



01894E00

### Conductor Bushings Series 8174

- Explosion protection to
  - CENELEC
  - IEC
- Can be used in Zone 1 and Zone 2
- Current lead-in for EEx d enclosures
- 1 to 60 conductors combined in one current lead-in
- Series
  - screw-in
  - plug-in
- For voltages up to max. 1000 V
- For size conductor up to 70 mm<sup>2</sup>


STAHL

The conductor bushings are used to provide the wire connection between „flameproof“ enclosures and „increased safety“ enclosures.

The conductors are potted with high-quality, creepage-resistant PU-resin and are thus insulated from the enclosure wall.

# Zones 1 & 2




Selection table									
Version	Conductor size	Quantity	Rated working current I <sub>e</sub> at 40 °C	Rated working voltage U <sub>e</sub>	Thread size	Thread tightening torque [Nm]	Lead length EEx d / EEx e	Ordering code	Weight
	[mm <sup>2</sup> ]	[pcs]					[mm]		kg
 <p>8174/1 Threaded conductor bushing</p> <p>03161E00</p>	0.5	4	7 A	750 V	M 16 x 1.5	15	1000/1000	8174/110-0413-11	0,112
		6	7 A	750 V	M 24 x 1.5	35	1000/1000	8174/102-0613-11	0,165
		12	7 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-1213-11	0,315
		24	6 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-2413-11	0,555
		48	4.5 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-4813-11	1,095
		60	4.5 A	750 V	M 48 x 1.5	50	1000/1000	8174/105-6013-11	1,353
	0.75	4	9 A	750 V	M 16 x 1.5	15	1000/1000	8174/110-0401-11	0,136
		6	9 A	750 V	M 24 x 1.5	35	1000/1000	8174/102-0601-11	0,201
		8	9 A	750 V	M 24 x 1.5	35	1000/1000	8174/102-0801-11	0,253
		12	9 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-1201-11	0,398
		24	7.5 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-2401-11	0,699
		48	5.5 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-4801-11	1,383
	1.5	60	6 A	750 V	M 48 x 1.5	50	1000/1000	8174/105-6001-11	1,713
		2	15 A	750 V	M 16 x 1.5	15	1000/1000	8174/110-0202-11	0,112
		4	15 A	750 V	M 16 x 1.5	15	1000/1000	8174/110-0402-11	0,192
		6	15 A	750 V	M 24 x 1.5	35	1000/1000	8174/102-0602-11	0,285
		8	15 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-0802-11	0,395
		12	15 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-1202-11	0,506
		16	13 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-1602-11	0,715
		24	11.5 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-2402-11	1,095
	2.5	36	9.5 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-3602-11	1,575
		50	9 A	750 V	M 48 x 1.5	50	1000/1000	8174/105-5002-11	2,153
		4	20 A	750 V	M 24 x 1.5	35	1000/1000	8174/102-0403-11	0,305
		12	19.5 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-1203-11	0,855
	4	24	15 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-2403-11	1,695
		36	14 A	750 V	M 48 x 1.5	50	1000/1000	8174/105-3603-11	2,493
		3	25 A	750 V	M 24 x 1.5	35	1000/1000	8174/102-0304-11	0,321
	6	6	25 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-0604-11	0,627
		18	22 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-1804-11	1,791
		3	33 A	750 V	M 24 x 1.5	35	1000/1000	8174/102-0305-11	0,450
	10	6	33 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-0605-11	0,885
		12	33 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-1205-11	1,755
		3	45 A	750 V	M 33 x 1.5	50	1000/1000	8174/103-0306-11	0,753
	16	4	45 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-0406-11	1,039
		6	45 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-0606-11	1,491
		3	61 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-0307-11	1,250
	25	4	61 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-0407-11	1,591
		6	61 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-0607-11	2,391
		3	83 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-0308-11	1,800
	35	4	83 A	750 V	M 48 x 1.5	50	1000/1000	8174/105-0408-11	2,261
		3	103 A	750 V	M 42 x 1.5	50	1000/1000	8174/104-0309-11	2,283
	50	4	103 A	750 V	M 48 x 1.5	50	1000/1000	8174/105-0409-11	3,017
1		132 A	1000 V	M 33 x 1.5	50	1000/1000	8174/103-0110-11	1,300	
70	3	132 A	1000 V	M 48 x 1.5	50	1000/1000	8174/105-0310-11	3,813	
	1	165 A	1000 V	M 33 x 1.5	50	1000/1000	8174/103-0111-11	1,800	

