Jyoti Ltd.

Water • Power • Progress

'Jyoti' HT Power Factor Correction Solution (HT APFC Panel - 3.6 kV to 12 kV)

Successfully Type Tested
as per IS/IEC Standard at ERDA Vadodara, India

TÜV NORD TÜV India Private Ltd. ISO 9001

65 YEARS OF ENGINEERING EXCELLENCE

SWITCHGEAR TYPE TESTED AT International Test Laboratory PEHLA RATINGEN-GERMANY Jyoti Ltd.

Jyoti Limited offer HT Power Factor Correction System

To provide a effective control on capacitor bank to maintain power factor near unity under varying load conditions.

To improve system efficiency by reducing Maximum Demand under the same load conditions.

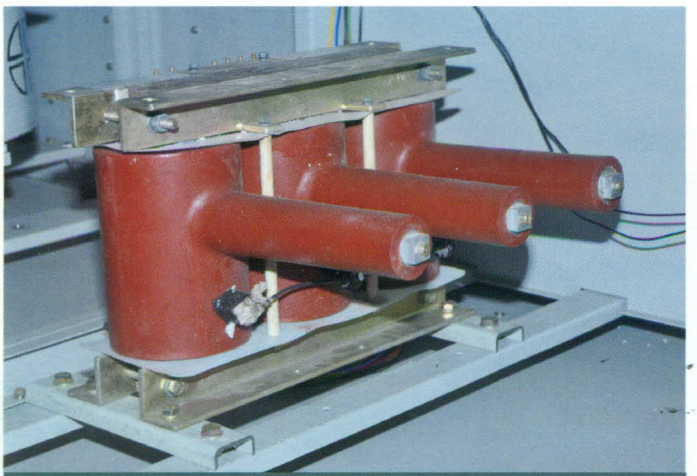
A Automatic Power Factor Correction System for Varing Load

APFC Controller automatically switches on/off number of steps of capacitor banks by continuously sensing and giving signal to switching devices to switch on/off the capacitor steps as per requirement to achieve power factor near unity.

Features

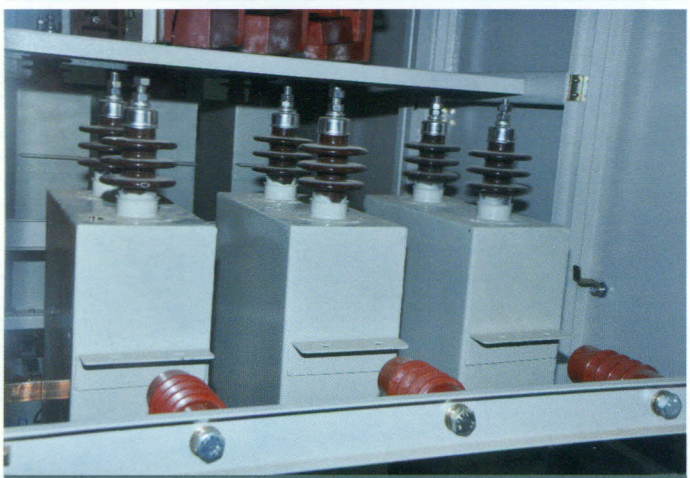
- Indoor & Outdoor installation.

  Equipped with Vacuum contactor , power capacitor units , series reactor for inrush current protection , Auto manual selection , RVT, HRC Fuses , Automatic P.F. Controller. Nos. of steps as required.
- Powder coated MS cubical construction.
- Fully type tested as per IS/ IEC STANDARDS

