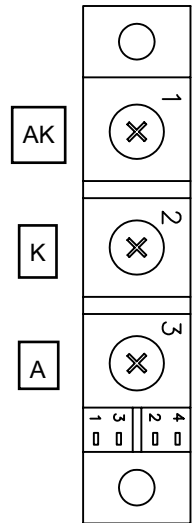


SCR WIRING INSTRUCTIONS

PART NO. 00425-000 REV A

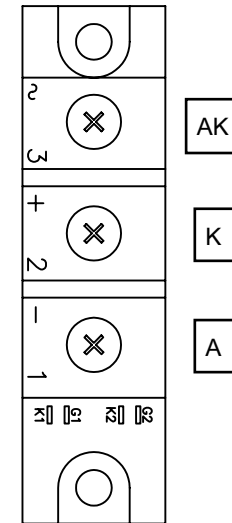
The gate terminal layout of SCR assemblies manufactured by SANREX, are slightly different from SCR assemblies manufactured by GE, WESTINGHOUSE, AEG, EUPEC, etc. Therefore, when replacing an SCR assembly with one of a different gate terminal layout, care must be taken to properly connect the corresponding gate leads. Incorrect wiring of the SCR gate terminals will not damage the SCR but will result in failure of the SCR to turn ON. It is strongly suggested that the serviceman make a wiring diagram of the original SCR, before any wires are removed. Then, using the terminal locations table indicated below, reconnect the new SCR to the proper terminals.



EUPEC SCR


A316

EUPEC SCR ALL LEADS CONNECTED TO:	SANREX SCR TO BE CONNECTED TO:
TERMINAL "1"	TERMINAL "3"
TERMINAL "2"	TERMINAL "2"
TERMINAL "3"	TERMINAL "1"
TERMINAL "4"	TERMINAL "K2"
TERMINAL "2"	TERMINAL "G2"
TERMINAL "3"	TERMINAL "K1"
TERMINAL "1"	TERMINAL "G1"



SANREX SCR

00194-000

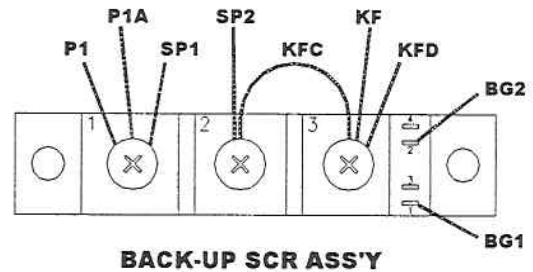
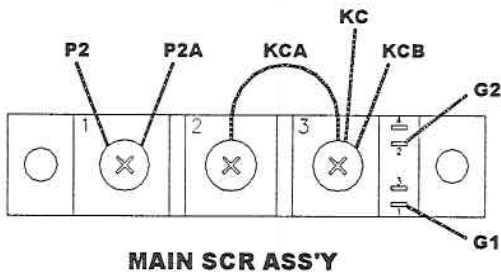
X.X ±.030 X.XX ±.015 X.XXX ±.005 1/X ±1/64 ANGLES ±1/2'		TOLERANCE UNLESS OTHERWISE SPECIFIED	
		 SUMMIT INDUSTRIES, INC. 2901 W. LAWRENCE AVE, CHICAGO, IL TEL 773-509-6273 FAX 773-588-6820	
TITLE INSTRUCTIONS, SCR WIRING INSTRUCTION			
NEXT ASS'Y	00424-000	MATERIAL	SEE ABOVE
SCALE	—	FINISH	NONE
DWG BY	DATE	APPROVED	DATE
LTR	06/25/01		
TP			
SIZE	A	SHEET	1 OF 1
PART NO.	00425-000	REV	A