# Installation Material and Accessories

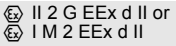
## Conductor Bushings

### Series 8174

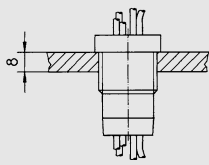
#### Selection table

Version	Conductor size	Quantity	Rated working current $I_e$ at 40 °C	Rated working voltage $U_e$	Bushing Diameter	Lead length EEx d / EEx e	Ordering code	Weight
	[mm <sup>2</sup> ]	[pcs]				[mm]		kg
 8174/2 Plain conductor bushing 03164E00	0.5	12	7 A	750 V	∅ 34	1300/1300	8174/203-1213-33	0,421
		24	6 A	750 V	∅ 34	1300/1300	8174/203-2413-33	0,733
		48	4.5 A	750 V	∅ 41	1300/1300	8174/204-4813-33	1,401
	0.75	60	4.5 A	750 V	∅ 48	1300/1300	8174/205-6013-33	1,775
		4	9 A	750 V	∅ 34	1300/1300	8174/203-0401-33	0,244
		12	9 A	750 V	∅ 34	1300/1300	8174/203-1201-33	0,515
		24	7.5 A	750 V	∅ 34	1300/1300	8174/203-2401-33	0,920
		48	5.5 A	750 V	∅ 41	1300/1300	8174/204-4801-33	1,775
		60	6 A	750 V	∅ 48	1300/1300	8174/205-6001-33	2,243
		1.5	6	15 A	750 V	∅ 34	1300/1300	8174/203-0602-33
	12		15 A	750 V	∅ 34	1300/1300	8174/203-1202-33	0,733
	24		11.5 A	750 V	∅ 41	1300/1300	8174/204-2402-33	1,401
	50		9 A	750 V	∅ 48	1300/1300	8174/205-5002-33	2,815
	2.5	6	20 A	750 V	∅ 34	1300/1300	8174/203-0603-33	0,616
		12	19.5 A	750 V	∅ 34	1300/1300	8174/203-1203-33	1,150
		24	15 A	750 V	∅ 41	1300/1300	8174/204-2403-33	2,181
	4	3	25 A	750 V	∅ 34	1300/1300	8174/203-0304-33	0,468
		6	25 A	750 V	∅ 34	1300/1300	8174/203-0604-33	0,125
		12	25 A	750 V	∅ 41	1300/1300	8174/204-1204-33	1,588
	6	3	33 A	750 V	∅ 34	1300/1300	8174/203-0305-33	0,670
		6	33 A	750 V	∅ 34	1300/1300	8174/203-0605-33	1,162
		12	33 A	750 V	∅ 41	1300/1300	8174/204-1205-33	2,259
	10	3	45 A	750 V	∅ 34	1300/1300	8174/203-0306-33	0,991
		4	45 A	750 V	∅ 41	1300/1300	8174/204-0406-33	1,328
		6	45 A	750 V	∅ 41	1300/1300	8174/204-0606-33	1,916
	16	3	61 A	750 V	∅ 41	1300/1300	8174/204-0307-33	0,125
		4	61 A	750 V	∅ 41	1300/1300	8174/204-0407-33	2,046
		6	61 A	750 V	∅ 48	1300/1300	8174/205-0607-33	3,066
25	3	83 A	750 V	∅ 41	1300/1300	8174/204-0308-33	2,208	
	4	83 A	750 V	∅ 48	1300/1300	8174/205-0408-33	2,955	
35	3	103 A	750 V	∅ 48	1300/1300	8174/205-0309-33	1,950	
	4	103 A	750 V	∅ 48	1300/1300	8174/205-0409-33	3,938	

