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**PURCHASE SPECIFICATION FOR
SINGLE POLE DC CONTACTOR
GROUP: TRACTION ENGINEERING**

P.S NO. : PS445/2647

REV. NO: 00

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REVISION HISTORY SHEET

REV. NO	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00	28.05.2019	FIRST ISSUE	--	Agosh Chandran R S	SHEKAR R

THIS DOCUMENT IS A SPECIFICATION CUM DATA SHEET. VENDOR TO GIVE CONFIRMATIONS AND DATA AS REQUIRED AND SUBMIT THE SAME TO BHEL / EDN, BANGALORE. ANY DEVIATIONS TO THIS DOCUMENT TO BE BROUGHT OUT CLEARLY BY VENDOR.

Note:

Material Code :

REVISIONS 00 DT: 28.05.2019

APPROVED BY: R.SHEKAR

PREPARED BY:

Agosh Chandran R S

ISSUED BY

TRACTION ENGG

DATE

28.05.2019

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SPECIFICATION FOR SINGLE POLE DC CONTACTOR

Brief description

The DC contactor detailed in this specification is the amplifier contactor used in Auxiliary Converter of 3-phase Electric Locomotive. The contactor is fitted with a varistor for over voltage protection and auxiliary contacts for sensing the contactor operation. The Normally Open (NO) contactors has to make and break current like an open style power relay.

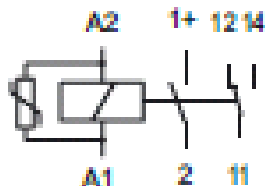


Figure 1: Simplified Circuit Diagram



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1. Detailed Specification

- | | | | |
|-----|---|---|---------------------------|
| 1. | Contact Configuration | : | SPST NO |
| 2. | Coil Voltage U_s | : | 110 V DC |
| 3. | Coil Tolerance | : | -30%....+25% U_s |
| 4. | Coil Suppression | : | Varistor |
| 5. | Number of Aux Contacts | : | 1 |
| 6. | Aux Contact Configuration | : | SPDT |
| 7. | Nominal Voltage | : | 120 V DC |
| 8. | Rated Insulation Voltage | : | 160 V |
| 9. | Rated Impulse Withstand Voltage | : | 2.5 KV |
| 10. | Pollution Degree | : | PD3 |
| 11. | Over Voltage Category | : | OV3 |
| 12. | Thermal Current make contact | : | 80 A |
| 13. | Thermal Current break contact | : | 60 A |
| 14. | Making capacity, resistive, T=1ms | : | 600 A |
| 15. | Breaking Capacity, T< 1 ms | : | 80 V DC: 250A |
| 16. | Rated short time withstand current | : | 800 A / 100 ms |
| 17. | Main Terminal | : | M8 |
| 18. | Aux contact switching capacity | : | 0.5 A at 80 V DC |
| 19. | Maximum Coil Power Dissipation
T=0ms
@ U_s & $T_a = 20^\circ\text{C}$ | : | 12W |
| 17. | Weight | : | To be specified by Vendor |



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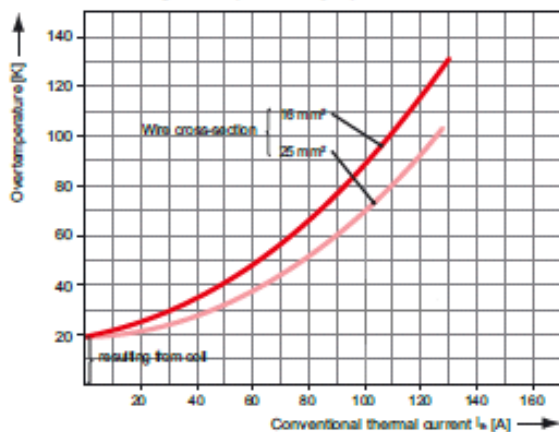
18. Degree of Protection : IP00
19. Mechanical Life Cycles : $> 3 \times 10^6$
20. Electrical Life : $> 1 \times 10^5$ cycles ($U_n, I_{th}, T < 1\text{ms}$, cycle $\leq 6/\text{min}$)
21. Mounting Position : Horizontal or Vertical (Contact studs Must point upwards)
22. Vibration /Shock : As per IEC 61373, Class B, Cat. 1: 5Hz to 150 Hz /5 g (30 ms, half sinus)
23. Ambient Temperature : -25°C to $+70^\circ \text{C}$
24. Limiting Dimension : 96 mm X 71 mm X 47 mm

2. Standards

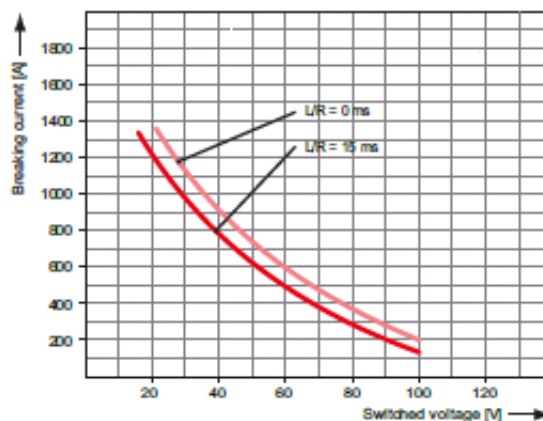
Standard	Description
IEC 60947	Low Voltage Switchgear and Controlgear
IEC60077	Electric equipment for rolling stock
IEC61373	Shock and vibration test

3. Characteristic Curves Contact Performance

• Continuously rated, normally open contact



• Maximum breaking capacity DC of NO contact





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4. Documentation

1. Datasheet
2. Dimensional Drawing

5. Acceptance

1. Type test report for Prototype
2. Visual Inspection and COC for series supply

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