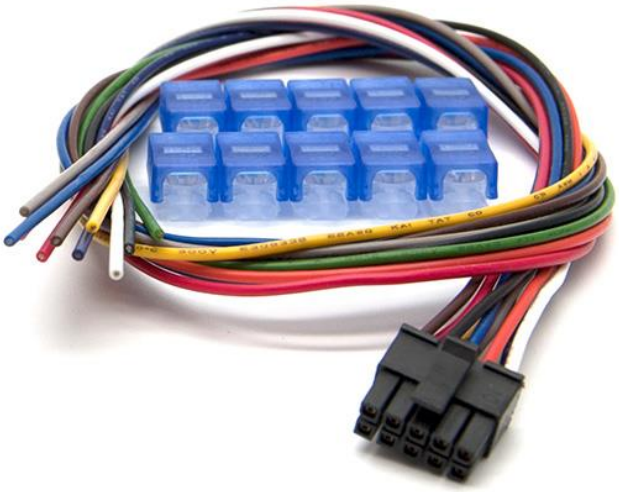
GSM-START.SE

GSM-REMOTE CONTROL FOR PRE-HEATERS

Webasto/Eberspächer



WATCHDOG GUARDED

OVERTEMP PROTECTED

SYSCHECK MONITORED

GSMS-PH5 Manual

- **Made in Sweden!***
- Low power consumption
- Easy usage with APP, SMS or calls
- Possible to get cabin temperature
- High quality electronic components
- Advanced system monitoring code
- Easy installation parallel with an existing heater controller
- Easy configuration with APP
- Unlimited users using APP/SMS

www.gsm-start.com

* PCB made in China and enclosure made in the USA
Picked-and-placed, assembled and tested in **Sweden**

Introduction

Thank you for purchasing the GSMS-PH5 GSM remote control for your Eberspächer and Webasto preheater. It lets you control your preheater at a distance using a mobile/landline phone. This manual shows how to install and operate this product easily and correctly. Make sure to read this manual carefully before using this product. Keep this manual handy for future reference until you are familiar with all its features.

This unit enables you to control your Webasto/Eberspächer preheater or air-heater in your car, truck, boat or construction machine. The unit connects to the heater and lets you control it using our **smartphone APP**, phone calls or SMS messages. There is also possible to connect an external pushbutton (sold separately) for manual start/stop and a temperature-sensor that lets you see the current temperature in the vehicle. Installation usually takes less than 20 minutes if you have a manual controller installed. It is also possible to install the unit without a controller and connect it directly to the heater depending on your heater model.

This unit has a so called "Watchdog timer" built in that monitors and resets the MCU, preventing it from crashing or to hang up. Even if a firmware code is 100% bug-free, cosmic rays from space can overtime cause errors in the MCU.

Inside the firmware code there is also some clever routines that monitors the system as a whole regularly. Checking that everything is well and the unit is connected to the network.

Besides overload fuses there is also software protection that monitors the internal temperature of the enclosure. If the temperature should exceed a preset limit the heater turns off and an SMS will be sent out.

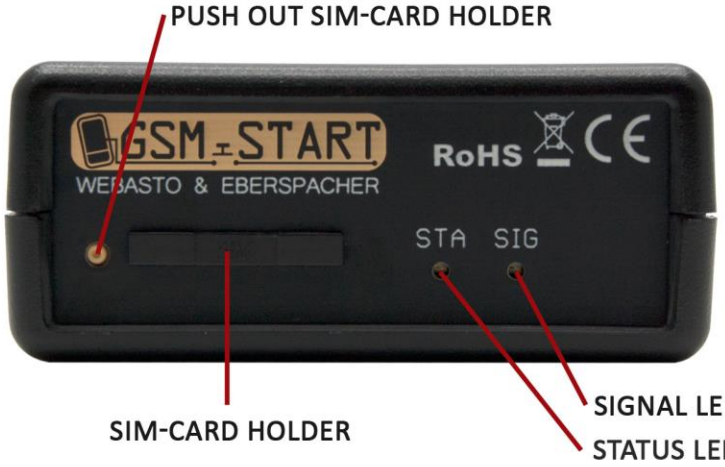
IT IS HIGHLY RECOMMENDED TO ADD AT LEAST ONE AUTHORIZED PHONE NUMBER TO THE UNIT'S MEMORY SINCE THESE NUMBERS WILL RECEIVE IMPORTANT SMS ALERTS ABOUT SYSTEM STATUS.

