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INTERSTATE COUNCIL FOR STANDARDIZATION, METROLOGY AND CERTIFICATION  
(ISC)

**IEC 62606-**  
2016

**(IEC 62606:2013,  
General requirements for arc fault detection devices, IDT)**



2017

1.0—2015 «  
 1.2—2015 «  
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 ( 25 2016 . Ne 92- )

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	BY GE KG RU TJ UZ	

4 2017 . 413- IEC 62606—2016 23  
 1 2018 .  
 5 IEC 62606:2013 «  
 » («General requirements for arc fault  
 detection devices». IDT).  
 IEC 62606:2013  
 23 « IEC 23 «  
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 6 Nv 004/2011 «  
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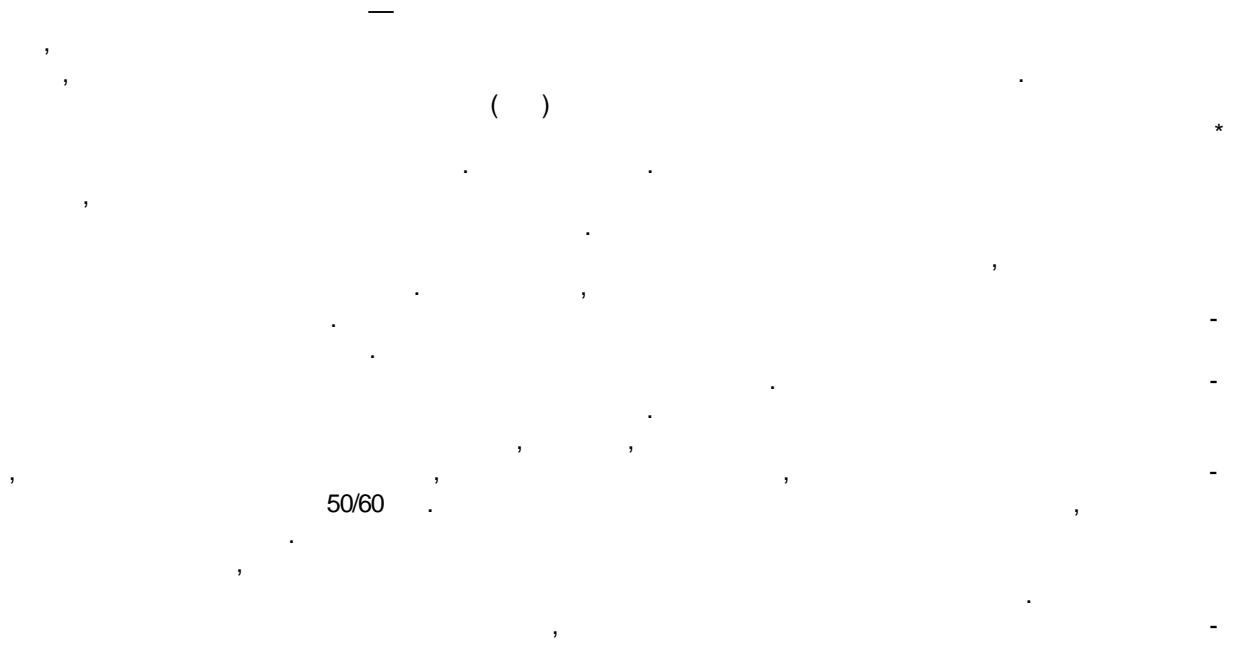
([wvm.gost.ru](http://wvm.gost.ru))

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Arc fault detection devices for household and similar use. General requirements

— 2018—07—01

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D.

IEC 60898-1

no IEC 61008-1. IEC 61009-1 IEC 62423.

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	3 —				IEC 60884-1
IEC 60884-1.	4 —				BS 1363-1.
BS 1363-2.		(		)	
	S —				2.

**2**

IEC 60068-2-30:2005. Environmental testing — Part 2-30: Tests — Test Db: Damp heat, cyclic (12 +12 h cycle) ( (12+12— ) )

IEC 60068-3-4:2001. Environmental testing- Part 3-4: Supporting documentation and guidance— Damp heat tests ( 3-4.

IEC 60364 (all parts), Low-voltage electrical installations ( )

IEC 60364-4-44:20074 Low-voltage electrical installations — Part 4-44: Protection for safety — Protection against voltage disturbances and electromagnetic disturbances ( 4-44.

IEC 60417. Graphical symbols for use on equipment, available from ( )

IEC 60479 ( ). Effects of current on human beings and livestock ( )

IEC 60529. Degrees of protection provided by enclosures (IP Code) ( ( IP))

IEC 60664-1:2007. Insulation coordination for equipment within low-voltage systems — Part 1: Principles, requirements and tests ( ) 1.

IEC 60695-2-10:20004 Fire hazard testing —Part 2-10: Glowing/hot-wire based test methods — Glow-wire apparatus and common test procedure ( / 2-10.

)<sup>2</sup>

<sup>11</sup> IEC 60364-4-44:2015.

<sup>2></sup> IEC 60695-2-10:2013.



- ( . 4.1.3).
- 3.5 {detection): , ( . 4.1.2), ( . 4.1.1),
- 3.6 (interruption): ,
- 3.7 ( ) (earth arc fault): ,
- 1 — ( , TN).
- 3.8 (paralielarc fault): ,
- 3.9 (series arc fault): ,
- 3.10 ( ) (closed position): ,
- 3.11 (opened position): ,
- 3.12 (pole): ,
- 3.13 (switched neutral pole): ,
- 3.14 ( ) (isolation(isolating function)): ,
- (IEC 60947-1:20071
- 3.15 (isolating distance):
- (IEC 60050-441:1984. : « » « - »]
- 3.16 (making capacity): -
- 3.17 (breaking capacity):
- 3.18 ( $I_{nc}$ ) (conditional short-circuit current ( $f_{nc}$ )): -
- 3.19 (prospective current): ,

3.20 ( ) (maximum prospective peak current (of an a.c. circuit)):

3.21 ( ) (short-circuit (making and breaking) capacity):

3.22 (thread forming tapping screw):

- 1 —
- 2 — 1.

3.23 (thread cutting tapping screw):

- 1 —
- 2 — 2.

**4**

4.1

4.1.1

: ( 60898-1, IEC 61009-1

IEC 60269.

4.1.2

: IEC 60898-1. IEC 61008-1. IEC 61009-1

IEC 62423.

4.1.3

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•	{ .3.8);			
•	( .3.9).			
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•	( ( .5.2.2);			
•	( .5.2.1);			
•	( .5.2.3);			
•		/ ( .5.2.4);		
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•	( .IEC 60529);			
•		^( .5.3.6 5.5.2);		
•		/ ,( .5.3.6 5.5.2);		
•	( .4.2).			
5.2				
5.2.1				
5.2.1.1		( — ) —		-
5.2.1.2		$U_t$		-
5.2.1.3		$U_{tmp}$		-
4			IEC 60664-1: 2007 ( F.1)	
5.2.2		$I_n$		
5.2.3				
5.2.4		1		
IEC 62423)		9.11.2		4.1.1.
5.2.5		( . IEC 60898-1, IEC 61008-1, IEC 61009-1		
5.3		4.1.2 4.1.3.		
5.3.1		$U_n$		
- 230 .		230 .	220	240
• 120 .		120 8,	100	110
5.3.2		$I_n$		
- 6;8; 10; 13; 16; 20; 25; 32; 40; 50; 63 .				
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4.1.1. 9.11.2 . 4.1.2 4.1.3.

5.3.5 /<sub>1</sub>

/, 10/ 500 .

4.1.1. 9.11.2 . 4.1.2 4.1.3.

5.3.6 /

5.3.6.1 /<sub>1</sub>

5.3.6.2 : 10000

— 3000:4500:6000:10000 .

4.1.1. 9.11.2 . 4.1.2 4.1.3.

— 1000.1600.2000. 2600. 7500.9000

5.3.6.3 10000

10000 25000 20000 .

4.1.1. 9.11.2 . 4.1.2 4.1.3.

25000

5.3.7 — 63

5.3.7.1

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( )	2.6	6.0	10.0	16.0	32.0	63.0
,	1.00	0.60	0.25	0.16	0.12	0.12

2 —  $U_K^* 120 8$

( )	5.0	10.0	16.0	32.0	63.0
,	1.00	0.40	0.26	0.14	0.14

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5.3.7.2

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$U_n > 120$

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IEC 60664

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5.5.2

$I_{nci}$

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5.5.3  
5.5.3.1

4.4.1

5.5.3.2  $i_{mi} / I_n$

$(I_n / I_p)$

$(I_n / I_p)$

5.2.4

5.2.5

-

9.11.2.3 9.11.2.4.

-

5.5.3.3  $(I_n / I_p)$  5.3.4 5.3.5

9.11.2.2 (19).

$(I_{mt} / I_p)$

$(I_n / I_p)$

5.3.6

9.11.2.5.

9.11.2.2 (19).

## 6

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)	—	X	X
)	—	X	X
) ( )	X	—	X
d) ( . 50/60 ) -		X	X
)	X	—	X
f) -		X	X
g)	—	—	X
) ( IP20 )	—	—	X
l)	—	X	X
J)	—	X	X


— ( I E C 60617-7:2001-07).

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IP20 no IEC 60529.

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 , h) -  
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 ) IEC 60417:2002. -

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 (IEC 60417:2006). - 

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4.1.2 IEC 60898-1: 2002 ( 6).  
 IEC 61008-1:2010 IEC 61009-1:2010

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 6.2 4.1.1  
 6.2.1

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 Pt /\_ -  
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Pf /\_ -  
 9.3 -

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(IEC 60898\*1 / IEC 61009\*1, / IEC 62423.

/ IEC 60269)

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6.2,9.11.2 9.18.1).

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4.1.2.

(IEC 60898-1. ( 61008-1. IEC 601009-1 ( 62423.

IEC 61008-1. IEC 601009-1 IEC 62423, IEC 60898\*1,

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8.2.2

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no 9.7.7.4.1 97,7.4.2,

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9.7.2.

IEC 60664-1: 2007  
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9.7.2

9.7.2—97.5,  
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9.7.2

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 2 IEC 60664-1.  
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	120/240 120	120/240 240	230/400 230. 400	>25 S50"	120	250	400	>25 £50"	120	250	400	>25 £50"	120	250	400	
1	2.0	4.0	4.0	1.2	2.0	4.0	4.0	0.9	2.0	4.0	4.0	0.6	2.0	4.0	4.0	
2	1.5	3.0	3.0	1.2	1.5	3.0	4.0	0.9	1.5	3.0	3.0	0.6	1.5	3.0	3.0	
3 PELV SELV*	3.0	6.0	8.0	—	3.0	6.0	8.0	—	3.0	6.0	8.0	—	3.0	6.0	8.0	
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. IEC 60112: 2003.

9.6 ( . 3).

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IEC 60664-1:2007.

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IEC 60664-1:2007 ( S.3 6.1.3).

3 — . IEC 60664-1:2007 ( F.2): « 1.

0.04 . F.4\*  
IEC 60664-1: 2007 ( F.4)

IEC 60664-3.

4 — IEC 60664-6, 2  
HL2 HL3.

9.4

9.8,9.11.9.12 9.20.

8.2.4.3

8.2.4.4

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9. (IEC 60898. ( 61008.

IEC 61009 ) 62423).  
8.5.2

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(IEC 60898-1. IEC 61008-1, IEC 61009-1

IEC 62423. ).

4.1.3. -

(IEC 60898-1. IEC 61008-1. IEC 61009-1

IEC 62423. ).

8.6.2

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8.14	9.18	9.1.1.	
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		IEC 60364	IEC 60479).
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9.1

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( ), 4.1.1. IEC 60896\*1, IEC 61008\*1. IEC 61009\*1 IEC 62423  
 9.11.2.5.

*Pt*

- IEC 60898\*1
- IEC 61009\*1 IEC 62423
- IEC 60269

4.1.2.

no IEC 60898\*1, IEC 61008\*1.

IEC 61009-1 IEC 62423.

IEC 60898\*1. IEC 61008\*1. IEC 61009\*1 IEC 62423.

IEC 60898\*1. IEC 61008\*1.

IEC 61009\*1 IEC 62423.

4.1.3.

IEC 60898\*1. IEC 61008\*1. IEC 61009\*1 IEC 62423.

D.

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9.1.2

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2	9.4"
3	9.5**
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S	9.7**
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"	4.1.2. -

9.1.3

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9.1.4

1 61008-1. IEC 61009-1 4.1.2 IEC 61009-1 4.1.3. IEC 62423. ( 60898-1. 9.2

20 " 25 .  
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id kJ <sub>n</sub>	'S6	6< /, S13	13 < /, S 20	20 < /, \$ 25	25 < /, £ 32	32 < /, S 50	50 < / & 63
» 5. 7	1.0	1.5	2.5	4.0	6.0	10.0	16.0

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65\* . 0,1 % 69° , 0.68 / \*). 29.

9.4 8.24

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	1	II	III
2.8	0.20	0.4	0.4
2.8» 3.0 »	0.25	0.5	0.5
» 3.0» 3.2 •	0.30	0.6	0.6
» 3.2 » 3.6 »	0.40	0.8	0.8
» 3.6 » 4.1 »	0.70	1.2	1.2
* 4.1 4.7 *	0.80	1.8	1.8
» 4.7 5.3	0.80	2.0	2.0
» S.3 » 6.0 »	1.20	2.5	3.0
» 6.0 » 8.0 •	2.S0	3.5	6.0
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9.5

9.5.1 ( - )

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9.5.2

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9.6

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9.7

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9.7.2.2

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9.7.2.3

\* (7+4) \*

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91 % 95%

(Na<sub>2</sub>SO<sub>4</sub>)

(KNO<sub>3</sub>),

97.2.4

9.7.3—9.7.5.9.7.7 97.7.2.

9.7.3

9.7.2.

5

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a)

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8.3.

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9.7.4 9.7.3 1

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2500 ) 9.7.3.

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9.7.5

a)

) ,

b)

500 2 1

c)

14.

14—

(	)	.
30	600	
50	1000	
» S0 110 9	1500	
» 110 > 2S0	2000	
» 250 500 9	2500	

8

14

5 . 20 .

1

2

)

3

4

9.7.6

• —  $-600^{*25}$  .

• — 5%.

= \_\_\_\_\_ 100;

• —  $12^{*2}$  .

1

9.9.2.4

1 2.

9.7.7

)

9.7.7.1

1.2

±5%—

130%—

±20%—

0.5

—50

0.5.

1

IEC 62606—2016

1 — IEC 60664-1 { 9.7.6.2) 1 60664-2-1

2

IEC 60664-1 IEC/TR 60664-2-1

8

5%

10 %

2 —

9.7.2

2 4 7

9.7.3,

) — ).

9.7.5.

—

15

4.

15.

\* ( )

( ),

( ),

( )

9.7.3.

) — ).

15 —

$U, *$	1/,				
		200	500	1000	2000
2.5	2.9	2.8	2.6	2.7	2.5
4.0	4.9	4.8	4.7	4.4	4.0

9.7.7.3

( )

4.1.3 ( . ) .

4.1.2 ( )

2 .  
 97.7.4  
 97.7.4.1  
 97.7.4. 8.2.3, 9.7.2  
 16  
 4.  
 16.  
 16—

	U,				
		200	500	1000	2000
	120/240**	3.S	3.5	3.4	3.2
120/240.240**	6.2	6.0	S.8	5.6	5.0
230/400	6.2	6.0	S.6	5.6	5.0

\*1  
 \*1

97.7.4.2

97.7.4.3  
 97.7.4.3.1

- ( )
- ( ),
- ( ),
- ( )

IEC 62606—2016

9.77.5

IEC 60664\*1:2007, 1200 +  $U_n$  — IEC 60364\*4\*44:2007 ( 44. 2) \*

1 —

$U_n * 250$   
1200 8 • 250 . . . . -

— 1450 8.

5 :

• ( ) ( ) .

- , ( ),

2 —

9.9.2.4

1 2.

9.8

9.8.1

1

9.8.2

/,

1\* 1 .

9.8.3

9.

9.8.4

9.8.3,

9.8.1.

9.9

9.9.1

( . 120 240 ),

.9.2.2—9.9.2.5

9.9.2

9.9.2.1

1 2.

.9.2.2—9.9.2.5

( 9.9.2.6)

4.

50

1 2.

9.9.2 2

S1. S3 S4

S2

S4

1 2.

9.9.2.3

S3 S4

S1

1 2.

S2

S4 S3

81

S3

1 2.

9.9.2.4

S1. S3

1 2.

S1 S2

S1 S4

S1

1 2.

9.9.2.5

.9.2.2

2.

0,65

5 \*

1

1.1

9.3.2.6

1.5 2 ( AWG 16).

( . 36).

IEC 60227-1 ( ), no IEC 602271 41. -  
 no IEC 602271 02. 8 SPT2 HG5VV-F. -  
 H05V, 8 . -  
 a) -  
 b) 200 -  
 c) 25 50 , -  
 d) -  
 e) 8 12 , -  
 f) 7 10 30 -  
 ) 300 -  
 2 1 100 /120 -  
 120 8 0.3 120 -  
 (100 /120 ), 230 8 -  
 100 /230 (100 /230 ). -  
 9.9.27 -  
 5. S -  
 {17 ; 7.5} (6 ± 0.5) -  
 5. -  
 2.5 1 2. 2.5 -  
 9.9.3 3. -  
 9.9.3.1 0.5 50 8.3 60 -  
 10



— 5 %

75 100

6.9.2.6.

S1 — S4 S3 Z S2 — S4

3. 100 Z.

0.5 . 0,5 . 3.

9.9.3.2 3 . 3. -

10 0,5 . 50 6.3 60 . -

— 5 %

7. 8. 1.2 120

230 32 140 . 8 -

( , 1,2 ). 11. -

8. — SPT2 H0SVV-F. 3.

S1 — S4 Z -

) ( S1 S3 -

0.5 . 3.

9.9.3.3 no 9.9.3.1 3 5 75 9. 1 2 5 3 75 0.5 0.5 3 9.9.4 9.9.4.1 9.9.2.2 9.9.4.2 S1 10 1208. 2.5 230 6 5 11. a) : 5 — 7 230 8 10—14 120 ( ) b) ( ) 230 5 120 2.5 100 % — 75 % 5- — 50 % 7- — 25 % ( ) c) ± 10 % 230 130 ±10% 120 6. ( ) 230 8 2.2 ( ) 120 , 1000 1000 150 100 230 . 600 600 e) 40 5 : f) 12 300 5 ; ( ) 600 9.9.2.6 11 9.9.2.7

2.5 1 2 1 2  
11  
120 2.5 ( ) 230 5 ( )

9.9.4.3

230 5 120 11. 2.5  
2.5 1 2 1 2  
9.2.6.

a)

15 0,22 2.5 2.

b)

2.0 14 1.5 2. 12. 15 2.5 2.  
2.0 1.5 2.