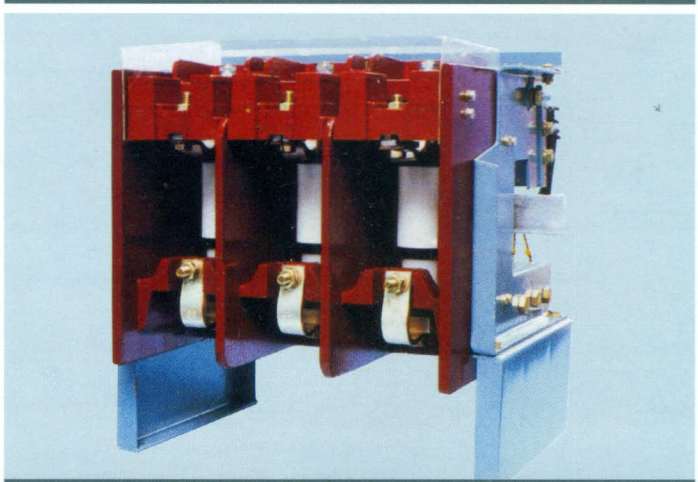


Panel Accessories-1 RVT

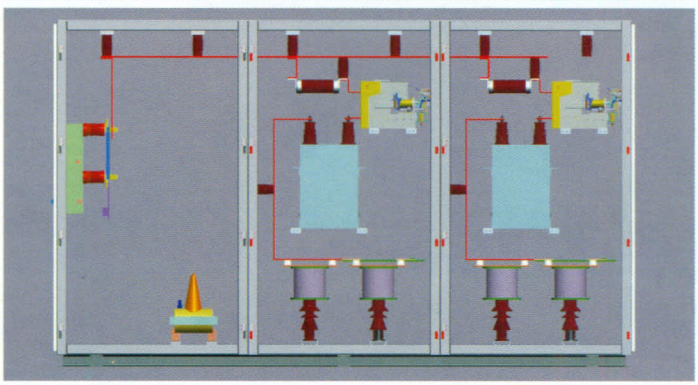
Panel Accessories-2 Reactors



Panel Accessories-3 Capacitor Bank



Jyoti Vacuum Contactor



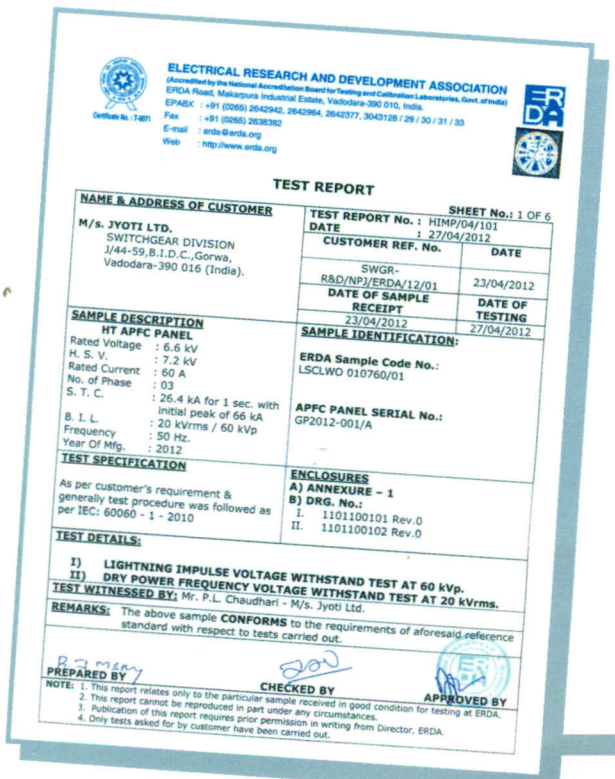
TECHNICAL SPECIFICATION OF HT APFC PANEL.

1	Rated Voltage	3.6 /7.2/12 kV
2	Rated Frequency	50 / 60 Hzs
3	No of Phase	Three Phase , 3 / 4 wire
4	Rated APFC Output	100 KVAR to 3000 KVAR
5	Number of Capacitor steps	As required /Up to 16 Steps
6	Step Configuration	Min 100 KVAR / As required
7	Switching of Capacitor	APFC Relay with Auto / Manual mode
8	Capacitor switching device	Vacuum Contactor
9	Incoming disconnecting device	Isolator
10	Step protection	HRC Fuses
11	Current limiting device	Series Reactor
12	Installations	Indoor / Outdoor
13	Construction	MS Encloser with powder coating
14	Unbalance protection device	RVT

B Manually switched Fix Capacitor Bank

TECHNICAL SPECIFICATION OF FIXED HT CAPACITOR BANK / MANUAL SWITCHED BANK

1	Rated Voltage	3.6 /7.2/12 kV
2	Rated Frequency	50 Hzs
3	No of Phase	Three Phase , 3 / 4 wire
4	Rated Capacitor bank Output	100 KVAR to 3000 KVAR
5	Manual switching device	Vacuum Contactor
6	Incoming disconnecting device	Isolator / VCB
7	Step protection	HRC Fuses
8	Current limiting device	Series Reactor
9	Operating Condition	Indoor / Outdoor
10	Construction	MS Encloser with powder coating
11	Metering	CT / VT



