



A4 – 12

PURCHASE SPECIFICATION

GROUP: TRACTION ENGINEERING

P.S NO. : PS/445/2710

REV. NO: 00

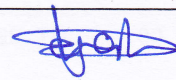
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REVISION HISTORY SHEET

REV. NO.	DATE	NATURE OF CHANGE	REASONS	PREPARED BY	APPROVED BY
00	29.01.21	FIRST ISSUE	--	--	--

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REVISIONS 00 DT: 01.01.2021

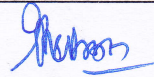
APPROVED BY: 

PREPARED BY:

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Sadat U K



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29.01.2021



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SPECIFICATION FOR
THICK FILM RESISTOR



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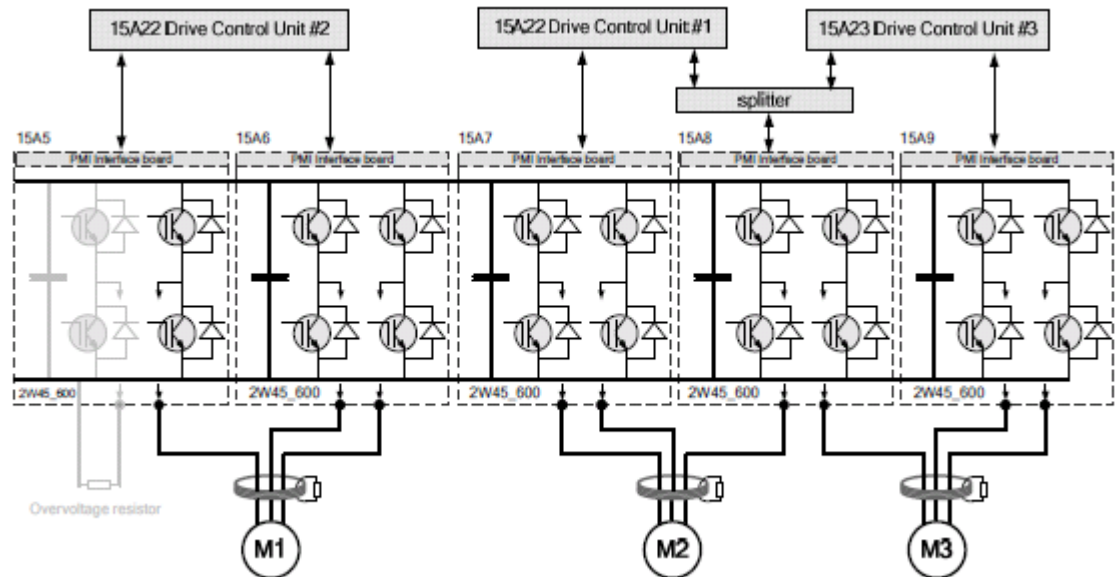
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1.0 INTRODUCTION:

The Traction converter employs a common mode filter to suppress the Electro Magnetic interference at the output of the 3ph Inverter. The Thick Film Resistor will act as the damping resistor element in the common mode filter.

2.0 FUNCTION:



The damping resistor will absorb the high frequency components in the inverter output generated as a result of IGBT switching. A ferrite core assembly is provided at the output of the auxiliary inverter which will trap the high frequencies which are dissipated by the damping resistor.



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3.0 CHARACTERISTICS

SI No	Characteristic	Value	Unit
1	Rated Power @ 25°C	100	W
2	Inductance	<0.1	uH
3	Ohmic Value	22	Ω
4	Tolerance	5	%
5	Maximum working voltage	1900	Vdc
6	Dielectric Strength	5000	Vrms,1 min, 1mA max
7	Thermal Resistance Rth (j-c)	0.55	°C/W
8	Insulation Resistance	>1000	GΩ
9	Temperature coefficient	150	±ppm/°C
10	Temperature range	-55 to +125	°C

4.0 MECHANICAL SPECIFICATION

The resistor should have insulated case conforming to UL94-V0 with V type terminal connection. There are 4 mounting holes of 4.2mm hole diameter as detailed in section 5.

SI No	Characteristic	Description
1	Technology	Thick Film
2	Resistive Element	Cermet
3	Substrate	Alumina on Metallic base of nickel coated aluminium
4	End Connection	V connections : Screws M4 x 6



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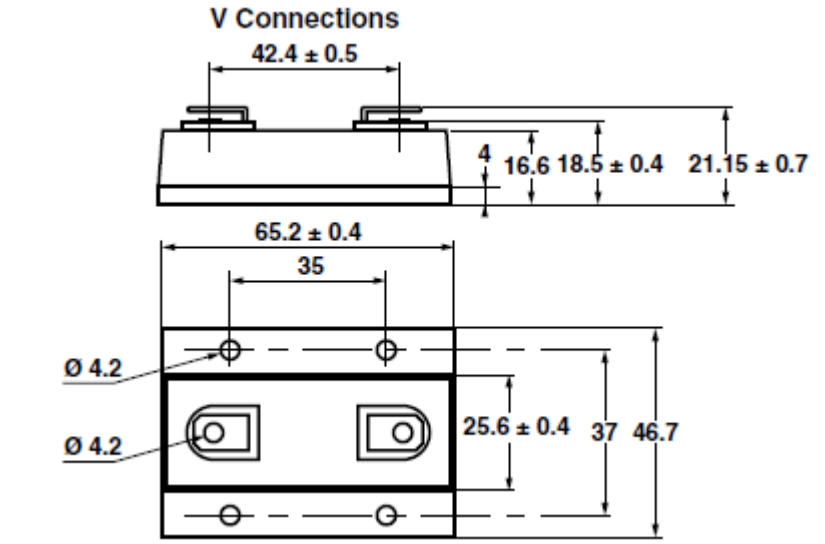
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5.0 MECHANICAL DIMENSION



The dimensions are for reference purpose only and other dimensions are also considered within the space available in the panel.

6.0 INSPECTION

The type test reports from a NABL accredited laboratory to be provided along with the technical offer. For series supplies, Routine test reports are to be provided.

7.0 APPLICABLE NORMATIVE STANDARD

The offered system shall generally conform to the following normative standards

- | | |
|------------|--|
| IEC 60529 | for IP68 protection |
| EN 50121-2 | EMC: Emissions to external environments |
| IEC60077 | Rules for equipment for onboard rail vehicles |
| IEC-61373 | Electric Railway Equipment-Rolling Stock-Shock & Vibrations Requirements |
| IEC 60322 | Rules for Ohmic Resistors |