Base Load Power Hub (BLPH)

Technical Data Sheet (TDS) for Neutral Earthing Resistor (NER)

Document Number: 123A90-DDL-EL-DS-20011

Document Class: 2

01	10/04/2024	Accepted for Construction (AFC)	L. Bosio	A. Madaschi	D. Lo Sterzo
00	28/08/2023	Issue for Review (IFR)	D. Vaccariello	C. Giunchi	M. Dossena
Rev.	Date	Description	Prepared	Reviewed	Approved

This document undergoes an issuance cycle within EDMS "Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

Table of Contents

SH.	DESCRIPTION	REVISIONS							
		00	01						
1	Cover	X	X						
2	Table of Contents	X	X						
3	Revision / Change & Hold Log	X	X						
4	References	X	X						
5	Technical Requirements	X	X						
7	Supplement	X	X						
8	Guidance	X							

Revision / Change Log

Rev.	Description
00	ISSUE FOR REVIEW (IFR)
01	ACCEPTED FOR CONSTRUCTION (AFC)

HOLDS LIST

No.	Description
1.	
2.	
3.	
4.	

REFERENCE DOCUMENT AND STANDARD:

1)	Technical Specification, IDS and DDS for Neutral Earthing Resistor (NER)	Doc. No. 123A90-DDL-EL-SP-20006
2)	Electrical Single Line Diagram 6.6 kV Systems	Doc. No. 123A90-DDL-EL-DG-20015

This document undergoes an issuance cycle within EDMS "Fusionlive". Its distribution is electronically controlled. Once printed shall be considered as "NOT CONTROLLED" copy

Row		Data Sheet for Neutral Earthing Resistor (NER)				Rev.
1	Tag No. :	*RR-100D1*				01
2	Service :	*Neutral Earthing Resistor*				01
3	Ref. Clause	Description			Additional notes	
4		**1. General**				
5		Manufacturer :	MF Trasformatori srl			01
6		Vendor :	MF Trasformatori srl			01
7		Equipment identifier :	RR-100D1			01
8		Quantity :	1			
9		Type :	dry type natural air-cooled resistors			
10		Service :	for distribution transformer			
12		Conformity assessment system :	D			
11		**2. Environmental conditions**				
12		Altitude (if more than 1000m or 3280ft) :	not more than 1000 m	m		
13		Minimum ambient temperature :	-8,4	°C		
14		Maximum ambient temperature :	25	°C		
15		Yearly average ambient temperature :	10,5	°C		
16		Design ambient temperature (if more than 40 °C or 104 °F) :	not more than 40°C	°C	Offshore (Netherlands)	
17		Relative humidity at maximum operating temperature (if more	95	%		
18		Corrosion class :	CX			
19		Seismic zone as per IEC 60721-2-6, figure 5 :	zone 2			
20		Location :	offshore fixed			
21		Installation :	Outdoor			
22		Unusual service conditions :	No			
23		**3. Hazardous area classification**				
24		Hazardous area classification zone :	non hazardous			
25		Hazardous area classification temperature class :	N/A			
26		**4. Technical data**				
27		**4.1 Electrical system data**				
28		Rated voltage :	6,6	kV		
29		Rated frequency :	50	Hz		
30		**4.2 NER data**				
31		**4.2.1 General**				
32		**Resistor specific requirements**				
33		Application :	Permanent connection between star-point and earth			
34		Rated short time current :	400	A		
35		Time to withstand rated short circuit current :	10	s		
36		Initial current during continuous rating :	20	A		
37		Ohm value at 20°C :	9,96	Ohms		01
38		Maximum permanent voltage :	199	V		01
39		Reated Voltage :	6,9	kV		
40		Rated insulation level :	12	kV		01
41		Power frequency withstand voltage :	28	kV		01
42		Impulse withstand voltage :	75	kV		01
43		**4.2.2 Resistor**				
44		Type of resistive elements :	metal punch grid			01
45		Insulation of resistor elements :	completely insulated from earth			01
46		Maximun resistance variation :	67	%		01
47		Maximum temperature rise above 30 °C of resistor elements	760	°C		01
48		Maximum temperature rise above 30 °C of resistor elements for	385	°C		01
49		Maximum over temperature of enclosure for continuous current	<70	°C		01
50		Design temperature :	25	°C		
51		**4.2.3 Termination**				
52		Type of terminals :	Tinnes copper			01
53		Main external termination details :	cable box			
54		Cable box type :	air insulated			
55		Main cable box design :	supplier standard			
56		Cable type :	insulated			
57		Number of cables :	1			01
58		Cable conductor size :	120	mm²		01
59		Number of cores per cable :	1			01
60		**4.2.4 Cooling**				
61		Type of cooling :	Natural ventilation			
62		Provision for mounting of cooling fans :	N/A			
63		**4.2.5 Mechanical characteristics**				
64		**a. Construction**				
65		Enclosure thickness :	2	mm		01
66		Protection degree of resistor compartment (IP) :	55			
67		Protection degree of auxiliary termknal box compartment (IP) :	55			
68		Access required for installation /connection / maintenance :	Front			
69		Incoming / outgoing cables :	From bottom			
70		Cables ingress :	Removable Plate			
71		Surface finish :	stainless steel			01
72		Painting class required :	stainless steel			01
73		**b. Interface**				
74		Auxiliary supply voltage details for heater :	230	V ac		