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION
(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
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Fax : +91 (0265) 2638382
E-mail : erda@erda.org
Web : http://www.erda.org
Certificate No. : T-0071

TEST REPORT

SHEET No.: 1 OF 6

NAME & ADDRESS OF CUSTOMER	TEST REPORT No. : HIMP/04/101 DATE : 27/04/2012
M/s. JYOTI LTD. SWITCHGEAR DIVISION J/44-59,B.I.D.C.,Gorwa, Vadodara-390 016 (India).	CUSTOMER REF. No.: SWGR-R&D/NPJ/ERDA/12/01 — DATE: 23/04/2012 DATE OF SAMPLE RECEIPT: 23/04/2012 — DATE OF TESTING: 27/04/2012

SAMPLE DESCRIPTION
HT APFC PANEL

Rated Voltage	: 6.6 kV
H. S. V.	: 7.2 kV
Rated Current	: 60 A
No. of Phase	: 03
S. T. C.	: 26.4 kA for 1 sec. with initial peak of 66 kA
B. I. L.	: 20 kVrms / 60 kVp
Frequency	: 50 Hz.
Year Of Mfg.	: 2012

SAMPLE IDENTIFICATION:
ERDA Sample Code No.: LSCLWO 010760/01
APFC PANEL SERIAL No.: GP2012-001/A

TEST SPECIFICATION
As per customer's requirement & generally test procedure was followed as per IEC: 60060 - 1 - 2010

ENCLOSURES
A) ANNEXURE – 1
B) DRG. No.:
I. 1101100101 Rev.0
II. 1101100102 Rev.0

TEST DETAILS:
I) LIGHTNING IMPULSE VOLTAGE WITHSTAND TEST AT 60 kVp.
II) DRY POWER FREQUENCY VOLTAGE WITHSTAND TEST AT 20 kVrms.

TEST WITNESSED BY: Mr. P.L. Chaudhari - M/s. Jyoti Ltd.

REMARKS: The above sample **CONFORMS** to the requirements of aforesaid reference standard with respect to tests carried out.

PREPARED BY — CHECKED BY — APPROVED BY

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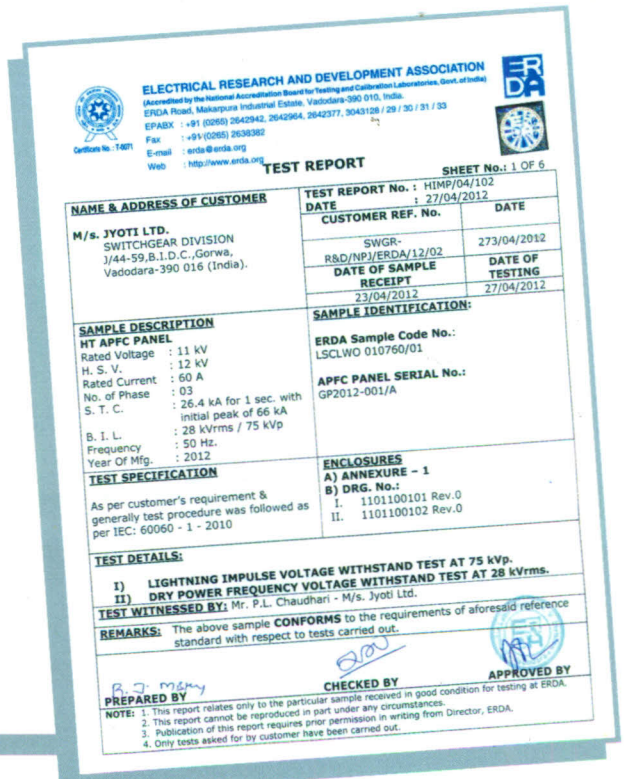