A	2289	RELEASED	JP	07/16/01
LTR	ECR	REVISION	BY	DATE

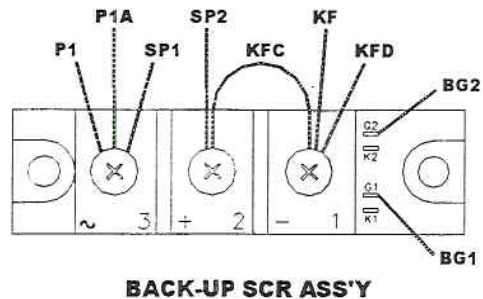
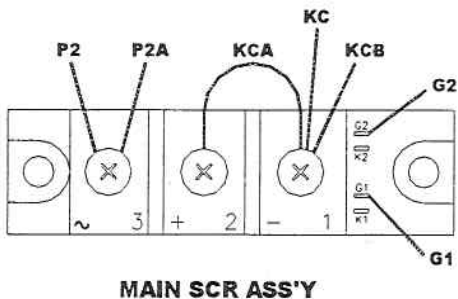
SCR WIRING INSTRUCTIONS

The gate terminal layout of SCR assemblies manufactured by SANREX, are slightly different from SCR assemblies manufactured by GE, WESTINGHOUSE, AEG, EUPEC, etc. Therefore, when replacing an SCR assembly with one of a different gate terminal layout, care must be taken to properly connect the corresponding gate leads. Incorrect wiring of the SCR gate terminals will not damage the SCR but will result in failure of the SCR to turn ON. Each of the INNOVET x-ray controls, model numbers W300 & W400, contain two SCR assemblies, one as the MAIN SCR & the other as the BACK-UP SCR. The following wiring diagrams can be used to properly connect the SCR gate leads, if required:

SCR's manufactured by GE, WESTINGHOUSE, AEG, EUPEC, etc.



SCRs manufactured by SANREX



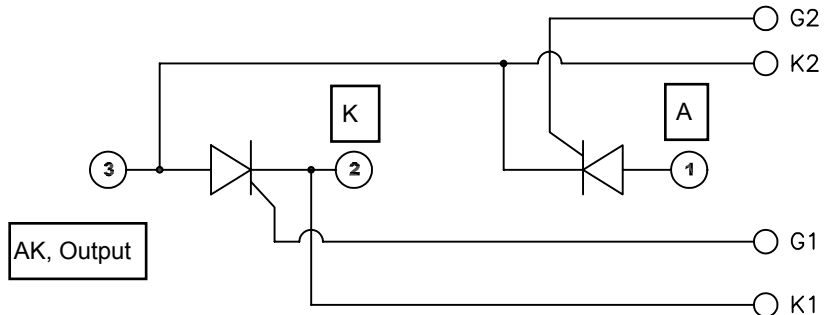
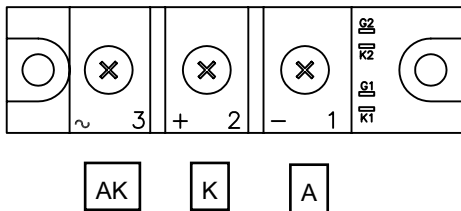
SCR (SILICON CONTROLLED RECTIFIER) BLOCK (ALSO KNOWN " PHASE CONTROL THYRISTOR MODULE")
 DUAL SCR PACKAGE

RMS ON - STATE CURRENT - 86 AMPS @ 81 DEGREES C.
 AVERAGE ON-STATE CURRENT-55 AMPS @ 81 DEGREES C.
 SURGE ON-STATE CURRENT (1/2 CYCLE) - 1190 AMPS @ 50 HZ
 - 1300 AMPS @ 60 HZ


REPTITIVE REVERSE VOLTAGE - 800 V
 NON-REPETITIVE REVERSE VOLTAGE - 960 V
 GATE TRIGGER CURRENT (MAXIMUM REQUIRED TO ASSURE CONDUCTION) - 50 mA
 GATE TRIGGER VOLTAGE (MAXIMUM REQUIRED TO ASSURE CONDUCTION) - 3 V

MFR: SANREX CORP. (PORT WASHINGTON, NY)
 MFR P/N: PK55FG80

NOTE:
 (SIMILAR TO A316)



FOR SERVICE PART
 REF: 00424-000

X.X ±.030		TOLERANCE UNLESS OTHERWISE SPECIFIED		
X.XX ±.015		 SUMMIT INDUSTRIES, INC. 2901 W. LAWRENCE AVE, CHICAGO, IL TEL 733-588-2480 FAX 733-588-0983		
X.XXX ±.005				
1/X ±1/64				
ANGLES ±1/2°				
TITLE SCR BLOCK				
NEXT ASSY	---	MATERIAL	AS NOTED	
SCALE	NONE	FINISH	NONE	
B	2289	IMPROVED DOCUMENTATION	JP 07/16/01	
LTR	ECR	REVISION	BY DATE	
DWG BY	DATE	APPROVED	DATE	
JPP	06/05/01			
SIZE	A	SHEET	1 OF 1	
PART NO.	00194	REV	B	

