

<b>NAME</b>	<b>VR-H2000-46 Electrical Specification</b>	<b>NO</b>	<b>VR-1-1-649</b>
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<p style="text-align: center;"><b>Regulation System Connection Wire Diagram</b></p>	<p><b>System Regulator Type:</b></p> <ul style="list-style-type: none"> <li>• <b>Voltage Set Point :14.5V</b></li> <li>• <b>Regulation : A – Circuit</b></li> <li>• <b>Inactive Lamp</b></li> <li>• <b>Soft- Start, 8.5sec LRC</b></li> <li>• <b>Short Circuit Protection</b></li> </ul>
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PARAMETERS AND CONDITIONS	SYMBOLS	MIN.	TYP.	MAX.	UNITS
<b>Operating Temperature Range</b>	$T_{OP}$	-30	---	125	°C
<b>Field</b>	$I_F$	---	5	---	A
<b>Voltage Set Point</b> (2500 RPM, at 20A load)	$V_{SET}$	14.3	14.5	14.7	V
<b>Secondary Set Point</b> (2500 RPM ,at 20A load)	$V_{SET2}$	15.2	15.5	15.8	V
<b>Speed Regulation</b> (2000 RPM to 6000 RPM ,at load = 15A)	$V_{SR}$	---	-0.1	-0.3	V
<b>Load Regulation</b> (10% to 95% ,at Speed = 6000 RPM)	$V_{LR}$	---	-0.4	-0.5	V
<b>Saturation Voltage @ 5A, 12Volts</b>	$V_{SAT}$	---	0.6	0.8	V
<b>Standby Current</b> (Key off, $V_{BAT} = 12.6V$ )	$I_{SB}$	---	---	1.0	mA
<b>Temperature Coefficient</b>	$T_C$	-6	-3	0	mV/ °C
<b>Over voltage Indication</b>	$V_{OV}$	16.0	16.5	17.0	V
<b>Under voltage Indication</b>	$V_{UV}$	9.3	9.8	10.3	V
<b>Soft-Start Duty</b>	$D_{SS}$	15	30	45	%
<b>LRC Delay Time</b>	$T_{LRC}$	6.5	8.5	10.5	Sec
<b>Cut-in Speed</b>	$R_{CIS}$	---	---	1200	RPM

**Safety Characteristics:**

- **Over voltage :**  $V_s = 24 V$  , 60 sec. from the ignition SW. is turned ON/OFF without failure.
- **Battery Reversal :**  $V_s = -14 V$  , 60 sec. from accidental battery reversal without failure.
- **Short Circuit Protection :** The regulator stands short circuit of Field without failure.
- **Repetitive Thermal Shock :**  
The Regulator shall be designed to withstand 500 cycles of -30°C to 125 °C in 20 minutes and 125 °C to -30 °C in 20 minutes.
- **High Temperature Test :**  
The Regulator shall be designed to operate reliability at the rated current of alternator is 80% to 100% and at 6000 rpm ( shaft speed ) for a minimum of 10 hours at 125 °C.

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