Due to the nature of how SMS and phone calls behave, please allow up to 10 seconds between every sent SMS and/or phone call made to the unit to avoid flooding the unit.

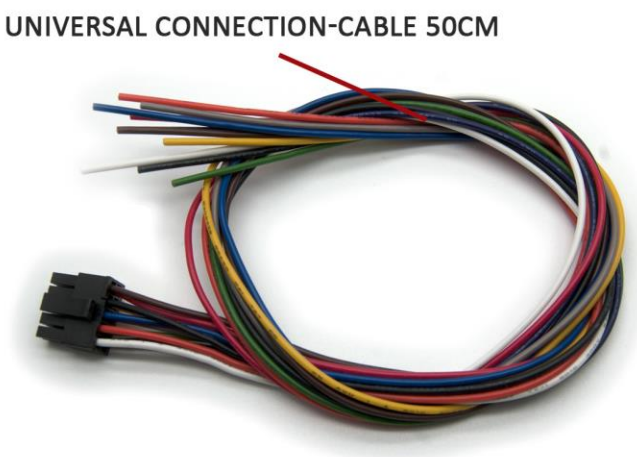
We recommend using a new fresh SIM-card in the unit to avoid unnecessary unauthorized users from occupying the unit.

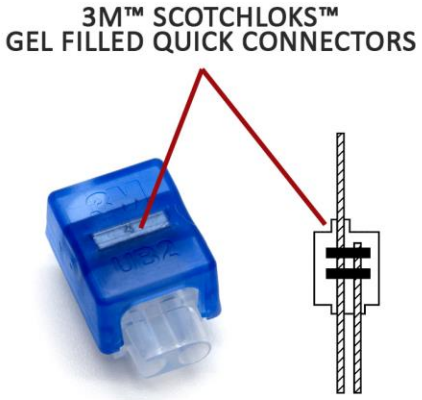
When using a new fresh SIM-card it is a good idea to wait approximately 5 minutes before trying to communicate with the unit. This is because the network provider will often send SMS information messages and settings the first time a SIM-card is put in use.

Overview


PUSH OUT SIM-CARD HOLDER
GSM START
WEBASTO & EBERSPACHER
RoHS
STA
SIG
SIM-CARD HOLDER
SIGNAL LED
STATUS LED


CONNECTOR
CONNECTION-CABLE
SMA ANTENNA MOUNT
GSMS-PH5 12/24V
PA
AB
ANT
TEMP
MAIN I/0
SWITCH/IND
CONNECTOR
TEMPSENSOR
CONNECTOR
EXTERNAL PUSHBUTTON


