

# Hardware Datasheet

## Zone Gateway

### Manufacturers Details

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### Description

Zone Gateway (ZG) is an input and output device gateway and multiplexer for the Atamate home automation system. Both digital and analogue, inputs and outputs are available on 10 RJ45 sockets which allow connection to devices using standard CAT5/CAT6 cable. The ZG is powered by a POE (Power over Ethernet) connection which also provides communication to the rest of the Atamate system via the HAN (Atamate Area Network). Each ZG is given an individual HAN network address using 2 HEX switches. On establishing communication with the Hausmate system the ZG is automatically configured by the system and then communicates with explicit messages with automatic corruption/loss detection and resend.

There are 10 sockets/ports on the ZG with 6 I/O lines, 0V and 5Vdc power supply. Each I/O line can be configured as a digital input or digital output, and some have special function e.g. analog input, analogue output. When configured as digital input lines they have optional 30kOhm pull-up resistors to the 5V supply. Each I/O line has a 130 Ohm inline current limiting resistor and transil over-voltage protection.

The ZG processor scans all digital I/O lines every millisecond. Analog inputs are scanned every 3 seconds and the last 8 readings are averaged on a rolling average.

### Connections

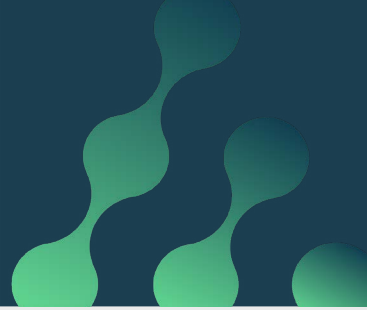
The ZG has 11 connectors:

- POE - this provides communication and power for the ZG from a standard POE Ethernet switch (IEEE 802.3af). RJ45 socket.
- Sockets 1 to 4 - these have 6 I/O lines, 3 of which can be configured as PWM analogue outputs (5 volt, 256 level, 500Hz PWM frequency).
- Socket 5 - This has 6 digital I/O lines.
- Sockets 6 to 10 - these have 6 I/O lines, 3 of which can be configured as analogue inputs (0-1.1V, 0-2.56V, 0-5V, 10 bit A2D converter).

Standard wire colour	SKT1-4 Haze, Encoder, Dig I/O, Anl O/P		SKT5 Encoder, Dig I/O		SKT6-10 SU, ESU, Dig I/O, Anl I/P	
	pin	description	pin	description	pin	description
w/org	1	dig I/O 1, enc chA	1	dig I/O 1, enc chA	1	anl I/P 1, dig I/O 1,
org	2	dig I/O 2, enc chB	2	dig I/O 2, enc chB	2	anl I/P 2, dig I/O 2,
w/grn	3	0 volts, GND	3	0 volts, GND	3	0 volts, GND
blu	4	dig I/O 3, enc button	4	dig I/O 3, enc button	4	PIR, dig I/O 3
w/blu	5	+5 volts	5	+5 volts	5	+5 volts
grn	6	dig I/O 4, PWM1,	6	dig I/O 4	6	dig I/O 4
w/brn	7	dig I/O 5, PWM2,	7	dig I/O 5	7	anl I/P 3, dig I/O 5,
brn	8	dig I/O 6, PWM3,	8	dig I/O 6	8	dig I/O 6

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Maximum 200mA 5Vdc supply on any socket  
Maximum 1A 5Vdc between all sockets.

### Hex Switches

The HEX switches are used to give the ZG an IP address - normally in the range of E1 to EF (15 ZGs) but can be anywhere between 90 and EF. As the ZG is on the HAN network - physically separate to the Local Area Network (LAN) and with a different subnet, this does not affect any IP addresses on the LAN.

### Status LED's

**Red:** **Blue:** **Amber:** Off - no power Flashes every time a message is sent Not used/spare  
Flashing 1 Hz - looking for Atamate controller  
**Solid red** - locked into Atamate controller

Physical Dimensions :- 225 x 125 x 35mm (WxHxD)  
Storage :- 0 to 40C, 10 - 95%RH non-condensing  
Usage :- 5 to 35C, 10 - 95%RH non-condensing