#### Technical Data

Explosion protection	 II 2 G EEx d II or I M 2 EEx d II
Certificates	PTB 01 ATEX 1065 U
Other certificates	IECEX
Material	
Thread bush	Brass
Sealing material	PU-resin
Threaded liner	Brass
Rated working voltage	0.5 mm <sup>2</sup> - 35 mm <sup>2</sup> max. 750 V 50 mm <sup>2</sup> - 70 mm <sup>2</sup> max. 1000 V
Rated working current	see diagrams of permissible current
Conductor	
Size	0.5 mm <sup>2</sup> to 70 mm <sup>2</sup>
Series	0.5 mm <sup>2</sup> - 35 mm <sup>2</sup> H07G-K 50 mm <sup>2</sup> - 70 mm <sup>2</sup> NSGAF0u
Number	max. 60, depends on size and nominal diameter
Length	8174/1    1000 mm each side 8174/2    1300 mm each side
Ambient temperature	- 25 °C ... + 110 °C

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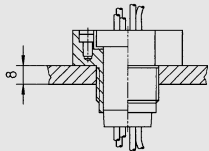


08867E00

Fig. 1  
Threaded conductor bushing  
8174/1

Connection of conductors on the Ex e, "increased safety" side of the bush comply with the relevant regulations.

The installation of bushings must meet requirements of EN 50 018. A thread engagement of at least 5 full threads is required (with a pitch of 1,5 mm, 8 mm thickness of the enclosure wall). The conductor bushings are generally screwed in from the inside of the flameproof enclosure (inverted installation is only possible by using a special lock; upon request). The bushings must be secured against self-loosening by using backing strips or epoxy adhesives (see illustrations 1).



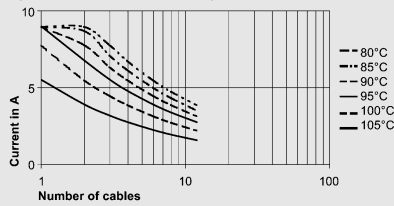
08868E00

Fig. 2  
Plain conductor bushings 8174/2,  
fitted into threaded liner

The plain type bushings can be inserted directly into the corresponding hole drilled in the enclosure. Flameproof sealing is established by a cylindrical gap between enclosure and bushing. The installation is simplified by using a threaded liner, having the threaded gap on the outside and cylindrical gap on the inside. A flameproof seal is thus ensured (see illustrations 2). The threaded liner is also secured against self-loosening by using tab strips or adhesive..

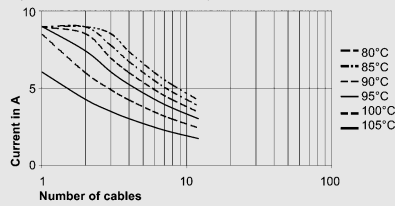
#### Current load diagram (for bunched conductors of various temperatures)

