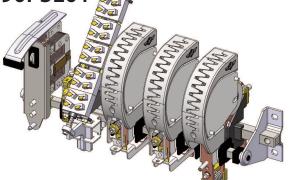
Switches

Standard Family Code N0000190P3E01



Description

Contactor 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.

Туре	N 190
Number of Poles	2 NO + 1 NC
Connection between poles	Series for NO poles ¹
Mounting Position	Vertical
Control Voltage Rating Uc [Vdc]	110Vdc/Vac - 220Vdc/Vac ²
Auxiliary Contact Blocks	5 NO + 5 NC
Block Type	В
Arc chute Material	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	D53553

¹ Series bar connections available under request ² T

² To be specified in order phase.

Electrical Characteristics					
Rated Operational Voltage Ue [Vdc]	220	440	660	750	1000
Rated Insulation Voltage Ui [Vdc]	1000				
Conventional Free air thermal current Ith [at 40°C] ³	190				
Conventional Free air thermal current Ith [at 60°C] ³	165				
Blow out circuit type	Direct				

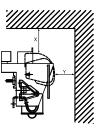
Electrical Characteristics 2NO poles series connected (S6) for DC application					
Rated Operational Voltage [Vdc]	220	440	660	750	1000
Maximum Breaking Capacity tau=15ms Idcmax [A]	3000	2000	1400	1232	924
Utilization Category according to IEC60947-4-1: DC3					
Max Operational Power Pe [kW]	180	180	180	180	180
Max Operational Making and breaking Current le [A]	818	409	273	240	180
Utilization Category according to IEC60947-4-1: DC5					
Max Operational Power Pe [kW]	128	128	128	128	0
Max Operational Making and breaking Current le [A]	580	290	193	170	0
Maximum Making Capacity for 100 ms Ich [kA]	3				
Short Circuit Withstand Current for 100 ms Icw [kA]	4				
Average impedence per pole at 50 Hz [MicroOhm]	400				

Electrical Characteristics 1NC (S4) for DC application					
Rated Operational Voltage [Vdc]	220	440	660	750	1000
Maximum Breaking Capacity tau=15ms Idcmax [A]	950	450	350	0	0
Max Operational Making Current [A]	409	205	136	120	90
Max Operational Breaking Current [A]	259	92	68	0	0
Maximum Making Capacity for 100 ms Ich [kA]		2			
Short Circuit Withstand Current for 100 ms Icw [kA]		3			
Average impedence per pole at 50 Hz [MicroOhm]		600			

³ Device cabled according IEC 60947

Minimum clearances [mm] from:				
Metal Parts	100	50	30	
Plastic Parts	50	30	20	
Metal Parts	100	50	30	
Plastic Parts	50	30	20	
	Operational Voltage Metal Parts Plastic Parts Metal Parts	Operational VoltageXMetal Parts100Plastic Parts50Metal Parts100	Metal Parts10050Plastic Parts5030Metal Parts10050	

VERTICAL MOUNTING 4



⁴ OTHER MOUNTING POSITIONS NOT ALLOWED



Switches

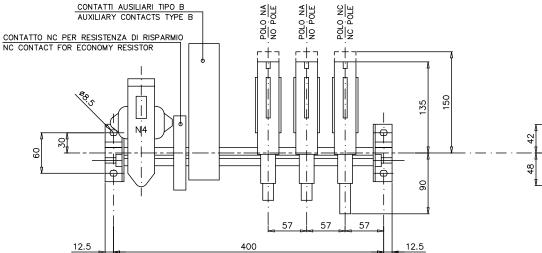
Standard Family Code N0000190P3E01

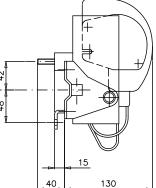
Mechanical Characteristics	
Mechanical Endurance (cycles) ⁵	3x10 ⁶
Weight [kg]	8.8
Control Circuit	
Control Voltage Range	0.85Uc ÷ 1.1Uc
Power Consumption (Uc and T = 20°C) at Closing - at Opening [W]	130 - 15
Mechanical Operation Time (U _c and T = 20°C) when Closing - Opening [ms]	50 - 15
Mechanical Operation Time (in the worst condition) when Closing - Opening [ms]	200 - 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 [Vac / Vdc]	250
Rated Current [A]	10
Minimum Switching Current at 16 Vd [mA] ⁶	100
Electrical Connections	Fast-On 6.35x0.8mm
Environmental Conditions	
Stock Temperature Range	-25°C ÷ +60°C
Operational Temperature Range	-5℃ ÷ +55℃

Max Altitude without Performance Derating [m]

⁵ With respect of the maintenance operations

⁶ In clean and dry conditions





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