Note on instructions

When working in hazardous areas, the safety of personnel and equipment depends on compliance with the relevant safety regulations. The people in charge of installation and maintenance bear a special responsibility. It is essential that they have an exact knowledge of the applicable rules and regulations.

The instructions provide a summary of the most important safety measures and must be read by everyone working with the product so that they will be familiar with the correct handling of the product.

The instructions have to be kept for future reference and must be available throughout the expected life of the product.

Description

The BARTEC Varnost distribution boxes, type 07-56..-..../.... and 07-55..-..../.... are available as enclosures with lid or as cabinets with door. The distribution boxes are used for connection with lights, devices and sensors.

The walls of the enclosure, lid/door and base consist of several edged and welded high-grade stainless steel of at least 1 mm (0.04 in) thickness. The flange plates with tapped holes for the cable and conduit entries are at least 3 mm (0.12 in) thick.

The IP protection class is realized by a seal in the lid or in the door.

The distribution boxes are mounted with mounting brackets found outside of the enclosure wall.

The distribution boxes are also suitable for intrinsically safe electric circuit connection. For this application, special marking is required.

The BARTEC Varnost distribution boxes can be used in hazardous areas of both zone 1 and 2 with certified explosion subgroups II and the temperature class T5/T6 and as well as in zone 21 and 22 with certified max. surface temperature.

Enclosures and cabinets with windows shall only be used in conditions with low level mechanical risk. Enclosures and cabinets with windows shall only be used in conditions with low level mechanical risk.

Explosion protection

ATEX

Ex type of protection

Type 07-56.2-..../...., Type 07-55.2-../....
Ex II 2G Ex eb IIC T6, T5 Gb
Ex II 2D Ex tb IIIC T80 °C,T95 °C Db

Type 07-56.3-..../...., Type 07-55.3-..../....
Ex II 2G Ex eb ia/ib IIC T6, T5 Gb
Ex II 2D Ex tb IIIC T80 °C,T95 °C Db

Type 07-56.4-..../...., Type 07-55.4-..../....
Ex II 2G Ex ia/ib IIC T6 Gb
Ex II 2D Ex tb IIIC T80 °C Db
Ex II 2D Ex ia/ib IIIC T80 °C Db

Certification
IBExU 99 ATEX 1096

IECEx

Ex type of protection

Type 07-56.2-..../...., Type 07-55.2-..../....
Ex eb IIC T6, T5 Gb
Ex tb IIIC T80 °C, T95 °C Db

Type 07-56.3-..../...., Type 07-55.3-..../....
Ex eb ia/ib IIC T6, T5 Gb
Ex tb IIIC T80 °C, T95 °C Db

Type 07-56.4-..../...., Type 07-55.4-..../....
Ex ia/ib IIC T6 Gb Ta<55°C
Ex tb IIIC T80°C, T95°C Db Ta<55°C
Ex ia/ib IIIC T80°C, T95°C Db Ta<55°C

Certification
IECEx IBE 09.0017

Ambient temperature ranges

Depending on the installed components; observe the specifications on the type label.

EPDM-Seal:	-20 °C to +55 °C	**(T5)**
	(-4 °F to +131 °F)	**(T5)**
	-20 °C to +40 °C	**(T6)**
	(-4 °F to +104 °F)	**(T6)**
Silicon-Seal:	-55 °C to +55 °C	**(T5)**
	(-67 °F to +131 °F)	**(T5)**
	-55 °C to +40 °C	**(T6)**
	(-67 °F to +104 °F)	**(T6)**
RAKU-PUR:	-40 °C to +40 °C	**(T6)**
	(-40°F to +104°F)	(T6)

Approved for zones

1 and 2
21 and 22

Technical data

Protection class

Max. IP66

Rated voltage (U_e)

AC/DC 1100 V

Rated current

- Please refer to page 5 - 13

Mechanical strength

Impact energy: 7 Joule

Enclosure material

– 1.4301, AISI 304 high quality stainless steel
– 1.4404, AISI 316 L high quality stainless steel

Surface

– brushed
– painted
– electro polished

Lid screws

Stainless steel, captive

Terminals

Certified connecting and/or rail-mounted terminals with a maximum rated voltage of 1100 V AC/DC and a maximum rated cross section of 300 mm².

