

# A.V.R.s & EXCITERS FOR SYNCHRONOUS/INDUCTION ALTERNATORS

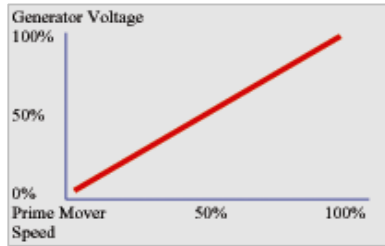
**MAVR-Series**

**Introduction:**

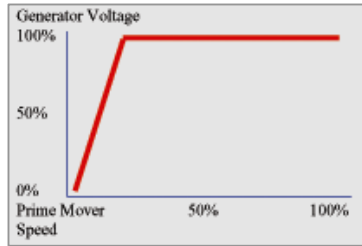
MAVR series of A.V.R.s/Exciters are available in m (15.0 to 25,000 kilo watts), more than 50 different models virtually offering solutions to automatic voltage regulation of induction/synchronous alternators operating independently/parallelly or connected to grid (captive or non-captive mode). These A.V.R. can control the alternator in either constant V/f or flat response mode. Company also offers the dedicated package for either grid interactive /parallelly operated alternator with the on-line reactive/active power control option along with other additional on-site control/protective options. Due to all these flexibility, these A.V.R./Exciter are first choice for paper, milk/brewery plant, petrochemical industry, organic/inorganic chemical, sugar, textiles, heavy electrical/mechanical industries and many uncountable defense applications. Updated design topology ensures better efficiency and integrated power/voltage and frequency control/protection. Company offers tailor-made solution to custom requirement.

**Operating Principle:**

A.V.R.s/EXCITORS are line commutated S.C.R. or force commutated high frequency I.G.B.T. controlled rectifier working in feedback cascade mode, feeding to the field of alternator. These AVR/Exciters are fed from main alternator supply to be controlled. Due to inherent regenerative action of AVR, the alternator builds up the armature voltage immediately and shortly settles to set point voltage with out any hunting over wide load range and speed of prime mover with fail proof protection against either over voltage or over/under speed of prime mover. These AVR/Exciters can control Alternators operating in parallel with/without grid connectivity may also be controlled with the incorporation of additional power instrumentation.



Constant V/F mode



Ramp voltage build up mode



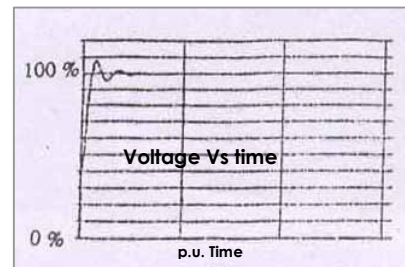
MAVR-05015

**Specifications of AVR/Exciters:**

model	k.watts	R.P.M.	Vf	I <sub>f</sub>	cooling	model	k.watts	R.P.M.	Vf	I <sub>f</sub>	Cooling
MAVR-00615	62.5	1500	200	2.0	Air	MAVR-20005	2000	500	400	20.0	Air
MAVR-01215	125	1500	200	2.5	Air	MAVR-25005	2500	500	400	30.0	Air
MAVR-02515	250	1500	200	3.0	Air	MAVR-40005	4400	500	400	60.0	Air
MAVR-05015	500	1500	200	5.0	Air	MAVR-50005	5000	500	400	110.0	Air
MAVR-07515	750	1500	200	8.0	Air	MAVR-80005	8000	500	400	140.0	Air
MAVR-10010	1000	1000	400	12.0	Air	MAVR-99905	10000	500	400	160.0	Air

**A.V.R.s/Exciters Controller/Console Specification:**

- Operating voltage 220 volts/ 40-60 Hz
- Excitation current 0.0- 400.0 amps(max)
- Voltage control accuracy 99% of set point
- Minimum residual build-up 3.0 Volts A.C.
- Repeatability 100 percent
- Response time 0.5 -1.1 milli-seconds
- Interface Signal 0.0-12.0 volts D.C.(proportional to flow range)
- Voltage control range 15.0-11,000 volts
- Step down ratio 1:50(1:100)
- Control options 1. Voltage/Hz 2. Flat response 3. Contant voltage with external adjustment. 4. reactive/active power control mode



Response of AVR controlled Alternator

- Display 1. Active/Reactive power 2. Voltage/R.P.M. ( 3½ & 4½ digit red glow LED/LCD display)
- Protection over voltage/under frequency and df/dt protection/reactive or active power control.

**A.V.R./Exciter Controllers Size:**

MAVR-00615	08X06X06	MAVR-20005	14X12X12
MAVR-01215	10X06X06	MAVR-25005	16X14X14
MAVR-02515	12X08X08	MAVR-40005	18X16X16
MAVR-05015	12X10X10	MAVR-50005	20X18X18
MAVR-07515	12X10X10	MAVR-80005	20X18X18
MAVR-10010	12X10X10	MAVR-99905	20X18X18

Three numerals x 100 after MPMM indicates power of alternator and last two digit Indicates RPMx100.



A.V.R.s/EXCITORS Controller

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