

## Category: Heater

Document Number: PI102BC

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Description: **IPCU Intelligent PWM  
(Programmable) Control unit**

Kit Part Number: 9013645A



### Overview

The IPCU (Intelligent Programmable Control Unit) is a pulse width module for controlling vehicle fan motors. Follow the proceeding instructions for proper installation and programming of the IPCU module.

	Default IPCU Settings	
	Description	Default Setting
	Duty Cycle	30%
	Control Signal	High Side
	Frequency	400 Hz

### IPCU Range for PWM

Description	Range
Duty Cycle	30% - 100%
Control Signal	High Side / Low Side
Frequency	100 Hz – 5,000 Hz

### Parameter Settings

The default settings of the IPCU can be adapted to the required vehicle-specific parameters using the Webasto PC Diagnostics Software (versions 2.07 to current) and adapter harness.

The IPCU Parameter Settings can be viewed and modified via PC Diagnostics Software. The PC Diagnostics Instructions can be downloaded by going to <http://www.techwebasto.com> and selecting Software from the top left navigation.

### CAUTION

When selecting user-defined parameters, make sure they are suitable for the requirements of the fan motor. Incorrect parameters can lead to permanent damage to the blower motor. If unsure of the specific parameters please contact Webasto or the Vehicle Manufacturer.

**NOTE:** You MUST be a Registered User to access this secured area. To register for dealer access; please visit: <http://www.techwebasto.com/registration.html>.

To download PC Diagnostic Operation Guides use the link below.

<http://www.techwebasto.com/software/heater/thermo-test-software/operation-guides/category/791-operation-guides.html>

### Control Signal Identification

High Side / Low Side refers to the location of the FET (Field Effect Transistor). If the FET is located on the ground side of the load (i.e. 0 volts between load and FET) this is considered a Low Side System. If it is located between the load and positive voltage its considered a High Side System.

### Installation Requirements

- The IPCU must be installed in the interior of the vehicle
- The preferred installation position is close to the blower control
- The wiring harness must be modified if necessary

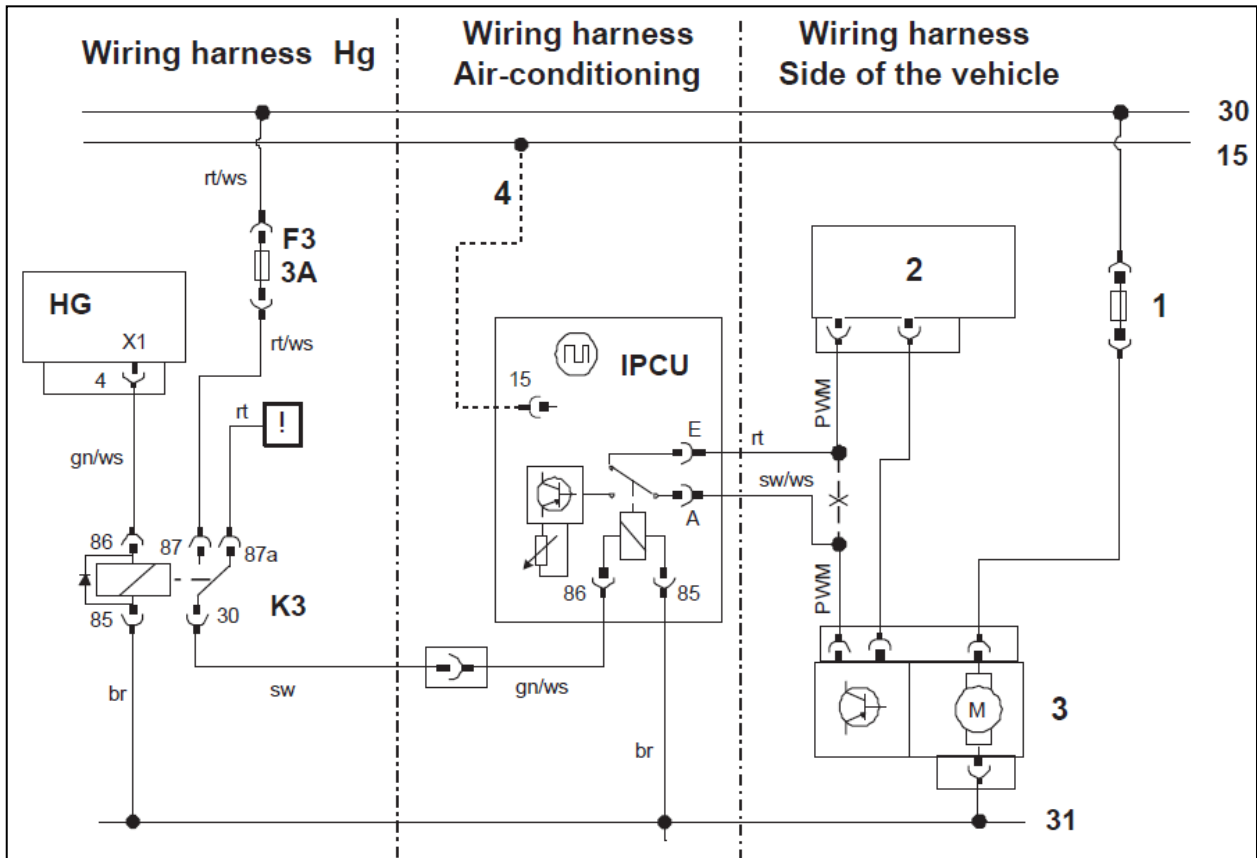
### Circuit Legend

Cable Colors and Symbols	
rt	Red
ws	White
sw	Black
br	Brown
gn	Green
ge	Yellow
bl	Blue

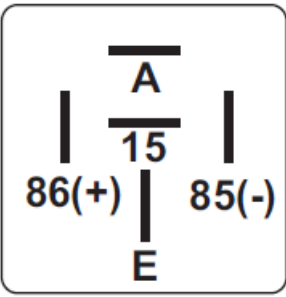
Webasto Components	
HG	Heater TTC
F3	Fuse (25A Replaced By 3A)
K3	Blower Relay
IPCU	Pulse Control Unit
K3.1	Additional Relay

Vehicle Components	
1	Vehicle Fuse
2	HVAC Control
3	Blower Motor with Power Electronics
4	With IPCU (Low Side Active). Required in vehicles depending on the HVAC control.

### Circuit Diagram



## Connections of the IPCU

	
Label on IPCU	Function
86 (+)	Supply of the IPCU via terminal 30 or blower control signal of the auxiliary heating system.
85 (-)	Terminal 31 (vehicle ground).
E	Control pathway from HVAC system in the vehicle to blower motor.
15	<ul style="list-style-type: none"> <li>When the signal is present at PIN 15, the signal is switched through PIN E to PIN A.</li> <li>The IPCU parameters can be set using PIN 15</li> </ul> <p><b>IMPORTANT:</b> Low Side Systems require an ignition signal to PIN 15.</p>
A	Output Signal <ul style="list-style-type: none"> <li>Signal from PIN E (with signal on terminal 15 or PIN E)</li> <li>Signal from the IPCU (PWM or constant voltage)</li> </ul>

If you have any questions, contact our technical support team at (800) 860-7866 or via email at: [info-us@webasto.com](mailto:info-us@webasto.com).