Dimensions

From
100 x 100 x 60 mm
(3.9 x 3.9 x 2.4 in)
to
1200 x 1200 x 400 mm
(47.2 x 47.2 x 15.7 in)
see also Bartec catalogue

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Safety instructions

The distribution box may be used within the specified temperature class and the temperature range indicated for it (see type label). The distribution box is not suitable for use in Zones 0/20.

As for distribution boxes used in flammable dust, the ignition temperature of the dust/air mixture and the glowing temperature of the dust concerned must be greater than the maximum surface temperature of the distribution box taking into account of the given safety factor specified in EN 60079-0.

The distribution box may be operated only if it is clean and not damaged in any way. Dust deposits > 5 mm (> 0.2 in) must be removed.

Utilization in areas other than those specified or the modification of the product by anyone other than the manufacturer is not permitted and will exempt BARTEC Varnost from liability for defects and any further liability.

The generally applicable statutory rules and other binding directives relating to workplace safety, accident prevention and environmental protection must be observed.

Observe the applicable laws and directives when commissioning or restarting operation.

Always follow the safety instructions on the operating equipment.

Marking

Particularly important points in these instructions are marked with a symbol:

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

ⓘ Note

Important instructions and information on effective, economical and environmentally compatible handling.

Standards conformed to

2014/34/EU
as well as
EN 60079-0:2012+A11:2013/
IEC 60079-0:2011
EN 60079-7:2015/IEC 60079-7:2015
EN 60079-11:2012/IEC 60079-11:2011
EN 60079-31:2014/IEC 60079-31:2013
as well as
EN 62208:2011/IEC 62208:2011
EN 60445:2010/IEC 60445:2010
EN 60529:1991 + A2:2013

Transport, storage

⚠ CAUTION

Risk of injury due to heavy loads.

- ➢ Use an appropriate carrying aid or an appropriate means of transport (e.g. a fork-lift) with an adequate load-carrying ability.
- ➢ Ensure that the lifted load will not tip over or slip off.

NOTICE

Damage through incorrect transport or incorrect storage.

- ➢ Transport the distribution box in original packaging, handle with care, and do not drop.
- ➢ Store the distribution box dry in original packaging.

Assembly, installation, and commissioning

⚠ WARNING

Risk of serious injury due to incorrect proceedings.

- ➢ Only qualified personnel who are authorized and trained to assemble electrical components in hazardous (potentially explosive) areas may do any of the assembly, disassembly, installation and commissioning work.
- ➢ For assembly and operation of explosion protected electrical equipment, relevant installation and operating regulations are to adhere (e.g. Betr.SichV, IEC/EN 60079-14 and series DIN VDE 0100).
- ➢ The data on the label and the EEC design test data are to be observed. Further technical information are provided in the Bartec catalog and on the product itself.
- ➢ User may not drill holes in the distribution boxes and add terminals
- ➢ Do not open the distribution box when energized.

Assembly / disassembly

⚠ DANGER

Death or serious injury because of a missing protective earth connection.

- ➢ Metallic distribution boxes in hazardous areas require equipotential bonding with at least 4 mm².
- ➢ Protective earth connections have to be protected against self-loosening.

⚠ WARNING

Risk of serious injury due to incorrect proceedings.

- ➢ The assembly with connecting and/or rail-mounted terminals must be implemented under the consideration of the EEC design inspection certificate.

Check when assembling:

- Use suitable tools.
- Pay attention to the type of mounting required (for fitting into enclosure/attachment with junction box).
- For distribution boxes placed in outdoors, steps must be taken to ensure smooth operation, for example rain protected roofs, and if necessary, sufficient enclosure protection.

ⓘ Note

Metallic distribution boxes for intrinsically safe facilities do not have to be attached to an equipotential bonding system, except if it is required by equipment documentation.

Installation

⚠ WARNING

Risk of serious injury due to incorrect proceedings.

- ➢ Extensions or modifications to the distribution box are only permissible if the manufacturer's approval is obtained first.
- ➢ The IEC/EN60079-14 must be observed.

Installations for the highly combustible range must exhibit an EEC design inspection certificate. Installation of these components must take place in such way, so that at least the enclosure remains IP54.

Connection of cables and conductors to equipment in hazardous areas require Ex-certified entries, which are suitable for respective cable and conductor types. They must possess the protection type e" and contain a suitable sealing gasket.

