



Model No: BVST105

PREFACE		Model: BVST105	IP67 rated
<p>The Model BVST105 is an intelligent Battery Voltage Sensor (BVS) designed to automatically operate the auto start enabled generator (or engine) and to control the battery bank voltage by automatically starting, running and shutting down the engine ones the run time set by multi-range timer elapsed.</p> <p>How it works</p> <p>Upon sensing the low voltage threshold (11.8Vdc) the BVS will wait for 5 sec to ensure the voltage recovers back to normal and stabilise above the high voltage threshold (12.8Vdc).If that happens the BVS will do nothing and remain in stand-by mode. However, if voltage hits the low voltage threshold and then stays below the high voltage threshold for more than 5 sec the BVS will trigger the multi-range timer simultaneously closing the auto start volt-free relay which would remain closed for the period set by multi-range timer (if the timer was initially enabled via DIP switch 2).</p>			
<p>IMPORTANT!</p> <p>If timer set for a short period (usually for 10~60 seconds) the BVS sensor may have the priority over the timer and continue to run the engine until the high battery voltage threshold is sensed. This is a normal situation when timer run time was not enough to charge up the battery bank and bring its voltage above the high voltage threshold.</p>			
<p>CONNOTATION</p>		<p>DEFAULT SETTING</p>	
<p>1. Low Voltage Threshold Pot.</p>		<p>11.8Vdc (6Vdc min)</p>	
<p>2. High Voltage Threshold Pot.</p>		<p>12.8Vdc (38Vdc max)</p>	
<p>3. High Voltage Threshold LED</p>		<p>Off when HVT sensed</p>	
<p>4. Low Voltage Threshold LED</p>		<p>On when LVT sensed</p>	
<p>5. Delay time jumper link</p>		<p>5 sec delay time when fitted</p>	
<p>6. Multi-range timer</p>		<p>10 sec...24h</p>	
<p>7. Timer range selector</p>		<p>Off (10sec-75min); On (1,5h - 24h)</p>	
<p>8. Timer power supply</p>		<p>Off (disabled); On (active)</p>	
<p>9. Delay time "On" LED</p>		<p>Delay time On → LED flashing</p>	
<p>10. Battery negative supply (-)</p>		<p>40Vdc max</p>	
<p>11. Battery positive supply (+)</p>		<p>40Vdc max</p>	
<p>12/13 Volt-free relay switch</p>		<p>Normally Open, 3A 30Vdc/250Vac</p>	
<p>Adjustable settings available for</p> <p>1.Low Voltage Threshold (LVT)</p> <p>2. High Voltage Threshold (HVT)</p> <p>5. 5 sec delay time before start (can be pre-set by us prior to order)</p> <p>6. Multi-range timer</p>			