9.9.4.4

13. 2.5 1 2 1 2  
2.5 2- 5 120 30 2.5  
2.5 2. 2408 ( . 15).

9.9.5

9.9.5.1

.9.5.2—9.9.S.4,

9.9.5.2

16. 5 (

0.5

9.9.5.3

230 1 120 ,

9.21.

9.9.5.4

9.9.4.1.

10

(S1 ) .

a)

: 5—7 230 10—14  
120 . — :

b)

( ) : 2.5  
230 8 5 120 -  
100 % -  
3- — 75 % 5- — 50 % 7- — 25 % ( )

c)

( ):

65 110 % 230 130 ± 10 %  
120 . ( )  
( ) 230 2.2

d) 120 . 1000 ( ) 1000 .  
150 ( ) 100 .  
230 . 600 ( ) 600 .  
;

60 . 90° . 120 .  
e) 40 5 ;  
f) 12 ,  
300 5 ;  
) ( , ) 600 .  
24 .  
5 .

9.10  
9.10.1

4.1.3.

0,6%

0.65 0.9.

11.

9.10.2

2000

- 1000 —
- 500 —
- 500

1000 ;

- 2000
- 1000

/ £25 ;  
1 >25 .

- 1 / £25 . « . » 1.5 2 ;  
- 1 / >25 . « . » 1.5 2 .

9.10.3

9.10.2

9.9.2.4  
 1 2  
 9.7.4. 900 1  
 9.11  
 9.11.1  
 4.1.1, 9.11.2.  
 4.1.2 4.1.3 ( D  
 ) IEC 60898-1. IEC 61008-1. IEC 61009-1 IEC 62423.  
 9.9.2 4 1.25  
 1 2.  
 9.11.2 4.1.1  
 9.11.2.1  
 4.1.1  
 17.

17—

<p>IT <math>I_1</math> <math>f_m</math>  <math>f_{m1}</math></p>	<p>9.11.2.3                  9.11.2.4                  ) 9.11.2.5                  t&gt; 9.11.2.5                  ) 9.11.2.5</p>

9.11.2.2  
 9.11.2  
 )  
 19—21  
 :  
 •  
 •  
 S (D) Z Z / Z<sub>3</sub>  
 L R,  
 ;  
 ,  
 , 0.6% ( 21).  
 8 Z S  
 9.11.2.3 ) 9.11.2.3.4) Z  
 Z,  
 ) ) 9.11.2.5  
 8. 0,75

.5 0,25

Z<sub>r</sub>

•  
»  
S,—

Pt /.

18.

(Pt f<sub>p</sub>)

45°.

18.

1.1

18.

18 —

ft (

'« '«.'	ft I <sub>0</sub>	I .					
		«16	«20	«25	«32	«40	«63
800		0.4S	0.47	0.80	0.87	—	—
	ft ( * >	0.40	0.48	0.83	0.68	—	—
1000	U* )	0.68	0.78	0.90	1.18	—	—
	ft ( * )	0.50	0.90	1.50	2.70	—	—
1800	)	1.02	1.10	1.28	1.80	1.90	2.10
	<* < )	1.00	1.80	2.40	4.10	9.7S	22.00
3000	' )	1.10	1.20	1.40	1.88	2.38	3.30
	ft ( >	1.20	1.80	2.70	4.80	8.70	22.80
4800	' ( )	1.18	1.30	1.80	2.08	2.70	3.90
	ft ( <sup>2</sup> )	1.30	1.40	1.70	2.30	3.00	4.0S
6000	U < )	1.30	1.40	1.70	2.30	3.00	4.0S
	ft ( * )	1.60	2.40	3.70	6.00	11.80	25.00
10000	U* )	1.48	1.80	2.20	2.60	3.40	4.30
	ft ( )	1.90	2.70	4.00	6.80	12.00	24.00

Pin/ .

9.11.2.2),

100 .

f)

F 0.1

50

$R_3$

100

•  
•

100 1

b)

6.

— 5%;  
— .9.2:

0.05:

c)

)—±5%.

IA

19.

19—

/ .	
/ i 500 500 < 1 S00 1500 < 1 i 3000 3000 < / i 4500 4S00 < 4.S 6000 6000 < /£10000 10000 < f <sub>c</sub> S 25000	0.95 1.00 » 0.93 » 0.98 » 0.6S » 0.90 » 0,75 » 0.80 » 0.65 » 0.70 » 0,45 » 0.50 » 0,20 » 0.2S

d)

105%

10S %

e)

0.1

G<sub>1</sub>.

) 9.11.2.5

G<sub>2</sub>

Z

wo. 9.11.2.3.9.11.2.4 ) 9.11.2.5  
 $Z_1 / Z_2$

( $f_m / f_1$  /  $l_{ij}$  / 1 ). f) 1). -  
 f) 2) f) 1)- -  
 1) .1{ } . -  
 .1. ( ) ( ) ( ) ( ) ( ) ( ) -  
 ^) ( ) ( ) ( ) ( ) ( ) ( ) -  
 ( . 19 20. 8 . -  
 $R'$  50 0.12 1.5 230 ( . . ) -  
 1500 35 . -  
 / 40,45. 50. 55 -  
 2) .1 . -  
 ( f1) 19 20. ,  $F$   $R$  -  
 10 « » .1. -  
 « » — : -  
 « » — ( 9.11.2.5) -  
 : -  
 « > — 3 , -



h)

F.

i)

9.11.2.3. 9.11.2.4.

) — ) 9.11.2.5

•

9.7.7.3;

9.7.3 2—24

1

•

8

) 9.7.3, ) 9.7.3—

1.25

9.9.2.4

1 2

\*

\*

j)

1)

22.

2)

( 22).

9.11.2.3

1

a)

9.11.2.2

G,

S,

b)

: — t — — t — .

0.05

9.11.2.4

IT.

(/)

IT.

)

9.11.2.2

Z,

G,

S,

b)

0,05

c)

• 5.3.5

500

105 %  
105%  $U_0$

10.

IT

N.

20.

: —t—

9.11.2.5

19.

( .5.3.6).

9.11.2.2( . 17)

•

^

) 9.11.2.5

•

) 9.11.2.5

-

) 9.11.2.5

a)

1)

G<sub>1</sub>

S,

2)

: -1-

b)

G,

1

S,

2)

: -1- -1-

c)

/.

1)

9.11.2.2.

G,

S,

2)

: -1- -t-

9.12

9.12.1

9.12.1.1

23.

*D.*

25 /

180

200

23.

*D*

25

9.12.1.2

50

40

50

90

200

50

50

8

9.12.2

9.12.2.1

8.3).

9.12.2.2

9.12.2.3 —

9.12.2.2

24—26.

100

9

(150±1)

10

0.5

(1000±1)

—(12.7±0,0025) ;

—(100±2) ;

—(500±2.5) .

ASTM 785-08

1.9 2 .  
175x175

8

26.  
{10 ± 1}

27.

28.

27 28.

2/3

12.

10

10

60 .

90

« .».

« .».

	8.2.3.		
9.12.2.3		1	
	50 ( . 50 29).	1	
			9.9.2.4
9.13	1 2.		
9.13.1	(100 ± 2) * ;	1	
	(70±2)* .	1	
	5 .		9.9.2.4
	1 2,		
9.13.2		13.	
	9.13.3.		
	5 .		20
	(125±2)° .	10	
	1		
9.13.3	2		
			9.13.2.
	; (7012) ° .	(40 ± 2) *	
		9.8.	
	—	9.13.2	
	9.13.2		

9.13.2

9.13.2

»

9.14

IEC 60695-2-10:2000

(960±15)\* ;

(650±10) "

( )

( . IEC 60695-2-11:2000 ( 4).

30

9.15

9.15.1

9.1.1.

4.

9.15.2

9.9.2.4

1 2.

1

9.16	10	10 %-	(20 ± 5) ®	10 (20 ± 5)	(100 ± 5)*	1	2
9.17			4.1.2 no IEC 60896*1.	4.1.3 ( IEC 61008-1.	D IEC 61009-1	IEC 62423,	
			4.1.1.				
		6/;				1	
		1 :					
9.18							
9.18.1			4.1.1.	9.18.2.	D		
			4.1.2 IEC 60898-1.	4.1.3 ( IEC 61008-1.	IEC 61009-1	IEC 62423.	
9.18.2	8/20	)			3000 (		
9.18.2.1						8/20	
(IEC 60060-2).			31.				
32.							
				30 .			
				/			
			— 3000A+10%;				
				— 8MKCi20%;			
				— 20 ±20 %;			
			— 30 %				
					30 %		

IEC 62606—2016

9.18.2.2

9.2.4

1 2.

9.19

9.19.1

9.19.2 9.19.3.

9.19.2

9.19.2.1

no IEC 60068-2\*30

IEC 60068-3-4.

9.19.2.2

IEC 60068-2-30:2005 ( 4).

500

pH  
100  
9.19.2.3

pH 7.0 ± 0.2.

7.0±1.0.

—(55±2) " ;

—28.

9.19.2.4

IEC 60068-2-30: 2005 ( 4)

IEC 60068-3-4.

a)

9.9.2.4

1 2.

b)

1)

2)

( 33).

(25±3) \* :

(25 ± 3)

( 6).

3)

24-

95 %  
( 34)

(25 ) \* .

9.19.2.3.

34.

(3.0 ± 0.5)

95 %.

95 %.

±2

(12±0,5)

(93 ± 3) %,

15

90 % 100%.

15



34. (25 ± 3) 1,5 3—6 (25 ± 3)° .  
 (3 ± 0,25) . 95 %.  
 15 . 90%.  
 (25 ± 3) °  
 95 %  
 9.19.2.5 24- .  
 ) 4—6 ( .  
 28 .  
 9.19.2.6 .  
 9.9.2.4 1,25  
 1 2. .  
 9.19.3 40° .  
 , 20 . , -  
 11 1 -  
 , 2/3 12. , -  
 28 , (40 ± 2) ° . 21 -  
 3 . , -  
 8 — 21- . -  
 65 . -  
 9.9.2.4  
 1 2. .  
 9.20 168 (40 ± 2) °  
 1.1 . -  
 9.9.2.4  
 1 2. .  
 — 3S.  
 9.21 ( )  
 9.21.1  
 IEC 61543: 1995  
 9.21.2—9.21.3.  
 9.21.2 , 20. .

IEC 62606—2016

20—

IEC 61545:1995. (2004)	4 5 1	*	
1.3 1.4 1.5 1.8 2.4		( )	9.92.4 9.92.4 9.2 9.11 9.17 9.18

9.21.3

no IEC 61543:1995 ( 4—6)

— 21.

21 —

1 5 1543:1996. 1 (2004), 2 (2005)				
.2.1	-	IEC 61000-4* ""	2 0,15 — 80 Z* 150 0 —3	
.2.2		IEC 61000-4-4	4 4 ( ) TrtTh 5/50 2.5	
.2.	/	IEC 61000-4-5	Tr/Th 1.2/50 5 /12 ( ^' 4 /2 ( )*)' -	"
.2.36			Tr/Th 1.2/50 4 /12 ( )*)' 2 /2 ( )*)' -	
.2.5		IEC 61000-4-3*""	2 3 /	
.2.6 <sup>4</sup>	150	IEC 61000-4-16	3" 1 — 1.5 1 8 1.5 — 15 1 8 — 10 15 — 150 10	
.3.1	-	IEC 61000-4-2	3 8 6	*1

no 1 61000-4-5 ( 8.2) 21. -  
:  
( -  
) 5 12 :

21

-  
 \* 4 2  
 , 10  
 >  
 \*  
 80 230 .21 230 .21 80  
 ( )  
 41 no T.2.30 450 — 900 8 .2.3  
 .2.  
 1) - :  
 2) - :  
 ( ) ,  
 / 1  
 .2.3 : 10 —  
 20 —  
 .2.3 ( )  
 4 T.2.3P ( ) .2.3  
 ( )  
 0 IEC 61000-4-16:1998. 2:2009 ( 1.1 U 1 150  
 .1.3) S  
 \*  
 10 10 20  
 1  
 •>  
 , 21  
 no CISPR14-1.  
 9.21.4  
 9.21.4.1 9.21.3 21.  
 9.21.4.2  
 1.1  $U_n$  9.9.2.2  
 —

9.21.4.3

1.1  $U_{n'}$   
9.9.2.2

—

9.21.4.4

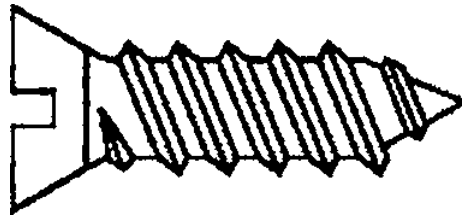
1.1  $U_{m'}$

1 2.  
9.9.2.2

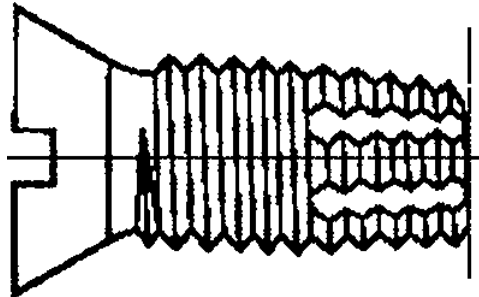
1 2.

—

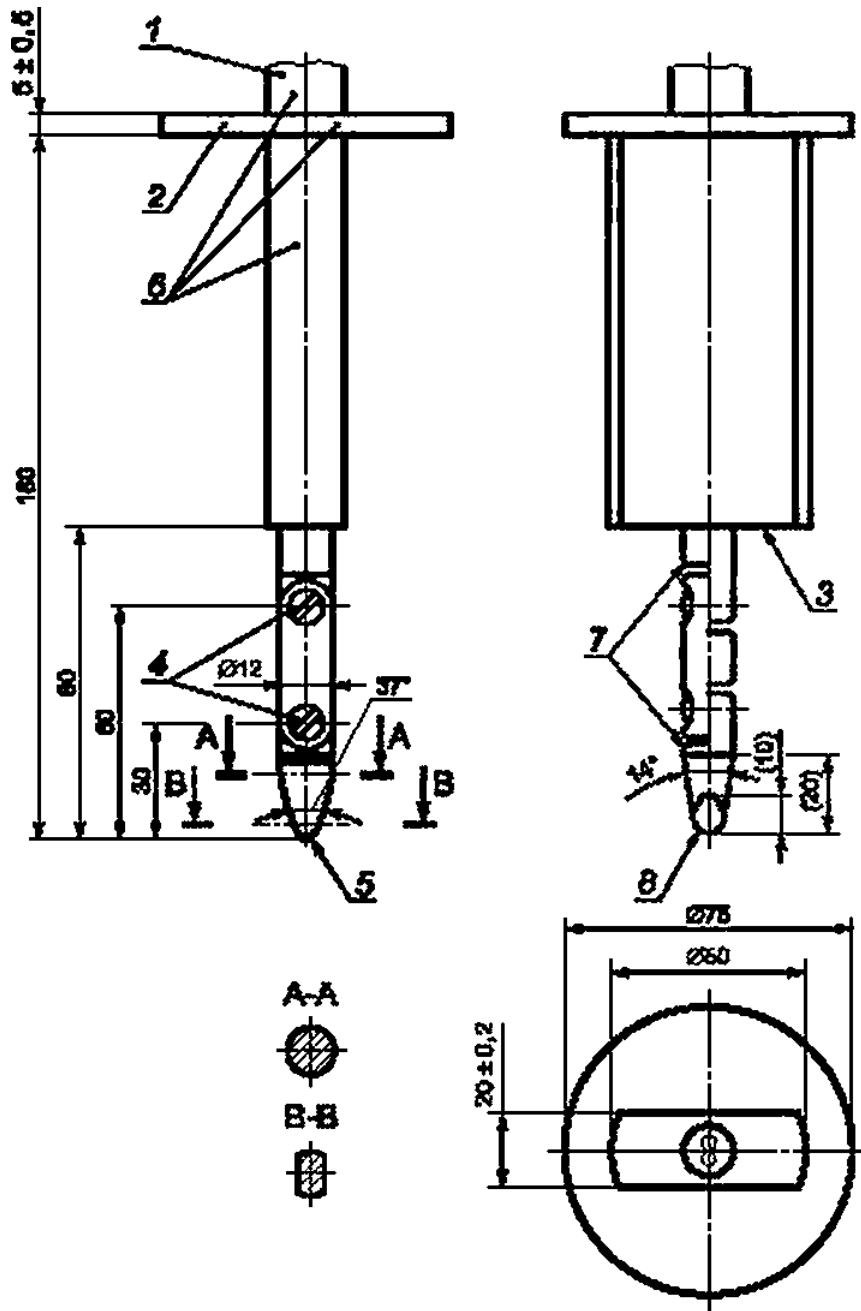
9.22



1—



2—



1 — : 2 — : 3 — : 4 — : 5 — : 6 — : 7 — : 8 — :  $2 \pm 0,05$  :  $R4 \pm 0,05$

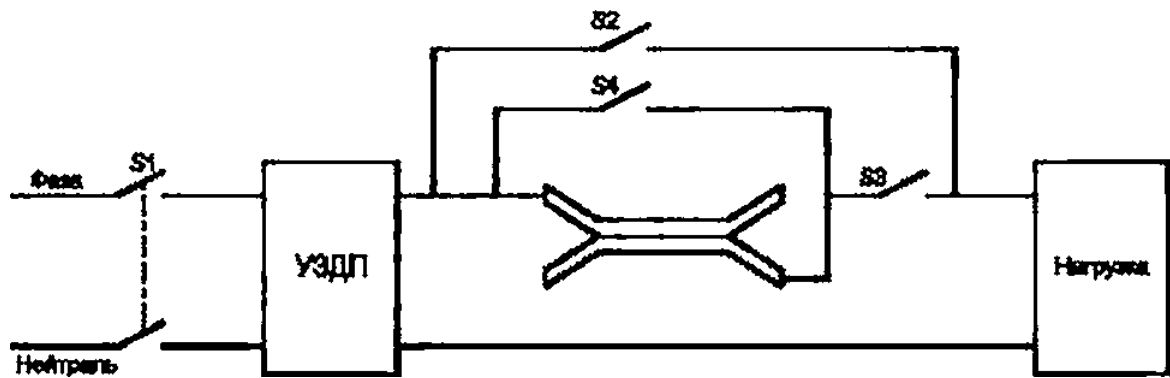
- 25 — 0,05:
- 25 — 0,2:

\*10°.