Unused holes for cable entries must been sealed with Ex-certified plugs. Connection of cables and conductors of zone 21 and 22 equipment require at least the protection class IP66.

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Connecting conductors

⚠ WARNING

Risk of serious injury due to incorrect proceedings.

- ➢ All terminal positions, including the unused ones, are to be tightened firmly.
- ➢ The connections must be secured against self-loosening.

Take care when connecting conductors:

- Remove approx. 6 mm (0.24 in) conductor insulation from the cores.
- Prepare the ends of fine-stranded and multi-stranded conductors: Crimp wire end sleeves with suitable crimping tools in order to achieve a constant pressure quality.
  - ➢ NOTICE! Take care not to damage the individual wires.
- Release terminals.
- Put the wire in the terminals.
- Tight the terminals with a maximum permissible torque depending from the size of the screws. For information about tightening torque of the terminal screw, see manufacturer`s instructions.

Commissioning

Before commissioning, check that:

- The device has been installed in compliance with regulations.
- The device is not damaged.
- The connection has been established properly.
- The cables have been laid correctly.
- All screws have been tightened securely.
- The device functions perfectly.

Note

Electrical equipments, before putting into operation, and at certain time intervals, are to be subjected and to examination by an electrical expert.

Operation

⚠ DANGER

Death or serious injury through improper use.

- ➢ The distribution boxes may be operated only within the technical limits that apply to them (see page 1).

Maintenance and fault clearance

⚠ WARNING

Risk of serious injury due to incorrect proceedings.

- ➢ Only authorized qualified personnel are allowed to do any of the work relating to maintenance and fault clearance.
- ➢ IEC/EN 60079-17 must be observed.
- ➢ Do not open the distribution box when energized.

⚠ WARNING

Risk of serious injury due to damaged parts.

- ➢ If any part of the equipment is damaged, it should be exchanged only with original parts (e.g. sealing gasket/cable glands/ terminals).

Maintenance

⚠ WARNING

Risk of serious injury due to electrostatic charging.

- ➢ For windows with surface resistance of $>10^9\ \Omega$, potential electrostatic charging hazard exist. Only wet cleaning is allowed.

The operator of the distribution box must keep it in good condition, monitor it and clean it regularly. The operator has to determine the maintenance intervals depending on the conditions of use.

Within the scope of maintenance:

- Check distribution box, actuating elements, cable entries, gaskets, and cables regularly for cracks and damage.
- Make sure that they are properly established.

Fault clearance

The distribution box is defective if the encapsulation is damaged and/or if one of the components does not function any longer.

In this case:

- Replace defective parts in the encapsulation with original parts immediately.
- Replace or repair the defective components with original parts.

Note

Follow the components mounting instructions/operating instructions to replace or repair the components.

Accessories, spare parts

For accessories and spare parts, see BARTEC catalogue.

Disposal

The distribution box and its components contain metal and plastic parts.
Therefore the statutory requirements for disposing of electronic scrap must be observed (e.g. disposal by an approved disposal company).

Note

Ensure environmentally friendly disposal of all components according to legal regulations.

Service Address

BARTEC VARNOST d.o.o.
Cesta 9.avgusta 59
1410 Zagorje ob Savi Slovenia
Tel.: +386 59 221 471
Fax: +386 59 221 470

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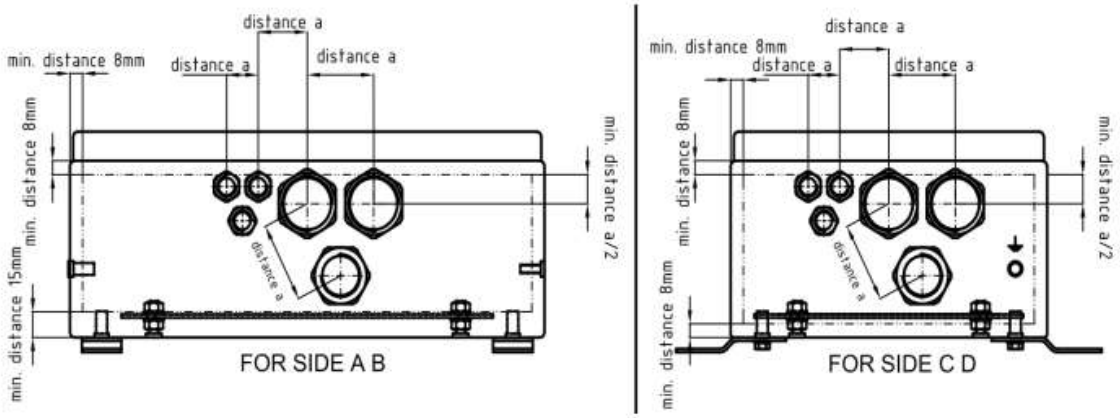
Ex eb-Enclosure, empty	*07-56.1-....*	*Ex eb-Junction Box 07-55.2-....*	*Ex i- Junction box 07-56.4-....*
Ex eb Enclosure empty	*07-55.1-....*	*Ex eb/Ex i-Junction Box 07-56.3-....*	*Ex i-Junction Box 07-55.4-....*
Ex eb-Junction Box	*07-56.2-....*	*Ex eb/Ex i-Junction Box 07-55.3-....*	