Current loading of  
0,5mm<sup>2</sup> cables in M16 x 1,5



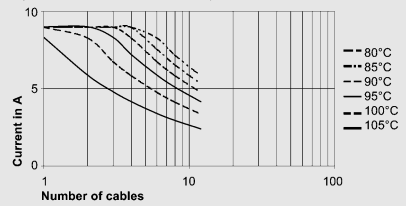
09449E02

Current loading of  
0,5mm<sup>2</sup> cables in M24 x 1,5



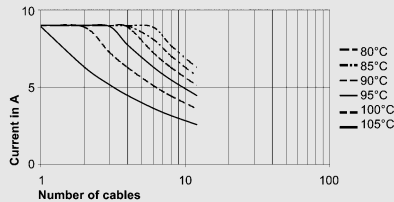
09450E02

Current loading of  
0,5mm<sup>2</sup> cables in M33 x 1,5 / ø34



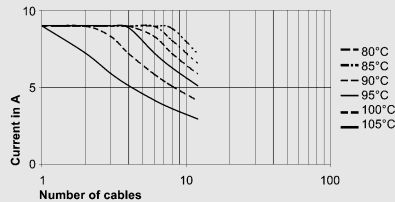
09447E02

Current loading of  
0,5mm<sup>2</sup> cables in M42 x 1,5 / ø41



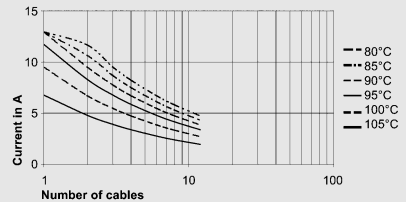
09448E02

Current loading of  
0,5mm<sup>2</sup> cables in M48 x 1,5 / ø48



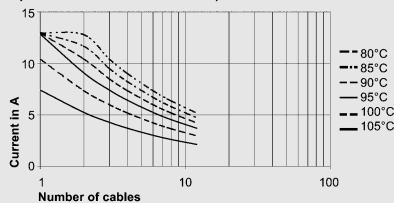
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Current loading of  
0,75mm<sup>2</sup> cables in M16 x 1,5



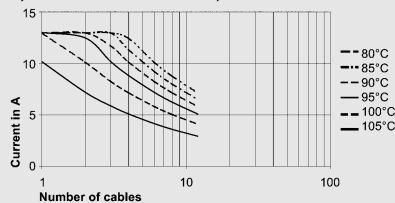
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Current loading of  
0,75mm<sup>2</sup> cables in M24 x 1,5



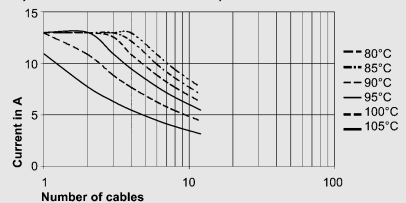
09445E02

Current loading of  
0,75mm<sup>2</sup> cables in M33 x 1,5 / ø34



07325E02

Current loading of  
0,75mm<sup>2</sup> cables in M42 x 1,5 / ø41

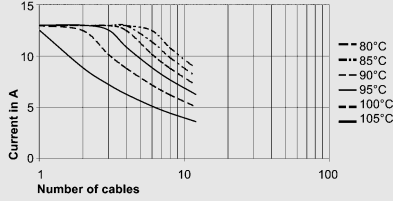


07321E02



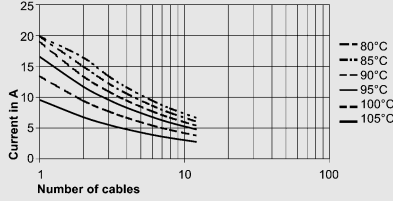
### Current load diagram (for bunched conductors of various temperatures)

Current loading of  
0,75mm<sup>2</sup> cables in M48 x 1,5 / ø48



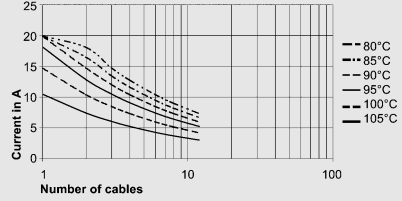
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Current loading of  
1,5mm<sup>2</sup> cables in M16 x 1,5



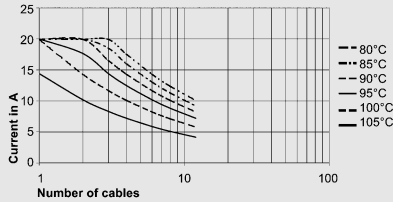
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Current loading of  
1,5mm<sup>2</sup> cables in M24 x 1,5



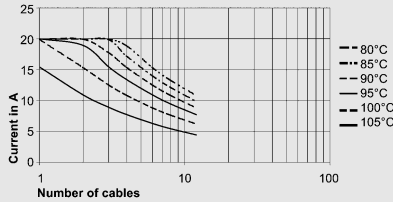
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Current loading of  
1,5mm<sup>2</sup> cables in M33 x 1,5 / ø34



