33 x 1.5		30	Ø 41 / Ø 48	42	
21	0.75	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42 / 48	
24	0.75	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48	
30	0.75	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48	
36	0.75	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48	
1	1.5	M 10 x 1	Pg 7	20	Ø 22	42	
1	1.5	M 12 x 1.5	Pg 9	25	Ø 22	42	
3	1.5	M 16 x 1		25	Ø 22	42	
3	1.5	M 16 x 1.5	Pg 11	25	Ø 22	42	
4	1.5		Pg 13.5	25			
5	1.5		Pg 16	25			
6	1.5	M 24 x 1.5	Pg 21	26	Ø 22	42	
6	1.5	M 25 x 1.5		46	Ø 22	42	
14	1.5	M 33 x 1.5		30	Ø 34	42	
18	1.5	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42 / 48	
20	1.5	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48	
25	1.5	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48	
30	1.5	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48	
1	2.5	M 16 x 1		25	Ø 22	42	
1	2.5	M 16 x 1.5	Pg 11	25	Ø 22	42	
3	2.5		Pg 13.5	25		42	
3	2.5		Pg 16	25			
4	2.5	M 24 x 1.5	Pg 21	26	Ø 22		
4	2.5	M 25 x 1.5		46	Ø 22	42	
8	2.5	M 33 x 1.5		30	Ø 34	42	
10	2.5	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42	
10	2.5	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48	
14	2.5	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48	
18	2.5	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48	
1	4	M 16 x 1		25	Ø 22	42	
1	4	M 16 x 1.5	Pg 11	25	Ø 22	42	
2	4		Pg 13.5	25		42	
2	4		Pg 16	25			
4	4	M 24 x 1.5	Pg 21	26	Ø 22		
4	4	M 25 x 1.5		46	Ø 22	42	
6	4	M 33 x 1.5		30	Ø 34	42	
8	4	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42	
8	4	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48	
12	4	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48	
16	4	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48	
1	6	M 16 x 1		25	Ø 22	42	
1	6	M 16 x 1.5	Pg 11	25	Ø 22	42	
1	6		Pg 13.5	25		42	
2	6		Pg 16	25			
4	6	M 24 x 1.5	Pg 21	26	Ø 22		
4	6	M 25 x 1.5		46	Ø 22	42	
6	6	M 33 x 1.5		30	Ø 34	42	
6	6	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42	
8	6	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48	
10	6	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48	
12	6	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48	
1	10	M 16 x 1		25	Ø 22	42	
1	10	M 16 x 1.5	Pg 11 - 16	25	Ø 22	42	

Fortsetzung nächste Seite

Qty. of Conductors	Conductor Cross-Section	Thread Size		Length	Ø-Bush	Length	Rated Current
up to max.	mm ²	m1		m7	m11	m17	at 40°C
				min. in mm	min. in mm	min. in mm	
3	10	M 24 x 1.5	Pg 21	26	Ø 22	42	65 A
3	10	M 25 x 1.5		46	Ø 22	42	
4	10	M 33 x 1.5		30	Ø 34	42	
6	10	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42 / 48	
6	10	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48	
8	10	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48	
10	10	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48	
3	16	M 24 x 1.5	Pg 21	26	Ø 22	42	
3	16	M 25 x 1.5		46	Ø 22	42	
4	16	M 33 x 1.5		30	Ø 34	42	
4	16	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42 / 48	
5	16	M 38 x 1.5		36	Ø 41 / Ø 48	42 / 48	87 A
6	16	M 42 x 1.5		35	Ø 41 / Ø 48	42 / 48	
8	16	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48	
1	25	M 24 x 1.5	Pg 21	26	Ø 22 / Ø 34	42	
1	25	M 25 x 1.5		46	Ø 41 / Ø 48	42 / 48	115 A
3	25	M 42 x 1.5	Pg 36	26	Ø 41 / Ø 48	42 / 48	
1	35	M 24 x 1.5	Pg 21				
1	35	M 25 x 1.5					143 A
1	35	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42	
3	35	M 48 x 1.5	Pg 36	35	Ø 48	42 / 48	
1	50	M 24 x 1.5	Pg 21	26	Ø 22 / Ø 34	42	178 A
1	50	M 25 x 1.5		46	Ø 41 / Ø 48	42 / 48	
1	70	M 33 x 1.5	Pg 29	30	Ø 34	42	
1	70	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42 / 48	
1	95	M 36 x 1.5	Pg 29	35	Ø 41 / Ø 48	42 / 48	220 A
1	120	M 42 x 1.5	Pg 36	35	Ø 41 / Ø 48	42 / 48	265 A
1	150	M 48 x 1.5	Pg 36	35	Ø 48	48	310 A
							365 A

