

Contactors													
		Electrical durability: making and breaking conditions						Occasional duty: making and breaking conditions					
a.c. supply													
Typical applications	Utilisation category	Making			Breaking			Making			Breaking		
		I	U	cos φ	I	U	cos φ	I	U	cos φ	I	U	cos φ
Resistors, non inductive or slightly inductive loads	AC-1	1e	Ue	0.95	1e	Ue	0.95	1.5 1e	1.05 Ue	0.8	1.5 1e	1.05 Ue	0.8
Motors													
Slip ring motors: starting, breaking.	AC-2	2.5 1e	Ue	0.65	2.5 1e	Ue	0.65	4 1e	1.05 Ue	0.65	4 1e	1.05 Ue	0.65
Squirrel cage motors: starting, breaking whilst motor running.	AC-3												
	1e ≤ (1)	6 1e	Ue	0.65	1 1e	0.17 Ue	0.65	10 1e	1.05 Ue	0.45	8 1e	1.05 Ue	0.45
	1e > (2)	6 1e	Ue	0.35	1 1e	0.17 Ue	0.35	10 1e	1.05 Ue	0.35	8 1e	1.05 Ue	0.35
Squirrel cage motors: starting, reversing, inching	AC-4												
	1e ≤ (1)	6 1e	Ue	0.65	6 1e	Ue	0.65	12 1e	1.05 Ue	0.45	10 1e	1.05 Ue	0.45
	1e > (2)	6 1e	Ue	0.35	6 1e	Ue	0.35	12 1e	1.05 Ue	0.35	10 1e	1.05 Ue	0.35

d.c. supply													
Typical applications	Utilisation category	Making			Breaking			Making			Breaking		
		I	U	L/R (ms)	I	U	L/R (ms)	I	U	L/R (ms)	I	U	L/R (ms)
Resistors, non inductive or slightly inductive loads	DC-1	1e	Ue	1	1e	Ue	1	1.5 1e	1.05 Ue	1	1.5 1e	1.05 Ue	1
Shunt wound motors: starting, reversing, inching	DC-3	2.5 1e	Ue	2	2.5 1e	Ue	2	4 1e	1.05 Ue	2.5	4 1e	1.05 Ue	2.5
Series wound motors: starting, reversing, inching	DC-5	2.5 1e	Ue	7.5	2.5 1e	Ue	7.5	4 1e	1.05 Ue	15	4 1e	1.05 Ue	15

Control relays and auxiliary contacts													
		Electrical durability: making and breaking conditions						Occasional duty: making and breaking conditions					
a.c. supply													
Typical applications	Utilisation category	Making			Breaking			Making			Breaking		
		I	U	cos φ	I	U	cos φ	I	U	cos φ	I	U	cos φ
Electromagnets													
≤ 72 VA	AC-14	–	–	–	–	–	–	6 le	1.1 Ue	0.7	6 le	1.1 Ue	0.7
> 72 VA	AC-15	10 le	Ue	0.7	le	Ue	0.4	10 le	1.1 Ue	0.3	10 le	1.1 Ue	0.3
d.c. supply													
Typical applications	Utilisation category	Making			Breaking			Making			Breaking		
		I	U	L/R (ms)	I	U	L/R (ms)	I	U	L/R (ms)	I	U	L/R (ms)
Electromagnets	DC-13	le	Ue	6 P (3)	le	Ue	6 P (3)	1.1 le	1.1 Ue	6 P (3)	1.1 le	1.1 Ue	6 P (3)

(1) $le \leq 17\text{ A}$ for electrical durability, $le \leq 100\text{ A}$ for occasional duty.
(2) $le > 17\text{ A}$ for electrical durability, $le > 100\text{ A}$ for occasional duty.
(3) The value 6 P (in watts) is based on practical observations and is considered to represent the majority of d.c. magnetic loads up to the maximum limit of $P = 50\text{ W}$ i.e. $6\text{ P} = 300\text{ ms} = L/R$.
Above this, the loads are made up of smaller loads in parallel. The value 300 ms is therefore a maximum limit whatever the value of current drawn.