

Introduction



Electrify Power solution is a limited liability partnership Company situated at Bangalore



What we do at Electrify

Electrify Power solution LLP is partner licensed with Schneider electric to produce the FBX RMU, A Secondary Medium voltage switchgear.



ELECTRIFY
POWER SOLUTIONS LLP



Schneider
Electric



ELECTRIFY
POWER SOLUTIONS LLP

Partner Licensed
By

Schneider
Electric



Scope of Manufacturing

Schneider electric

- Provides technical documents that are needed for manufacturing.
- SF6 Gas filled Tank.
- Trainings.

Electrify power solution LLP

- Develop A complete support structure for FBX RMU.
- Source complete raw materials to Assemble the RMU.
- Assembly and complete wiring of FBX RMU.
- Testing and Quality Assurance Report
- Servicing.



FBX RMU...

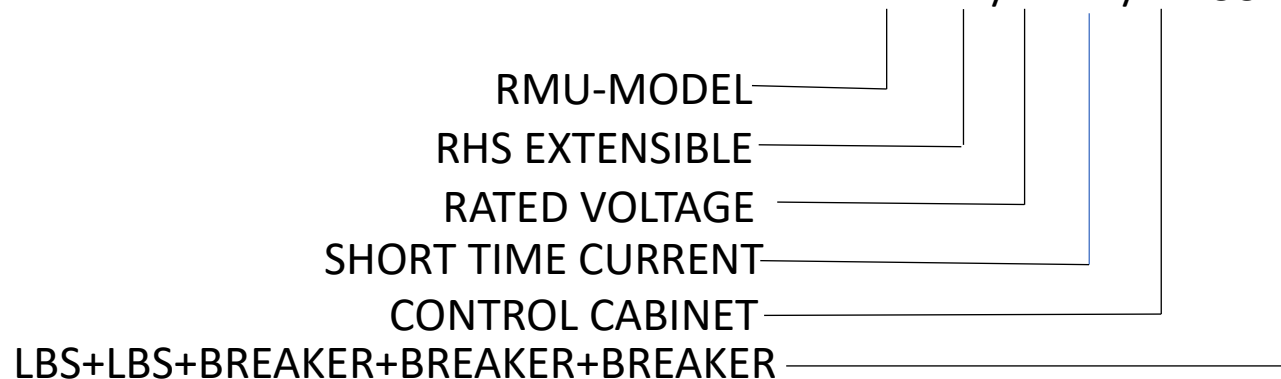
RMU- RING MAIN UNIT – Gas insulated switchgear for Secondary Distribution Network

Product specification

At Electrify power solution offers only FBX RMU outdoor units of specification

- 12kV,630A,21kA 3sec
- Available in Various Versions
- Compact(FBX-C),Extendable(FBX-E)
- Outdoor
- Switching and insulation in sealed-for-life SF6-Gas Tank
- With different combination of LBS & Breaker

VARIANT:- FBX-RE/12-21/M+CCT2T2T2



Task Accomplishment

At Electrify Power Solutions LLP Till now We Successfully Executed Tasks

- License Creation.
- Engineering document change overs As per licensed Partner.
- Raw Material Procurement From Suppliers For Prototype Sample Development.
- Prototype Developed of Product Reference CCT2-C & M+CCT2T2T2-RE.
- Prototype M+CCT2T2T2-RE considered for the Testing And Audit by Schneider Electric.
- Bom verification, SOP for Testing, QAP & RTC verified during Aa audit.
- Costing Verification done By SE Team.
- Type test – Temperature Rise Test, IP Test.
- Service Training At Schneider Electric.



License Creation

Electrify Power solution LLP succeeded in creatin of license with Schneider electric to manufacture FBX RMU for the period of 4 years



Facility at Electrify

Rack systems are developed for storage of Raw materials.



Storage Rack System



Test Equipment

Test equipment for RMU Testing.



HV test kit



Primary injection test kit



Test Equipment

Test equipment for RMU Testing.