Recommended drilling spacing for plastic cable glands for SS enclosures

M	Distance a	M	Distance a	M	Distance a
12	20 mm	12 + 16	21 mm	16 + 20	24 mm
16	22 mm	12 + 20	23 mm	16 + 20	25 mm
20	26 mm	12 + 20	24 mm	16 + 25	27 mm
20	27 mm	12 + 25	26 mm	16 + 32	32 mm
25	32 mm	12 + 32	31 mm	16 + 40	37 mm
32	42 mm	12 + 40	37 mm	16 + 50	43 mm
40	53 mm	12 + 50	42 mm	16 + 63	46 mm
50	63 mm	12 + 63	46 mm	16 + 63	49 mm
63	70 mm	12 + 63	48 mm		
63	75 mm				
M	**Distance a**		**Distance a**	**M**	**Distance a**
20 + 20	27 mm	20 + 25	30 mm	25 + 32	37 mm
20 + 25	29 mm	20 + 32	35 mm	25 + 40	43 mm
20 + 32	34 mm	20 + 40	41 mm	25 + 50	48 mm
20 + 40	40 mm	20 + 50	46 mm	25 + 63	51 mm
20 + 50	45 mm	20 + 63	49 mm	25 + 63	54 mm
20 + 63	48 mm	20 + 63	52 mm		
20 + 63	51 mm				
M	**Distance a**	**M**	**Distance a**	**M**	**Distance a**
32 + 40	50 mm	40 + 50	61 mm	50 + 63	69 mm
32 + 50	55 mm	40 + 63	64 mm	50 + 63	72 mm
25 + 63	58 mm	40 + 63	67 mm		
25 + 63	61 mm				
M	**Distance a**				
63 + 63	73 mm				



Plain entries are used in cases with flange plates and without flange plates. The clearance holes for plain entries have a diameter not more than 0,7 mm greater than the nominal diameter of the entry thread gland or fitting. Glands or fittings should be with sealings or gaskets.

Threaded entries are used in cases with flange plates:

- minimum 3 threads by tapered threads
- 5 threads, with tolerance class 6H or better according to ISO 965-1 by parallel threads
- Less than five threads with a tolerance class of 6H or better according to ISO 965-1 by parallel threads and with additional seal or gasket on cable glands or plugs.