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Certificate No. : T-0071

TEST REPORT

SHEET No.: 1 OF 6

NAME & ADDRESS OF CUSTOMER	TEST REPORT No. : HIMP/04/102 DATE : 27/04/2012
M/s. JYOTI LTD. SWITCHGEAR DIVISION J/44-59,B.I.D.C.,Gorwa, Vadodara-390 016 (India).	CUSTOMER REF. No.: SWGR-R&D/NPJ/ERDA/12/02 — DATE: 273/04/2012 DATE OF SAMPLE RECEIPT: 23/04/2012 — DATE OF TESTING: 27/04/2012

SAMPLE DESCRIPTION
HT APFC PANEL

Rated Voltage	: 11 kV
H. S. V.	: 12 kV
Rated Current	: 60 A
No. of Phase	: 03
S. T. C.	: 26.4 kA for 1 sec. with initial peak of 66 kA
B. I. L.	: 28 kVrms / 75 kVp
Frequency	: 50 Hz.
Year Of Mfg.	: 2012

SAMPLE IDENTIFICATION:
ERDA Sample Code No.: LSCLWO 010760/01
APFC PANEL SERIAL No.: GP2012-001/A

TEST SPECIFICATION
As per customer's requirement & generally test procedure was followed as per IEC: 60060 - 1 - 2010

ENCLOSURES
A) ANNEXURE – 1
B) DRG. No.:
I. 1101100101 Rev.0
II. 1101100102 Rev.0

TEST DETAILS:
I) LIGHTNING IMPULSE VOLTAGE WITHSTAND TEST AT 75 kVp.
II) DRY POWER FREQUENCY VOLTAGE WITHSTAND TEST AT 28 kVrms.

TEST WITNESSED BY: Mr. P.L. Chaudhari - M/s. Jyoti Ltd.

REMARKS: The above sample **CONFORMS** to the requirements of aforesaid reference standard with respect to tests carried out.

PREPARED BY — CHECKED BY — APPROVED BY

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TEST REPORT

SHEET 1 OF 5

NAME & ADDRESS OF CUSTOMER	REPORT No.: LSCM/0112 DATE: 30.04.2012
JYOTI LTD. SWITCHGEAR DIVISION J/44-59, B.I.D.C., Gorwa, Vadodara - 390 016. (India).	CUSTOMER REF.NO: SWGR-R&D/NPJ/ERDA/12/01 — DATED: 23.04.2012 DATE OF SAMPLE RECEIPT: 23.04.2012 — DATE OF TESTING: 25.04.2012 to 26.04.2012

SAMPLE DESCRIPTION
60A, 7.2kV, 750 kVAR HT APFC PANEL
Rated voltage: 7.2 kV,
Rated normal current: 60 A/750 kVAR
Rated frequency: 50 Hz., No. of poles :3,
Rated insulation level: 20kVrms/60kVpeak
Rated short time withstand current & its duration: 26.4 kArms for 1 sec. with an initial peak of 66 kA
Quantity (Tested): 1 No.

Further details as per sheet No. 3 of 5

SAMPLE IDENTIFICATION
ERDA SAMPLE CODE NO: LSCLWO 010760/01
SERIAL NO: GP2012-001
DRAWING NO: 1101100101 Rev.0, 1101100102-A Rev.0

TEST DETAILS
Short time withstand current and peak Withstand current tests (Cl. No. 6.6) (On Main Circuit)

TEST SPECIFICATIONS
As per customer's requirement, Test procedure followed as per, IEC: 62271-200 (2003)

ENCLOSURES:
Number of oscillograms : One
Number of photograph : One
Number of test circuit diagram : One
Number of drawings : Two

TEST WITNESSED BY: Mr. P. L. Chaudhari

RESULTS: The sample **conforms** to the requirement of short time withstand current & peak withstand current tests as specified by customer.

PREPARED BY — CHECKED BY — APPROVED BY

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Jyoti Ltd. VADODARA (INDIA)

Water • Power • Progress

FOR FURTHER ENQUIRIES PLEASE CONTACT

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- **Secunderabad** : 5-4-187/7, 1st Floor, Karbala Maidan, M.G.Road, Secunderabad - 500 003. Ph. : 040-27544587(D), 27541608, Fax : 040-27543673, E-Mail : jyotisec@yahoo.com, jyotisec@jyoti.com

In keeping with the technological strides the world is making inthe engineering field, we introduce changes in the design of our products. Hence, the products as actually supplied might have features varying herefrom.