90°

3 —

(9.6)



4 —

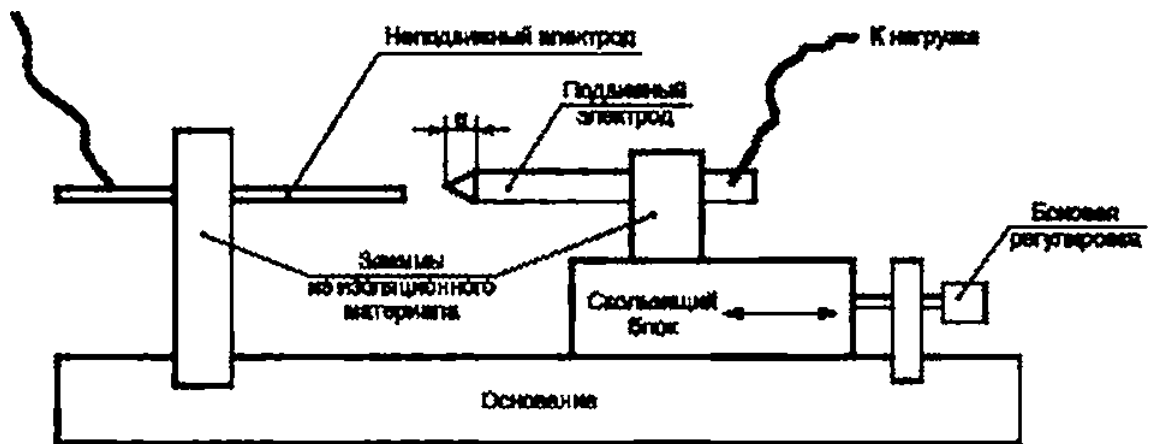


Рисунок 5 — Генератор дуги

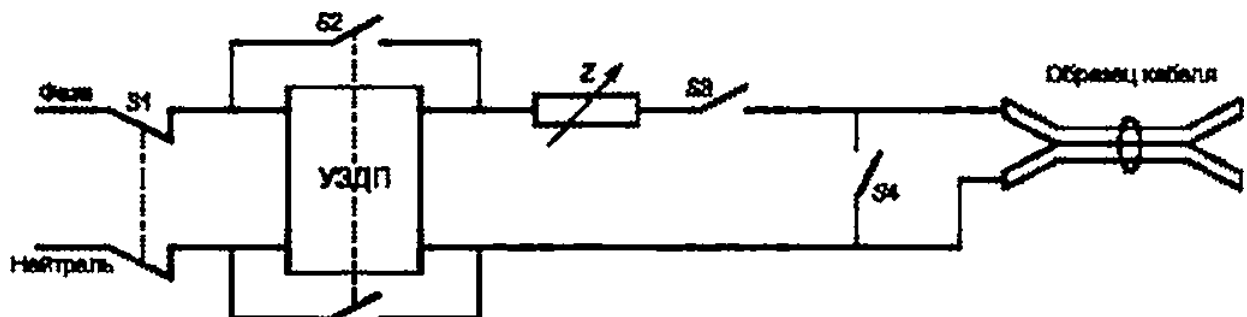
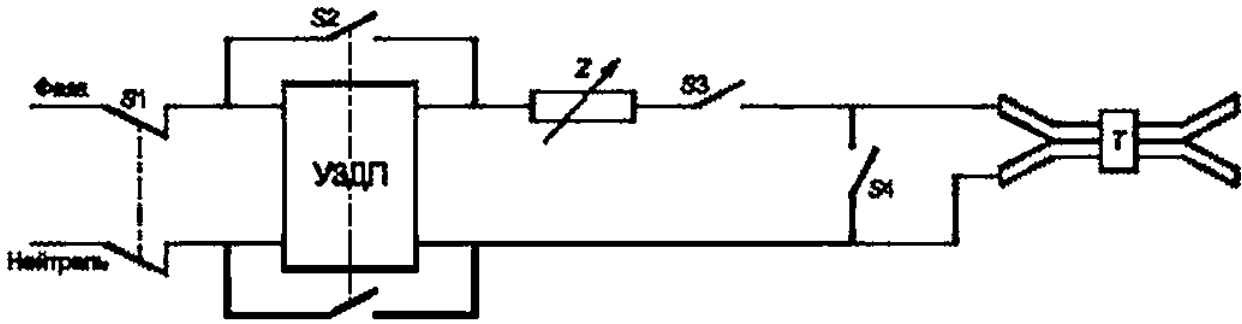
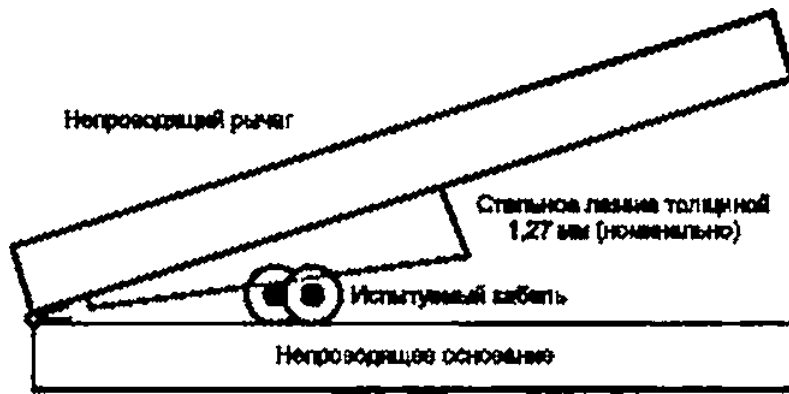


Рисунок 6 — Цепь для испытания на параллельный дуговой пробой



Г — устройство для повреждения кабеля

7 —



8 —

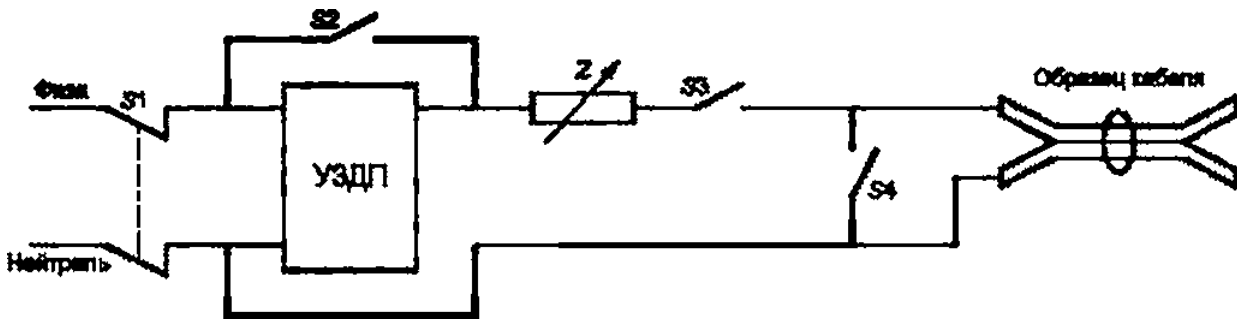
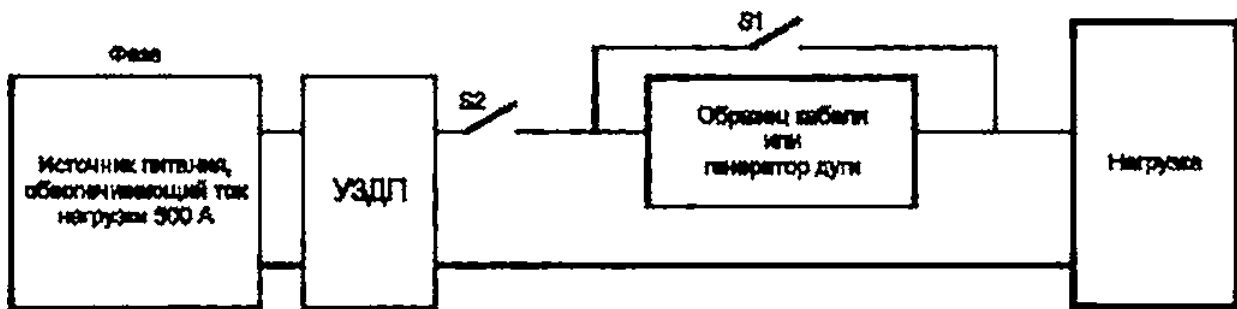


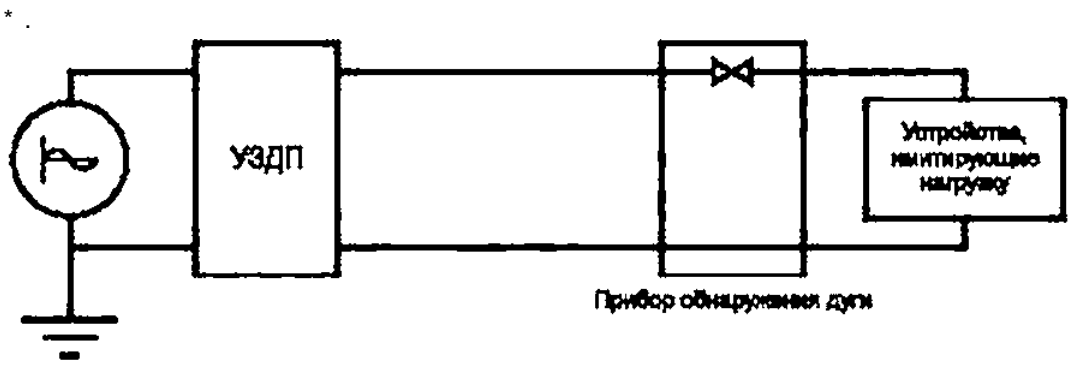
Рисунок 9 — Цель для испытания на срабатывание при параллельном дуговом пробое на землю



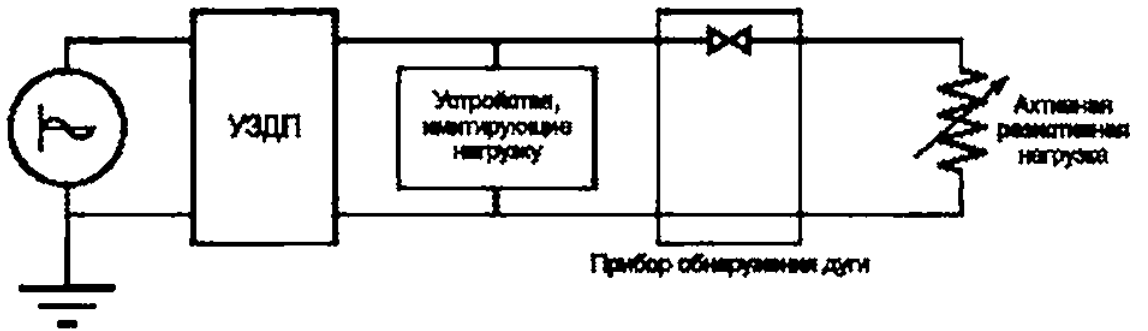
10 —

(

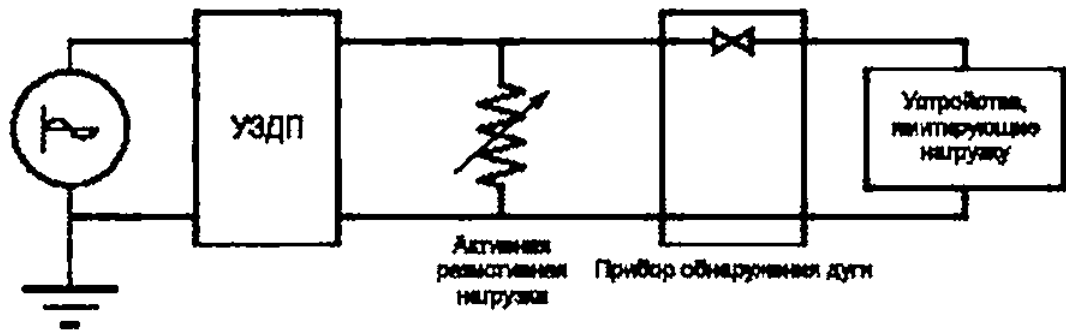
)



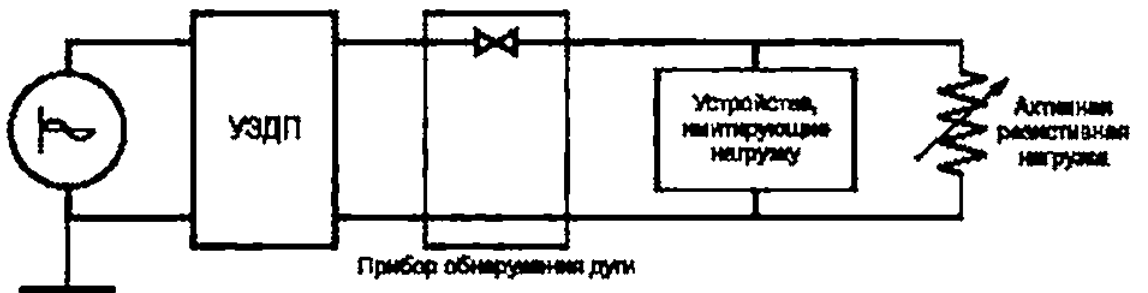
Конфигурация В



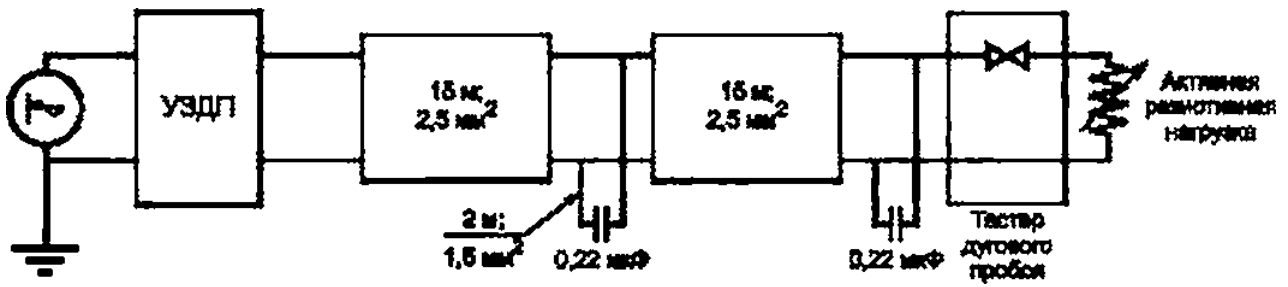
Конфигурация С



Конфигурация D

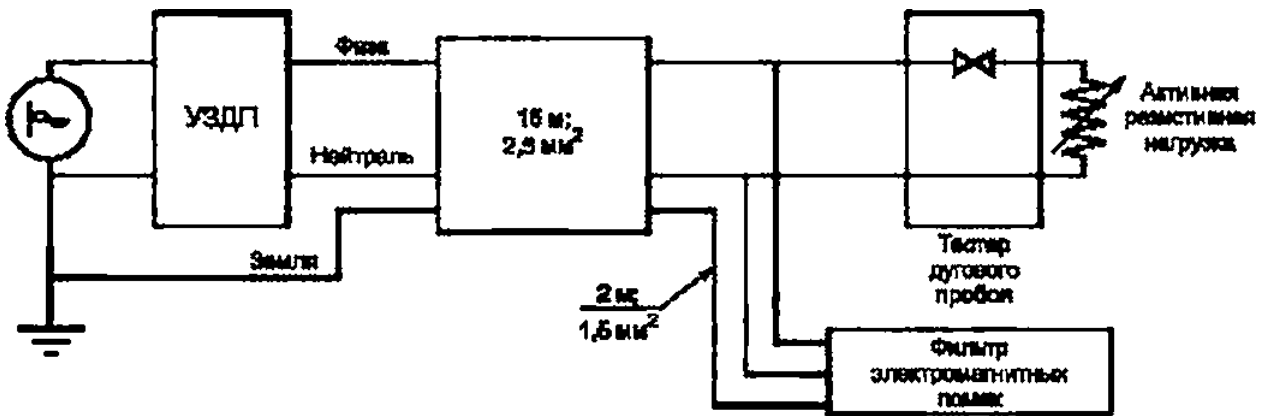






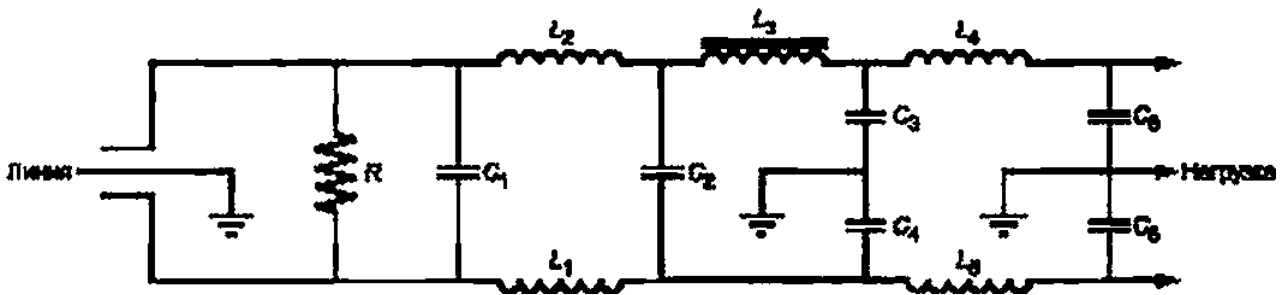
12—

1



13—

2



$$=1 = 0 \quad 1 \quad \%;$$

$$\wedge 0,037 \quad 4 \quad 104;$$

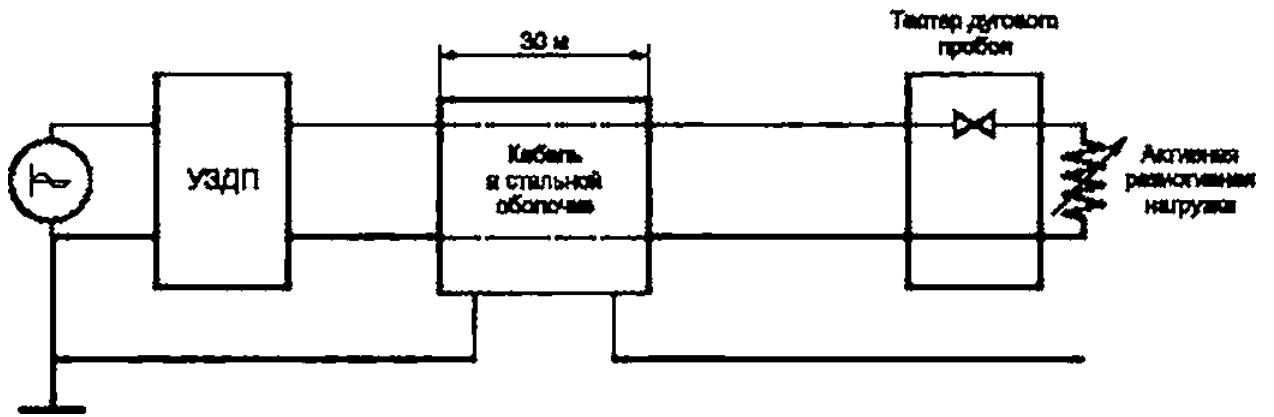
$$, \quad 100 * \pm 10 * \quad 470 * \pm 10\% * 120 ;$$

$$\langle \wedge 0 \rangle \rangle ( 1 \rangle \pm 10\%;$$

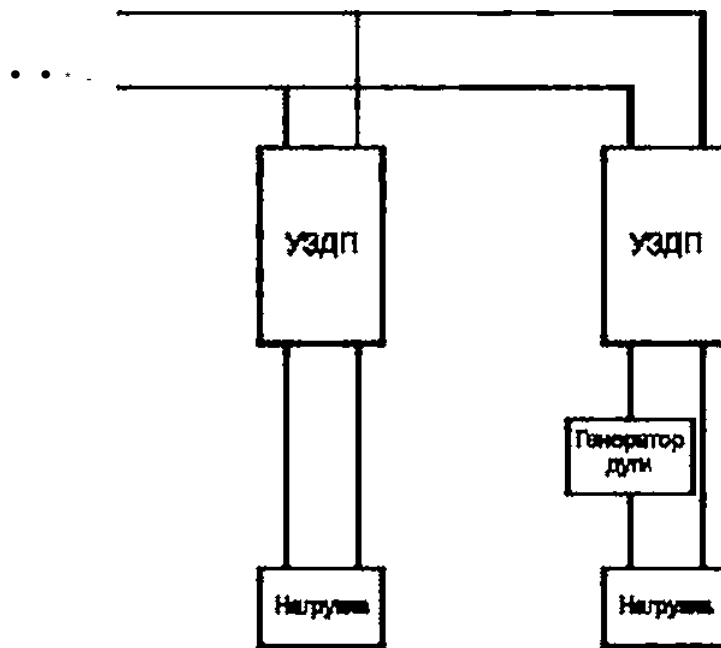
$$\langle 5, mQt \cdot Cg \rangle \cdot 0,0022 \quad \rangle \pm 10 *;$$