BVST105 specification

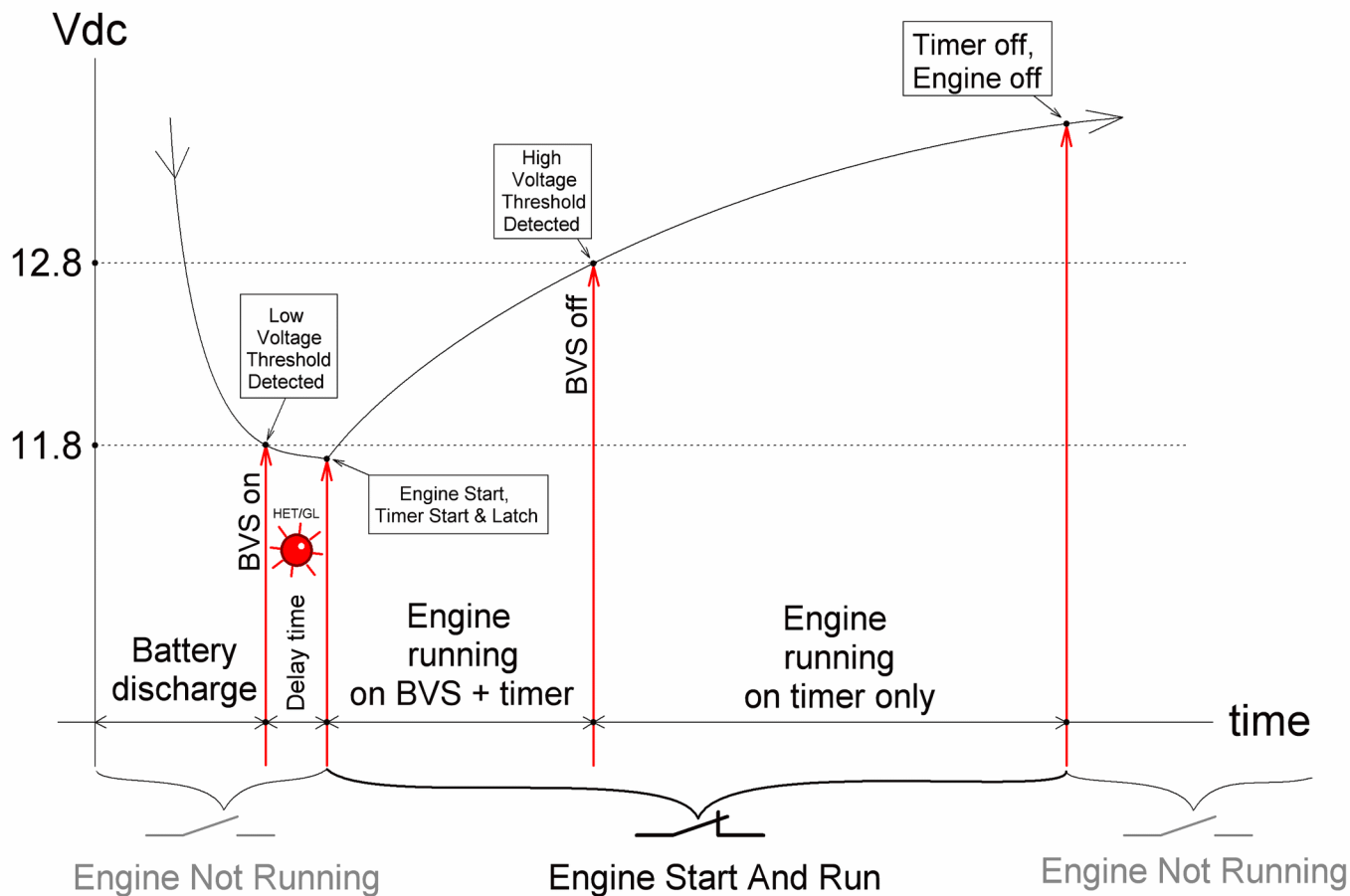
DC Supply: 12V or 24V (6...40Vdc)
Max. standby current: 6,5mA @12Vdc
Auto start relay output: 3A max 30Vdc/250Vac
Run time max.: 24h

Dimensions: 100x68x50mm
Operating temperature range: -30 to +70°C
Humidity Range Operating: 20-80%
Enclosure IP code: IP67 (weatherproof type)



Model No: BVST105

Functional Diagram (example)



Please note: your controller has been pre-set to start@11.8Vdc and stop@12.8Vdc
BVS Adjustment

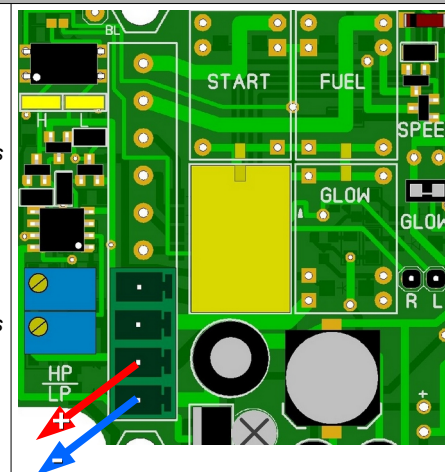
This procedure could also be done with help of adjustable DC power supply (when available)

HOW TO SET UP THE BVS LOW THRESHOLD

1. Connect your discharged (ready to be charged) battery to terminals 10 and 11
2. Start turning LVT Potentiometer (LP) (very slowly) and find the position when LVT LED (L) changes its state from Off to On
3. Stop turning LP immediately when you notice this change.

HOW TO SET UP THE BVS HIGH THRESHOLD

1. Connect your fully charged battery to terminals 10 and 11
2. Start turning HVT Potentiometer (very slowly) and find the position when HVT LED (H) changes its state from On to Off
3. Stop turning HP immediately when you notice this change.

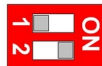




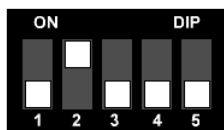
Model No: BVST105

MULTI-RANGE TIMER SETTINGS

DIP switch 1 is "OFF" DIP switch 2 is "On"



10 sec



4 min



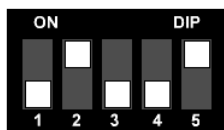
14 min



30 min



20 sec



5 min



16 min



35 min



30 sec



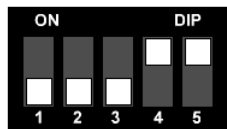
6 min



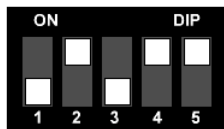
18 min



40 min



60 sec



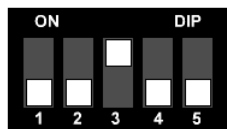
7 min



20 min



45 min



90 sec



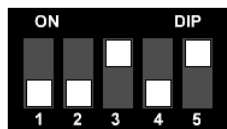
8 min



22 min



50 min



120 sec



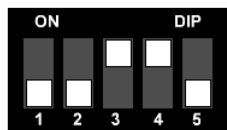
9 min



24 min



55 min



150 sec



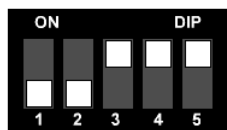
10 min



26 min



60 min



180 sec



12 min



28 min



75 min

Note: DIP switch 2 in "Off" position means the multi-range timer is disabled. The module will rely on BVS low and high thresholds only.



