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Control and signalling units Ø 16

Harmony® style 6
Pushbuttons, switches and pilot lights, with double insulated bezel

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Characteristics

Environment

Conforming to standards			IEC 947-1, IEC 947-5-1, IEC 947-5-4, EN 60947-5-1, JIS C 4520 and 852, UL 508, CSA C22-2 n° 14
Product certifications			UL, CSA ASE, BV, JIS, RINA, LROS, DNV, GL : pending
Protective treatment Standard version			"TC"
Ambient air temperature around the device	Storage	°C	- 40...+ 70
	Operation	°C	- 25...+ 70
Vibration resistance	Conforming to IEC 68-2-6		(2…500 Hz) 3 mm peak to peak or 5 gn
Shock resistance	Conforming to IEC 68-2-27		Half sine wave 18 ms, 30 gn
			Half sine wave 11 ms, 50 gn
Electric shock protection	Conforming to IEC 536 & NF C 20-030		Class II
Degree of protection	Conforming to IEC 529 & NF C 20-010 Conforming to UL 50 & CSA C22-2		IP 65 Type 4, 4X and 13 (except key switches)
Mechanical life (in operating cycles)	Spring return pushbuttons		2 million
	Latching pushbuttons		300,000
	Key switches		200,000
	Selector switches		500,000
	Emergency Stop mushroom head pushbuttons		100 000
Mounting positoins			All

Electrical characteristics of LED pilot lights

Voltage limits			⎓ 6...30 V
Power consumption	I (24 V)	**mA**	15
Surge withstand	Conforming to IEC 1000-4-5	**kV**	2/1
Resistance to fast transients	Conforming to IEC 1000-4-4	**kV**	2
Resistance to electromagnet fields	Conforming to IEC 1000-4-3	**V/m**	10
Resistance to electrostatic discharges	Conforming to IEC 1000-4-2	**kV**	8/6
Electromagnetic emission	Conforming to EN 55011		Class B

Electrical characteristics of contacts

Rated operational characteristics	~ AC-15		B300 or Ue = 240 V and Ie = 1.5 A or Ue 120 V and Ie = 3 A
	⎓ DC-13		R300 or Ue = 250 V and Ie = 0.1 A or Ue = 125 V and Ie = 0.22 A
Rated insulation voltage	Conforming to IEC 947-1	**V**	Ui = 250 degree of pollution 3 (Except pilot lights with incandescent or neon bulb : degree of pollution 2)

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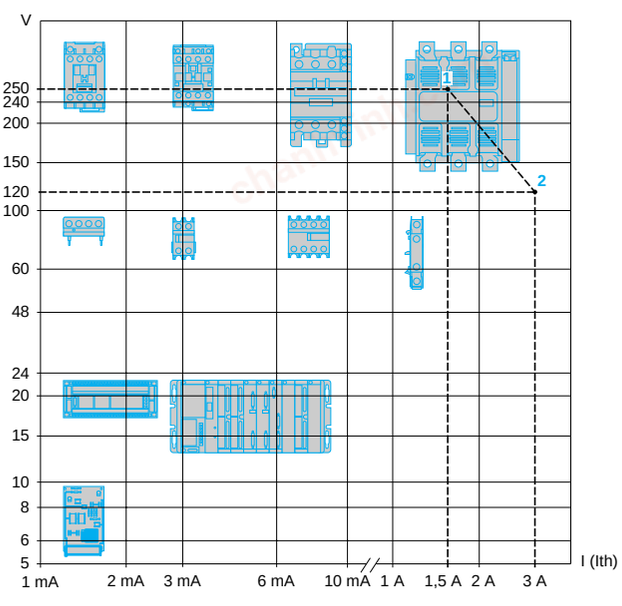
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Characteristics (continued)

Electrical characteristics of contacts (continued)

Rated impulse withstand voltage	Conforming to IEC 947-1	**kV**	Uimp = 4
Contact material	Normal environment and usage		Silver alloy
	Chemically corrosive environment or infrequent operation		Gold flashed
Contact operation	N/C or N/O		Slow break, with indication of change of state by tactile feedback on push and audibility
Differential travel of contacts	With pushbutton head	**mm** **mm** **mm**	Changing N/C state : 1 Changing N/O state : 2 Total travel : 3.5
Operating force	N/C contact	**N**	2.5
	N/O contact	**N**	1.6
	Pushbutton head + N/O contact	**N**	3.5
	Pushbutton head + N/C contact	**N**	4.5
Positive operation	Conforming to IEC 947-5-2	**N**	N/C contact with positive opening operation Positive opening force : 20
Terminal identification	Conforming to EN 50005 et EN 50013		
Short-circuit protection	Cartridge fuse mounted upstream		6 A gG
Electrical reliability	Failure rate According to IEC 947-5-4		With confidence level of 90 % : $\lambda_{90} = 10^{-8}$ 5 V - 1 mA, defect contact voltage drop = 0.5 V
Cabling		**mm** **mm**	By Faston connectors 2.8 x 0.5 By pins for printed circuit board connection 1 x 0.5
Electrical durability	Conforming to IEC 947-5-1 Appendix C Utilisation category AC-15 and DC-13 Operating rate 3600 operating cycles/ hour. Load factor 0.5		1 million operating cycles - 200 VA-230 V



1 Switching capacity conforming to IEC 947-5-1, utilisation category AC-15, DC-13

B300	240 V	1.5 A
R300	250 V	0.1 A

2 Switching capacity conforming to IEC 947-5-1, utilisation category AC-15, DC-13

B300	120 V	3 A
R300	125 V	0.22 A