14—

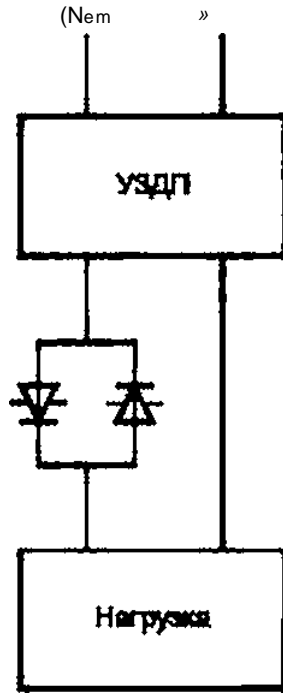
13



15 —



16 —



17 —

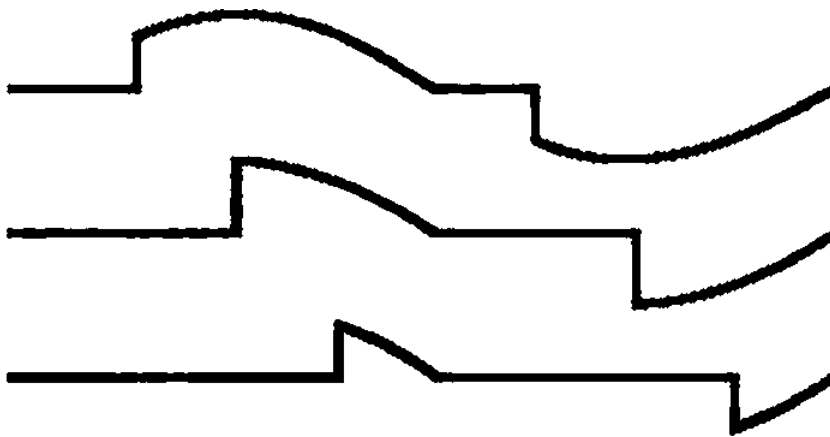


Рисунок 18 — Формы управляющего тока при угле задержки 45°, 90° и 135°

$N$  — ;  $S$  — ;  $R$  — <sup>19,20 21:</sup> ;  
 $Z$  — ;  
 $Z_1$  — ;  $Z_2$  — ;  $I_v$  — ;  $D$  — \*  
 : ;  $G_2$  — FE.  
 :  $6$  — ;  
 ;  $I_2, I_3$  — ;  
 $R_2$  — ;  $F$  — ;  $1_4$  — ;  $F$  —  
 ;  $10$  : \*

0.2 % ( . 9.11.2.2); S, —  
 ( ).

; L —

$I_3 / I_1$   
 $Z$   
 $R$

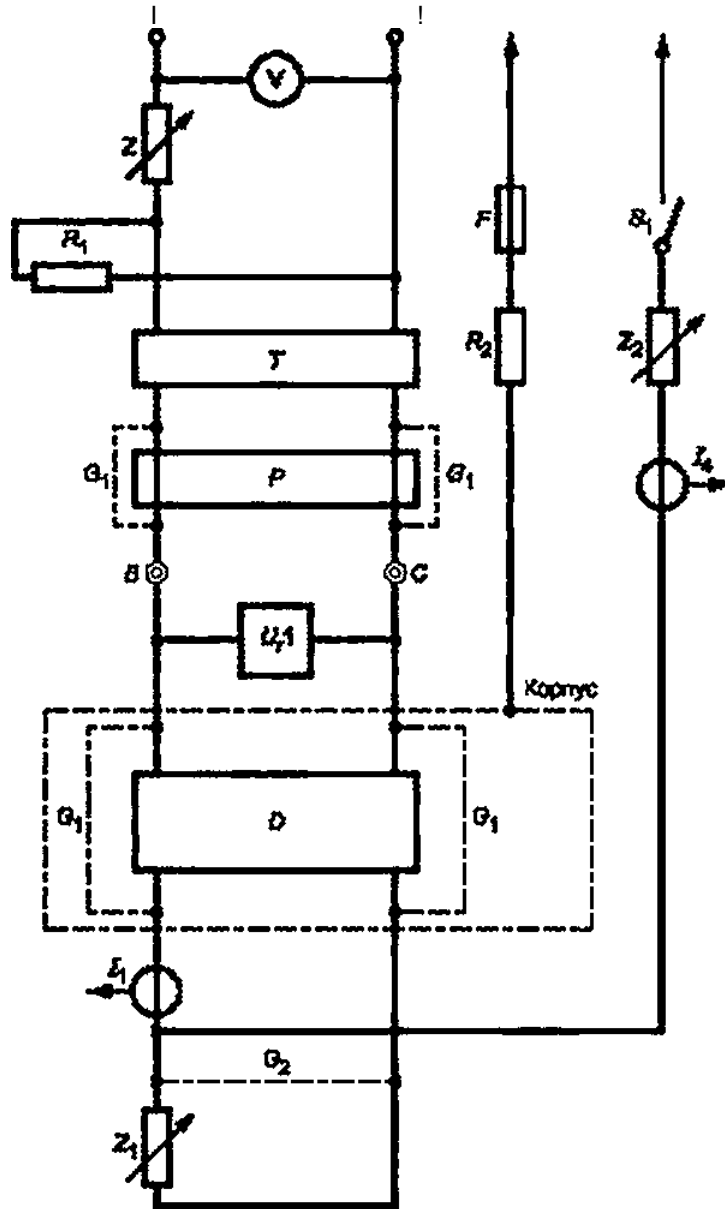
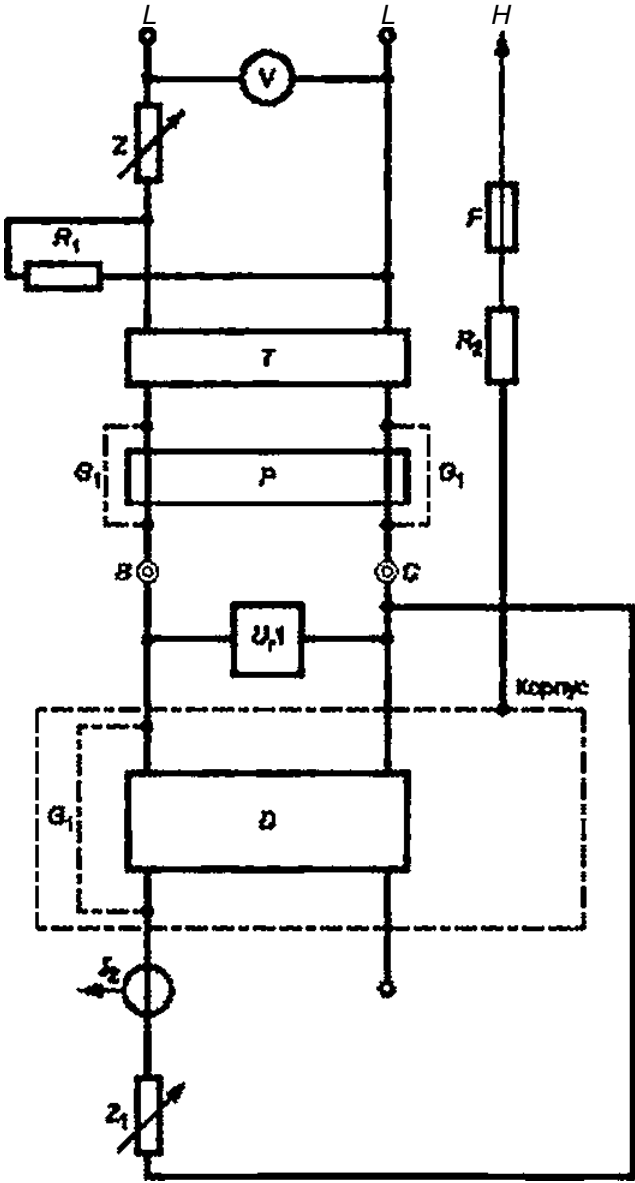


Рисунок 19 — Испытание на короткое замыкание



20 —

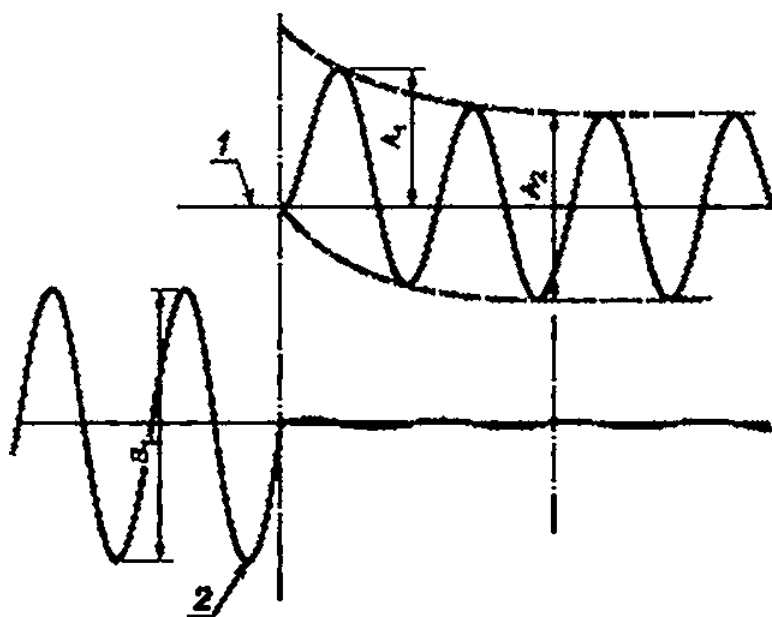
(

> d. 11.2.4)



21 —

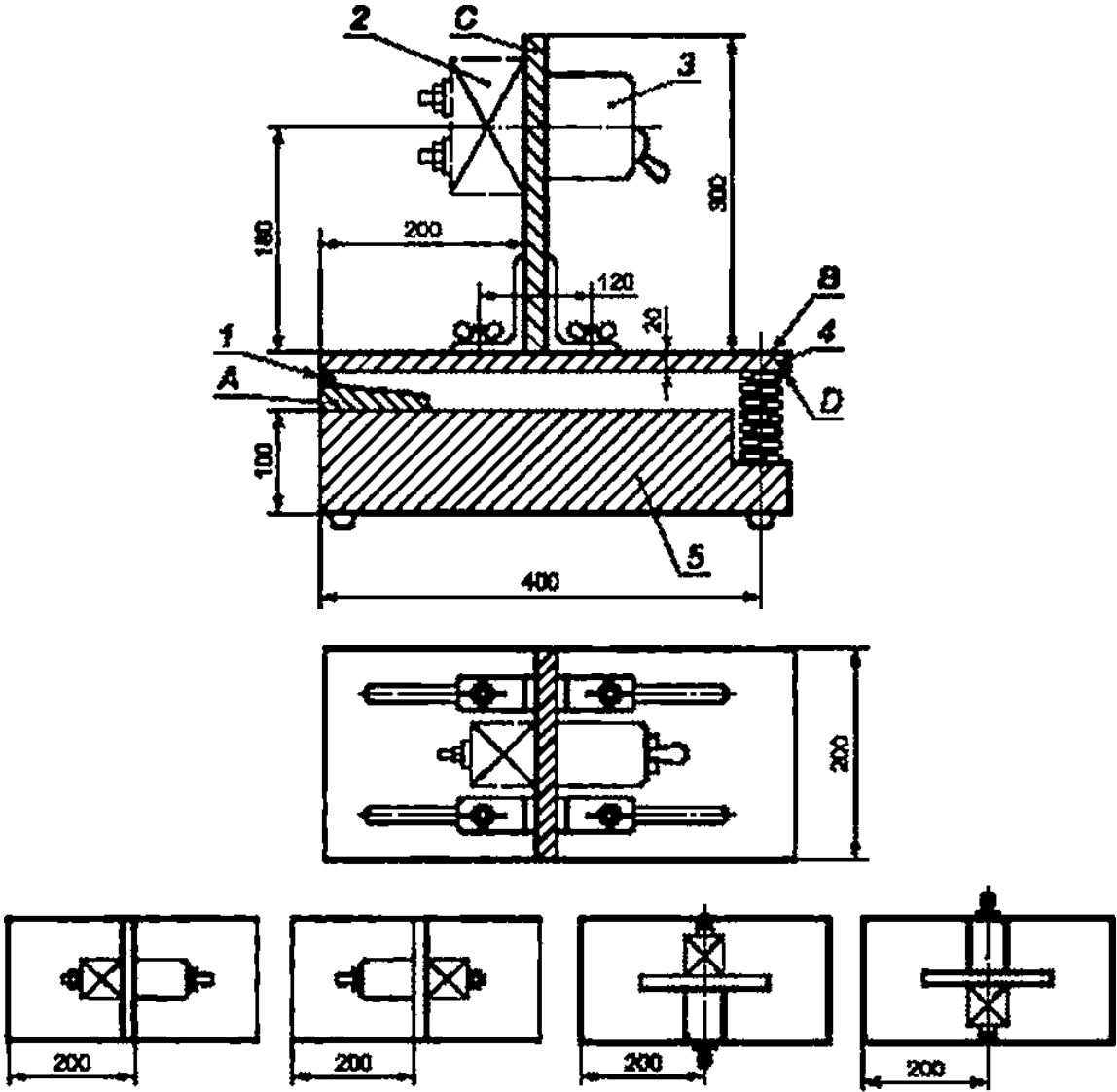
2, 2 2<sub>3</sub> ( ) 9.11.2.4)



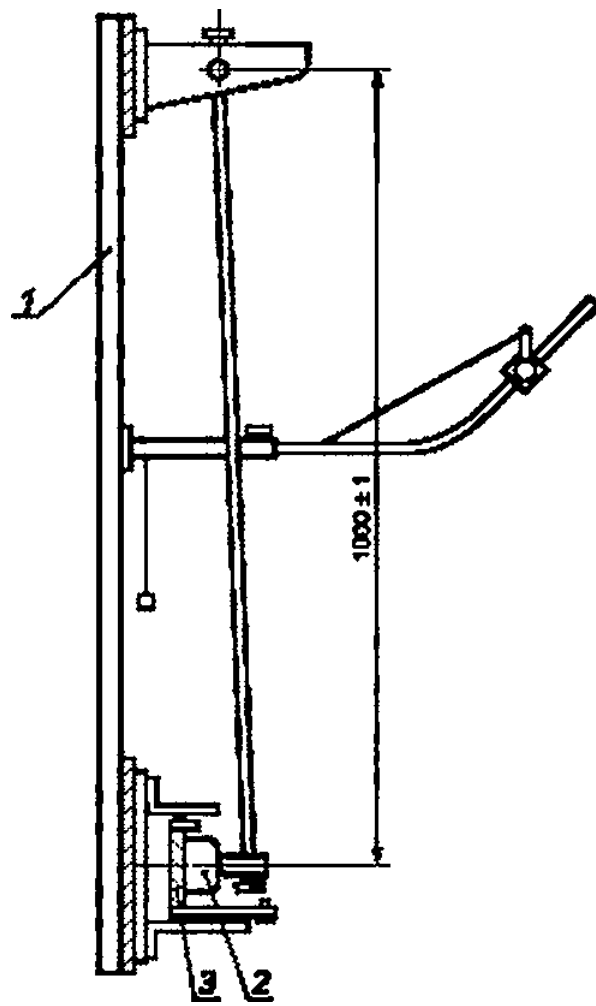
1 — ток; 2 — напряжение

22 —

(9.11.2.2)



1 — 2 — 3 — 4 — 5 — ;  
23 — (0.12.1)