Clam Tester



CRM Tester



MEGGER



Prototype development

We are able to develop a to FBX product reference CCT2-C & M+CCT2T2T2

Assembly of CCT2-C



Front Assembly View



Rear Assembly View



Prototype development

We are able to develop a to FBX product reference M+CCT2T2T2 a DAS Type

Assembly of M+CCT2T2T2-RE



Front Assembly View



Rear Assembly View



Wiring



Prototype verification

The Schneider LOB team visited for the audit and successfully verified for the prototype testing And Technical documents that Are associated with QAP,SOP,BOM



3 way RMU-CCT2



SE team Along Electrify team during Audit



5 way RMU-M+CCT2T2T2



Costing verification

The Schneider GSC team visited at electrify and cross verified the costing on the raw materials that as been consumed to build the prototype sample

- Verified for the Raw material sourcing.
- Supported on the alternative options that are available on cost reduction.

SI.No.	Group	part Number	Specification	Description	Qty	UOM	Supplier	Unit Rate	Total Pri	Electrify cost	Remarks
CCT2T2T2											
Fabrication of RMU+metering											
											1,00,803
RMU	FAB	PHA79748	02	SUPPORT STRUCTURE	1	EACH	Bankin	58,725	58,725	58,725	
RMU	FAB	PHA79240	02	LV BOX 380MM	1	EACH	Bankin			-	
RMU	FAB	PHA78997	01	RELAY CAP DPX-1/DPX-V5/CSPR-V5	1	EACH	Bankin			-	
RMU	FAB	PHA79097	01	EARTHING ALUMINIUM 30X4	1	EACH	Electrify	1,400	1,400	1,400	
RMU	B.O.	BARFB0054-01	AAA9066009 / TP 500 /TP 630	Cable Boot	3	EACH	Raychem / 3M	1,250	3,750	3,750	
MC	FAB	GDE49763	00	OUTDOOR METERING 700MM WIDTH	1	EACH	Bankin	25,230	25,230	25,230	
MC	FAB	BARFM0019-50		Metering Earthing -700mm - 30x4 GI	1	EACH	Electrify	1,250	1,250	980	
MC	B.O.	BARFB0054-01	AAA9066009 / TP 500 /TP 630	Cable Boot	1	EACH	Raychem / 3M	1,010	1,010	1,010	
RMU	FAB	BARFM0027-91	SUITABLE FOR 300 SQ.mm FOR T2	CABLE PAN	2	nos	Bankin	540	1,080	1,080	
RMU	FAB	BARFF0070-09	SUITABLE FOR 400 SQ.mm FOR C	CABLE CLAMP STD	3	nos	Bankin	50	150	150	
RMU	FAB	BARFM0027-61	CT SUPPORT ASSEMBLY	CT SUPPORT ASSEMBLY	3	sets	Bankin	216	648	648	
RMU	FAB	B.O	Base channel	75*40	8.1	mt	58 kg	7,830	7,830	7,830	
Hardware Items											
											14,628
RMU	B.O.		Ref Sheet BO RMU & HW RMU	Gen B.O. and hardware	1	SET	SUPPLIERS	7,591	7,591	7,591	
RMU	LV	BARPS-0229-02	M16 * M12	STUD	9	nos	machining	80	720	720	
RMU	LV	MVIF-00922-01	M16	STUD	6	nos	machining	90	540	540	
RMU	LV	MVIF-00112-01	M16 x M10 STUD	STUD	3	nos	machining	90	270	270	
RMU	LV	BARFS0113-01		CABLE TEST PLUG	6	nos	machining	110	660	660	
MC	LV	accessories	HT TAPE	HT TAPE	0.5	ROLL	3M	950	475	475	
MC	B.O.		Ref Sheet BO Mtr & HW Mtr	Gen B.O. and hardware	1	SET	SUPPLIERS	4,371	4,371.24	4,371	
Major electrical Items											
											76,511
RMU	LV	BARFL0018-56	18-40VDC, Vertical mounting, 1Amps, 20% minimum setting, modbus port, CSDPR-V2-200-D-L-N-BSCM-#1 (BESCOM Model)	Self Powered relay	1	EACH	C & S / SEIL / Eq	8,960	8,960	8,960	
RMU	LV	MVIFB0019-01	C1-E-D-H/eq	Fault passage indicator	1	EACH	EKL / C&S / SEIL	4,045	4,045	4,045	
RMU	LV	METSEEM6400NGRSCLS	1Amps, 110VAC, 110VAC auxiliary supply, 0.5 class modbus port	Multifunctional meter	2	EACH	SEIL / EAPL	3,600	7,200	7,200	
RMU	LV	BARFL0002-59	30-60/1A, 5P10, 2.5VA, resin cast, Protection	Current Transformer T2	3	EACH	Naravana	1,400	4,200	4,200	