UNIVERSAL CONNECTION-CABLE 50CM

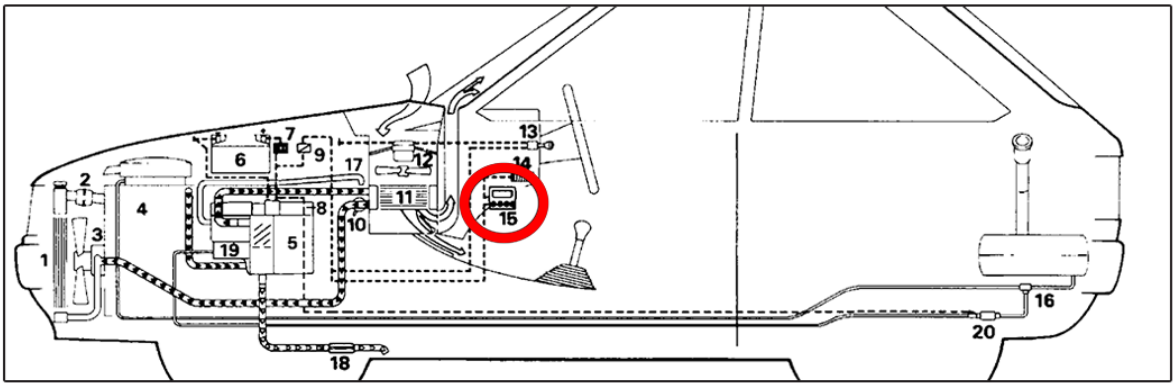

3M™ SCOTCHLOKS™
GEL FILLED QUICK CONNECTORS

Connecting to existing controller

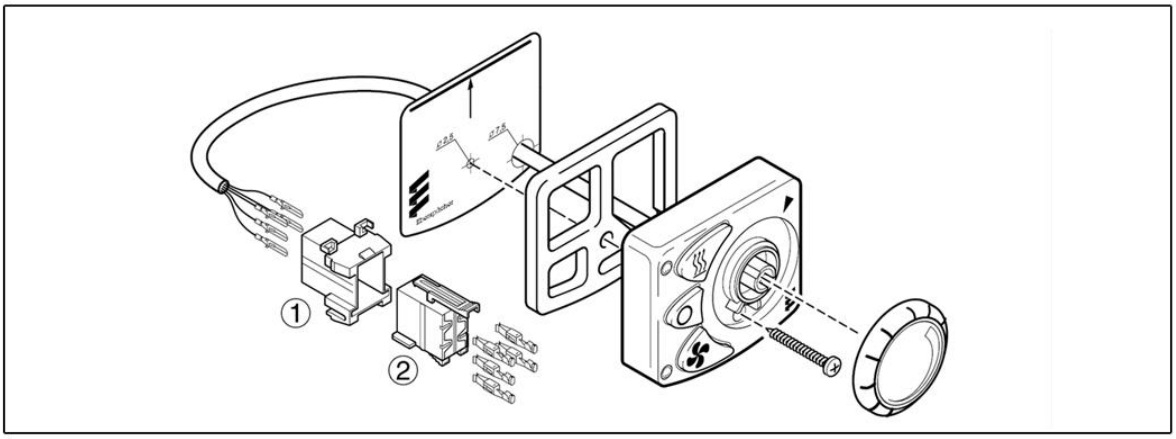
Before carrying out any work on a vehicles electrical system it is recommended to disconnect the battery.

This unit only works with GSM SIM-cards, not 3G/4G/LTE or CDMA!
*The SIM-card must be installed **prior to turning on the power**.*

1. Locate your Eberspächer or Webasto controller, inside the vehicle cabin. Find the plug coming from the controller that connects to the main wiring loom; usually you will need to remove some panels inside the cabin to get to the back of the controller. Refer to your controller user manual for further information.

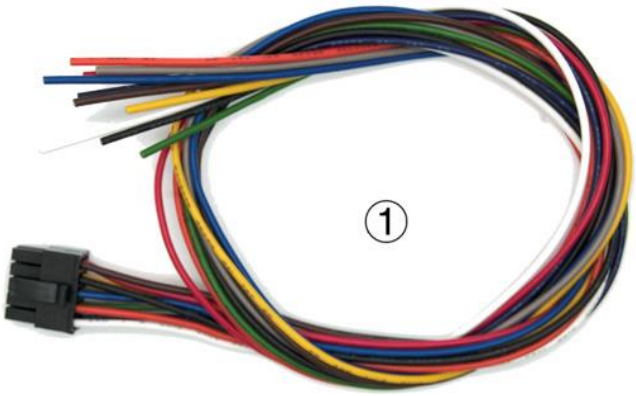


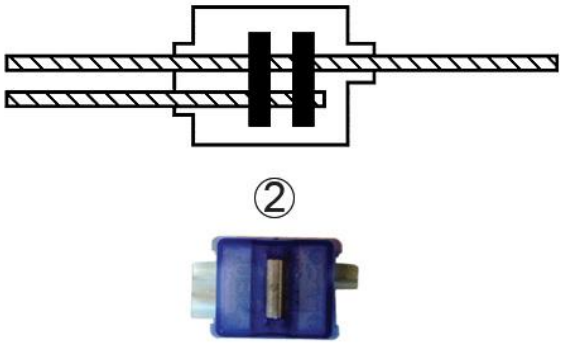
2. Disconnect the controller plug **(1)** from the main wiring loom **(2)**.



Different controllers may have different number of wires; yours may vary from the illustrations five.