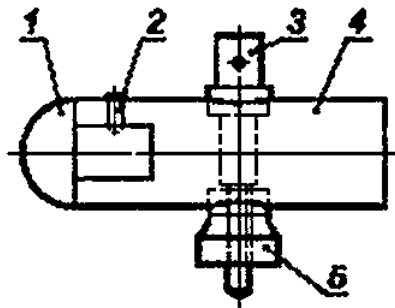
t — : 2 — . 3 —

24 —

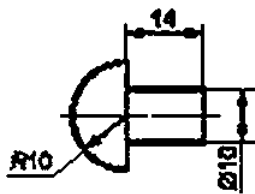
{9.12.2.2}



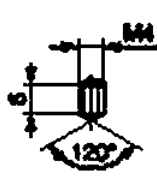
Размеры в миллиметрах



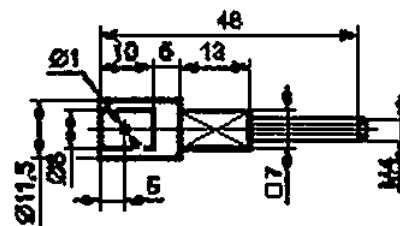
Деталь 1



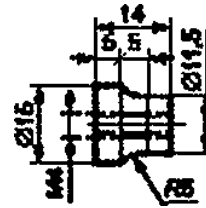
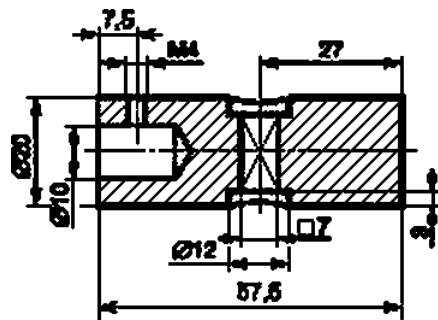
Деталь 2



Деталь 3



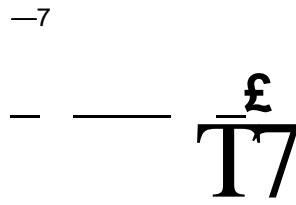
« 4



Материал деталей

1 — полиамид, 2, 3, 4, 5 — сталь 35

175 0

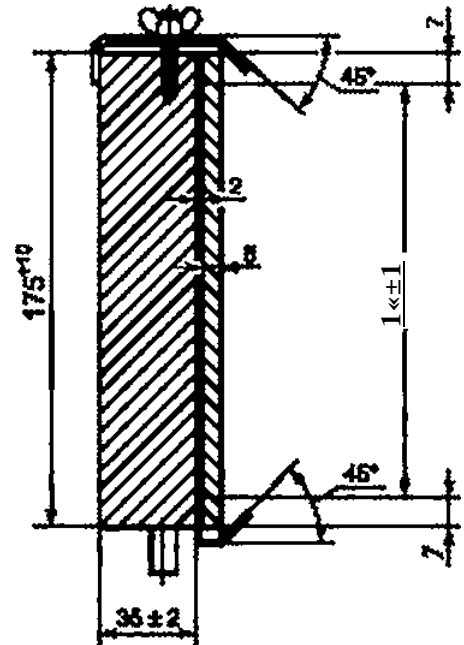


175\*1  
200 mm

1 — 1 ? —

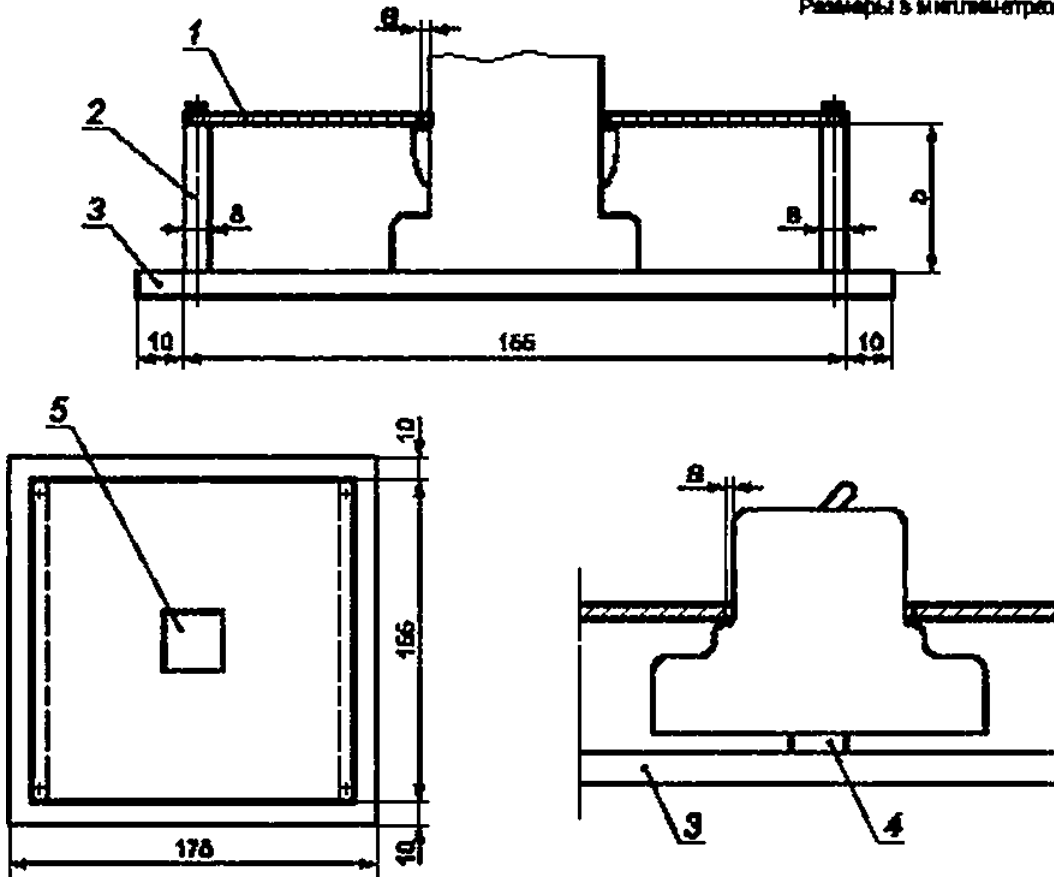
26 —

8 «



(9.12.2.2)

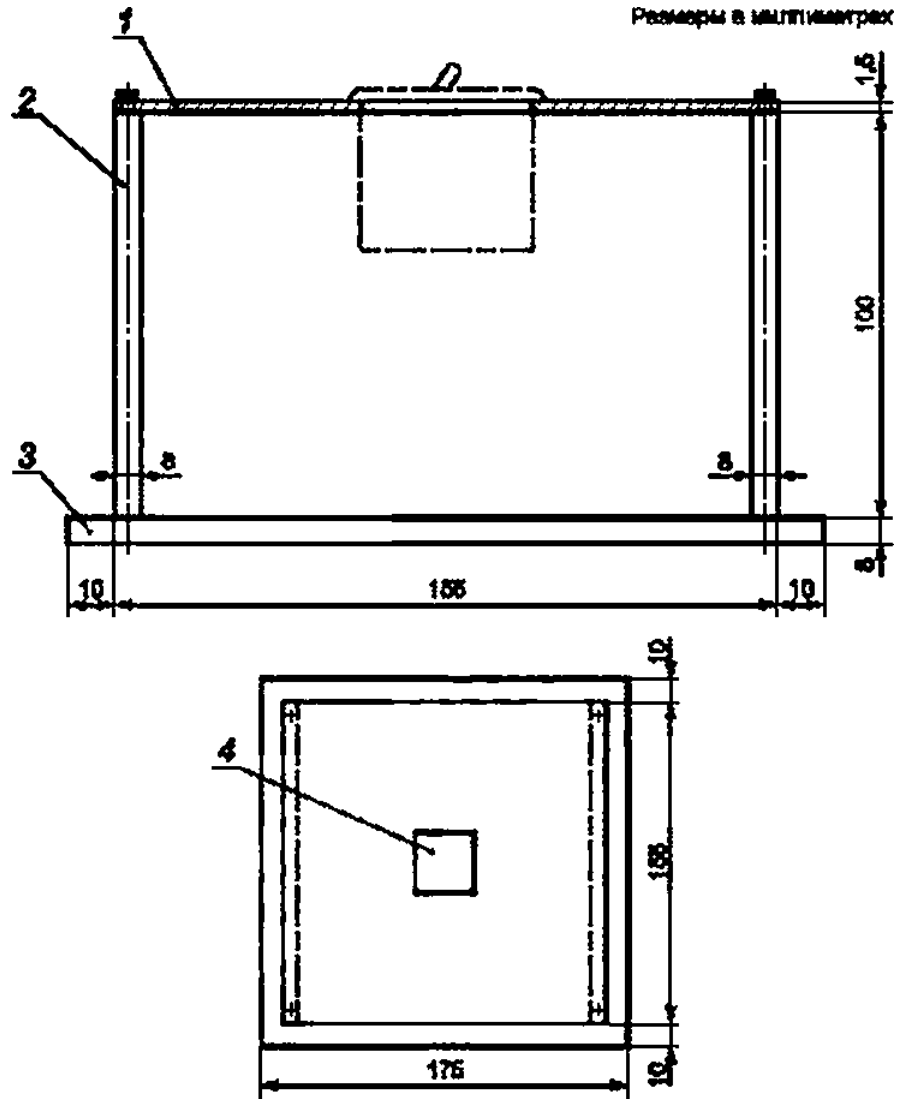
Размеры в миллиметрах



1 — ; 6 — ; — ; .4 —  
 1—2 : 6 — ; —

27 —

(9.12.2.2)



—

»

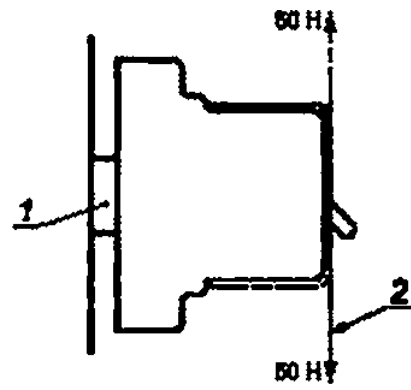
4 —

1.6 —

8 ; 3 —

28 —

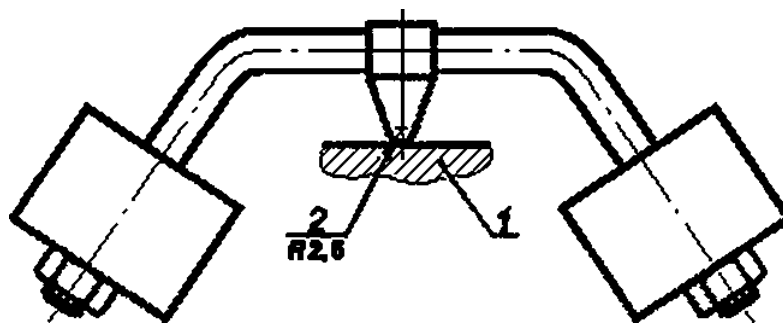
(9.12.2.2)



1 — рейка, 2 — шпур

2d —

(9.12.2.3)



1 — ; 2 —

30 —

(9.13.2)

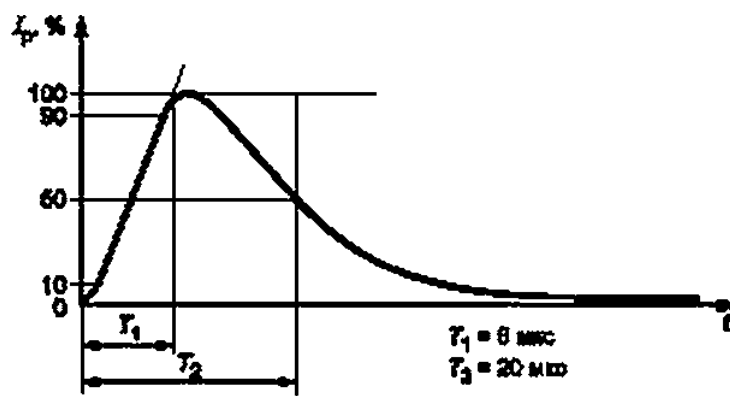
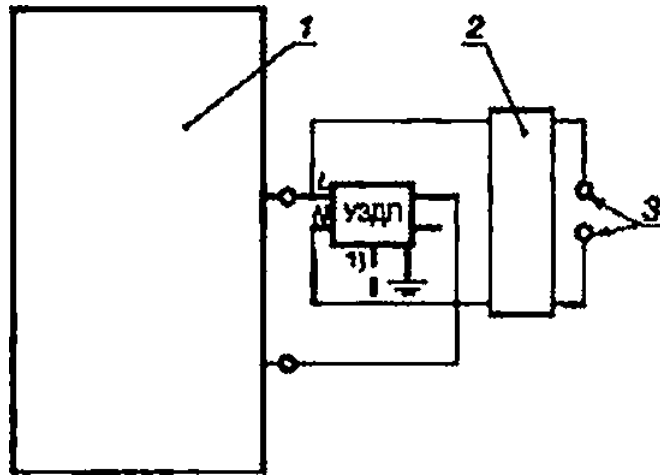


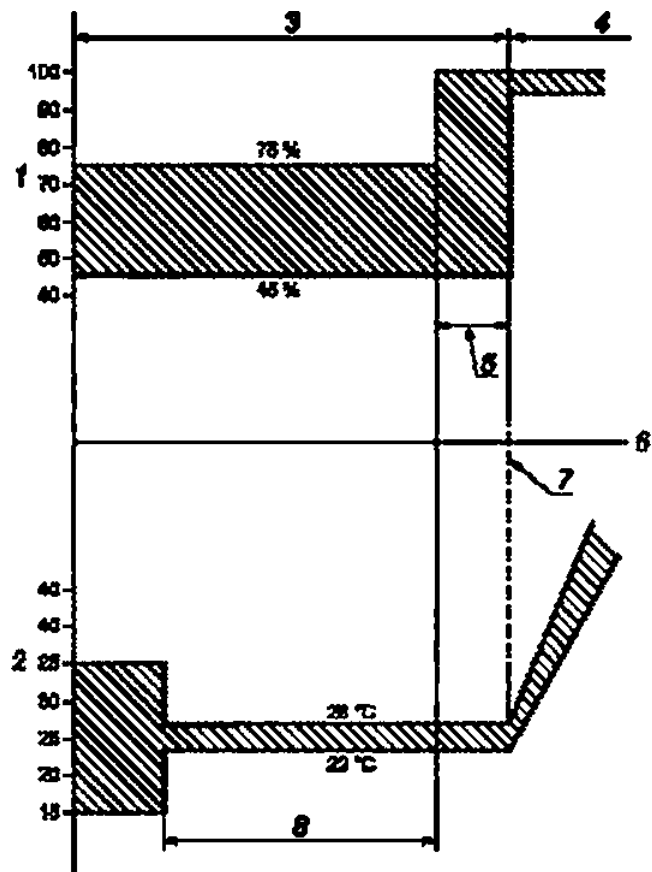
Рисунок 31 — Форма волны импульсного тока 8/20 мкс



— <20 .2— ;3— \*

\*

32 —

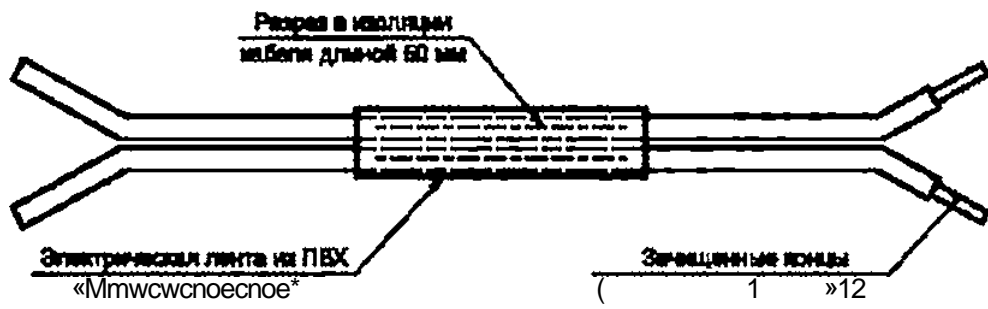


1— :2— :3— :4— :5—  
 • : — 96%—100% ( 1 ); — .7—

33 —

(9.19.2.3)





36 —

(.9.2.6)

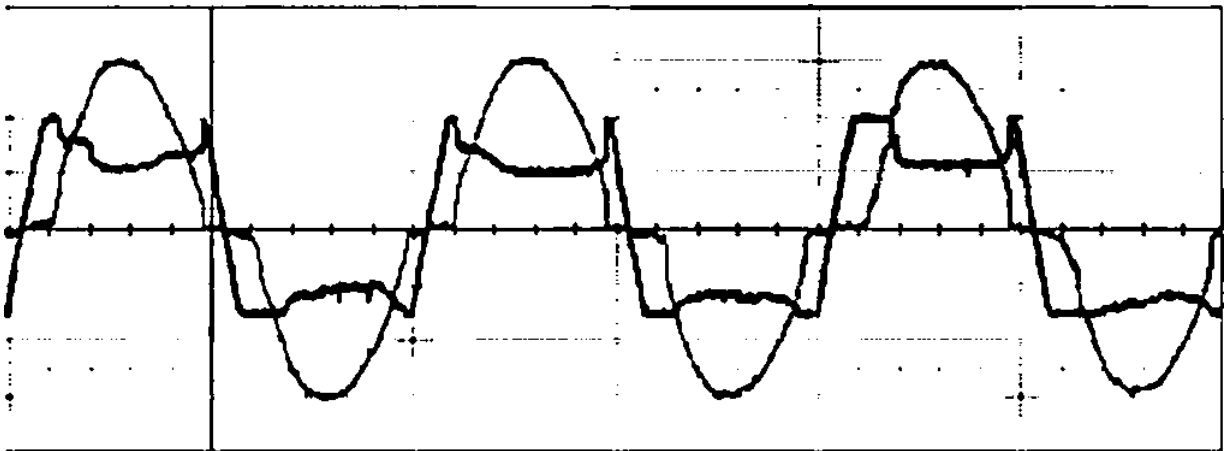


Рисунок 37 — Пример формы волны тока и напряжения дуги, полученные с образцом кабеля



( )

11

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.1

4.1.1.

.1.

4.1.2.

IEC 60898-1, 1 61008-1. IEC 61009-1.

.2.

IEC 62423 IEC60269.no

IEC 60898-1. IEC 61008-1, IEC 61009-1. IEC 62423.

4.1.3.

.1 — 4.1.1

		( )
	6 8.2.1 8.2.2 9.3 8.2.3 9.1S 9.4 9.S 9.6 6.2.3 9.13 9.16	( )
?	9.14	
	9.7 9.8 9.19.3 9.20	40'
	9.10	

\*\* « »

IEC 62606—2016

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			( )
	Do	9.9.2 9.9.3	( ) ( )
	D,	9.9.4 9.9.5 9.16 ) 9.11.2.4 9.12 9.17	
		) 9.11.2.4	IT
		) 9.11.2.5 9.11.2.3	/
	F	) 9.11.2.5 ) 9.11.2.5	/ /
		9.19.2	( )
	«>	IEC 61543:1995 .1 (2005) 6 — .1.1 IEC 61543:1995 .1 (200S) 6 — .1.2 9.21.3. 21 — .2.3	
	I	9.21.3. 21 — .2.1 9.21.3. 21 — .2.5 9.21.3. 21 — .2.2	/
	J	9.21.3. 21 — .2.6 9.21.3. 21 — .3.1	150

">

CISPR 14-1.

