

(12) PATENT APPLICATION PUBLICATION

(21) Application No.202141045365 A

(19) INDIA

(22) Date of filing of Application :06/10/2021

(43) Publication Date : 15/10/2021

(54) Title of the invention : A Novel FACTS (Flexible Alternating Current Transmission Systems) Device Gate Turn off Thyristor Controlled Static Shunt Compensator” (GCSSC) to Enhance Power System Stability and Power Transfer Capability of Both Transmission and Distribution Systems

<p>(51) International classification :H02J 3/00 (86) International Application No :PCT// Filing Date :01/01/1900 (87) International Publication No : NA (61) Patent of Addition to Application Number :NA Filing Date :NA (62) Divisional to Application Number :NA Filing Date :NA</p>	<p>(71)Name of Applicant : <b>1)Name VNR Vignana Jyothi Institute of Engineering and Technology(VNRVJIET)</b> Address of Applicant :Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad- 500090, Telangana State, India ----- ----- <b>Name of Applicant : NA</b> <b>Address of Applicant : NA</b> (72)Name of Inventor : <b>1)Dr. Venu Yarlagadda</b> Address of Applicant :Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad- 500090, Telangana State, India ----- ----- <b>2)Dr. Giriprasad Ambati</b> Address of Applicant :Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad- 500090, Telangana State, India ----- ----- <b>3)Mr. Lakshminarayana Gadupudi</b> Address of Applicant :Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad- 500090, Telangana State, India ----- ----- <b>4)Dr. D.Ravi Kumar</b> Address of Applicant :Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad- 500090, Telangana State, India ----- ----- <b>5)Mr. Sivaji Bandi</b> Address of Applicant :Vignana Jyothi Nagar, Pragathi Nagar, Nizampet (S.O), Hyderabad- 500090, Telangana State, India ----- -----</p>
---	---

(57) Abstract :

A Flexible A.C Transmission Systems device Gate Turn off Thyristor Controlled Static Shunt Compensator (GCSSC) is provided for improvement of power system performance. This is a as Gate Turn off Thyristor (GTO) controlled static shunt compensator used to connect in parallel with load. This controller rapidly varies the shunt susceptance using conduction angle control of GTO's with gate pulse generator. This rapid control of susceptance leads to control of injected reactive power by the device thereby enhancing terminal voltage and power transfer through the transmission or distribution lines. The turn off capability of the device made it compatible to power system requirements like other shunt type FACTS Devices viz. Static Var Compensator (SVC) and Static Synchronous Compensator (DSTATCOM). The simulation is performed with distribution systems of 11kv system and 230v systems, feeding RL loads through short transmission line. This device is compatible with all types of static shunt FACTS Devices.

No. of Pages : 12 No. of Claims : 3