3. With the PH5 unplugged connect the loose connection cable **(1)** using the 3M™ Scotchloks **(2)** as per the **separate supplied wiring diagram for your type of controller.**





4. Push out the SIM-card holder and mount the SIM-card in it; it will only fit one way. Gently push back the SIM-card holder with the SIM-card in it.

Make sure that the SIM-card does not have a PIN-lock. To disable the SIM-card PIN-lock insert it into a mobile phone and go to settings and disable the PIN-lock.

If possible, install the SIM-card in a regular mobile phone and call it to verify that the SIM-card works correctly.

5. Install the antenna and possible pushbutton or temperature sensor if ordered.

6. Connect the PH5 unit to the connection cable. The red "STA" led should light up, if not check troubleshooting at the bottom of this manual!

7. After a couple of minutes the "STA" LED should turn off and it is now ready to be used. Test the unit by sending an SMS containing **"PH0000CHECK"** to the SIM-card installed in the unit and wait for a reply.

8. Should the "STA" LED start to blink instead or if the unit does not respond to the SMS please see troubleshooting at the bottom of this manual.

DOWNLOAD THE APP **"GSMS REMOTE CONTROL"** AND CREATE A PROFILE

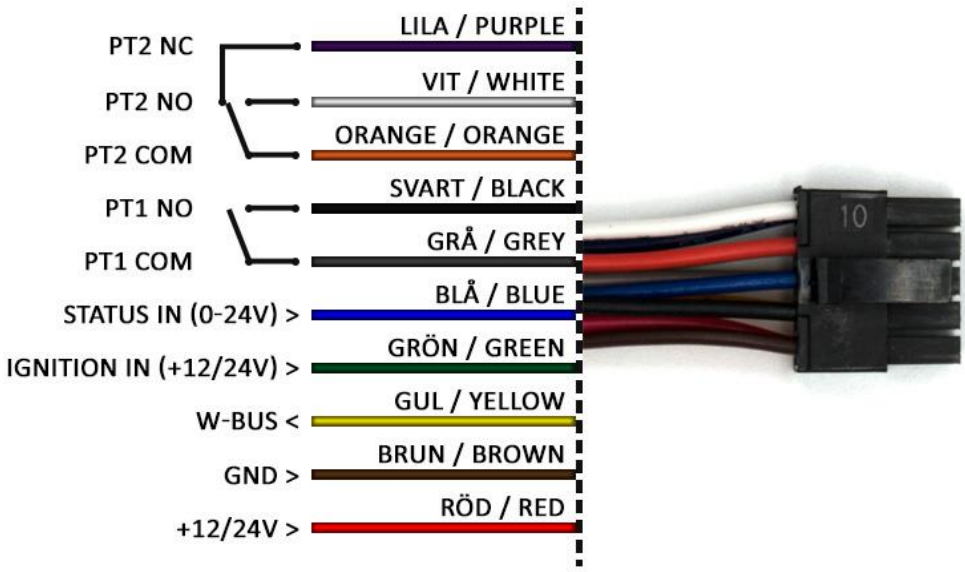
ANDROID APP ON Google play

Available on the App Store

GSMS Remote Control Utilities GET

Universal connection

New units need to be set to an operational mode once. To set the unit to the universal mode, send an SMS containing "**PH0000OPMODE1**". The unit should answer "**OPMODE SET OK**".



PT*
These are potential free output. "PT1" and "PT2" is controlled at the same time! Max **1A** each. Protected by built in self resettable PTC fuses.

STATUS IN
Only used in conjunction with some controllers.

IGNITION IN
This can be connected to a source that feeds +12V/24V when the ignition key is turned on. This is used to turn off the preheater when you start the vehicle. This is useful if you need the vehicle earlier than the time you have set the preheater to run.

W-BUS
This is used to control some Webasto heaters.

GND
This is the unit's power supply negative (-). Connect this to the vehicle chassis or battery negative.

+12/24V
This is the unit's power supply positive (+). Connect this to the battery positive. Please note the supply needs to be able to provide 0.5A. The unit has a built in self resettable PTC protection fuse so there is no need for an external fuse but it does not hurt.

Usage

Controlling the unit with SMS will charge you for the SMS that you send to the unit and for the SMS received from the unit. Please refer to your telephone operator for pricing.

To reduce SMS delay it can be a good idea to have the same network operator in the unit as in the mobile phone controlling it.