Service training @ SE

The electrify team has visited the Schneider electric plant at Vadodara for the service training

- The basic needs that are to be taken during the installation of FBX RMU @ site.
- The do's & don'ts on the cable termination process.
- Case study on some of the field failures that occurred @ site.
- Motor operations settings & troubleshooting.
- Shopfloor visit.



The Quarries that are asked from our side.

- What is the procedure for intimating the partners on Deviations, the concept of engineer changeovers, QVE Activities, And Standardization?
- The initial inspections process is to be carried to A tank @ partners to Ensure the tank is delivered in a good condition by SE, and also raised the Procedure how to get a tank Accessories that comes along the tank.
- Also raised the difficulties faced on sourcing on motor connector & brass spring washer also collected some samples.
- Requested the plant to share the deep in basic audit points & best practices that are followed @ the plant during manufacturing that same can be adopted @ partners which help to increase the efficiency & KPI.
- In conclusion, the SE team agreed to create the box folder and upload all required service-oriented support documents in the box.



Type test @ CPRI

The sample CCT2 Is subjected to Temperature Rise test of load 630A.

- The test criteria is As per IEC 62271-200-1 as per Customer Choice.
- The temperature Rise limit is 65 degree



Type setup @ HRT Lab CPRI



The Test as passed with the temperature rise limit of 48 degree



Type test @ CPRI

The sample M+CCT2T2T2 Is subjected to IP 54 & IP X5 test.

- The test criteria is As per IEC 62271-200-1 as per Customer Choice.
- The Water & dust should not enter as per Specified percentage.



IP X5 @ ETDA LAB CPRI



IP 54 @ ETDA LAB CPRI



The Test as passed At 92% of protection



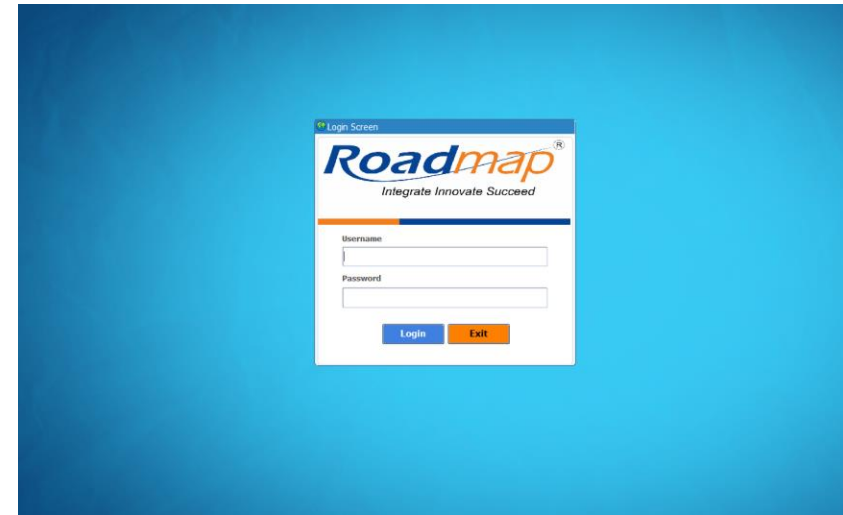
Task in progress

Electrify power solution LLP

- New manufacturing plant setup for FBX RMU.
- ERP Development.
- Offer development with New customers



New factory setup



ERP Development