m1	m2	m3	m4	m5	m6
M 10 x 1	13.5	12	12	1.5	4
M 12 x 1.5	16.5	15	17	2.0	5
M 16 x 1	21	19	16	1.5	5
M 16 x 1.5	21	19	17	2.0	5
M 24 x 1.5	29	27	18	2.0	5
M 25 x 1.5	29	27	35	2.0	5
M 33 x 1.5	Ø 38 - 40	36	18	2.0	7
M 36 x 1.5	Ø 42 - 44	40 - 41	25	2.0	7
M 38 x 1.5	Ø 40 - 44	37 - 41	24	2.0	8
M 42 x 1.5	Ø 48 - 50	46	25	2.0	7
M 48 x 1.5	Ø 52 - 55	50	25	2.0	7

m1	m2	m3	m4	m5	m6
Pg 7	15.5	14	12	1.5	4
Pg 9	18.5	17	17	2.0	5
Pg 11	23	21	17	2.0	5
Pg 13.5	25	23	17	2.0	5
Pg 16	27	25	18	2.0	5
Pg 21	32	30	18	2.0	5
Pg 29	Ø 42 - 44	40 - 41	25	2.0	7
Pg 36	Ø 52 - 55	50	25	2.0	7

m11	m12	m13	m14	m16	m17	m21	m23	m24	m25	m26	m27	
Ø 22 g8 / H8	26	31.5	27	8	42	M 33 x 1.5	36	16	2	15	35	≤ 10 mm ² ≥ 16 mm ²
Ø 34 g8 / H8	38	43.5	27	8	42	M 42 x 1.5	46	16	2	15	35	
Ø 41 g8 / H8	48	53.5	27	8	42	M 48 x 1.5	55	16	2	15	35	
Ø 41 g8 / H8	48	53.5	33	8	48	M 48 x 1.5	55	16	2	15	41	
Ø 48 g8 / H8	58	63.5	33	8	48	M 56 x 1.5	65	16	2	15	41	