THYRISTOR MODULE

PK(PD,PE)55FG

UL:E76102(M)

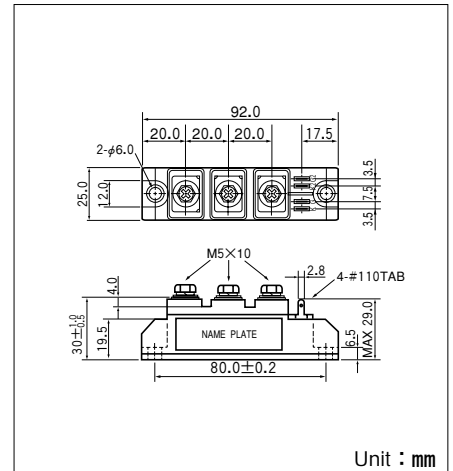
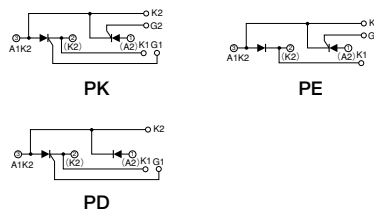
Power Thyristor/Diode Module PK55FG series are designed for various rectifier circuits and power controls. For your circuit application, following internal connections and wide voltage ratings up to 1600V are available. and electrically isolated mounting base make your mechanical design easy.

- $I_{T(AV)}$ 55A, $I_{T(RMS)}$ 86A, I_{TSM} 1300A
- di/dt 100A/ μ s
- dv/dt 1000V/ μ s

(Applications)

Various rectifiers
AC/DC motor drives
Heater controls
Light dimmers
Static switches

Internal Configurations



Unit : mm

Maximum Ratings

($T_j=25^\circ\text{C}$ unless otherwise specified)

Symbol	Item	Ratings				Unit
		PK55FG40 PD55FG40 PE55FG40	PK55FG80 PD55FG80 PE55FG80	PK55FG120 PD55FG120 PE55FG120	PK55FG160 PD55FG160 PE55FG160	
V_{RRM}	* Repetitive Peak Reverse Voltage	400	800	1200	1600	V
V_{RSM}	* Non-Repetitive Peak Reverse Voltage	480	960	1300	1700	V
V_{DRM}	* Repetitive Peak off-state Voltage	400	800	1200	1600	V

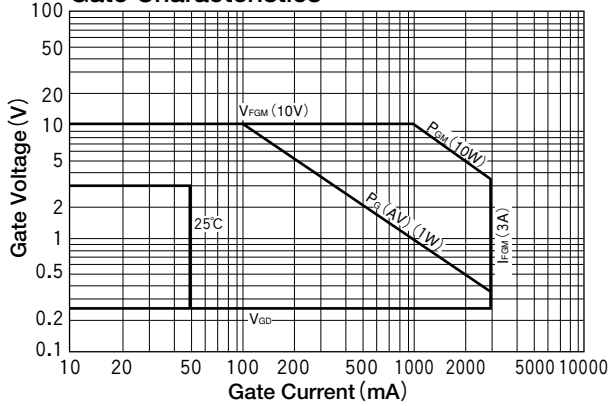
Symbol	Item	Conditions	Ratings	Unit	
$I_{T(AV)}$	* Average On-state Current	Single phase, half wave, 180° conduction, $T_c=81^\circ\text{C}$	55	A	
$I_{T(RMS)}$	* R.M.S. On-state Current	Single phase, half wave, 180° conduction, $T_c=81^\circ\text{C}$	86	A	
I_{TSM}	* Surge On-state Current	$\frac{1}{2}$ Cycle, 50/60Hz, Peak Value, non-repetitive	1190/1300	A	
I^2t	* I^2t	Value for one cycle surge current	7040	A^2S	
P_{GM}	Peak Gate Power Dissipation		10	W	
$P_{G(AV)}$	Average Gate Power Dissipation		1	W	
I_{FGM}	Peak Gate Current		3	A	
V_{FGM}	Peak Gate Voltage (Forward)		10	V	
V_{RGM}	Peak Gate Voltage (Reverse)		5	V	
di/dt	Critical Rate of Rise of On-state Current	$I_G=100\text{mA}$, $V_D=\frac{1}{2}V_{DRM}$, $di_G/dt=0.1\text{A}/\mu\text{s}$	100	$\text{A}/\mu\text{s}$	
V_{ISO}	* Isolation Breakdown Voltage (R.M.S)	A.C. 1minute	2500	V	
T_j	* Operating Junction Temperature		-40 to +125	$^\circ\text{C}$	
T_{stg}	* Storage Temperature		-40 to +125	$^\circ\text{C}$	
	Mounting Torque	Mounting (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	$\text{N}\cdot\text{m}$ ($\text{kgf}\cdot\text{cm}$)
		Terminal (M5)	Recommended Value 1.5-2.5 (15-25)	2.7 (28)	
	Mass	Typical Value		170	g