Housing size in mm L(W) = **100** ; W(H) = **100** ; H(D) = **60**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	19	35															
16	7	13	22														
20	3	8	14														
25		4	8														
35			2														
50																	
63													(2)				
80																	
100																	
125																	
160																	
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **150** ; W(H) = **150** ; H(D) = **80**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	27	50															
16	10	19	31														
20	4	11	19	33													
25		5	12	20													
35			3	9	18												
50					7												
63					2								(2)				
80																	
100																	
125																	
160																	
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **150** ; W(H) = **150** ; H(D) = **100**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	31	56															
16	12	21	35														
20	5	13	22	37													
25		6	14	22													
35			4	10	20												
50					8												
63					3								(2)				
80																	
100																	
125																	
160																	
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **200** ; W(H) = **200** ; H(D) = **80**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	32	58															
16	12	22	36														
20	5	13	23	38													
25		6	14	23													
35			4	10	21												
50					8	17	55										
63					3	9	18						(2)				
80						4	10										
100							4										
125																	
160																	
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **200** ; W(H) = **200** ; H(D) = **120**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	39	71															
16	15	26	44														
20	6	16	28	47													
25		8	17	28													
35			5	13	25												
50				2	10	21	68										
63					3	11	23						(2)				
80						4	12										
100							5										
125																	
160																	
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **300** ; W(H) = **150** ; H(D) = **80**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	30	55															
16	11	20	34														
20	5	12	21	36													
25		6	13	22													
35			4	10	19												
50					8	16	53										
63					2	9	17						(2)				
80						3	9										
100							4										
125																	
160																	
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **300** ; W(H) = **200** ; H(D) = **120**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	42	76															
16	16	28	47														
20	6	17	30	50													
25		8	18	30													
35			5	14	27												
50				2	11	22	73										
63					4	12	24						(2)				
80						5	13	22									
100							6	12	22								
125								5	11								
160									4								
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **300** ; W(H) = **300** ; H(D) = **120**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	48	87															
16	18	33	54														
20	7	20	34	58													
25		10	21	35													
35			6	16	31												
50				2	13	26	83										
63					4	14	28						(2)				
80						6	15	25									
100							7	14	25								
125								6	13								
160									5								
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **300** ; W(H) = **300** ; H(D) = **160**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	55	100															
16	21	38	62														
20	9	23	39	66													
25		11	24	40													
35			7	18	36												
50				2	15	30	96										
63					5	16	32						(2)				
80						6	17	29									
100							8	16	29								
125								7	15								
160									6								
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **300** ; W(H) = **150** ; H(D) = **100**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	34	61															
16	13	23	38														
20	5	14	24	41													
25		7	15	24													
35			4	11	22												
50					9	18	59										
63					3	10	20						(2)				
80						4	10	18									
100							5	9	18								
125								4	9	17							
160									3	8							
200										3							
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **400** ; W(H) = **150** ; H(D) = **80**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	30	55															
16	11	21	34														
20	5	13	22	37													
25		6	13	22													
35			4	10	20												
50					8	16	53										
63					2	9	18						(2)				
80						3	9										
100							4										
125																	
160																	
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **400** ; W(H) = **200** ; H(D) = **120**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	43	77															
16	16	29	48														
20	7	18	30	51													
25		8	19	31													
35			6	14	28												
50				2	11	23	74										
63					4	13	25						(2)				
80						5	13	23									
100							6	12	22								
125								5	12	22							
160									4	10	18						
200										4	8						
225											5						
250								(3)			3						
315																	
400																	(1)
500																	

Housing size in mm L(W) = **400** ; W(H) = **200** ; H(D) = **160**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	49	90															
16	19	34	56														
20	8	21	35	60													
25		10	22	36													
35			7	16	32												
50				2	13	26	86										
63					4	15	29						(2)				
80						6	15	26									
100							7	14	26								
125								6	14	25							
160									5	12	21						
200										5	10						
225										2	6						
250								(3)			3						
315																	
400																	(1)
500																	

Housing size in mm L(W) = **400** ; W(H) = **300** ; H(D) = **160**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	58	106															
16	22	40	66														
20	9	24	42	70													
25		12	26	42													
35			8	19	38												
50				3	15	31	101										
63					5	17	34						(2)				
80						7	18	31									
100							8	17	31								
125								7	16	30							
160									6	14	25						
200										5	12						
225										2	7						
250								(3)			4						
315																	
400																	(1)
500																	

Housing size in mm L(W) = **400** ; W(H) = **400** ; H(D) = **160**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	64	116															
16	24	44	72														
20	10	27	46	77													
25		13	28	46													
35			9	21	42												
50				3	17	34	111										
63					6	19	37						(2)				
80						8	20	34									
100							9	18	34								
125								8	18	33							
160									7	15	27						
200										6	13						
225										2	8						
250								(3)			4						
315																	
400																	(1)
500																	

Housing size in mm L(W) = **500** ; W(H) = **400** ; H(D) = **160**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	68	123															
16	26	46	76														
20	11	28	48	82													
25		14	30	49													
35			9	23	44												
50				3	18	36	118										
63					6	20	40						(2)				
80						8	21	36									
100							10	19	36								
125								8	19	35							
160									7	16	29	73					
200										6	14	23	40				
225										2	8	15	24	49			
250								(3)			5	10	17	27			
315												2	6	12	21	62	
400														3	8	14	(1)
500																5	