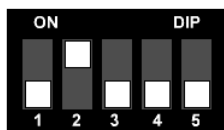
Model No: BVST105

MULTI-RANGE TIMER SETTINGS

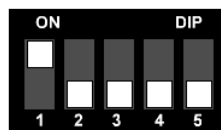
DIP switch 1 is "On" DIP switch 2 is "On"



1.5 h



5.5 h



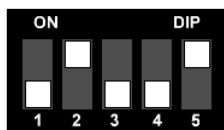
9.5 h



17 h



2 h



6 h



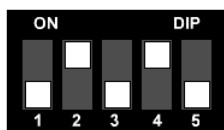
10 h



18 h



2.5 h



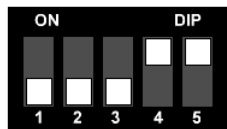
6.5 h



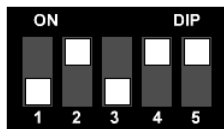
11 h



19 h



3 h



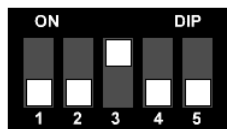
7 h



12 h



20 h



3.5 h



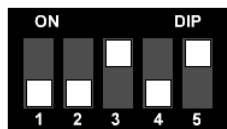
7.5 h



13 h



21 h



4 h



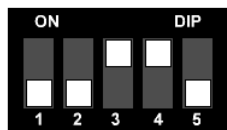
8 h



14 h



22 h



4.5 h



8.5 h



15 h



23 h



5 h



9 h



16 h



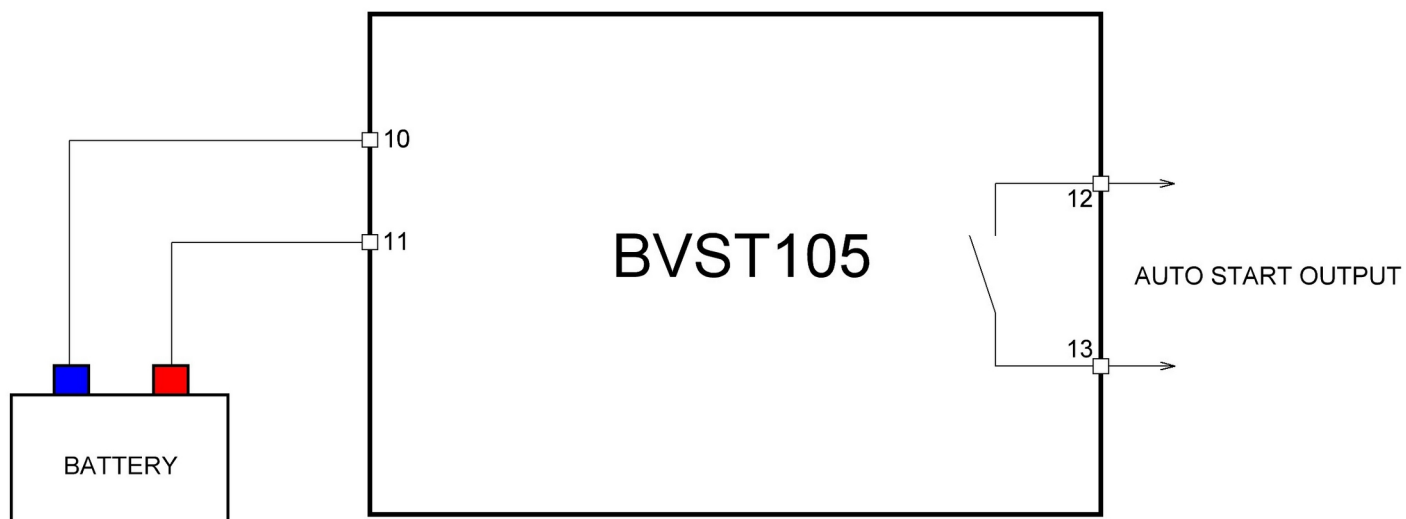
24 h

Note: DIP switch 2 in "Off" position means the multi-range timer is disabled. The module will rely on BVS low and high thresholds only.



Model No: BVST105

Wiring Diagram





Model No: BVST105

DIMENSIONS

