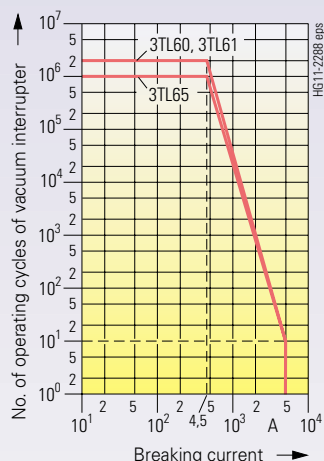
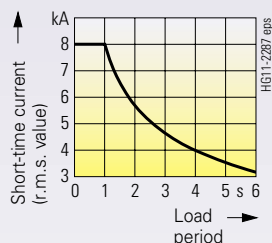


# 3TL6 Vacuum Contactors as Universal Contactors

## Technical specifications

### Medium-voltage section

	Vacuum contactor type	
	3TL61	3TL65
<b>Rated operational voltage</b> $U_e$	7.2 kV	12 kV
<b>Rated frequency</b>	50 to 60 Hz	
<b>Rated continuous current</b> $I_u$ to DIN VDE 0660	450 A	
<b>Rated normal current</b> $I_e$ according to utilization categories AC-1, AC-2, AC-3 and AC-4 at ambient temperatures up to + 55 °C + 80 °C	450 A 315 A	
<b>Switching capacity</b> according to utilization category AC-4 (p. f. = 0.35) Rated making current Rated breaking current	4500 A 3600 A	
<b>Max. permissible switching capacity</b>	5 kA	
<b>Rated short-time current 1 s</b> (r.m.s. value) (For short-time current for longer periods, see short-time current load-period curve)	8 kA	
<b>Switching of capacitors</b> Rated capacitor current Maximum permissible making current peak	250 A 10 kA	250 A 3) 10 kA
<b>Switching frequency</b> (AC and DC operation) without mechanical closing latching	1200 operating cycles/h	600 operating cycles/h
<b>Mechanical service life of the contactor</b> according to class D3 as defined in DIN VDE 0660	3 mill. operating cycles	1 mill. operating cycles
<b>Mechanical service life of the vacuum interrupter</b>	2 mill. operating cycles	1 mill. operating cycles
<b>Electrical service life of the vacuum interrupter</b> at rated normal current	1 mill. operating cycles	0.5 mill. operating cycles
<b>Insulation level</b> Rated lightning impulse withstand voltage (to DIN VDE 0670, IEC 56): to earthed parts and between poles across the open contact gap Rated power-frequency withstand voltage 50 Hz (r.m.s.) to earthed parts and between poles across the open contact gap	60 kV 40 kV 20 kV 20 kV	75 kV 60 kV 28 kV 28 kV
<b>Cross-sections of the main conductor terminals</b> Terminal screw Stranded conductors with cable lug Copper rail to DIN 43 671 Aluminium rail to DIN 43 670	M10 50 to 240 mm <sup>2</sup> 30 x 5 mm 20 x 10 mm	M10 50 to 185 mm <sup>2</sup> 30 x 5 mm 20 x 10 mm

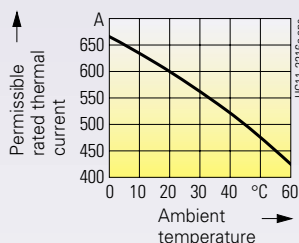


### Low-voltage section

	Vacuum contactor type	
	3TL61	3TL65
<b>Power consumption of the solenoid</b> (AC and DC operation) Pickup power Holding power	650 W 90 W	
<b>Voltage range of the solenoid</b> Operating voltage (AC and DC operation)	0.8 to 1.1 $U_c$	
<b>Minimum closing command</b> for the solenoid	100 ms	
<b>Make time</b> 1) (AC and DC operation)	100 ms at 0.85 x $U_c$ 80 ms at 1.0 x $U_c$ 60 ms at 1.1 x $U_c$	
<b>Break time</b> 2) (AC and DC operation) Other opening delay times possible as special version: see page 3/5	30 ms at 0.8 x $U_c$ 50 ms at 1.0 x $U_c$ 50 ms at 1.1 x $U_c$	
<b>Mechanical closing latching</b> (optional) (AC and DC operation) Service life Switching frequency Power consumption of unlatching solenoid Voltage range of unlatching solenoid Tripping pulse (by external circuit provided by customer) Break time	100,000 operating cycles 60 operating cycles/h 900 W 0.85 to 1.1 $U_c$ 0.2 to max. 1 s < 45 ms	
<b>Auxiliary contacts</b>		
<b>Number of auxiliary contacts</b>	4NO + 3NC (optional: 6NO + 5NC)	
<b>Rated continuous current</b> $I_u$	10 A	
<b>Rated normal current</b> $I_e$ Utilization category for AC-11 at rated voltage	125 V AC, 10 A 230 V AC, 10 A 500 V AC, 4 A 600 V AC, 2 A	
Utilization category for DC-11 at rated voltage	24 V DC, 10 A 110 V DC, 5 A 125 V DC, 0.9 A 220 V DC, 0.45 A 440 V DC, 0.25 A 600 V DC, 0.2 A	
<b>Cross-sections of the auxiliary contacts</b> to EN 60 947 Part 1 (screw terminal, two wire connection possible) – solid – finely stranded with end sleeve	0.6 to 4 mm <sup>2</sup> 0.5 to 2.5 mm <sup>2</sup>	

### Ambient conditions

<b>Ambient temperature</b>			
Storage	at – 40 to + 65 °C	20 years	20 years
Operation	at – 5 to + 55 °C	Operating cycles	2 mill.
	at + 55 to + 80 °C	Operating cycles	1 mill.
	at – 25 to – 5 °C	Operating cycles	0.5 mill.
<b>Site altitude</b> (adjustable)	1250 m below sea level to 2500 m above sea level		
<b>Shock resistance</b> (square impact)	5 x g, 10 ms or 10 x g, 5 ms		



- 1) Make time = Time from the instant of application of a control pulse (command) to the instant when the contacts touch.
- 2) Break time = Time from the instant of application of the "OPEN" control pulse to the instant of contact separation.
- 3) 3EF3 surge limiter required.