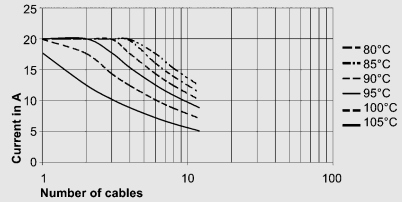
07326E02

Current loading of  
1,5mm<sup>2</sup> cables in M42 x 1,5 / ø41



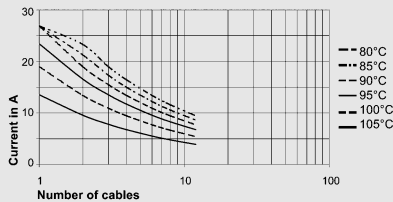
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Current loading of  
1,5mm<sup>2</sup> cables in M48 x 1,5 / ø48



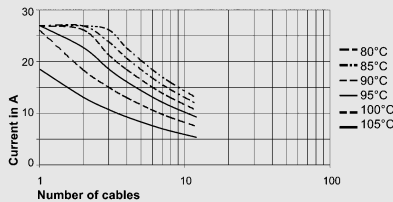
09440E02

Current loading of  
2,5mm<sup>2</sup> cables in M24 x 1,5



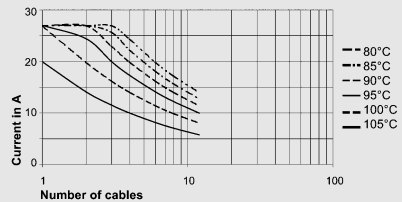
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Current loading of  
2,5mm<sup>2</sup> cables in M33 x 1,5 / ø34



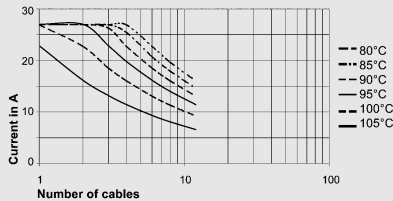
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Current loading of  
2,5mm<sup>2</sup> cables in M42 x 1,5 / ø41



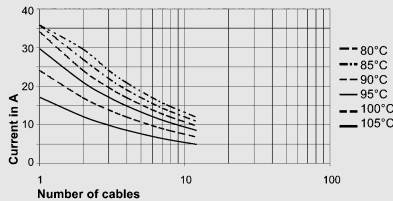
07330E02

Current loading of  
2,5mm<sup>2</sup> cables in M48 x 1,5 / ø48



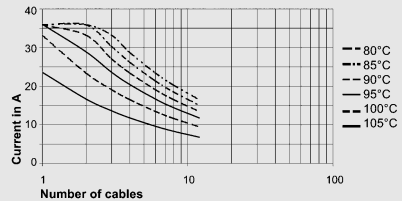
09439E02

Current loading of  
4mm<sup>2</sup> cables in M24 x 1,5



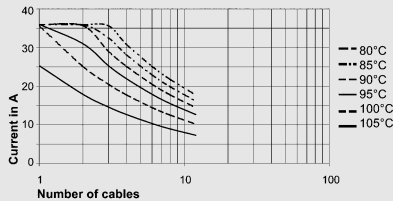
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Current loading of  
4mm<sup>2</sup> cables in M33 x 1,5 / ø34



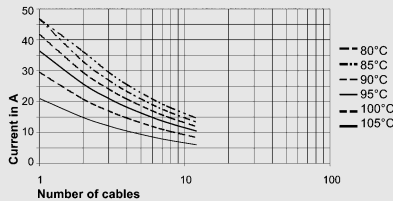
07322E02

Current loading of  
4mm<sup>2</sup> cables in M42 x 1,5 / ø41



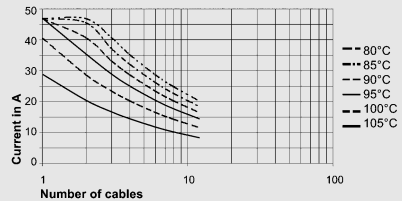
07329E02

Current loading of  
6mm<sup>2</sup> cables in M24 x 1,5



09436E02

Current loading of  
6mm<sup>2</sup> cables in M33 x 1,5 / ø34

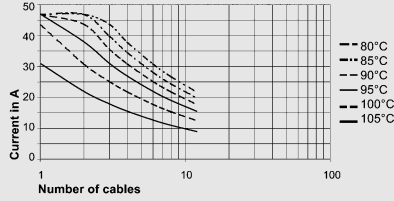


09437E02

STAHL

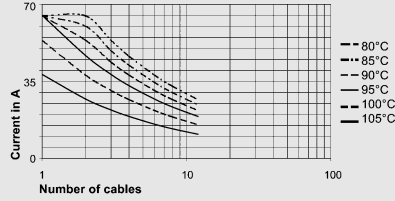
Current load diagram (for bunched conductors of various temperatures)

