Technical Data
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Power Dissipation Calculation

Design certification of the max. permissible operating temperature according to IEC 61 439-1 Section 10.10

Client: Kom. No.:

Pos. No.:

Max. enclosure interior temperature 55 ° C
Max. ambient temperature 35 ° C
Temperature difference 20 K

1. Installed power dissipation of the devices

	Pos.	No.	Manufacturer	Type	Description	❶ I_n / A	❷ Derating	❸ I_{nC} / A	P_v / Watt	Σ P_v / Watt
Feeding	E 1									
Outgoings	A 1									
	A 2									
	A 3									
	A 4									
	A 5									
	A 6									
	A 7									
	A n									

Total installed power dissipation of the devices (W)

2. Installed power dissipation of busbars

Pos.	Length	Description	Pv / Watt	Σ Pv / Watt
1		Busbars 250 A		
2		Busbars 400 A		
3		Busbars 630 A		

Total installed power dissipation of busbars (W)

3. Power dissipation of enclosures

Pos.	Number	❹ Description	❺ Pv / Watt	Σ Pv / Watt
1				
2				
3				
4				
5				
6				

Total power dissipation of enclosures (W)

4. Calculating

Pos. 1	Total installed power dissipation of the devices	(W) .....
Pos. 2	Total installed power dissipation of busbars	(W) .....
	Proportional wiring of Pos. 2 and 3 (e.g. 30% recommended)	(W) .....
	... % Reserve for additional equipment acc. to specification	(W) _____
	Subtotal	**(W)** _____
Pos. 3	Total power dissipation of enclosures	(W) .....
	Difference between power dissipation and installed power dissipation	**(W)** _____

Through ventilation or larger enclosures the power dissipation can be increased in case of a negative difference. Another measure could be the reduction of the RDF.

Calculating reduced RDF: $RDF = \sqrt{\frac{\text{power dissipation}}{\text{installed power dissipation}}}$

Note:

❶ Rated current

❷ DERATING: According to the manufacturer, but at least 0.8 according to DIN EN 61 439 Part 1

(Relation of rated operating current at rated current)

❸ The current I_{nC} defines the value for feeding I_{nA}

❹ Data for power switchgear and controlgear assemblies made of sheet steel as well as for insulation-enclosed assemblies in box-type design are possible.

❺ Power dissipation according to the original manufacturer.