The GSMS-PH5 can be controlled using both SMS and phone calls. **We also have a smartphone APP available for IOS and Android devices; this is the easiest way to control the unit**. When controlling the unit with phone calls you will first need to add the phone numbers you choose to the unit's memory (up to 5 phone numbers) so that only these authorized phone numbers can call and control the heater. After this is done, all you need to do is to call the phone number to the installed SIM-card and 1-2 tones will be heard and then the call will hang up and the heater will switch state. Since the call is not answered by the unit, there will be no costs using this method.

Depending on the telephone network operator you will hear either a busy signal or a recorded announcement when the call hangs up.

If you want to, you can setup the unit so it will send back a verification-SMS to let you know that the command has been successfully executed when you called the unit (this is by default on).

Make sure the SIM-card placed in the unit is charged with money or else you will not be able to get a verification-SMS back.

Another way to control the unit is by SMS messages. When using SMS to control the unit you do not have to add the users phone number to the unit's memory, instead for security a 4-digit password is used. This way an unlimited number of users can control the unit with SMS. As with the phone call method you can set the unit to send back verification-SMS (this is by default on). Using SMS is also the way you configure the unit's settings as explained further down. When using the smartphone APP, it will generate these SMS commands for you so they don't need to be remembered.

Note that even if there is no money on the SIM-card, the commands will be executed anyway, only difference is that you will not get a verification-SMS back.

SMS commands

< COMMAND #

When controlling the unit using SMS it will require a 4 digit password (default "0000"). Every command will begin like this "PH0000".

*Default settings will be indicated by a line under the command, ex **"PH1234SMS1"**.*

Please do not use any spaces or characters other than specified. The commands are not case-sensitive but for clarification all examples are uppercase.

1	**PH0000CP1234**	*Changes the password from "0000" (default) to for example "1234"; this new password "1234" will be used in the following examples.*
2	**PH1234CHECK**	*This command requests an "Overview SMS" from the unit containing status of the heater as well as temperature and signal strength.*
3	**PH1234SETTINGS**	*Returns an SMS with information about the heattime, what temperature value is set and more.*
4	**PH1234ON** **... OFF**	*Commands to turn the heater on or off.*
5	**PH1234ONF00H01M** **... ONF99H99M**	*Turns on the heater into the future. Please note that you always need to specify both hours and minutes to turn on as the format to the left.*
6	**PH1234ONF0**	*Cancels any scheduled start. Note last character is a digit (zero).*
7	**PH1234ON010M** **... ON999M**	*Turns the heater on but **overrides the timer-setting**. For instance if the timer is set up at 60 minutes but you want to turn the heater on for 20 minutes one time only.*
8	**PH1234TIMER010M** **... TIMER999M**	*Set up how long the heater should run. This setting has affect every time the heater is turned on using both SMS and phone calls except when using the command below.*
9	**PH1234U1A11111** **... U2A22222** **... U3A33333** **... U4A44444** **... U5A55555**	*This command adds a phone number that should be authorized to control the heater with phone calls. When the unit is controlled with SMS this have no effect as SMS control uses a password instead.* ***These are also the numbers that will be receiving important system SMS alerts and SMS alerts when the inputs and temperature gets triggered.*** *Up to 5 authorized users can be added, users 1-5 (U1-U5).*

10 **PH1234U1A0**
... U2A0
... U3A0
... U4A0
... U5A0

Erases phone number in memory "U1", "U2" ... "U5".
Note last digit (0) = zero.

11 **PH1234AUTHLIST**

Returns a SMS with a list of all authorized phone numbers.

12 **PH1234SMS0**
... SMS1

This configures if the unit should send back verification SMS when changing settings and controlling the relays.

SMS0 = Disables verification SMS.
SMS1 = Enables verification SMS.

13 **PH1234RESETDATA**

Erases all data and returns the unit to factory default.

14 **PH1234RMOM0**
... RMOM1
... RMOM2/3/4/5...
... RMOM9

This command configures the outputs to switch on momentary and can be used if for example the potential free output has been connected parallel to a switch that starts the button when pushed momentarily.
RMOM0 = Normal mode.
RMOMX = Momentary mode 1-9 seconds. Replace "X" with 1-9.
RMOM9 = Momentary mode 500ms (0.5 second).

