

NAME	VR-V2192 Electrical Specification	NO	VR-1-1-2510
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**Regulation System Connection Wire Diagram**

**System Regulator Type:**

- Voltage Set Point :14.5V
- Regulation : B – Circuit
- Active Lamp
- Soft Start , 5.0 sec LRC
- Short Circuit Protection

PARAMETERS AND CONDITIONS	SYMBOLS	MIN.	TYP.	MAX.	UNITS
Operating Temperature Range	$T_{OP}$	-30	---	125	℃
Field	$I_F$	---	5	---	A
Voltage Set Point (2500 RPM, at 20A load)	$V_{SET}$	14.30	14.50	14.70	V
Secondary Set Point (2500 RPM ,at 20A load)	$V_{SET2}$	---	---	---	V
Speed Regulation (2000 RPM to 6000 RPM ,at load = 15A)	$V_{SR}$	---	-0.1	-0.3	V
Load Regulation (10% to 95% ,at Speed = 6000 RPM)	$V_{LR}$	---	-0.4	-0.5	V
Saturation Voltage @ 5A, 12Volts	$V_{SAT}$	---	0.4	0.5	V
Standby Current (Key off, $V_{BAT} = 12.6V$ )	$I_{SB}$	---	---	1	mA
Temperature Coefficient	$T_C$	-6	-3	-0	mV/ ℃
Over voltage Indication	$V_{OV}$	---	---	---	V
Under voltage Indication	$V_{UV}$	9.0	10.0	11.0	V
Soft-Start Duty	$D_{SS}$	10	15	20	%
LRC Delay Time	$T_{LRC}$	2.5	5.0	7.5	Sec
Cut-in Speed	$R_{CIS}$	---	---	1500	RPM

**Safety Characteristics:**

- **Over voltage :**  $V_s = 24 V$  , 60 sec. from the ignition SW. is turned ON/OFF without failure.
- **Short Circuit Protection :** The regulator shall stand **short circuit on Field** without failure and return normal operation within 2 seconds once short condition is removed.
- **Repetitive Thermal Shock :** The Regulator shall be designed to withstand 500 cycles of -30℃ to 125℃ in 20 minutes and 125℃ to -30℃ in 20 minutes.
- **High Temperature Test :** The regulator shall be designed to operate reliably at the load from 80% to 100% of the alternator rated current and at 6000 rpm ( shaft speed ) for a minimum of 10 hours at 125℃.

2024.08.28		1	王毅賢	柯文彬	林勝雄	林勝雄		
DATE OF FIRST EDITION	DATE OF REVISED EDITION	EDITION	MANU-SCRIPT	ORI-GINAL REVIEW	SECOND REVIEW	APP-ROVAL	ISSUED MARK	COPY'S NUMBER