.2 —

4.1.2

			{ )
		6 8.2.1 8.2.2 9.3 8.2.3 9.15 9.4 9.5 9.6 9.13 8.2.3 9.16	( ) ( )
	2	9.14	
		9.7 9.6 9.19.3 9.20	40 *

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		( )
	9.10	
D	) 9.9.2 9.9.3	( )
	» 9.9.4 9.9.5 9.18 9.12 9.17	
	9.11.1	IEC 61008-1. IEC 60898-1 IEC 61009-1 *
	9.11.1	IEC 61008-1. Ei IEC 60898-1 F F <sub>0</sub> IEC 61009-1
F	9.11.1	61008-1. E^noIEC 60898-1 IEC Ft IEC 61009-1
G	9.19.2	( )
"	IEC 61543:1995 .1 (2005) 6 — .1.1 IEC 61543:1995 .1 (2005) 6 — .1.2 9.21.3, 21 — .2.3	
1	9.21.3, 21 — .2.1 9.21.3, 21 — .2.5 9.21.3, 21 — .2.2	/
j	9.21.3, 21 — .2.6 9.21.3. 21 — .3.1	150

\*  
CISPR 14-1.

4.1.3

		( )
*	6.0.4 8.2.1.0.5.1 8.2.2 9.3 8.2.3 9.1S 9.4 9.5 9.6 9.13 8.2.3 9.16 0.6.4	( )
2	9.14	
	9.7 9.8 9.19.3 9.20	40 *

		( )
	9.10	
	9.9.2 9.9.3	( )
	9.9.4 9.9.5 9.16 9.12 9.17	
	9.11.1	IEC 61008-1. IEC 60898-1 <sup>2</sup> IEC 61009-1 D*
	9.11.1	IEC 61008-1. F <sub>0</sub> IEC 60698-1* IEC 61009-1 F
F	9.11.1	IEC 61008-1. F, IEC 60898-1 IEC 61009-1
G	9.19.2	( )
>	IEC 61543:1995 .1 (2005) 6- .1.1 IEC 61543:1995 .1 (2005) 6- .1.2 9.21.3. 21 — .2.3	
I	9.21.3. 21 — .2.1 9.21.3. 21 — .2.5 9.21.3. 21 — .2.2	/
J	9.21.3. 21 — .2.6 9.21.3. 21 — .3.1	150 -

\* CISPR 14-1. 9.3—9.5 9.13—9.15 0.6.2.

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6 .4—

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*	1	1	3
8	3	2	3
	3	2	3
	3	2	3
	3	2'	3
,	3	2'	3
D,	3	3	3
	3	2**	3
F	3	2**	3
G	3	2	3
*1	3	2	3
I	3	2	3
J"	3	2	3
" 8			
*1			-
«*			
41		9.9.2.9.9.3 9.11.2.4.	-
	9.11.2.3.9.11.2.5 ) . 9.11.2.5 )	9.11.2.5 )	-
*1			

.5—

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D*	
	$l_n$
F	$f_n$
	$l_n$
G	/
	$1_{-}$ 4'
1	$f_{-}$ 41
J	4_{-}'
*1	.2.
*1	
*1	

.3.1

.5.

— 8

$l_n$  /

- 1)
- 2)
- 3)
- 4)
- 5)
- 6)
- 7)
- )
- 9)
- 10)
- )
- ;
- D)
- )

.3.2

( .4.1).  
A.S.

( )

8.1

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11) IEC 60664-1:2007.

.4

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6.2 ( )

IEC 60664-1: 2007

X.

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2.

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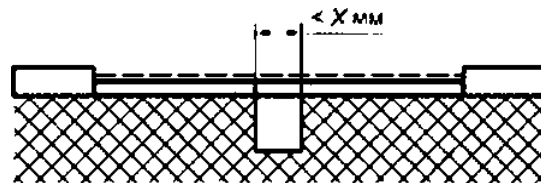
1—11.8

( . 3);

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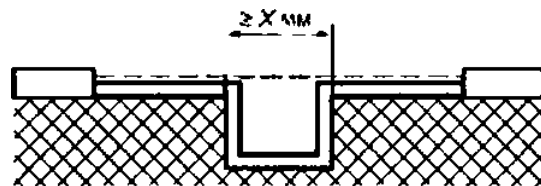
( . 2);

1

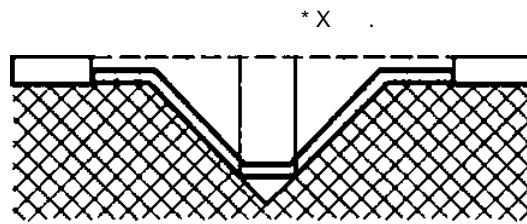


X

2



X



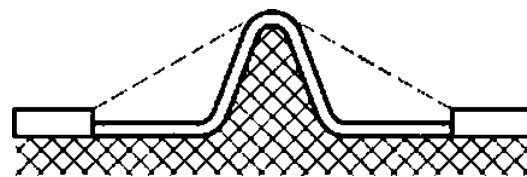
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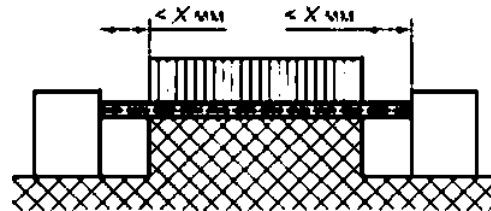
X

X



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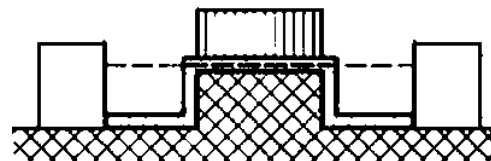
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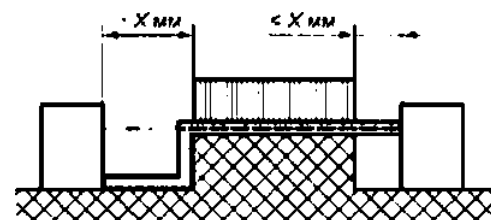


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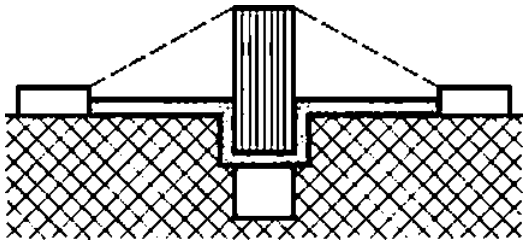
X





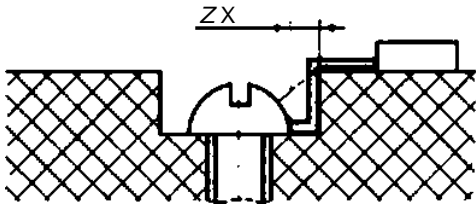
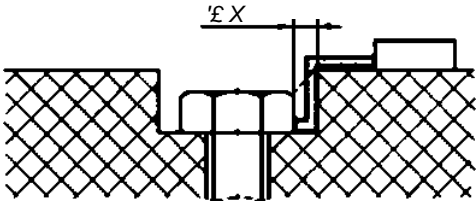
X

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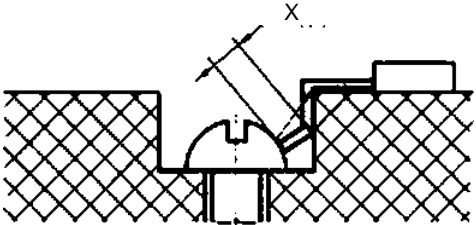
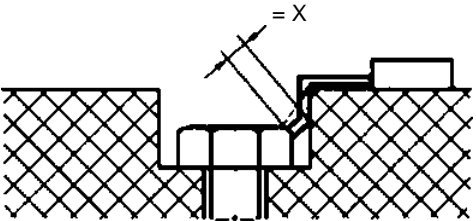
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9



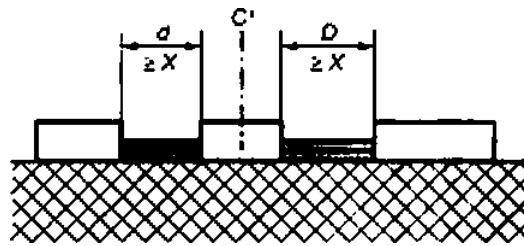
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10



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X



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0\*0 —

1—12:

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1\* - ?

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10

200 200  
 « \* , 50  
 (0.05 \* 0.01)

23' : (0.92 ± 0.05) / 3;  
 : 110\*0 — 120\*

0.1.

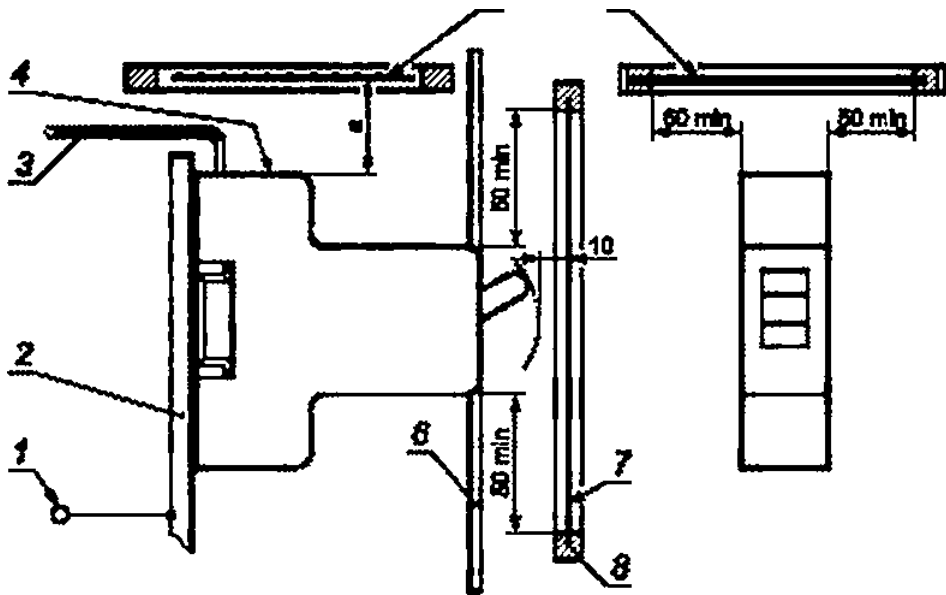
2

( ) .2. ( )

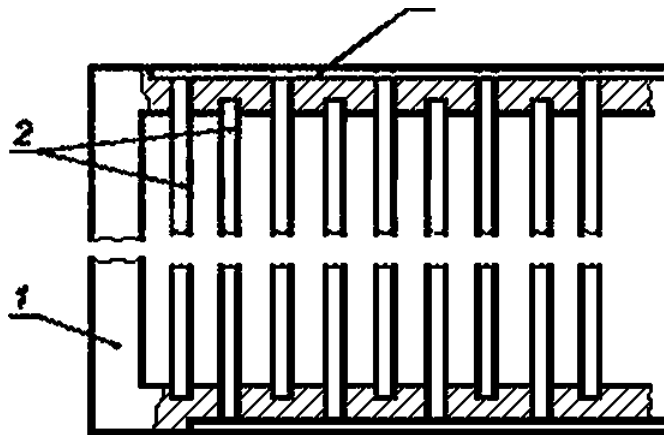
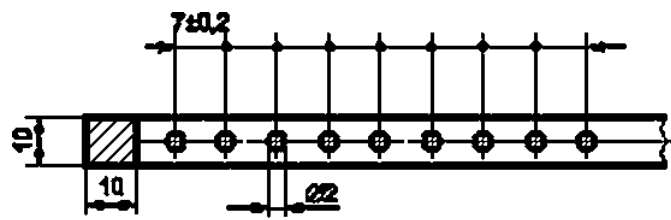
R: 1.5.0 :

50

f)1)9.11.2.2.



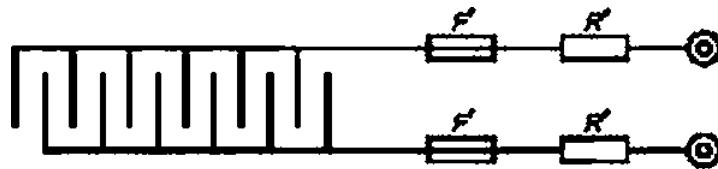
6— : 7— » : 8— : 4— , S— :  
 .1—



.2 —

.3 —

.2 —



1 — соединить с точками В и С

D  
( )

4.1.3,

(

0.1

0.2

( ).

IEC 61009-1 IEC 62423.

IEC 60698-1

IEC 61008-1.

D.3

0.4

D.4.1

6.

D.4.2

D.4.2.1

IEC 60898-1.

( 61008-1. IEC 61009-1 IEC 62423.

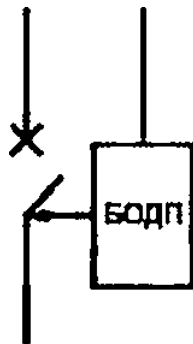
0.4.2.2

6.

8.

). ). ), d). g)

- ( , .16 );
- ( )



- «S»
- ( S ( ) );
- ( )
- —

( S ( ) );

8

(

IEC 62606—2016

- 
- 
- 8 — 1 (IEC60417:2012):
- — (IEC 60417:2012):
- 8 8 — 5 1 (IEC 60417:2012).

0.4.2.3

- ) 6. S; .4.2.2. :
- h)

0.4.3

- ( ) ( ),

O.S

0.5.1

0.6.4.

0.5.2

0.5.2.1

0.5.2.2

0.5.3

( .0.4.2.2).

IEC 61006-1

7 IEC 60698-1

8

0.6

D.6.1

IEC 60898-1.

IEC 61008-1. IEC 61009-1 IEC 62423.

D.6.2

9.3—9.S 9.13—9.1 S.

10 . 9.1.2

0.6.3

IEC 61008-1.

IEC 61009-1 IEC 62423.

10 . 9.1.2

10 . 9.1.2

9.3.9.5.9.13 9.14:

0.6.4

0.4.1 — 0.4.3. D.5.1 — D.S.4

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0<sup>0\*</sup> .1. .4.

5

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9.10.2

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10mm<sup>2</sup>(AWG8).  
0.3

0.6

F.1 F.2.

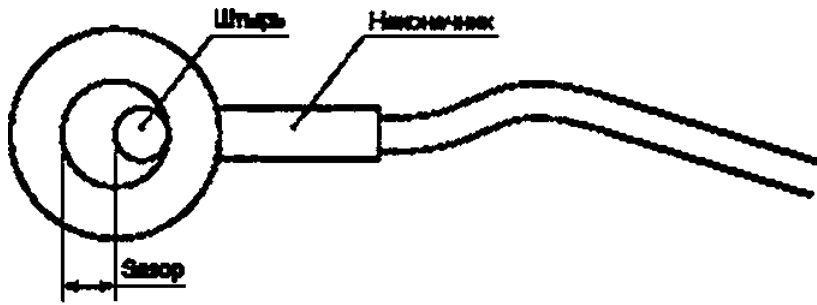


Рисунок F.1 — Измерение зазора

F.2.

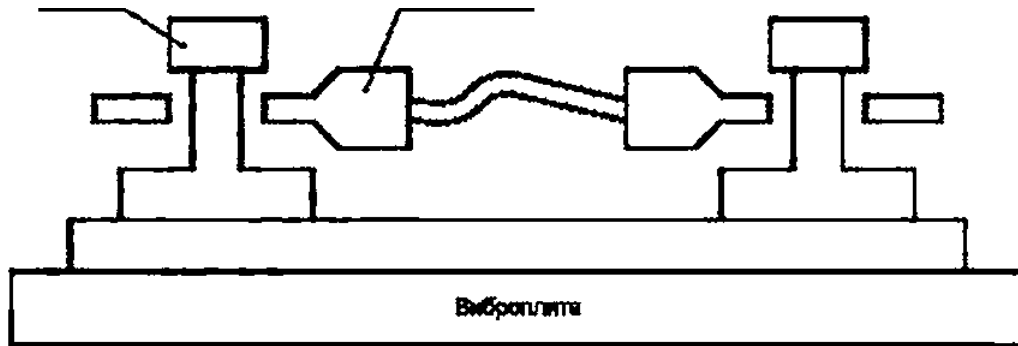


Рисунок F.2 — Испытательный вибростол для дуговых испытаний ослабленных зажимов

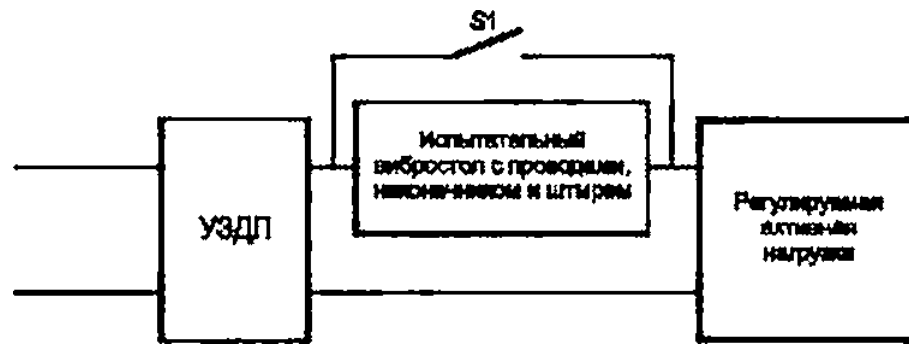
3

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F.3.

S,

S,



Р.3 —

$$\left( \quad \quad \right)^1$$

IA.1

!—

IA.1.1

$$L_{\infty} I_{\infty} - \sim^*/L$$

)<sub>d0</sub>—  
i<sub>d0</sub>—  
UR—  
t—  
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UR.

$$/ e^{-WL}$$

i<sub>d</sub>

~\*

RUL.

UR.

d)  
IA.2

\* arctg a UR.

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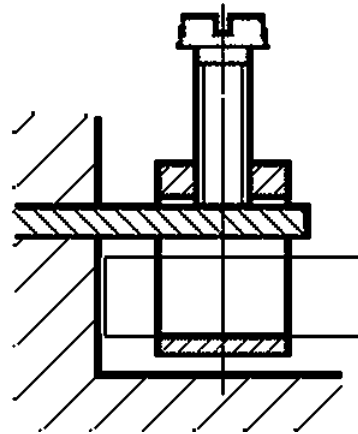
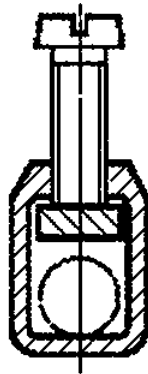
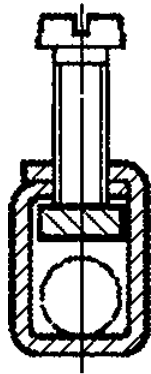
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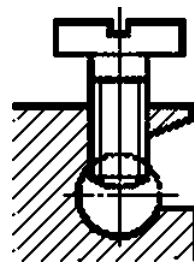
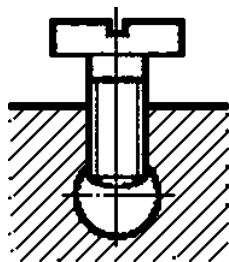
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( . IB.1 — 16 4).