Housing size in mm L(W) = **600** ; W(H) = **400** ; H(D) = **160**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	70	127															
16	27	48	79														
20	11	29	50	84													
25		14	31	50													
35			9	23	45												
50				3	18	38	121										
63					6	21	41						(2)				
80						8	22	37									
100							10	20	37								
125								9	19	36							
160									7	17	30	75					
200										7	14	23	41				
225										2	9	16	25	50			
250								(3)			5	11	17	28			
315												2	7	12	22	64	
400														3	8	15	(1)
500																5	

Housing size in mm L(W) = **200** ; W(H) = **300** ; H(D) = **155**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	48	87															
16	18	33	54														
20	7	20	34	58													
25		10	21	34													
35			6	16	31												
50				2	13	26	83										
63					4	14	28						(2)				
80						6	15	25									
100							7	14	25								
125								6	13								
160									5								
200																	
225																	
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **300** ; W(H) = **380** ; H(D) = **210**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	67	121															
16	26	46	75														
20	11	28	48	80													
25		14	30	48													
35			9	22	43												
50				3	18	36	116										
63					6	20	39						(2)				
80						8	21	35									
100							10	19	35								
125								8	18	34							
160									7	16							
200										6							
225										2							
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **300** ; W(H) = **400** ; H(D) = **210**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	67	122															
16	26	46	76														
20	11	28	48	81													
25		14	30	49													
35			9	22	44												
50				3	18	36	117										
63					6	20	39						(2)				
80						8	21	36									
100							10	19	36								
125								8	19	34							
160									7	16	28						
200										6	14						
225										2	8						
250								(3)			4						
315																	
400																	(1)
500																	

Housing size in mm L(W) = **380** ; W(H) = **300** ; H(D) = **155**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	57	103															
16	22	39	64														
20	9	24	41	69													
25		11	25	41													
35			8	19	37												
50				3	15	31	99										
63					5	17	33						(2)				
80						7	18	30									
100							8	16	30								
125								7	16	29							
160									6	14							
200										5							
225										2							
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **380** ; W(H) = **380** ; H(D) = **210**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	71	129															
16	27	49	81														
20	11	30	51	86													
25		14	32	51													
35			10	24	46												
50				3	19	38	124										
63					6	21	42						(2)				
80						8	22	38									
100							10	20	38								
125								9	20	37							
160									8	17							
200										7							
225										2							
250								(3)									
315																	
400																	(1)
500																	

Housing size in mm L(W) = **380** ; W(H) = **600** ; H(D) = **210**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	77	140															
16	29	52	87														
20	12	32	55	93													
25		16	34	56													
35			10	26	50												
50				4	20	41	134										
63					7	23	45						(2)				
80						9	24	41									
100							11	22	41								
125								10	21	40							
160									8	18	33	83					
200										7	16	26	45				
225										3	10	18	27	55			
250								(3)			5	12	19	31			
315												2	7	13	24	71	
400														3	9	16	(1)
500																5	

Housing size in mm L(W) = **400** ; W(H) = **400** ; H(D) = **210**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	73	132															
16	28	50	83														
20	12	31	52	88													
25		15	32	53													
35			10	24	47												
50				3	19	39	127										
63					7	22	43						(2)				
80						9	23	39									
100							11	21	39								
125								9	20	37							
160									8	17	31						
200										7	15						
225										2	9						
250								(3)			5						
315																	
400																	(1)
500																	

Housing size in mm L(W) = **400** ; W(H) = **600** ; H(D) = **210**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	79	143															
16	30	54	89														
20	13	33	56	95													
25		16	35	57													
35			11	26	51												
50				4	21	42	137										
63					7	23	46						(2)				
80						9	25	42									
100							11	23	42								
125								10	22	40							
160									8	19	33	85					
200										8	16	26	46				
225										3	10	18	28	57			
250								(3)			5	12	19	32			
315												3	7	13	25	72	
400														3	10	17	(1)
500																6	

Housing size in mm L(W) = **600** ; W(H) = **600** ; H(D) = **210**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	91	165															
16	35	62	103														
20	15	38	65	110													
25		19	40	66													
35			12	30	59												
50				4	24	49	158										
63					8	27	53						(2)				
80						11	29	48									
100							13	26	48								
125								12	25	47							
160									10	22	39	98					
200										9	19	31	53				
225										3	12	21	32	37			
250								(3)			6	14	23	37			
315												3	9	16	29	84	
400														4	11	19	(1)
500																6	