Current loading of 6mm<sup>2</sup> cables in M42 x 1,5 / ø41



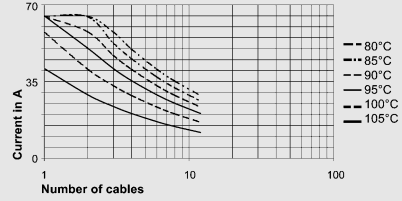
07331E02

Current loading of 10mm<sup>2</sup> cables in M33 x 1,5 / ø34



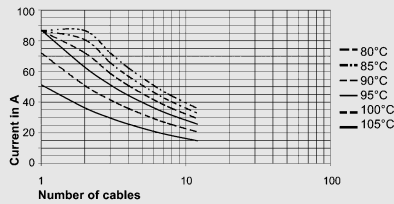
09435E02

Current loading of 10mm<sup>2</sup> cables in M42 x 1,5 / ø41



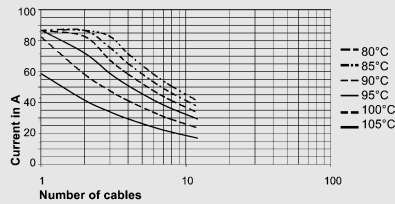
07334E02

Current loading of 16mm<sup>2</sup> cables in M42 x 1,5 / ø41



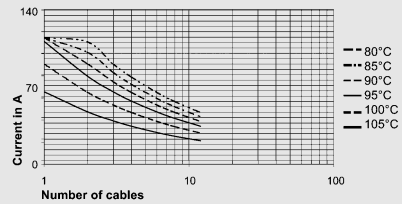
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Current loading of 16mm<sup>2</sup> cables in M48 x 1,5 / ø48



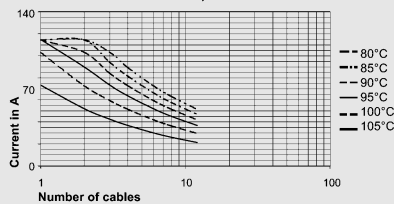
07324E02

Current loading of 25mm<sup>2</sup> cables in M42 x 1,5 / ø41



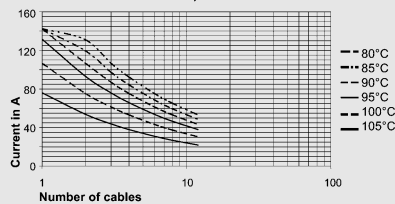
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Current loading of 25mm<sup>2</sup> cables in M48 x 1,5 / ø48



