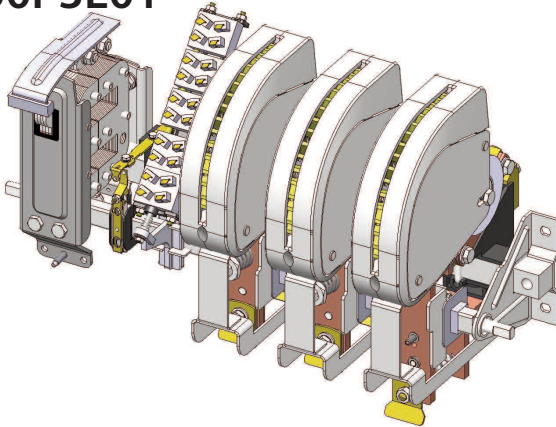


Switches

Standard Family Code N0000650P3E01



Description

Contactors with single interruption in air, electromagnetic control by power save system (economy resistor). Typical application DC Motor control with braking circuit. Reference Standard IEC 60947-4-1.

Type	N 650
Number of Poles	2 NO + 1 NC
Connection between poles	Series for NO pole ¹
Mounting Position	Vertical
Control Voltage Rating U _c [Vdc]	110Vdc/Vac - 220Vdc/Vac ²
Auxiliary Contact Blocks	5 NO + 5 NC
Block Type	B
Arc chute Material	Ceramic in plastic shells
Main Contacts tips Material	S6 (NO Pole) - S4 (NC Pole)
Arcing Contacts tips Material	-
Electric Diagram	TU0165/B (DC) - TU0165/C (AC)
Layout Drawing	D53390

¹ Series bar connections available under request

² To be specified in order phase.

Electrical Characteristics

Rated Operational Voltage U _e [Vdc]	220	440	660	750	1000
Rated Insulation Voltage U _i [Vdc]	1000				
Conventional Free air thermal current I _{th} [at 40°C] ³	650				
Conventional Free air thermal current I _{th} [at 60°C] ³	570				
Blow out circuit type	Direct				

Electrical Characteristics 2NO poles series connected (S6) for DC application

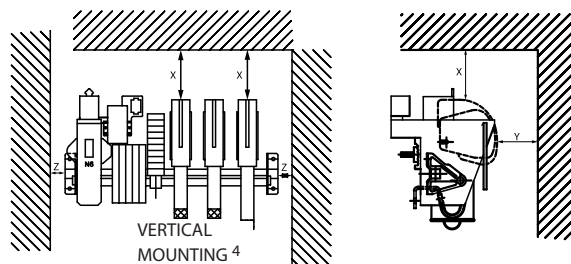
Rated Operational Voltage [Vdc]	220	440	660	750	1000
Maximum Breaking Capacity tau=15ms I _{dmax} [A]	9000	6000	5000	4400	3300
Utilization Category according to IEC60947-4-1: DC3					
Max Operational Power P _e [kW]	600	600	600	600	600
Max Operational Making and breaking Current I _e [A]	2727	1364	909	800	600
Utilization Category according to IEC60947-4-1: DC5					
Max Operational Power P _e [kW]	413	413	413	413	0
Max Operational Making and breaking Current I _e [A]	1875	938	625	550	0
Maximum Making Capacity for 100 ms I _{ch} [kA]	10				
Short Circuit Withstand Current for 100 ms I _{cw} [kA]	12				
Average impedance per pole at 50 Hz [MicroOhm]	300				

Electrical Characteristics 1NC (S4) for DC application

Rated Operational Voltage [Vdc]	220	440	660	750	1000
Maximum Breaking Capacity tau=15ms I _{dmax} [A]	2500	1250	1000	0	0
Max Operational Making Current [A]	1364	682	455	400	300
Max Operational Breaking Current [A]	758	284	182	0	0
Maximum Making Capacity for 100 ms I _{ch} [kA]	7				
Short Circuit Withstand Current for 100 ms I _{cw} [kA]	9				
Average impedance per pole at 50 Hz [MicroOhm]	450				

³ Device cabled according IEC 60947

Minimum clearances [mm] from:				
Rated Operational Voltage	X	Y	Z	
1000	Metal Parts	100	50	30
	Plastic Parts	50	30	20



4 OTHER MOUNTING POSITIONS NOT ALLOWED

Switches

Standard Family Code
N000650P3E01

Mechanical Characteristics

Mechanical Endurance (cycles) ⁵	3x10 ⁶
Weight [kg]	29

Control Circuit

Control Voltage Range	0.85U _c ÷ 1.1U _c
Power Consumption (U _c and T = 20°C) at Closing - at Opening [W]	300 - 20
Mechanical Operation Time (U _c and T = 20°C) when Closing - Opening [ms]	70 - 20
Mechanical Operation Time (in the worst condition) when Closing - Opening [ms]	350 - 20
Time Constant (L/R) at Pick Up - when Holding [ms]	
Electrical Connections	Fast-On 6.35x0.8mm

Auxiliary Contacts

Tips material	Solid Silver
Rated Operational Voltage [V _{ac} / V _{dc}]	250
Rated Current [A]	10
Minimum Switching Current at 16 V _{dc} [mA] ⁶	100
Electrical Connections	Fast-On 6.35x0.8mm

Environmental Conditions

Stock Temperature Range	-25°C ÷ +60°C
Operational Temperature Range	-5°C ÷ +55°C
Max Altitude without Performance Derating [m]	2000

⁵ With respect of the maintenance operations

⁶ In clean and dry conditions