Electrical Characteristics

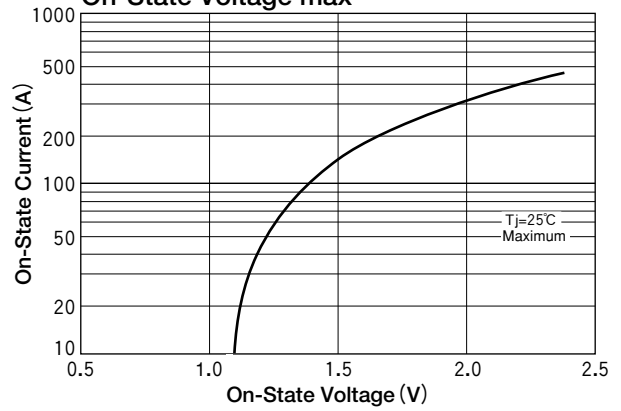
Symbol	Item	Conditions	Ratings	Unit
I_{DRM}	Repetitive Peak off-state Current,max	$T_j=125^\circ\text{C}$, $V_D=V_{DRM}$	15	mA
I_{RRM}	* Repetitive Peak Reverse Current,max	$T_j=125^\circ\text{C}$, $V_D=V_{DRM}$	15	mA
V_{TM}	* On-state Voltage,max	$I_T=165\text{A}$	1.6	V
I_{GT}	Gate Trigger Current,max	$V_D=6\text{V}$, $I_T=1\text{A}$	50	mA
V_{GT}	Gate Trigger Voltage,max	$V_D=6\text{V}$, $I_T=1\text{A}$	3	V
V_{GD}	Gate Trigger Voltage,min	$T_j=125^\circ\text{C}$, $V_D=\frac{1}{2}V_{DRM}$	0.25	V
dv/dt	Critical Rate of Rise of off-state Voltage,min	$T_j=125^\circ\text{C}$, $V_D=\frac{2}{3}V_{DRM}$	1000	$\text{V}/\mu\text{s}$
$R_{th(j-c)}$	* Thermal Impedance,max	Junction to case	0.5	$^\circ\text{C}/\text{W}$

* mark : Thyristor and Diode part. No mark : Thyristor part

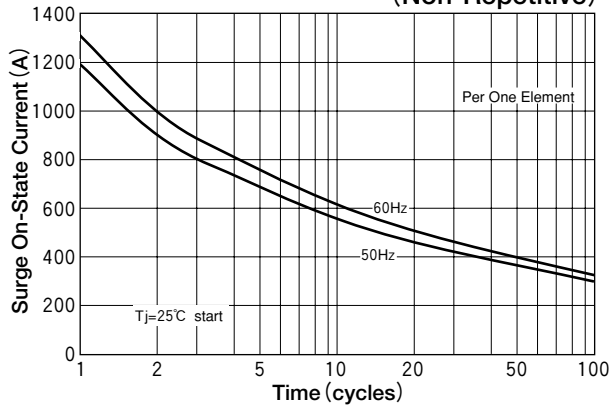
Gate Characteristics



On-State Voltage max



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance