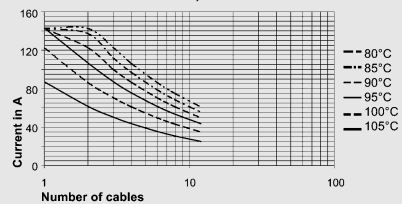
09434E02

Current loading of 35mm<sup>2</sup> cable in M42 x 1,5 / ø41




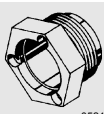


09433E02

Current loading of 35mm<sup>2</sup> cable in M48 x 1,5 / ø48



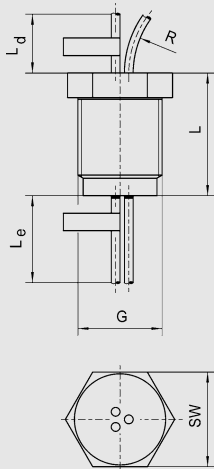
07323E02

Accessories and spare parts

Designation	Illustration	Description	Ordering code	Weight kg	
Stopping plug		to close up unused thread liners			
		Ø 34 mm M 42 x 1.5	<b>8174055590</b>	0,267	
		Ø 41 mm M 48 x 1.5	<b>8174056590</b>	0,267	
		Ø 48 mm M 56 x 1.5	<b>8174057590</b>	0,267	
		Note: screws and washers have to be ordered separately			
Threaded liner		for plain conductor bushings 8174/2	Thread diameter	Thread size	
		Ø 34 mm	M 42 x 1.5	<b>8174906500</b>	0,156
		Ø 41 mm	M 48 x 1.5	<b>8174907500</b>	0,184
		Ø 48 mm	M 56 x 1.5	<b>8174909500</b>	0,276
		Note: screws and washers have to be ordered separately			
Allen screw		M 4 x 6 per each stopping plug or threaded liner three allen screws are needed	<b>5006300</b>	0,002	
Spring washer		M 4 per each stopping plug or threaded liner three washers are needed	<b>5065460</b>	0,001	



Dimension drawings (all dimensions in mm) - subject to alterations

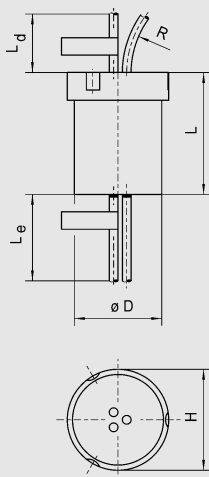


04546E00

### 8174/1..... Threaded conductor bushings

Conductor size	L	R
0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>	35	9
2.5 mm <sup>2</sup>	35	12
4 mm <sup>2</sup>	35	15
6 mm <sup>2</sup>	35	17
10 mm <sup>2</sup>	43	21
16 mm <sup>2</sup>	43	28
25 mm <sup>2</sup>	43	36
35 mm <sup>2</sup>	43	45
50 mm <sup>2</sup>	43	74
70 mm <sup>2</sup>	43	83

Type	G	SW	Ld / Le
8174/110-.....	M 16 x 1.5	19	1000 / 1000
8174/102-.....	M 24 x 1.5	27	
8174/103-.....	M 33 x 1.5	36	
8174/104-.....	M 42 x 1.5	46	
8174/105-.....	M 48 x 1.5	55	



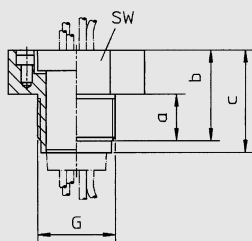
04529E00

### 8174/2..... Plain conductor bushings

Conductor size	L	R
0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>	35	9
2.5 mm <sup>2</sup>	35	12
4 mm <sup>2</sup>	35	15
6 mm <sup>2</sup>	35	17
10 mm <sup>2</sup>	43	21
16 mm <sup>2</sup>	43	28
25 mm <sup>2</sup>	43	36
35 mm <sup>2</sup>	43	45
50 mm <sup>2</sup>	43	74
70 mm <sup>2</sup>	43	83

Type	H	D	Ld / Le
8174/203-.....	38	34	1300 / 1300
8174/204-.....	48	41	
8174/205-.....	58	48	

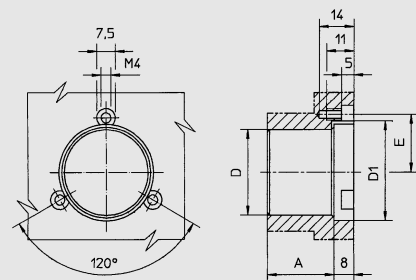
STAHL



04528E00

Essential machining contour in housing wall for plain type conductor bushing

for type	G	SW	a	b	c
8174/203-...	M42 x 1.5	46	16	31	35
8174/204-...	M48 x 1.5	55	16	31	35
8174/205-...	M56 x 1.5	65	16	31	35



04527E00

Threader liner for plain type conductor bushing

for type	D	D1	A	E
8174/203-...	34	38.4	27	21.75
8174/204-...	41	48.4	27	26.75
8174/205-...	48	58.4	33	31.75

We reserve the right to make alterations to the technical data, weights, dimensions, designs and products available without notice. The illustrations cannot be considered binding.