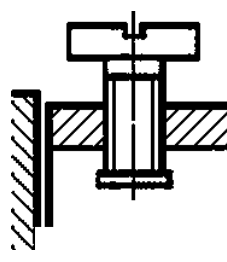
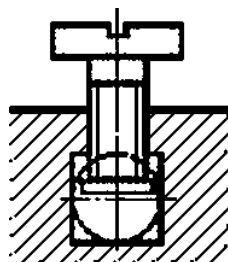
. 9.2. ( 11».



IB. 1 —



18.16 —



IB.tc —

IB.1 —

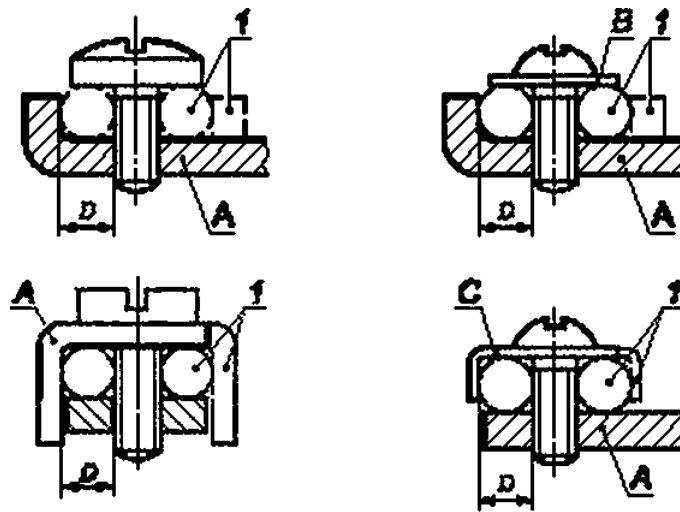


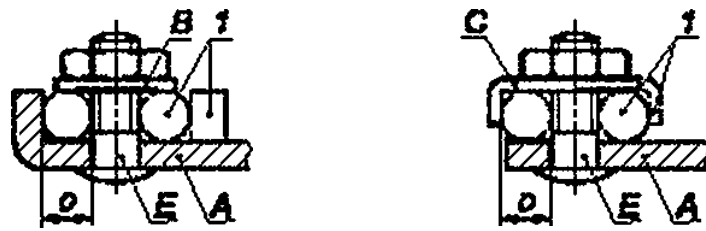
Рисунок IB.2a — Винтовые выводы

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, T|»Qjp0up\*

нрerwrcTBjwa\*»

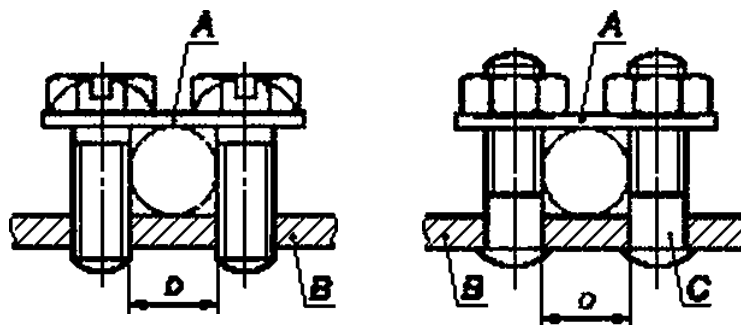


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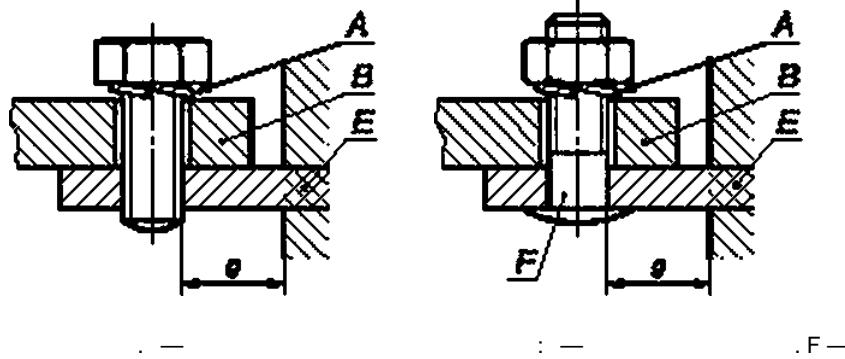
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1.2 —

IB.2 —



IB.3 —



IB.4 —

( IC )

ISO AWG

no ISO, <sup>2</sup>	AWG	
		, <sup>2</sup>
1.0	18	0.82
1,5	16	1.30
2.5	14	2.10
4.0	12	3.30
6.0	10	5.30
10.0	8	8.40
16.0	6	13.30
25,0	3	26.70
35.0	2	33.60
50.0	0	53.50

ISO.

AWO.

( ID )

.1

ID.2

ID.2.1

ID.1.

ID.2.2

Y1 —

ID.1.

ID.1 —

	9.92.2 9.9.2.4 9.7.6		
Y1	9.9.2.S 9.7 9.10		
Y2	9.19.1	) ( -	-
Y3	9.20		-





- Y2 Y3. Y1 3
- :
- Y1:
- Y2 Y3.
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ID.2.4

ID.2.

10.2 —

	6	13
Y1—Y3		

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- 4.1:
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IE.1

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IE.2

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IE.1

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IE.1 —

1 .	1 .					
	«16	«20	«25	«32	«40	«63
500	0.30	0.3S	0.35	0.35	—	—
1000	0.30	0.35	0.40	0.50	—	—
1600	0.35	0.40	0.45	0.50	0.65	0.85
3000	0.35	0.40	0.45	0.50	0.60	0.80
4600	0.35	0.40	0.45	0.50	0.60	0.80
6000	0.35	0.40	0.45	0.50	0.60	0.75
	0.35	0.40	0.45	0.50	0.60	0.70

18).

(/)

IE.1.

IE.3

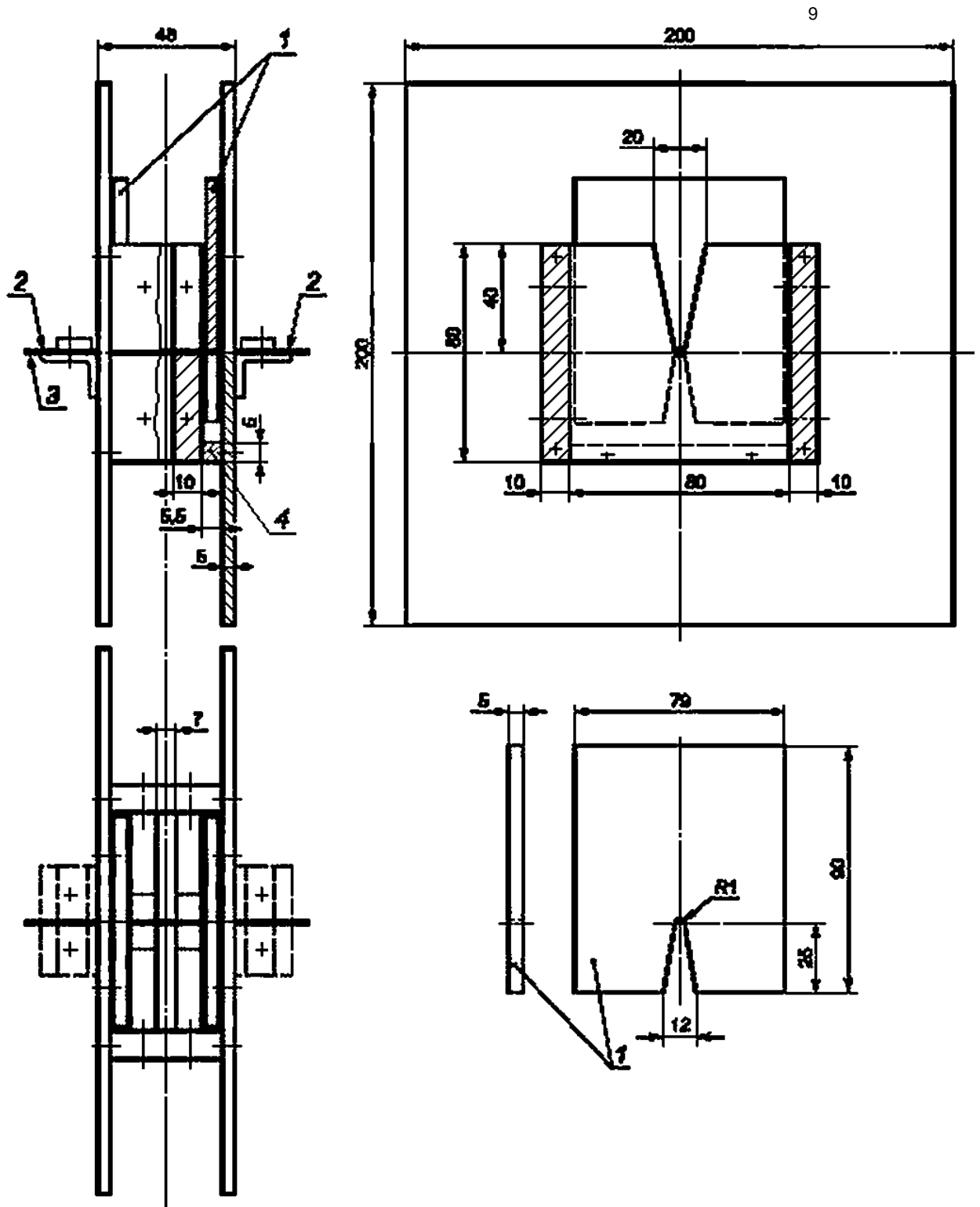
$P_i$  / .

$P_t$  /

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IE.4

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( J )

J.1			1 .	-
( J.3.6)	20 ,	4 3.		-
	— 8	(	16 .	)
		( — )	( — )	-
J.2	2.			
J.3	3	:		
J.3.1	(clamping unit):	,		-
		,		-
	—	J.2.		
J.3.2	(screwless-type terminal):	,		-
J.3.3	(universal terminal):	,		-
	(	)		
	— 8	(		)
J.3.4	(non-universal terminal):	,		
	—	( - )		
J.3.S	(push-wire terminal):	,		
J.3.6	(unprepared conductor):	,		
1	,	,		
2	«	»		
J.4	4.			
J.S	5.			
J.6	6	:		
•	:			

• «sol»;

• « »;

• «1».

J.7

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J.8

J.8.1

8

8.8.2.5 6.2.5.1.8.2.5.2.8.2.5.3.8.2.5.6 8.2.S.7.

J.9.1 J.9.2

9.4 9.5.

J.8.2

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J.9.1 J.9.2.

J.1.

J.9.1 J.9.2.

J.1 —

					AWG				
7	*	»				- *1	« *1	18	1.
1.0	1.2	1.4	1.0	1.5	18	1.02	1.16	18	1.28
1.5	1.5	1.7	1.5	1.6	16	1.29	1.46	16	1.60
2.5	1.9	2.2	2.S	2.3	14	1.63	1.84	14	2.08
4.0	2.4	2.7	4.0	2.9	12	2.05	2.32	12	2.70
IEC 60228 . — AWG — 172-71 ASTM S-19-81. S-66-524. S-68-516 <sup>1</sup> ICEA. +5 % *5 14 1, .									

J.8.4

J.2.

J.2—

13 • 13 20 •	1.0 2.5 • 1.5 » 4.0 •

J.9.2 J.9.3.

J.8.5

J.8.6

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J.9.2 J.9.3.

J.8.7

J.9.4.

J.9

J.9.1

9 9.4 9.6

J.9.2

J.9.2.1

J.2.

J.8.2.

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J.9.2.2

J.2.

J.8.2.

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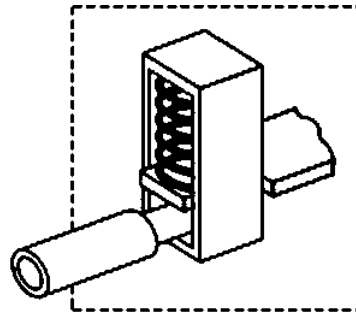
J.9.3

J.2.

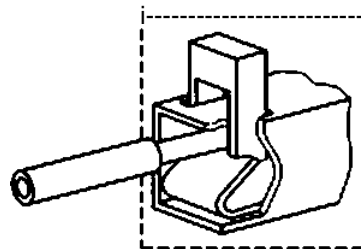
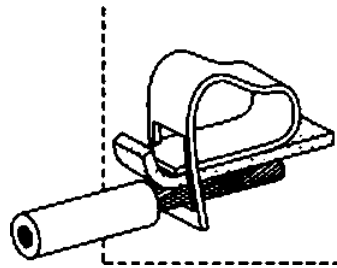




SO



Безвинтовой вывод с непрямым зажимом



J.2 —

J.10

IEC 60228:2004. Conductors of Insulated cables ( )

IEC 60998-1:2002. Connecting devices for low-voltage circuits for household and similar purposes — Part 1: General requirements ( ) 1.

IEC 60998-2-2:2002. Connecting devices for low-voltage circuits for household and similar purposes — Part 2-2: Particular requirements for connecting devices as separate entities with screw less-type clamping units ( ) 2-2.

IEC 60999 ( ). Connecting devices — Electrical copper conductors — Safety requirements for screw-type and screwless-type clamping units ( )

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 16  
 — ( )  
 4<sup>2</sup> (AWG 12)  
 ( )  
 { . . .3.2) 1. 6.3  
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 ( — )  
 2.5<sup>2</sup>

.2  
 IEC 61210  
 2  
 3 :  
 .1 {flat quick-connect termination):  
 .3.2 (male tab):  
 .3.3 (female connector),  
 .4 (detent): ( )

.4  
 4.  
 .5  
 5.  
 .6  
 6 ( 5) ). IEC 61210  
 k) ;  
 l) :  
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K.I —

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1.0 1.S 2.S 4.0	

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.8.1

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8.2.3

.8.2

6.2.3

8.2.5

.8.3

.6.3.1

.6.3.2

16

6.3

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9.S

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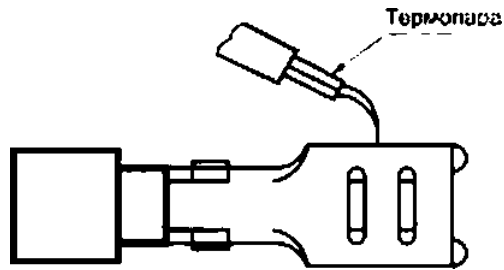
.2.

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96	88

9.8.3:

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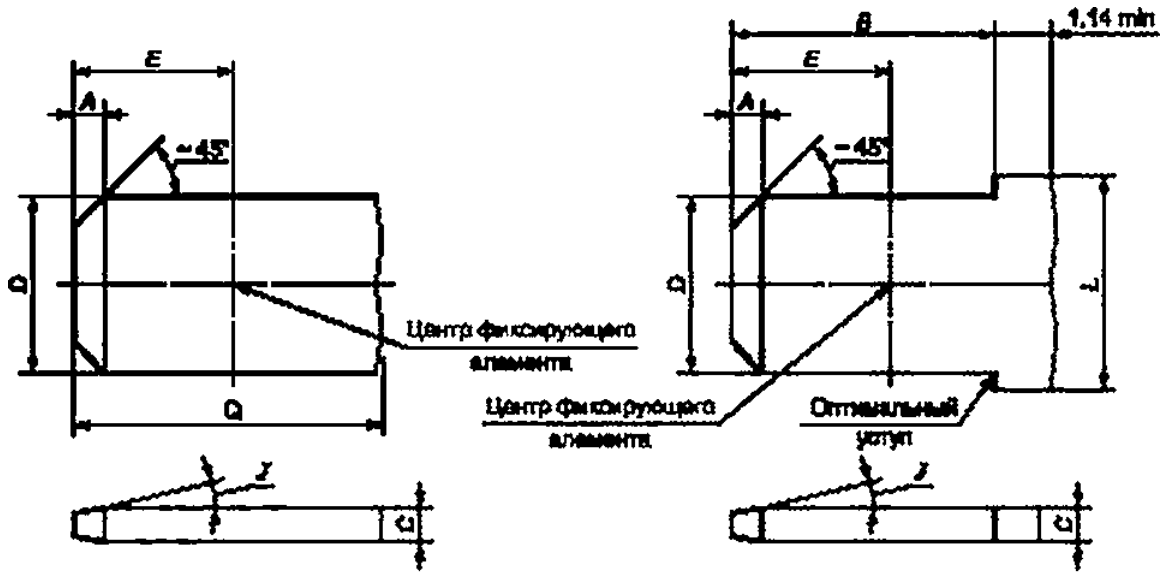


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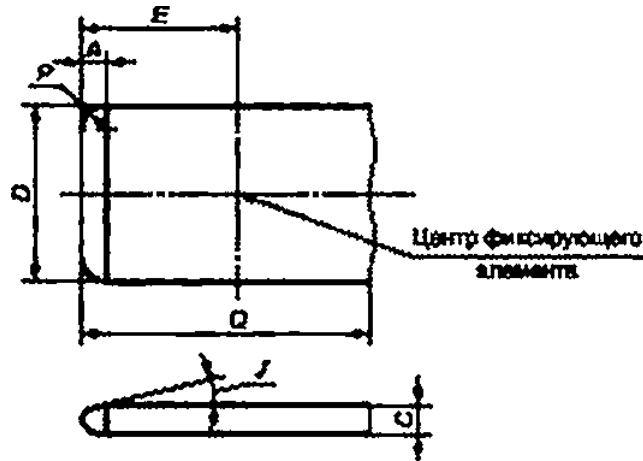
			min					J				min
0.8	-	1.0	-	0.84	6.40	4.1	2.0	12	2.5	2.0	1.8	-
		0.7	7.8	0.77	6.20	3.6	1.6	8	2.2	1.8	0.7	6.9
	-	1.0	-	0.84	6.40	4.7	2.0	12°	-	-	1.8	-
		0.5	7.8	0.77	6.20	4.3	1.6	8°	-	-	0.7	8.9

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2

.2— .5.