Selection Table BS 16.-... 1800/3000 Volt

Qty. of C'ductors	Conductor Cross-Section	Thread Size m1		Length m7	Ø-Bush m11	Length m17	Rated Current
up to max	mm ²			min. in mm	min. in mm	min. in mm	at 40°C
1	1.5	M 16 x 1 (1)	Pg 11	40	Ø 22	42	
4	1.5	M 24 (25) x 1.5	Pg 21	40	Ø 22	42	
8	1.5	M 33 x 1.5		40	Ø 34	42	
10	1.5	M 36 x 1.5	Pg 29	40	Ø 41 / Ø 48	42 / 48	20 A
10	1.5	M 38 x 1.5		40	Ø 41 / Ø 48	42 / 48	
15	1.5	M 42 x 1.5		40	Ø 41 / Ø 48	42 / 48	
20	1.5	M 48 x 1.5	Pg 36	40	Ø 48	42 / 48	
1	2.5	M 16 x 1 (1)	Pg 11	40	Ø 22	42	
3	2.5	M 24 (25) x 1.5	Pg 21	40	Ø 22	42	
5	2.5	M 33 x 1.5		40	Ø 34	42	
6	2.5	M 36 x 1.5	Pg 29	40	Ø 41 / Ø 48	42 / 48	27 A
6	2.5	M 38 x 1.5		40	Ø 41 / Ø 48	42 / 48	
8	2.5	M 42 x 1.5		40	Ø 41 / Ø 48	42 / 48	
10	2.5	M 48 x 1.5	Pg 36	40	Ø 48	42 / 48	
1	4	M 24 (25) x 1.5	Pg 21	40	Ø 22	42	
3	4	M 33 x 1.5		40	Ø 34	42	
5	4	M 36 x 1.5	Pg 29	40	Ø 41 / Ø 48	42 / 48	
5	4	M 38 x 1.5		40	Ø 41 / Ø 48	42 / 48	36 A
6	4	M 42 x 1.5		40	Ø 41 / Ø 48	42 / 48	
8	4	M 48 x 1.5	Pg 36	40	Ø 48	42 / 48	
1	6	M 24 (25) x 1.5	Pg 21	40	Ø 22	42	
3	6	M 33 x 1.5		40	Ø 34	42	
4	6	M 36 x 1.5	Pg 29	40	Ø 41 / Ø 48	42 / 48	
4	6	M 38 x 1.5		40	Ø 41 / Ø 48	42 / 48	50 A
6	6	M 42 x 1.5		40	Ø 41 / Ø 48	42 / 48	
8	6	M 48 x 1.5	Pg 36	40	Ø 48	42 / 48	
1	10	M 24 (25) x 1.5	Pg 21	40	Ø 22	42	
2	10	M 33 x 1.5		40	Ø 34	42	
3	10	M 36 x 1.5	Pg 29	40	Ø 41 / Ø 48	42 / 48	
3	10	M 38 x 1.5		40	Ø 41 / Ø 48	42 / 48	65 A
4	10	M 42 x 1.5		40	Ø 41 / Ø 48	42 / 48	
5	10	M 48 x 1.5	Pg 36	40	Ø 48	42 / 48	
1	16	M 24 x 1.5	Pg 21	40	Ø 22	42	
1	16	M 25 x 1.5		40	Ø 34	42	
3	16	M 38 x 1.5	Pg 29	40	Ø 41 / Ø 48	42 / 48	
3	16	M 42 x 1.5		40	Ø 41 / Ø 48	42 / 48	87 A
4	16	M 48 x 1.5	Pg 36	40	Ø 48	42 / 48	
1	25	M 24 x 1.5	Pg 21	40	Ø 22 / Ø 34	42	
1	25	M 25 x 1.5		40	Ø 41 / Ø 48	42 / 48	137 A
1	35	M 33 x 1.5		40	Ø 34	42	
1	35	M 36 x 1.5	Pg 29	40	Ø 41 / Ø 48	42 / 48	168 A
1	35	M 38 x 1.5		40	Ø 41 / Ø 48	42 / 48	
1	50	M 33 x 1.5	Pg 29	50	Ø 34 / Ø 48	42 / 48	210 A
1	70	M 33 x 1.5	Pg 29	50	Ø 34 / Ø 48	42 / 48	260 A
1	95	M 42 x 1.5	Pg 36	50	Ø 41 / Ø 48	42 / 48	310 A
1	120	M 48 x 1.5	Pg 36	50	Ø 48	42 / 48	365 A

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m1	m2	m3	m4	m5	m6
M 16 x 1	21	19	16	1.5	5
M 16 x 1.5	21	19	17	2.0	5
M 24 x 1.5	29	27	18	2.0	5
M 25 x 1.5	29	27	35	2.0	5
M 33 x 1.5	Ø 38 - 40	36	18	2.0	7
M 36 x 1.5	Ø 42 - 44	40 - 41	25	2.0	7
M 38 x 1.5	Ø 40 - 44	37 - 41	24	2.0	8
M 42 x 1.5	Ø 48 - 50	46	25	2.0	7
M 48 x 1.5	Ø 52 - 55	50	25	2.0	7

m1	m2	m3	m4	m5	m6
Pg 11	23	21	17	2.0	5
Pg 13.5	25	23	17	2.0	5
Pg 16	27	25	18	2.0	5
Pg 21	32	30	18	2.0	5
Pg 29	Ø 42 - 44	40 - 41	25	2.0	7
Pg 36	Ø 52 - 55	50	25	2.0	7

m11	m12	m13	m14	m16	m17	m21	m23	m24	m25	m26	m27	
Ø 22 g8 / H8	26	31.5	27	8	42	M 33 x 1.5	36	16	2	15	35	≤ 10 mm ² ≥ 16 mm ²
Ø 34 g8 / H8	38	43.5	27	8	42	M 42 x 1.5	46	16	2	15	35	
Ø 41 g8 / H8	48	53.5	27	8	42	M 48 x 1.5	55	16	2	15	35	
Ø 41 g8 / H8	48	53.5	33	8	48	M 48 x 1.5	55	16	2	15	41	
Ø 48 g8 / H8	58	63.5	33	8	48	M 56 x 1.5	65	16	2	15	41	

Type Identification Key