15 **PH1234OPMODE0**
... OPMODE1
... OPMODE2/3/4/5/6
... OPMODE9

This sets up the unit in different operational modes depending on what controller is used. More information in the seperat wiring diagram.

OPMODE1 = Universal mode.

16 **PH1234SMSRESET**

The unit will monitor the number of SMS sent within an hour. If the unit should send more than 20 SMS in an hour it will not allow any more SMS to be sent before this command is sent to the unit.

Troubleshooting

🕮 I have forgotten my 4 digit password

If you have lost or forgot the 4 digit password used to control the GSMS-PH5 via SMS you will need to have physical access to the unit to do a hardware reset as described below.

The default password is "0000".

Please note that this will erase all authorized phone numbers and change all settings to default!

1. Unplug the unit from the connection cable.
2. Next plug it in again and roughly 5 seconds after it is plugged in, connect "IGNITION IN" (GREEN WIRE) to +12/24V and leave connected until "STA" LED starts flashing.

🕮 After changing SIM-card in the unit, it stops responding

Every time you take in and out a SIM-card you need to restart the unit by first turning off the power and then turning it back on again. It is also possible to wait about 30 minutes and the unit will automatically detect the change.

🕮 The unit does not connect to the GSM network

1. Please make sure that the installed SIM-card does not have a PIN-lock.
2. Confirm that the SIM-card have support for the GSM/2G network.
3. Bad reception, try moving the GSMS-PH5 to another location known for good reception.
4. Make sure that you have the proper voltage range connected.
5. Confirm that the antenna is installed properly.

🕮 When calling the unit, I hear tones, but the relay does not change state

Make sure you have added your phone number to the unit's memory.

🕮 The "STA" LED does not light up at all after power on

1. Make sure you have connected the proper voltage range.
2. Please make sure you have connected the positive and negative poles correctly.
3. Confirm that you have not mistaken the orange cable with the red!

🕮 How do I check how much money I have on the installed pre-paid SIM-card

Please talk to your SIM-card provider. Generally you can add money online and with most providers you can also register the SIM-card and monitor it online.

🕮 "STA" LED is flashing

If the "STA" LED is flashing it is an indication that something is wrong.

If the LED is flashing rapidly (multiple times a second) the unit cannot recognize the SIM-card. Try a different SIM-card!

Instead if the LED is flashing every second there is a PIN-code on the SIM-card. Please disable it!

Is it flashing every fourth second the unit cannot connect to the network. This could be an indication that insufficient coverage in the area. Please move the unit to another location or try another network operator.

Even if the unit has protection in the form of built in self resettable fuses connecting the unit incorrectly can result in damage. Be careful to follow all instructions and if you are unsure, ask a mechanic.

Use this product only as specified in this manual. The manufacturer is not liable for damages caused by improper use or misuse. Do not use this product if a malfunction can result in danger for you and others and/or property damage.

This product has been developed and manufactured according to the current state of the art and recognized safety standards. It cannot be sure that the GSMS-PH5 GSM-relay works as intended under all circumstances, at all times and under all conditions.

Even if the unit nominally only uses 0,03W it needs to be connected to a 5W (for example 0.4A@12VDC or 0.2A@24VDC) power supply because of short current bursts.

The enclosure is rated IP20 i. e. not suitable for installation in the engine bay. **The unit should be installed in the vehicles cabin!** If possible try to install the unit in a place most protected from direct sunlight.

Please note that if you want the unit to send the SMS to an international number use the following format "0046123456789" (0046 = Swedish land code) when adding authorized users.

Technical specifications

Operating voltage	12V / 24V
Operating temperature	-35 °C to +70 °C
Measurable temperature	-35°C to +99 °C
Temperature accuracy	± 1°C
Power consumption	Nominal 0,03W (30mW)
Inputs	2x ACTIVE HIGH
Outputs	2x potential free (1 DPDT relay)
Output relays	Max 1A
SIM-card type	mini-SIM
Heatingtime	10 – 999 minutes (30m default)
Timer accuracy	Max 0.5% off
Memory	5 authorized phone numbers
IP-rating	IP20 (indoor use)
Dimensions	Approx. 65 x 28 x 80 mm
GSM-bands	850/900/1800/1900 MHz

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