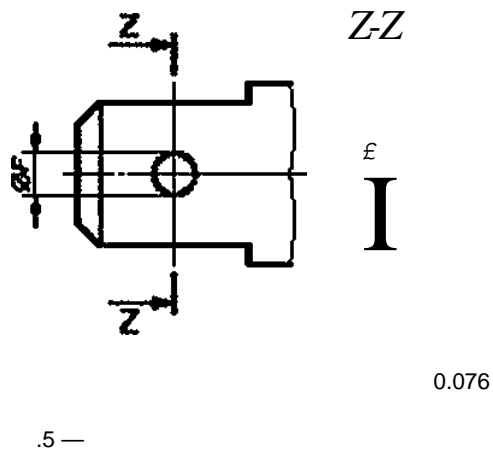
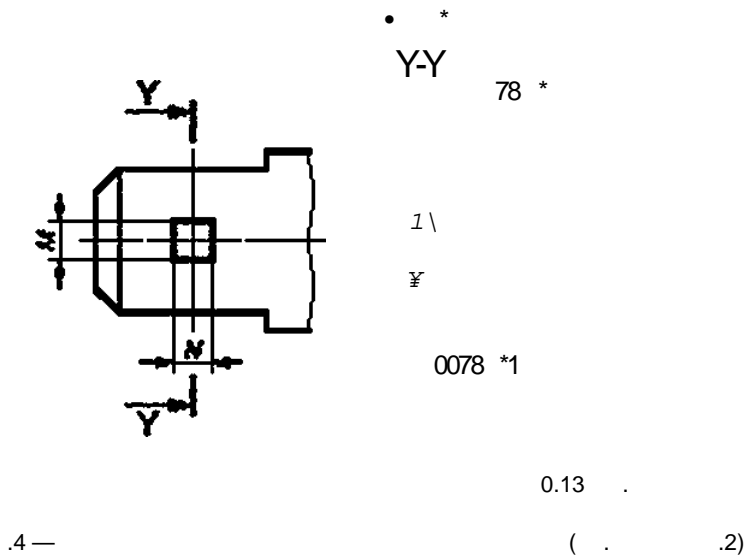
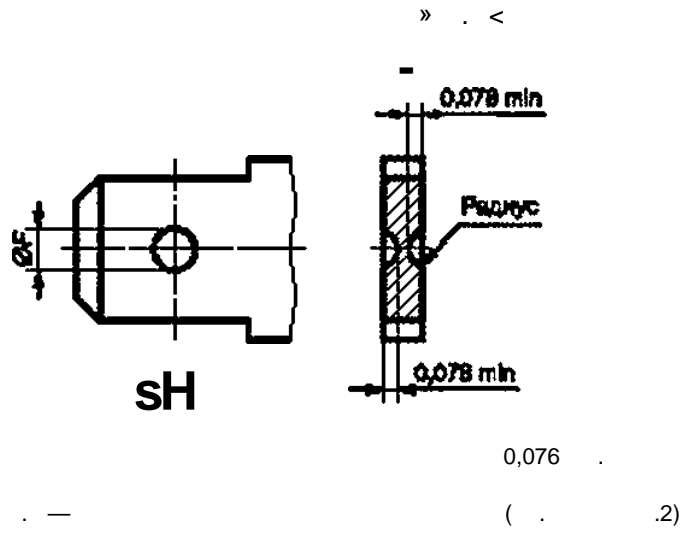


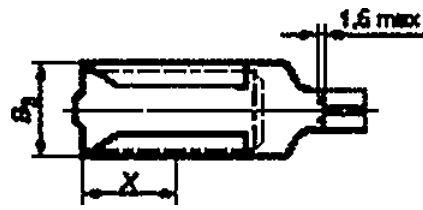
Вариант screw



1	45°		
2	(		(
3			
4			
5		1,14	
6	0,025		1,3

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	, max	L <sub>2</sub> max
6.3 *0.8	7.80	3.50





12)  
L.1—

	Al
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L.7

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.2.5.2.

L.2.

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L.2—

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<p>13 . 13 16 » » 16 » 2S • * 25 * 32 • » 32 * 50 » * 50 * 80 » * 80 100 • »100 &gt;125</p>	<p>1.0 4.0 1.0 * 6.0 * 1.5 * 10.0 » 2.5 » 16.0 » 4.0 25.0 » 10.0 » 35.0 » 16.0 • 50.0 » 25.0 • 70.0</p>
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50

1.0 10,0 1

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D.2

IEC 61S4S:1996.

8.1.S.4

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no L.9.

L.9

L.9.1

9

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L.3.  
L.9.3

L.3 —

	1.4.4 *	Al«	
L.1)	AI		AI
	L.2 L.5	6 10	L.2 L.S
9.4	L.2 L.S 13	6.10 13	L.2. L.S 13
9.5.1 *11	L.2 L.S 13	6.12 13	L.2. L.5 13
9.5.2	L.2 L.5 10	. 12 13	L.2. L.5 13
9.5.3	L.4	15	L.4
9.8	L.5	12	L.5
9.19	L.5	12	L.5
L.9.3	13	13	13

> 8 , ( )  
w 9.5.1 70 2—

L.4 —

				AWG					
		( )				( )			
2	-	*	2						** l. . .
						-	*		
1.0	1.2	1.4	1.0	1.5	18	1.07	1.23	18	1.26
1.S	1.5	1.7	1.5	1.8	16	1.35	1.5S	16	1.50
2.S	1.9	2.2	2.5	2.3'	14	1.71	1.95	14	2.08
4.0	2.4	2.7	4.0	2.9	12	2.15	2.45	12	2.70
6.0	2.9	3.3	4.0	2.9*	10	2.72	3.09	—	—
10.0	3.7	4.2	6.0	3.9	8	3.43	3.89	10	3.36
16.0	4.6	5.3	10.0	5.1	6	4.32	4.91	8	4.32
25.0	—	6.6	16.0	6.3	4	5.45	6.18	6	5.73
35.0	—	7.9	25.0	7.8	2	6.87	7.78	4	7.25
—	—	—	—	—	1	7.72	8.8S	—	—
S0.0	—	9.1	35.0	9.2	0	6.S1	9.64	—	12.08
70.0	—	12.0	50.0	12.0	00	9.266	10.64	—	—

ITC 60228: 2004. S-68-516 ICEA. AWG — 172-71 ASTM S-19-81. S-66-S24.<sup>1</sup>  
 • +5 V  
 \* 5 % 5 IEC 60228.

L.9.2

9.1.

L.S.

L.S —

S. <sup>2</sup>	J <sub>n</sub>
1.S	/,£ 6
2.5	6 < „ s 13
4.0	13 < /, £ 20
6.0	20 < /, £ 25
10.0	25 < /, £ 32
16.0	32 « /, £ 50
25.0	50 < U £ 63
35.0	63 < /, £ 80
50.0	80 < U £ 100
70.0	100 < /, £ 125

L.9.3

L.9.3.1

L.9.3.2

( . L.2 — L.6).

( , . . ),

L.9.3.3

L.1.

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L.5.

( . L.3.3)

L.6.

a L.6 —

S. *	AWG	
S £ 10.0	£8	200
16.0 £ S £ 25.0	6	300
35.0 £ S £ 70.0	2 00	460

L.7.

L7 —

	2	
	At	
0 50 > 51 • 125 126 • 22S	45 105 185	45 85 155

150

(2S ± 5)

<150 5)

( L.1).

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L.9.3.4

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( 30 AWG).

600

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6 10 .

L.9.3.5

500

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L.8.

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24

75 \* .

25.50. 7S.

100.125.175.225.275.350.425 500

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5

\* 5 \*

S1 11  
d11  
11

d

110\*0:  
110\*0.

L.9.

L.6—

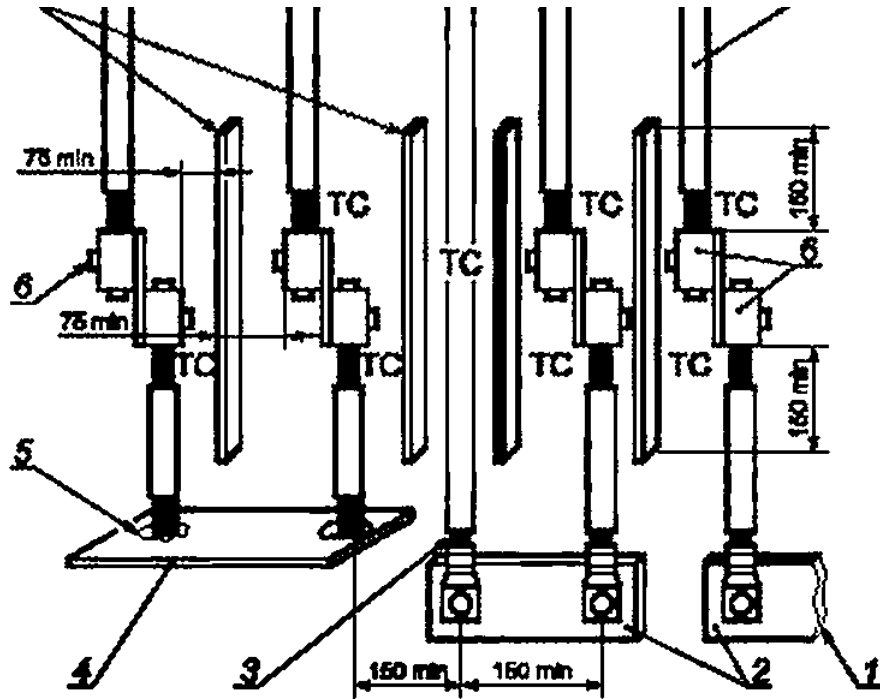
			AWG		
	2				
0 < /,, £ 15	2.5	26	0 < /,, £ 15	12	30
15 < /,, £ 20	4.0	35	15 < /,, £ 25	10	40
20 < /,, £ 25	6.0	46	25 < /,, £ 40	8	53
25 < /,, £ 32	10.0	60	40 < /,, £ 50	6	69
32 < /,, £ 50	16.0	79	50 < /,, £ 65	4	99
50 < /,, £ 65	25.0	99	65 < /,, £ 75	3	110
65 < /,, £ 80	35.0	137	75 < /,, £ 90	2	123
80 < /,, £ 100	50.0	171	90 < /,, £ 100	1	152
100 < /,, £ 125	70.0	190	100 < /,, £ 120	0	190

L.9—

				d • - . *	Sf • d - . *
		. *	6. *		
1	25	79	78	1	0.18
2	50	80	77	3	2,18
3	75	78	78	0	-0.62
4	100	76	77	-1	-1.82
5	125	77	77	0	-0.82
6	175	76	77	1	0.18
7	225	79	76	3	2.18
8	275	76	76	2	1.18
9	350	77	78	-1	-1.82
10	425	77	79	-2	-2.62
11	500	81	78	3	2.18

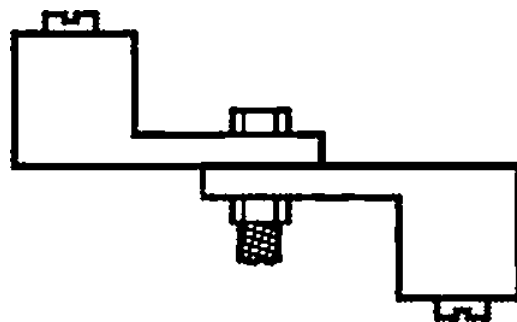
»  $\frac{£ < *}{11} \ll 0.82$

jQ<sup>t</sup><sup>Λ</sup>



1— ; 2— ; 3— (4); 5— ; 6— ; 7— ; 8— ; 9— ;

L.1—



L.2—

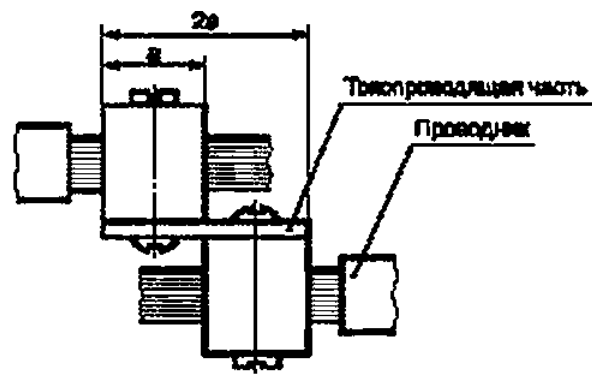


Рисунок L.3 — Пример присоединения выводов УЗДП

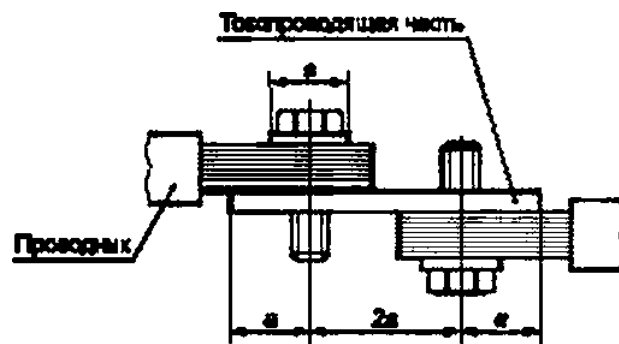
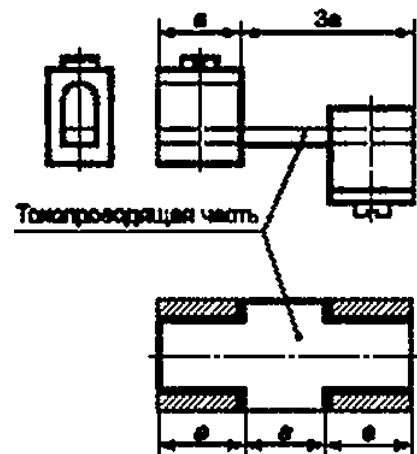
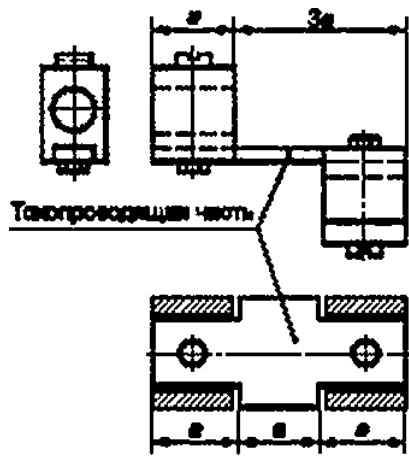


Рисунок L.4 — Пример присоединения выводов УЗДП



L.5 —



L.6 —



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IEC 60068-2-30:2005	MOD	28216—89 « . 2. . Db - (12+12- )» , ,
IEC 60068-3-4:2001	—	
IEC 60364 ( )	MOD	30331 ( ) « » "
IEC 60364-4-44:2007	-	•
IEC 60417-DB-12M(2002)/Cor.1 (2004)	-	•
IEC 60479 ( )	—	•
IEC 60529:2013	MOD	14254—96 « , - ( IP)»
IEC 60664-1:2007	—	•
IEC 60695-2-10:2000	NEO	27483—87 « . »
IEC/TR 60755:2008	-	•
IEC 60898-1:2002	—	•
IEC 61006-1:2010	IDT	IEC 61008-1—2012 « , - . 1. »
IEC 61009-1:2010	IDT	IEC 61009-1—2014 « , . 1. »
IEC 61543:1995	MOD	31216—2003 « , - ( - ). »
CISPR 14-1:2011	IDT	CISPR 14-1—2015 « , - 1. »
<p>* — 8</p> <ul style="list-style-type: none"> <li>• —</li> <li>• MOD —</li> <li>• NEO —</li> </ul>		

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IEC 62606—2016

IEC 60060-2	High-voltage test techniques — Part 2: Measuring systems ( 2. )
IEC 60112:2003	Method for the determination of the proof and the comparative tracking indices of solid Insulating materials ( )
IEC 60227-1	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V — Part 1: General requirements ( 450/750 1. )
IEC 60269-1:2006	Low-voltage fuses — Part 1. General requirements ( 1 )
IEC 60364-S-53:2001	Electrical installations of buildings — Part 5-53: Selection and erection of electrical equip- ment — Isolation, switching and control ( 5-53. )
IEC 60617	Graphical symbols for diagrams ( )
IEC 60664-2-1	Insulation coordination for equipment within low-voltage systems—Part 2-1: Application guide — Explanation of the application of the IEC 60664 series, dimensioning examples and dielectric testing ( 2-1. IEC 60664. )
IEC 60664-3	Insulation coordination for equipment within low-voltage systems — Part 3: Use of coating, potting or moulding for protection against pollution ( 3. )
IEC 60664-S	Insulation coordination for equipment within low-voltage systems — Part 5: Comprehensive method for determining clearances and creepage distances equal to or less than 2 mm ( 5. 2 )
IEC 60695-2-11:2000	Fire hazard testing — Part 2-11: Glow-wire based test methods — Glow-wire flammability test method for end-products ( 2-11. )
IEC 60864-1	Plugs and socket-outlets for household and similar purposes — Part 1: General requirements ( 1. )
IEC 61000-4-2	Electromagnetic compatibility (EMC) — Part 4-2. Testing and measurement techniques — Electrostatic discharge immunity test ( 4-2. )
IEC 61000-4-3	Electromagnetic compatibility (EMC) — Part 4-3. Testing and measurement techniques — Radiated, radio-frequency, electromagnetic field immunity test ( 4. 3. )
IEC 61000-4-4	Electromagnetic compatibility (EMC) — Part 4-4: Testing and measurement techniques — Electrical fast transient/burst immunity test ( 4-4. )
IEC 61000-4-5:2005	Electromagnetic compatibility (EMC)— Part 4-5: Testing and measurement techniques — Surge Immunity test ( 4. 5. )
IEC 61000-4-6	Electromagnetic compatibility (EMC) — Part 4-6. Testing and measurement techniques — immunity to conducted disturbances, induced by radio-frequency fields ( 4. 6. )
IEC 61000-4-16:1996	Electromagnetic compatibility (EMC) — Part 4-16: Testing and measurement techniques — Test for immunity to conducted, common mode disturbances in the frequency range 0 Hz to 1 SO Amendment 1:2001. Amendment 2:2009 ( 4-16. 16 0 150 )
IEC 61210	Connecting devices — Flat quick-connect terminations for electrical copper conductors — Safety requirements ( )

IEC 61545:1996 Connecting devices — Devices for the connection of aluminium conductors in clamping units of material and copper conductors in aluminium bodied damping units ( )

ASTM 0785-08 Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials ( )

BS 1363-1:1995 13 A plugs, socket-outlets, adaptors and connection units. Specification for rewirable and non-rewirabte 13 A fused plugs ( 13 . 1. )

BS 1363-2:1995 13 A plugs, socket-outlets, adaptors and connection units. Specification for 13 A switched and unswltched socket-outlets ( 13 . 2. )

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