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REV - 01

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Technical specification

FOR

24V-10A

DC-DC

CONVERTER

REV 01

APPROVED BY

VIDYA S

PREPARED

FLK *Sur NP RB*

SUR / NP / RB

CHECKED

SBB

SBB

ISSUED

ENGG

DATE

19/06/17



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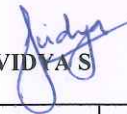
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REVISION HISTORY SHEET

REV No.	DATE	NATURE OF CHANGE	REASON	PREPARED BY	CHECKED BY	APPROVED BY
00	15/04/2015	FIRST ISSUE	--	SUR /NP/ RKS	SBB	V S
01	19/06/2017	SECOND ISSUE	Clause 20 & 22 Revised	 SUR /NP/ RB	 SBB	 V S

REV 01

APPROVED BY :


VIDYA S

PREPARED


SUR / N P / RB

CHECKED


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ENGG

DATE

19/06/17

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COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		<u>TECHNICAL REQUIREMENTS FOR 24V-10A DC TO DC CONVERTER</u> <u>1.0 GENERAL REQUIREMENTS:</u> 1.1 The purpose of this specification is general technical requirement for procurement of 24V-10A DC TO DC converter. <u>BHEL-EDN Material Code : EN7470106006</u> <u>1.2 Input-Output Specifications :</u> 1) I/P Range : 24VDC (18 -32VDC) with reverse protection 2) O/P : 24VDC +/- 1%, 10A. with power boost capability. 3) Load Sharing > 90% when paralleling upto 4 units (minimum 3 units in parallel) 4) Output Diode ‘OR’ing : For parallel operation of converter, output diode is to be provided either (i)as part of converter and housed inside converter or (ii)external diode ‘OR’ing module, preferably housing single diode and suitable for DIN rail mounting. (Supplier to indicate the details of the diode ‘OR’ing methodology). 5) Suitable for Plate / DIN rail mounting. 6) Enclosure: Ventilated, Natural air-cooling when housed in control cabinet of IP42 protection 7) Operating temperature = 0~60 degC 8) Indications : LED indications for DC Input(Green), DC Ok(Yellow) and DC Low(Red) preferred. Supplier to indicate the details of LED indications in the converter offered. 9) I/P protection : Fuse . 10) I/P Surge Protection for compliance : as per EN61000-4-5, level 3 11) Inrush current < 15 A typical 12) Line regulation :<= +/-1% 13) Load Regulation <= +/-1% 14) Efficiency >= 90% over the range 10% to full 100% load. 15) O/P settable from 23 to 28VDC, 16) Derating : > 60 Deg C	

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COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.		17) O/P protection : overload , short-circuit protection with output power limitation . 18) Selectable auto-recovery feature should be available. 19) Remote Power Supply Alarm :: Potential-free Contact (Common-NO) shall be provided to facilitate Power –supply output error or Input supply failed condition for remote monitoring. 20) <u>HV test Capability</u> : The unit shall withstand HV/IR test as per the details indicated below and this shall be carried out by supplier on 100% of the modules . • (i) Input Terminals and ground : minimum 1.5 KV DC for 1min • (ii) Input and Output : minimum 1.5 KV DC for 1 min • (iii) Output to Ground :minimum 0.5 KV DC for 1 min • (iv) Output Relay Contact to Ground : minimum 0.5K DC for 1 min • (IR value before and after HV test shall be within +/- 10% of each other) 21) <u>Test Report</u> : Supplier shall submit Test report / Compliance report for all the above mentioned features indicating serial number of the PS module & date of test. 22) <u>Type Test Certificate</u> : Type Test certificates for the PS model being supplied & conducted in a Govt Approved Lab & within the last five years shall be submitted along with offer to enable technical evaluation. • Electrostatic Discharge Immunity • EN61000-4-2 • Electromagnetic Field Immunity • EN61000-4-3 • Radio Frequency Immunity • EN61000-4-6 • Surge Withstand Capability • EN61000-4-12 equivalent to ANSI 37.90.1/IEEE-472 • Dry Heat • IEC-68-2-2 or equivalent • Damp Heat • IEC-68-2-3 or equivalent • Vibration Test • IEC-68-2-6 or equivalent	01 01
		23) <u>Approvals:</u> The Power Supply Unit shall have the required CE/UL certification 24) <u>Catalogue</u> : Supplier to submit catalogue / performance curves for the model being offered • Efficiency Vs load, • Op.Temperature Vs Load Current etc	
		25) Each power supply module should be marked with SLNO , BATCH NUMBER AND MONTH OF MANUFACTURING for easy identification. 26) <u>Deviation</u> : Supplier shall indicate clause-wise deviation, if applicable.	