75		**4.3. Accessories**				
76		Lifting lugs :	Yes			
77		Earthing cable lug size :	Suitable for 35mm² earthing cable	mm		01
78		Current transformer :	N/A			
79		Auxiliary terminal-box :	Yes			
80		Heater :	Yes			
81		Nameplate :	Yes			
82		Warning labels :	Yes			
83		**4.4. Dimensions & weight**				
84		Length :	1200	mm		01
85		Depth :	1050	mm		01
86		Height :	2250	mm	500mm enclosure feet	01
87		Net weight :	390	kg		01
88		**5. Transport (packaged)**				
89		Limiting transportation dimensions (height) :	1350	mm		01
90		Limiting transportation dimensions (width) :	1200	mm		01
91		Limiting transportation dimensions (depth) :	2650	mm		01
92		Limiting transportation weight :	680	kg		01

Row	Data Sheet for Neutral Earthing Resistor (NER)	Issue
8	Tag No. : *RR-100D1*	01
9	Service : *Neutral Earthing Resistor*	01
10	**PURCHASE ORDER SPECIFIC REQUIREMENTS**	
11		
12		
13		
14		
9		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		
41		
42		
43		
44		
45		
46		
47		
48		
49		
50		
51		
52		
53		
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		
64		
65		
66		
67		
68		
69		
70		
71		
72		
73		
74		
75		
76		
77		
78		
79		
80		
81		
82		
83		
84		
85		
86		
87		
88		
89		
90		
91		

Data Sheet for
Neutral Earthing Resistor (NER)

Guidance on the use of this data sheet

To be used in conjunction with :
Technical Specification, IDS and DDS for Neutral Earthing Resistor (NER)

This data sheet is set-up to be used in electronic format by both the purchaser/user and the supplier/manufacturer.

This data sheet provides reference back to the parent standard or the supplementary specification where relevant.

Default values (if applicable) have been set according to essential minimum requirements as an integral part of this specification and should only be changed where specific justification can be provided.

The Supplement sheet is provided in an open format sheet for application of specific items not covered in the main part of the data sheet. This sheet is not intended to modify requirements defined in the supplementary requirements specification.

The data sheet includes a revision (issue) column on the right hand side for use by the purchaser/user. After the first issue, for each subsequent revision of the data sheet that is issued to suppliers for enquiry or purchase, the purchaser/user should use the issue column to denote that the data on a specific row has been updated since the previous revision. This will enable the supplier to easily identify where changes have been made.

Legend		
	Select	Supplier/manufacturer completed, pick list of pre-defined values (may be pre-populated with a default value).
	Input data	Supplier/manufacturer completed data entry.
	Select	Purchaser/user completed, pick list of pre-defined values (may be pre-populated with a default value).
	Input data	Purchaser/user completed data entry.
	Select	Either supplier/manufacturer or purchaser/user completed, pick list of pre-defined values (may be pre-populated with a default value).
	Input Data	Either supplier/manufacturer or purchaser/user completed data entry.
	Select	Selection of units from a pre-defined pick list.