Housing size in mm L(W) = **600** ; W(H) = **760** ; H(D) = **210**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	97	175															
16	37	66	109														
20	16	41	69	116													
25		20	43	70													
35			13	32	63												
50				5	26	52	168										
63					9	29	57						(2)				
80						12	30	51									
100							14	28	51								
125								12	27	50							
160									10	23	41	104					
200										9	20	32	57				
225										3	12	22	35	70			
250								(3)			7	15	24	39			
315												3	9	17	30	89	
400														4	12	20	(1)
500															2	7	

Housing size in mm L(W) = **600** ; W(H) = **800** ; H(D) = **300**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	114	206															
16	44	78	128														
20	18	48	81	137													
25		23	51	82													
35			16	38	74												
50				6	30	61	197										
63					11	34	67						(2)				
80						14	36	60									
100							17	33	60								
125								14	32	58							
160									12	27	48	123					
200										11	23	38	67				
225										4	15	26	41	82			
250								(3)			8	18	28	46			
315												4	11	20	36	105	
400														5	14	24	(1)
500															2	8	

Housing size in mm L(W) = **800** ; W(H) = **800** ; H(D) = **300**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	125	227															
16	48	85	141														
20	20	53	89	151													
25		26	56	90													
35			17	42	81												
50				6	33	67	217										
63					12	38	73						(2)				
80						15	39	67									
100							18	36	66								
125							2	16	35	64							
160									14	30	53	135					
200										12	26	42	73				
225										5	16	29	45	90			
250								(3)			9	20	31	50			
315												4	12	22	39	115	
400														6	16	27	(1)
500															2	9	

Housing size in mm L(W) = **800** ; W(H) = **1000** ; H(D) = **300**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	132	240															
16	51	90	149														
20	21	56	95	159													
25		27	59	96													
35			18	44	86												
50				7	35	71	229										
63					12	40	77						(2)				
80						16	42	70									
100							19	38	70								
125							2	17	37	68							
160									14	32	56	143					
200										13	27	45	78				
225										5	17	30	47	95			
250								(3)			9	21	33	53			
315												5	13	23	42	122	
400														6	16	28	(1)
500															2	10	

Housing size in mm L(W) = **1000** ; W(H) = **1200** ; H(D) = **400**																	
Current (A)	Cross section (mm^2)																
	1.5	2.5	4	6	10	25	35	50	70	95	120	150	185	240	300		
6																	
10	168	305															
16	65	115	190														
20	27	71	120	203													
25		35	75	122													
35			23	57	110												
50				9	45	91	292										
63					16	51	99						(2)				
80						21	53	90									
100							25	49	89								
125							2	22	47	87							
160									18	41	72	182					
200										17	35	57	99				
225										6	22	39	60	121			
250								(3)			12	27	42	68			
315												6	16	29	53	155	
400														8	21	36	(1)
500															3	12	

Note

(1) Maximum count of conductors, dependent on the cross section and the allowed continuous current from the above mentioned housing size. Each established router and each internal connection conductor counts as a conductor, bridges and protection conductors are not counted

(2) In this area under compliance with the instructions and the defined installation dimensions in the housing there can be an maximum number of elements as physically possible following relevant standards

(3) The assembly in this area requires an additional temperature rise test from manufacturer

Instructions

When choosing the unassigned continuous currents for the cross sections, the maximum charge currents of the clamps used and the connected cables and conductors are to be observed. Conductors, in the interior of the housings equipped as in the table above, must be qualified for a temperature of between 70 to 80°C.

In case of using values in the table, the simultaneous or charge factors comprising IEC 439 must be kept in mind.
Mixing of assemblies with circuits of varying cross sections and currents is possible with a use of the proportionately adjusted table values.

Example

Cross section/mm^2	Current/A	Number	Workload
2,5	16	10 (of 30)	33%
16	50	12 (of 48)	25%
25	63	36 (of 90)	40%
		Total	98% < 100%

Different types of equipment with smaller or larger cross sections than used in this supplementary sheet were not measured. They are to be specially considered in connection with the permissible flows, and require, in any case, a measurement (warming verification).